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MARGINALIZED COMMUNITIES (CoE IN STMC),
UTKAL UNIVERSITY, BHUBANESWAR**

Socio-Cultural, Demographic, Nutrition and Health Status of the Particularly Vulnerable Tribal Groups (PVTGs) of Odisha: A Technical Report

Supported by: WB-OHEPEE, Department of Higher Education, Govt. of Odisha

**Prasanna Kumar Patra Mitali Chinara Subhendu Kumar Acharya
Suresh Chandra Murmu Binoy Kumar Kuiti**

UTKAL UNIVERSITY, VANIVIHAR, BHUBANESWAR- 751004, ODISHA
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UTKAL UNIVERSITY

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List of Abbreviations

AAY – Antyodaya Anna Yojana
ACC/AHA – American College of Cardiology / American Heart Association
ADA – American Diabetes Association
ADR – Age Dependency Ratio
AHA – American Heart Association
ANC – Antenatal Care
ANM – Auxiliary Nurse Midwives
APL – Above Poverty Line
ASHA – Accredited Social Health Activist
AWW – Anganwadi Worker
BAZ – Body Mass Index-for-age
BCG – Bacillus Calmette–Guérin (Tuberculosis Vaccine)
BMI – Body Mass Index
BP – Blood Pressure
BPL – Below Poverty Line
CED – Chronic Energy Deficiency
CHC – Community Health Centre
CMAM – Community-Based Management of Acute Malnutrition
CPMS – Per Capita Monthly Savings
CPR – Common Property Resources
DBP – Diastolic Blood Pressure
DPT – Diphtheria, Pertussis, and Tetanus Vaccine
EMRS – Eklavya Model Residential Schools
ENVIS – Environmental Information System
FGD – Focus Group Discussion
GDP – Gross Domestic Product
GP – Gram Panchayat
GSVA – Gross State Value Added
HAZ – Height-for-Age Z-score
HDI – Human Development Index
HHs – Households
HH_N – Number of Households
HYV – High-Yielding Variety
IBA – Indian Biodiversity Act
IBEF – India Brand Equity Foundation
ICAR – Indian Council of Agricultural Research
ICDS – Integrated Child Development Services
IFA – Iron and Folic Acid
IIPS – International Institute for Population Sciences
ILO – International Labour Organisation
IMD – India Meteorological Department
IPA – International Phonetic Alphabet
ITDA – Integrated Tribal Development Agency
IYCF – Infant and Young Child Feeding
JSY – Janani Suraksha Yojana
KGBV – Kasturba Gandhi Balika Vidyalaya



KII – Key Informant Interview
Kg – Kilogram
Kg/m² – Kilogram per Square Meter
MIDH – Mission for Integrated Development of Horticulture
MMR – Maternal Mortality Ratio
MoHFW – Ministry of Health and Family Welfare
MoTA – Ministry of Tribal Affairs
MTB-MLE – Mother-Tongue-Based Multilingual Education
NFHS – National Family Health Survey
NGO – Non-Governmental Organisation
NHM – National Health Mission
NNMB – National Nutrition Monitoring Bureau
NRHM – National Rural Health Mission
NTFP – Non-Timber Forest Produce
NSSO – National Sample Survey Office
OMBADC – Odisha Mineral Bearing Areas Development Corporation
OLM – Odisha Livelihoods Mission
OSDMA – Odisha State Disaster Management Authority
OTDS – Odisha Tribal Development Society
OUAT – Odisha University of Agriculture and Technology
PCME – Per Capita Monthly Expenditure
PCMI – Per Capita Monthly Income
PCOS – Polycystic Ovary Syndrome
PDS – Public Distribution System
PHC – Primary Health Centre
PM-JAY – Pradhan Mantri Jan Arogya Yojana
POSHAN – Prime Minister's Overarching Scheme for Holistic Nourishment
PVTG – Particularly Vulnerable Tribal Groups
RKVY – Rashtriya Krishi Vikas Yojana
RMRC-ICMR – Regional Medical Research Centre-Indian Council of Medical Research
RUTF – Ready-to-Use Therapeutic Food
SBM – Swachh Bharat Mission
SCSTRTI – Scheduled Castes and Scheduled Tribes Research and Training Institute
SD – Standard Deviation
SDGs – Sustainable Development Goals
SETU – Support to Training and Employment Programme for Women
SHG – Self-Help Group
SNEHA – Society for Nutrition, Education and Health Action
ST – Scheduled Tribe
STE – State Tribal Enterprise
Sub-Centre – Rural Health Sub-Centre
TB – Tuberculosis
THR – Take-Home Rations
U5MR – Under-Five Mortality Rate
UIP – Universal Immunisation Programme
UNDP – United Nations Development Programme
UNDRIP – United Nations Declaration on the Rights of Indigenous Peoples
UNESCO – United Nations Educational, Scientific and Cultural Organisation



UNICEF – United Nations Children's Fund
VHND – Village Health and Nutrition Day
WAP – Working Age Population
WASH – Water, Sanitation, and Hygiene
WAZ – Weight-for-Age Z-score
WC – Waist Circumference
WHZ – Weight-for-Height Z-score
WHO – World Health Organisation
WHO STEPS – WHO STEP-wise Approach to Surveillance
YDR – Young Dependency Ratio

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Photo 3.1.22.4: Juang Men Performing the <i>Changu</i> Dance Accompanied by <i>Changu</i> Drums

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We extend our deepest gratitude to the community members, key informants, and research participants from various PVTG communities, who generously shared their time, insights, and experiences. Their voices and participation shaped the very foundation of this report.

This report is an outcome of sustained collaborative efforts, and we take this opportunity to express our sincere gratitude to all individuals and institutions who have made valuable contributions to its successful completion.

At the outset, we would like to extend our heartfelt thanks to the World Bank – Odisha Higher Education Programme for Excellence and Equity (WB-OHEPEE) under the auspices of Department of Higher Education, Government of Odisha, for providing financial assistance to the Centre of Excellence in Studies on Tribal and Marginalized Communities (CoE in STMC) at Utkal University under which this study has been conceptualised and carried out. The programme's generous support enabled us to pursue an integrated, field-based exploration of the lives and health realities of 10 of the 13 Particularly Vulnerable Tribal Groups (PVTGs) in Odisha.

We are deeply grateful to the authorities of Utkal University, Vani Vihar, Bhubaneswar, for their continuous encouragement, facilitation, and support throughout the project, which were instrumental in ensuring the smooth progress of the Centre and the implementation of the research.

We owe sincere gratitude to Prof. Kamal Kant Misra, the Mentor of CoE in STMC, for his consistent guidance, critical insights, and encouragement from the initial planning stages to the finalisation of this report. His insights around tribal issues in Odisha and anthropological perspectives greatly enriched the outcomes of this CoE programme. We are equally indebted to Prof. Asoka Kumar Das, the formerly Vice Chairman of Odisha State Higher Education Council and formerly Vice Chancellor of Utkal University, Vani Vihar, Bhubaneswar, for his mentoring, rigorous evaluation, and constructive feedback since the inception of the CoE in 2016-17 and throughout the process.

We would also like to thank Prof. Kishor Kumar Basa for providing intellectual direction and support since the inception of this programme. His insights immensely helped shape the CoE's broader framework. We thank Prof. Akhila Bihari Ota, formerly Principal Secretary and Director, SCSTRTI, Bhubaneswar, for his invaluable support to the CoE. The contribution of Dr Kailadbou Daimai, Assistant Professor, Utkal University of Culture, Bhubaneswar, for his valuable contribution and technical support especially on ethno-linguistic analysis.

We gratefully acknowledge the support of our collaborative partner, particularly the Regional Medical Research Centre – Indian Council of Medical Research (RMRC-ICMR), Bhubaneswar. Their expertise, regular input, feedback, and collaboration have been immensely valuable in shaping and integrating scientific, analytical and community perspectives into the research at this Centre. We are indebted to the Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI) for their cooperation and support at various critical phases of this research.

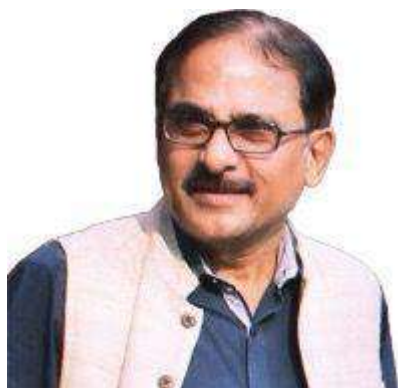
Our sincere appreciation goes to all adjunct faculty members associated with the CoE, whose contributions to the planning, coordination, and academic execution of the project's various components were invaluable. We also thank the Post-Doctoral Fellows (PDFs) for their active involvement in fieldwork, documentation, and implementation of individual and collaborative research initiatives. Their hard work and commitment were crucial to realising the objectives of this study.

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Finally, we acknowledge that many others, colleagues, friends, and well-wishers have contributed to this effort in various ways, both large and small. While it's not feasible to list everyone by name, we are genuinely thankful to each individual for their support, encouragement, and goodwill.

Prasanna Kumar Patra
Mitali Chinara
Subhendu Kumar Acharya
Suresh Chandra Murmu
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FOREWORD

It is a matter of profound satisfaction and academic pride to present this Technical Report titled "Socio-Cultural, Demographic, Nutrition and Health Status of the Particularly Vulnerable Tribal Groups (PVTGs) of Odisha: A Technical Report", prepared under the auspices of the Centre of Excellence in Studies on Tribal and Marginalized Communities (CoE in STMC), Utkal University, with the support of the World Bank-assisted Odisha Higher Education Programme for Excellence and Equity (WB-OHEPPE).

Odisha occupies a distinctive place in the tribal landscape of India, being home to a rich constellation of indigenous communities whose histories, ecological wisdom, cultural memory, and linguistic diversity form an enduring civilizational heritage. Among them, the Particularly Vulnerable Tribal Groups represent communities living at the delicate intersection of tradition and transition. This report is therefore not merely a compilation of data; it is a deeply human document that records voices, vulnerabilities, resilience, and the changing realities of life among ten PVTGs of Odisha.

What distinguishes this work is its rare interdisciplinary depth. Combining ethnography, demography, nutritional anthropology, maternal and child health, menstrual hygiene, ethno-linguistics, and socio-economic analysis, the report offers a holistic understanding of these communities in the context of rapid socio-cultural transformation. The findings on educational deprivation, nutritional stress, anaemia, reproductive health, ecological adaptation, indigenous food systems, and emerging metabolic risks illuminate both persistent inequities and evolving developmental challenges.

Equally significant is the report's careful documentation of oral traditions, kinship systems, ritual practices, sacred landscapes, dormitory institutions, indigenous governance structures, and linguistic expressions that continue to sustain cultural identity amidst modernization. Such scholarship is invaluable not only for academia, but also for policymakers, public health planners, anthropologists, and institutions committed to inclusive and culturally sensitive development.

I sincerely congratulate the authors, research team, field investigators, collaborating institutions, and community participants whose collective dedication has culminated in this significant scholarly contribution. I am confident that this publication will serve as an authoritative reference and a meaningful step toward knowledge-based, humane, and participatory tribal development.


Prof. Chandi Prasad Nanda



FROM THE DESK OF THE MENTOR

Prof. Kamal Kant Misra
Formerly Vice-Chancellor
Utkal University of Culture, Odisha



Under the flagship initiative of the Department of Higher Education, Government of Odisha, *Odisha Higher Education Programme for Excellence and Equity*, supported by the World Bank, Utkal University was entrusted with the establishment of the *Centre of Excellence in Studies on Tribal and Marginalized Communities (STMC)*. Conceived as a significant academic and research Centre, it was mandated to undertake interdisciplinary research on the *Particularly Vulnerable Tribal Groups (PVTGs)* of Odisha, with a special emphasis on the diverse dimensions of their social life, cultural practices, language, health, livelihood, and indigenous knowledge systems. It was both an academic honour and a personal privilege for me to be nominated by the Government of Odisha as the Mentor of this Centre, contributing to its intellectual vision and research orientation.

It is a matter of profound satisfaction that the Centre has now brought forth the outcome of this significant research endeavour in the form of a comprehensive volume titled *Socio-Cultural, Demographic, Nutrition and Health Status of the Particularly Vulnerable Tribal Groups (PVTGs) of Odisha: A Technical Report*. The report has been meticulously edited by five distinguished scholars and colleagues—Prof. P.K. Patra, Prof. Mitali Chinara, Dr. S.K. Acharya, Prof. Suresh Murmu, and Dr. Binoy Kumar Kuiti—whose collective academic commitment and interdisciplinary expertise have substantially enriched the intellectual depth and scholarly value of this work.

Most of the thirteen *Particularly Vulnerable Tribal Groups (PVTGs)* of Odisha, once predominantly dependent on hunting-gathering and shifting cultivation, have gradually undergone a significant socio-economic transition under the expanding influence of urbanisation and industrialisation in the state, as mentioned in the report. Their livelihoods now increasingly encompass settled agriculture, horticulture, wage labour, forest-based crafts, industrial occupations, and

government employment. Despite these transformations, the communities continue to preserve substantial elements of their indigenous cultural traditions and ecological knowledge systems.

The social and cultural life of the PVTGs even today remains profoundly anchored in oral traditions, ancestral myths, and nature-centred cosmologies that sustain their collective identity and spiritual continuity. Their cultural distinctiveness continues to find expression through traditional attire, ornaments, festivals, music, dance, and sacred village spaces, all of which embody a deep ecological consciousness and reflect remarkable resilience and continuity amidst ongoing socio-economic change.

The phonological and lexical diversity of the languages spoken by Odisha's Particularly Vulnerable Tribal Groups (PVTGs) reveals a complex interplay of influences from the Austroasiatic, Dravidian, and Indo-Aryan language families. These linguistic traditions preserve distinctive phonetic and structural features such as retroflexion, aspiration, nasalisation, vowel harmony, and agglutinative formations, reflecting rich processes of historical interaction and cultural continuity. The persistence of these features demonstrates the remarkable resilience of indigenous ethno-linguistic identities, which continue to endure and adapt despite sustained socio-cultural transformation and external influences. More research needs to be undertaken on the linguistic profiles of the PVTGs of Odisha.

The Particularly Vulnerable Tribal Groups (PVTGs) of Odisha continue to depend primarily on agriculture, collection of forest produce, and wage labour as their principal means of livelihood. Access to formal employment opportunities and higher education remains limited, particularly among women, reflecting persistent structural inequalities and socio-economic marginalisation. Many PVTG settlements continue to experience inadequate housing conditions, dependence on firewood for domestic energy needs, and uneven access to basic civic amenities such as sanitation, electricity, and safe drinking water, thereby underscoring the continuing challenges of inclusive development and social equity.

Among the Particularly Vulnerable Tribal Groups (PVTGs) of Odisha, maternal and child health indicators reveal persistent and multifaceted public health concerns, including malnutrition, inadequate menstrual hygiene practices, low rates of institutional delivery, and limited access to reproductive healthcare services. Nutritional assessments further indicate a widespread prevalence of chronic energy deficiency alongside the emergence of metabolic disorders such as hypertension and elevated blood glucose levels. These trends collectively point toward a gradual epidemiological transition, wherein persistent undernutrition coexists with the rising incidence of lifestyle-related health risks within these communities.

Despite the implementation of multiple welfare schemes and the allocation of substantial financial resources for the holistic development of the Particularly Vulnerable Tribal Groups (PVTGs), the communities of Odisha continue to face significant developmental challenges. The present study unequivocally underscores the urgent need for more robust, inclusive, and culturally sensitive interventions addressing their socio-economic, educational, nutritional, and healthcare vulnerabilities. In this context, I extend my sincere congratulations to all the editors of this volume for their scholarly contribution and dedicated effort. I also urge policymakers, development administrators, researchers, and scholars to engage critically with the findings of this study and utilise them effectively in shaping informed policies and sustainable strategies for the empowerment and well-being of the PVTGs of Odisha.



Kamal Kant Misra

A REFLECTIVE APPRAISAL

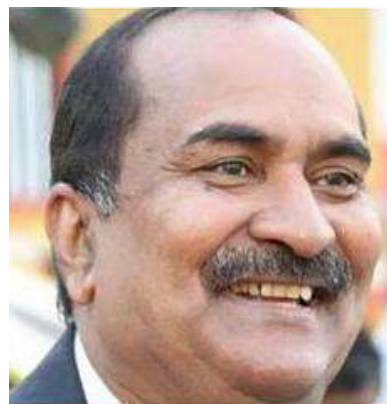
Prof. A.B. Ota, IAS (Retd.)

Senior Advisor

Ministry of Tribal Affairs

& National Tagore Fellow

Formerly Director, SCSTRTI, GoO



The technical report titled *Socio-Cultural, Demographic, Nutrition and Health Status of the Particularly Vulnerable Tribal Groups (PVTGs) of Odisha: A Technical Report* represents a highly significant scholarly and policy-oriented contribution to the understanding of Odisha's tribal communities, particularly the PVTGs who continue to inhabit some of the most ecologically fragile and socio-economically marginalised regions of the State. The report deserves commendation for its comprehensive interdisciplinary approach that successfully integrates anthropology, demography, linguistics, nutrition, maternal and child health, and public policy perspectives within a single analytical framework. Such holistic documentation of the life-worlds of the PVTGs is both rare and extremely valuable in the contemporary context of inclusive development and tribal welfare planning.

One of the foremost strengths of the study lies in its extensive field-based empirical foundation and ethnographic depth. The report captures with remarkable sensitivity the socio-cultural institutions, ecological adaptations, settlement patterns, kinship structures, ritual traditions, indigenous governance systems, and linguistic diversity of the PVTGs. It effectively demonstrates that tribal societies cannot be understood merely through economic or statistical indicators, but must be viewed within the larger context of culture, ecology, identity, and historical processes of marginalisation. The documentation of ethnic languages and oral traditions as repositories of indigenous knowledge and collective memory is particularly noteworthy and contributes substantially to the discourse on cultural preservation and linguistic diversity.

The study also makes a highly valuable contribution by bringing into focus the critical issues of nutritional deprivation, maternal and child health vulnerabilities, anaemia, chronic energy deficiency, and emerging epidemiological transitions

among the PVTGs. The coexistence of undernutrition with lifestyle-related metabolic disorders reflects the complex and changing realities of tribal communities undergoing rapid socio-economic transformation. The report rightly highlights that health and nutritional outcomes are deeply linked with poverty, ecological change, inadequate infrastructure, food insecurity, educational deprivation, and unequal access to healthcare services. Its emphasis on women's health, menstrual hygiene, reproductive challenges, and gender disparities adds further depth and relevance to the study.

Another commendable aspect of the report is its balanced treatment of continuity and change. While it documents the resilience, adaptive capacities, and cultural richness of the PVTGs, it simultaneously highlights the structural inequalities and developmental deficits that continue to affect these communities. The report therefore moves beyond welfare-centric narratives and advocates culturally sensitive, community-centred, and rights-based approaches to tribal development. Such perspectives are essential for designing sustainable and inclusive policy interventions.

At the same time, future studies may further enrich the analytical dimension by incorporating longitudinal and inter-generational perspectives on social transformation, migration, climate change, digital penetration, and the long-term impact of state interventions and welfare programmes. Greater inclusion of community narratives and participatory voices would also deepen the interpretative strength of such studies.

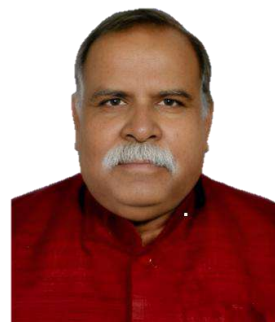
Overall, this report stands out as an important academic, administrative, and policy reference document. It will undoubtedly serve as a valuable resource for researchers, planners, public health professionals, administrators, and institutions engaged in tribal development, while also contributing meaningfully to the broader discourse on indigenous communities, social justice, and inclusive development in India.



Akhila Bihari Ota

A CRITICAL PERSPECTIVE

Prof. Kishor K. Basa, PhD (London)
Formerly Vice-Chancellor
MSCB University, Baripada, Odisha
Formerly Director General
Archaeological Survey of India



The present Technical Report titled “Socio-Cultural, Demographic, Nutrition and Health Status of the Particularly Vulnerable Tribal Groups (PVTGs) of Odisha: A Technical Report” is a significant and timely scholarly contribution to the growing body of interdisciplinary tribal studies in India. Prepared under the Centre of Excellence in Studies on Tribal and Marginalized Communities (CoE in STMC), Utkal University, with the support of the WB-OHEPET Programme, the report demonstrates an admirable integration of anthropological depth, demographic analysis, linguistic documentation, and public health inquiry.

One of the notable strengths of this work lies in its methodological breadth and field-based orientation. The report successfully moves beyond descriptive ethnography and attempts a holistic understanding of ten PVTGs of Odisha through the combined lenses of culture, language, nutrition, reproductive health, socio-economic conditions, and ecological adaptation. The extensive empirical documentation on kinship systems, ritual life, indigenous governance, oral traditions, sacred landscapes, dietary patterns, and ethno-linguistic structures enriches our understanding of the dynamic continuity between tradition and modernity among these communities.

Equally commendable is the report's attention to pressing developmental concerns. The analyses relating to maternal and child health, menstrual hygiene, anaemia, chronic energy deficiency, educational deprivation, and emerging metabolic risks provide valuable insights for both academic discourse and evidence-based policy intervention. The attempt to correlate cultural practices with nutritional and demographic transitions reflects a mature interdisciplinary approach rarely seen in regional tribal studies.

At the same time, a few areas invite further scholarly reflection. Given the complexity and diversity among the PVTGs, certain sections could have benefited from deeper comparative interpretation and stronger theoretical engagement with contemporary debates on indigeneity, development, and cultural resilience. In some chapters, the richness of quantitative data occasionally overshadows critical analytical discussion. Future editions may also consider incorporating more longitudinal perspectives, visual ethnographic materials, and comparative references with similar indigenous populations elsewhere in South Asia.

Nevertheless, these observations do not diminish the overall value of the work. Rather, they indicate the immense scope this report opens for future research and policy dialogue. The research team and researchers deserve sincere appreciation for producing a document of such scale, sensitivity, and academic relevance. I am confident that this report will remain an important reference for scholars, administrators, development practitioners, and institutions concerned with tribal welfare and inclusive knowledge production.



Kishor K. Basa

Executive Overview

ETHNOGRAPHY

The Particularly Vulnerable Tribal Groups (PVTGs) of Odisha are primarily concentrated in the tribal-dominated districts of Mayurbhanj, Malkangiri, Keonjhar, Rayagada, Gajapati, Kandhamal, and Nuapada. However, with increasing urbanisation and associated migration, members of these communities have moved to various other districts and adjacent states, settling as part of their livelihood strategies. Over time, their techno-economic status has shifted from earlier practices such as hunting-gathering and shifting cultivation to settled agriculture, horticulture, wage labour, forest-based crafts, and, more recently, industrial labour and government jobs. This marks a major cultural transition, though they retain their traditional practices to a significant extent for sustenance. The traditional settlement patterns of the PVTGs of Odisha mirror the geography: linear in the plains, scattered or zigzag in the hills. Housing styles range from conical leaf huts to stone-walled dwellings, each reflecting ecological adaptation and cultural artistry. Several of these communities have adopted and are now staying in government-provided housing facilities as part of the displacement-associated rehabilitation and rural housing schemes.

Ethno-histories of these communities are grounded in community myths, nature, and ancestral customs and preserve their continued spiritual beliefs and individual tribal identity. Most families are nuclear, with few extended or polygynous types. Marriage practices include arranged, love, and arranged-for-service unions, reflecting a balance between autonomy and tradition. There is a practice of bride price among them, paid in cash or in kind, that reinforces reciprocity and social bonding. Patrilineal clan systems typically govern marriage and lineage, except in groups such as the Lanjia Soura and the Bonda. Life-cycle rituals remain central, with birth ceremonies focusing on purification and kinship, and death rituals emphasising ancestor worship, purification, and ecological symbolism.

The magico-religious sphere is closely linked to polytheism, nature worship, and ancestral reverence, with male and female ritual specialists maintaining community beliefs. Dormitory institutions in PVTG communities (such as Juang, Bonda, etc.) were once central to youth

socialisation but are declining due to modern influences. Traditional political organisations, led by elders and priests, continue to integrate governance and spirituality while simultaneously adopting the Panchayatiraj System. Their economy is largely based on ecological knowledge, including agriculture, forest produce, crafts, and seasonal foraging. The dietary diversity draws from forest-collected foods (such as leaves, fruits, and vegetables), millets and rice, and is complemented by traditional/cultural liquor/beer such as Handia, Salap, and Mahuli.

Cultural identity is further expressed through distinctive attire, ornaments, festivals, dance, music, and sacred village spaces, reinforcing ecological reverence, social cohesion, and resilience in the face of ongoing transformation.

ETHNIC LANGUAGE

The IPA-based linguistic analysis of Odisha's PVTGs reveals profound phonological diversity, shaped by influences from the Austroasiatic, Dravidian, and Indo-Aryan language families. House names exhibit alveolar taps, aspirated plosives, affricates, and nasals, encoding settlement identity and ecological adaptation. At the same time, family and marriage terms feature labiovelar approximants, open vowels, and affricates that underscore kinship structures, matrimonial customs, and social organisations. Bride price and clan vocabularies employ nasals, retroflexes, vowel harmony, compound formations, symbolising exchange systems, lineage ties, and ecological symbolism.

Ritual terms tied to birth and death highlight aspirates, diphthongs, retroflexion, and nasalisation, reflecting purification ceremonies, ancestral reverence, and kinship roles. Religious lexicons, including priesthood titles, demonstrate a widespread use of long vowels, retroflex consonants, and aspirated stops, which embed polytheistic traditions, ancestor worship, and gendered ritual roles. Dormitory and political terminology further illustrate retroflexion, vowel elongation, and aspiration, encoding youth socialisation practices, governance hierarchies, and ceremonial order.

Economic and dietary lexicons display retroflex plosives, aspirates, and compound-syllabic structures, indexing agroecological knowledge, millet-based subsistence, and indigenous food systems. Beverage terms highlight aspirates, vowel prolongations, and retroflexes, preserving ethnobotanical knowledge, while attire and ornament terms demonstrate geminates, aspirates, and retroflexion, capturing artisanal identity and embodied cultural

heritage. Similarly, festival and performance-related terms exhibit rhythmic phonotactics with disyllabic stress, aspirates, and nasals, reflecting the centrality of ritual and musical traditions in these contexts.

Sacred place names exhibit trisyllabic and quadrisyllabic symmetry, featuring retroflexes and aspirates, which encodes spatial-cultural logic within ritual landscapes. Anatomical and fauna terms employ nasal codas, retroflexes, and elongated vowels, signifying ecological intimacy and symbolic naming. Broader lexical divergence is marked by vowel centralisation, consonantal simplification, cluster reduction, and agglutinative formations, highlighting dynamic language contact zones. Numeral systems reveal diphthongisation, pre-nasalisation, and affixation, while kinship terms preserve nasalisation, vowel elongation, and morpho-phonemic variety.

These phonological patterns demonstrate how Odisha's PVTGs preserve a rich and living oral tradition, ecological symbolism, and ethno-linguistic resilience, maintaining continuity while reflecting centuries of cultural and linguistic contact and adaptation.

DEMOGRAPHY AND SOCIO-ECONOMIC PROFILE

The demographic and socio-economic profiles of Odisha's PVTGs reveal a younger population, though with several concerns and structural challenges. About half of the population is under 19 years age, reflecting higher fertility in the selected PVTG communities. It is also reflective of potential large future workforce. Representation of the elderly population in communities is modest but distinctly higher among females than the males indicating females living longer than the males. It may be noted that variations in population across tribes are highly significant; for example, Dongria Kandha and Bonda exhibit high child dependency, while Paudi Bhuiyan and Lanjia Saora show significant section of their population in working-age groups.

Patterns of sex ratio are complex, with discrepancies in child age groups in communities like Bonda and Hill Kharia indicating potential son preference and social negligence towards girl children and females. Household structures are shifting toward nuclear units, though larger families persist among the PVTGs like Dongria Kandhas and the Kutia Kandhas. Marriage remains culturally resilient, though delayed practices are observed in some groups, while widowhood disproportionately affects women.

Executive Overview

Educational deprivation is widespread, with nearly 39% remaining non-literate, with the Juang, Lodha, and Kutia Kandha being the most disadvantaged. Dropouts surge after Class X, indicates negligible participation in higher education. Particularly, gender disparities in access to education starting from schooling are stark where girls were observed to face major systemic barriers.

Economically, only half the working-age population works, mostly in informal, subsistence-oriented occupations. Agriculture, casual labour, and forest produce collection dominate, with minimal access to salaried jobs or entrepreneurial opportunities. Women remain concentrated in low-paying and seasonal occupations.

Household amenities highlight persistent poverty; pucca housing is rare. Most households depend on firewood for food preparation. Access to sanitation, electrification, and safe water remains uneven and a significant challenge. These findings underscore urgent needs for targeted interventions in education, healthcare, livelihood diversification, gender inclusion, and infrastructure development to ensure equitable well-being among Odisha's PVTGs.

MATERNAL CHILD HEALTH & HYGIENE

The reproductive health profile of Odisha's PVTGs reflects the profound interplay of nutrition, cultural beliefs/practices, and socio-economic constraints. The average age at menarche is 13.2 years; however, an early onset in the Juang and Mankidia and delayed onset in the Kutia Kandha and Didayi is observed, underscoring possible nutritional and environmental disparities. Some groups are found to have limited observance of ritualistic practices (22%) around menarche. However, menarche associated strong taboos perpetuating stigma and hindering girls' education and health access are observed. Menstrual hygiene remains poor at overall level; only 19% of women are found to use sanitary napkins while most rely on cloth; and nearly a quarter clean themselves with water only, highlighting their significant exposure to infection risks.

The average age of first childbirth was 20.5 years at the overall level, and fertility was about 3 live births per woman. However, early marriage and early childbearing remain prevalent. Fertility is highest among Didayi and Lodha, while Juang and Mankidia show declining trends. The average birth weight is below the healthy threshold (2.47 kg), and there is an alarming prevalence of very low birth weight among the Bonda, Didayi, and Lodha.

Maternal health services show mixed progress: some tribes, such as the Juang and Dongria Kandha, report high antenatal care coverage, while others, such as the Paudi Bhuiya and Bonda, lag behind. Institutional deliveries are limited, with higher incidences of home births (59%), and with such deliveries fully depending on traditional attendants. This also contributes to higher incidences of pregnancy complications (13.7%) during delivery causing higher incidences of miscarriage and stillbirth in Bonda, Didayi, and Kutia Kandha.

Family planning awareness (68%) outpaces actual practice (47%), reflecting cultural resistance, misinformation, poor access and limited practices. ASHAs remain the primary source of information, but modern contraceptive uptake is uneven. These patterns underscore the urgent need for culturally sensitive reproductive health education, enhanced maternal and child healthcare infrastructure, nutrition interventions, and targeted family planning services to reduce mortality and improve well-being among Odisha's PVTGs.

GROWTH AND NUTRITIONAL HEALTH

The growth, nutritional, and health profile of Odisha's Particularly Vulnerable Tribal Groups (PVTGs) reflects a complex interplay of undernutrition, emerging lifestyle changes, increasing metabolic risks and persistent health inequities. Growth trajectories reveal rapid gains in early childhood, with girls slightly taller at early days, but boys were reported with stronger pubertal spurts between ages 13 and 15 years. Ethnic variations are significant: Lanjia Saora, Juang, and Lodha boys reach greater adolescent heights, while Paudi Bhuiyan and Didayi children consistently remain the shortest and lightest. Weight patterns follow similar trends, with early gains, moderate increases in childhood, and adolescent spurts stronger in males. However, chronic undernutrition is evident, with BMI-for-age (BAZ) values persistently below WHO standards.

Z-score analyses reveal severe nutritional deficits: mean height-for-age (HAZ = -2.46) indicates widespread stunting- beginning in infancy, while weight-for-age (WAZ = -1.73) and weight-for-height (WHZ = -1.69) confirm high rates of underweight and wasting, particularly among boys. Stunting affects up to half of preschool and adolescent children, with high prevalence in the Mankidia, Juang, and Paudi Bhuiyan tribes. The wasting and thinness scenario improved relative to WHO thresholds, while a visible rise in adiposity (overweight/obesity) in select groups signals a dual burden of malnutrition.

Executive Overview

Among adults, the average height and weight for men were 158 cm and 50 kg, respectively. For women, the average height is 148 cm, and the average weight is 42 kg. A high prevalence of chronic energy deficiency (CED) was reported among men and women at 31.9% and 50% prevalence rate respectively. Anaemia remains a critical concern, affecting 37% of adult men and over 53% of adult women, with the highest prevalence in Mankidia, Bonda, and Lanjia Saora. Blood pressure and random sugar levels suggest a trend of early onset of metabolic risks, where 15% of all adults were hypertensive; prevalence of prehypertension as well as elevated sugar intolerance (prediabetes) levels were also observed of rising- especially in Lodha, Hill Kharia, and Lanjia Saora. Central obesity was observed in a convergent mode with the national trend, suggesting a possible major health transition among the PVTG communities.

CHAPTER-I

INTRODUCTION

1.1. Background

India is home to one of the largest and most diverse indigenous populations in the world, with more than 104 million people identified as Scheduled Tribes (STs), constituting approximately 8.6% of the country's total population (Office of the Registrar General & Census Commissioner, India, 2011). These communities, often called *Adivasis*, meaning "original inhabitants", have historically lived in forested and hilly terrains, with distinctive ways of life intimately connected to the natural environment. The tribal population of India reflects immense heterogeneity in language, customs, socio-political organisation, and health-related aspects. Among the Scheduled Tribes, 75 tribal communities have been recognised by the Government of India as Particularly Vulnerable Tribal Groups (PVTGs). Initially termed as "Primitive Tribal Groups" in 1975–76, they were reclassified in 2006 to reflect a more respectful nomenclature. These groups are identified based on specific criteria: pre-agricultural subsistence-level economy, stagnant or declining population, extremely low literacy, and relative isolation from the mainstream population and market economy (Ministry of Tribal Affairs [MoTA], 2023). These communities are considered the most marginalised, even among tribal populations, facing compounded layers of socioeconomic deprivation, cultural marginalisation, and structural neglect (BM et al., 2024).

Odisha, located on the eastern coast of India, is distinguished by its substantial tribal population, which makes up 22.8% of the state's total population, nearly double the national average. Odisha is home to 13 of India's 75 PVTGs, the highest number of any Indian state. These include the Bonda, Dongria Kandha, Juang, Lanjia Saura, Saura, Paudi Bhuyan, Chuktia Bhunjia, Kutia Kandha, Didayi, Hill Kharia, Lodha, Mankidia, and Birhor communities. Each group has its own language, customs, spiritual beliefs, and social organisation, most of which are non-literate, orally transmitted, and deeply embedded in local ecology. They primarily inhabited forested uplands, deep valleys, and inaccessible hilly tracts spread across districts such as Malkangiri, Rayagada, Kandhamal, Keonjhar, Gajapati, Sundargarh, Mayurbhanj and Nuapada.

Despite decades of policy interventions, ranging from tribal sub-plans and special nutrition programs to affirmative action in education and employment, PVTGs continue to face the most acute forms of deprivation. Their levels of illiteracy, child malnutrition, maternal mortality, and poverty are significantly higher than those of the general population and other tribal communities (Bhoi & Acharaya, 2024; Das et al., 2024; Barik et al., 2025). According to the NFHS-5 (2019–21), tribal districts in Odisha continue to show alarming levels of underweight children, high anaemia prevalence, and limited access to institutional healthcare (IIPS & ICF, 2021; Tripathi et al., 2023). These challenges are further compounded by geographic inaccessibility, where basic services such as clean drinking water, electricity, primary health centres, and educational facilities remain sporadic or largely absent (Balgir, 2006).

Cultural distinctiveness plays a crucial role in causing marginalisation of PVTGs. Their traditional belief systems, animistic rituals, kinship practices, and gender norms often diverge from dominant sociocultural expectations, rendering standard policy implementation ineffective (BM et al., 2024). Language barriers, given that many PVTG communities speak unwritten tribal languages, further hinder communication about various programmes and services, leading to reduced uptake and utilisation of healthcare schemes. Consequently, critical areas such as menstrual health and hygiene,

maternal-child health, physical growth, and nutritional security are severely affected (Sahani & Nandy, 2013; Thamminaina et al., 2020; BM et al., 2024). Young girls and women are most impacted by stigmas, poor sanitation, and limited menstrual education. Meanwhile, children face chronic malnutrition and stunted growth due to restricted access and lack of dietary and healthcare diversity (Mudi et al., 2023; Ayushree & Udgata, 2024; Kshatri et al., 2025).

Moreover, the historical displacement of these communities from forest lands, the erosion of customary rights, and pressures from mainstream development, such as dam construction, mining, and deforestation, have undermined their traditional subsistence practices and social cohesion (Mukherjee, 2019; Minz, 2021; Sahoo, 2024; Samal, 2025). While some development projects claim to be inclusive, they often result in further marginalisation, loss of livelihood, and disruption of cultural life (Mohapatra, 2011; Nayak & Deswal, 2025; Das, 2025). In light of these intersecting vulnerabilities, Odisha's PVTGs remain on the margins of the Indian development narrative, necessitating holistic, context-sensitive research and interventions that account for their unique ethno-linguistic, cultural, and ecological identities.

This report seeks to elaborate on the details of various such issues by conducting in-depth, interdisciplinary research focusing on ethnography, tribal languages, socio-demographic and socio-economic patterns, menstrual and hygiene practices, maternal and child health, physical growth, nutritional status, and overall health among Odisha's PVTG communities. This study also seeks to generate evidence that fills critical knowledge gaps by informing inclusive and culturally appropriate policy planning through details ethnographic fieldwork, structured surveys, anthropometric assessments, and participatory engagement.

1.1.1. Ethnographic Significance

An ethnographic inquiry into the lives of PVTGs in Odisha unveils a rich and complex tapestry of kinship systems, clan-based social organisation, traditional ecological knowledge, religious cosmologies, and gender roles, all deeply interwoven with the natural environment (Scheduled Castes and Scheduled Tribes Research and Training Institute, 2018; Odisha PVTG Empowerment & Livelihoods Improvement Programme, 2022; International Fund for Agricultural Development, 2023; Bhoi & Acharya, 2024; Mallik et al., 2024). Far from being homogeneous, each PVTG in Odisha sustains distinct cultural markers, language, dress, customs, and values that offer insights into alternative worldviews and systems of resilience shaped over generations of adaptation to forested and hilly landscapes (Parida, 2016; Scheduled Castes & Scheduled Tribes Research and Training Institute, 2019; Mallik et al., 2024).

For example, consider the Dongria Kondh, a PVTG residing in the Niyamgiri hills of the Rayagada and Kalahandi districts. They practice shifting hill cultivation (*podu*) and maintain a sacred geography, viewing the Niyamgiri Hills as the physical and spiritual domain of Niyam Raja, their supreme deity. Every stream, rock, and hilltop in their territory is imbued with spiritual significance, forming a sacralized ecological worldview that governs their interactions with the environment (Sethi & Naik, 2020; Dandapat, 2021; Bocha & Kotnak, 2021; Hansdah & Biswal, 2023; Behera, 2025). Their ritual calendar, agricultural practices, and community governance are intricately aligned with the ecological rhythms (Parida, 2016; Scheduled Castes and Scheduled Tribes Research and Training Institute, 2018; Odisha PVTG Empowerment & Livelihoods Improvement Programme, 2022; International Fund for Agricultural Development, 2023). Similarly, the Bonda people, concentrated in the remote hills of Malkangiri, have preserved a highly distinctive socio-cultural identity. Women wear short ringed skirts called *ringa*, adorn their bodies with brass and aluminium

ornaments, and shave their heads, asserting gendered autonomy and tribal identity (Pati & Dash, 2002; Scheduled Castes and Scheduled Tribes Research and Training Institute, 2018). The Bonda society is matriarchal in several dimensions, with women playing dominant roles in household economies, marital negotiations, and decision-making. Their oral traditions, passed down through songs, folktales, and genealogical chants, are repositories of historical memory, moral philosophy, and ethical ecology (Mahapatra & Mahapatra, 1982; Mohanandia, 2024). These narratives are not mere folklore; they represent living epistemologies, systems of knowledge production that challenge linear and materialist development models.

The Juang, Lanjia Saura, Chuktia Bhunjia, and other PVTGs similarly maintain unique clan systems (*gotra*), marriage rules (endogamy and exogamy), and customary laws that regulate resource use, conflict resolution, and social reproduction (Prasad & Jena, 2022; Nandy & Naik, 2024; Jena & Prasad, 2022). For instance, Lanjia Saura draws iconographic wall paintings known as *iditals*, which are aesthetic expressions and ritual diagrams used to honour ancestors and spirits in the afterlife (Baral et al., 2016; Manocha et al., 2021). These practices reflect a worldview in which spirituality, social life, and ecology are not separate domains but interconnected spheres of existence.

This ethnographic fieldwork also highlights the critical roles of traditional healers (*vaidyas*), birth attendants (*dais*), shamans, and elders in sustaining community well-being and Indigenous healthcare systems (Kumar & Jain, 2023; Reddy et al., 2023; Alum, 2024). These key figures in a PVTG community possess accumulated wisdom about medicinal plants, birthing techniques, emotional support, and conflict mediation, roles often undervalued in biomedical frameworks (Sahoo et al., 2020; Bhoi & Acharya, 2024; B M et al., 2024). However, these intracommunity systems are rapidly changing as mainstreaming and interactions with various external agencies increase. Young tribal members are increasingly drawn toward wage labour and modern lifestyle practices; due to the limited inclusion of their traditions in formal education, there is a visible generational rupture in cultural transmission (Mutluri, 2020; B M et al., 2024).

Furthermore, ethnographic observations reveal tensions between cultural continuity and external assimilation. While government schemes aimed at development, such as the provision of housing, roads, and health centres, intend to improve tribal welfare, they often overlook cultural distinctiveness, unintentionally causing loss of community traditions, livelihoods, and practice systems. For example, dietary diversification promoted through public distribution systems (PDS) may clash with locally appropriate food practices rooted in foraging and seasonal cycles (Sahoo & Sahoo, 2017; Mudi et al., 2023; Rout et al., 2025; Bhattacharjee & Reja, 2025). Similarly, menstrual health interventions that provide sanitary pads or soap may be rejected if they disregard existing taboos, rituals, or water-access limitations (Mittal et al., 2023; Ayushree & Udgata, 2024; Nayak et al., 2025). Misunderstanding these contexts can result in ineffective program implementation and, in some cases, alienating these vulnerable tribal communities.

In this light, this ethnography allows for a shift from top-down assumptions to bottom-up perspectives, foregrounding tribal agency, knowledge, and values in planning. This will enable an appreciation of how PVTGs define well-being, health, community, and nature, often in ways that differ sharply from mainstream developmental paradigms.

1.1.2. Tribal Language and Cultural Identity

Language is essential in forming and preserving the cultural identity, worldview, and social structure of tribal communities in India. For Odisha's PVTGs, language is not merely a tool for

communication; it is the main way they transmit oral histories, ecological insights, agricultural practices, cosmological beliefs, social customs, and healing methods across generations. Each PVTG community has distinct linguistic traditions that are deeply connected to their rituals, storytelling practices, clan ties, and territorial bonds.

Most PVTG languages in Odisha belong to three primary language families: Dravidian, Munda (a branch of the Austroasiatic family), and Indo-Aryan (IA) (Scheduled Castes and Scheduled Tribes Research and Training Institute, 2018; Mohanty & Tripathy, 2023). For instance, the Dongria Kondh speak *Kui*, a Dravidian language rich in ritual and agricultural vocabulary, especially linked to their sacred connection with the Niyamgiri Hills (Hansdah & Biswal, 2024). The Bonda, one of India's most isolated groups, speak *Remo*, a language classified under the South Munda subgroup (Mohanty, 2018; Mathew & Chamberlain, 2022). Similarly, the Juang people speak a Munda language (Mullick, 2020; Ranasingh, 2025), and the Lanjia Saura speak Sora, an Austroasiatic language known for its complex ideographic script used in ritual paintings (*Idital*) (Prasad & Jena, 2022). These languages function as both linguistic codes and repositories of indigenous knowledge, encompassing practices from childbirth rituals to forest classification.

These rich linguistic ecosystems face increasing threats from the dominance of Odia, the state language, and the rising influence of Hindi and English through formal education, government communication, media, and religious missions (Bromham et al., 2022; Chakraborty, 2023). Schools primarily teach in Odia, with little recognition of the mother tongues of tribal children. This causes early alienation, poor academic retention, and loss of cultural identity (Mohanty, 2017; Pattanaik, 2020; Among, 2025; Mishra, 2025). Language erosion is also driven by urbanisation, migration for wage work, and the decline of oral traditions as younger generations adopt dominant languages to access socio-economic opportunities (Oloumi & Sabbaghian, 2021; Abid & Kumar, 2025).

The loss of language has deep and complex effects. Culturally, it leads to the breakdown of tribal identity as oral traditions, ritual chants, and local histories are no longer transmitted. Psychologically, it causes feelings of inferiority and alienation among tribal youth, who view their languages as outdated or useless. At the institutional level, the language gap between tribal communities and health or education providers often results in miscommunication, mistreatment, and ineffective services. Research in Odisha's tribal districts reveals that women often avoid institutional childbirth or health advice due to linguistic misunderstandings and cultural insensitivity from frontline workers (Contractor et al., 2018; Gouda & Shekhar, 2020; Kosariya et al., 2025). Additionally, the decline of tribal languages weakens community autonomy in decision-making. Traditional conflict resolution methods and knowledge of customary laws—often documented in local proverbs, clan symbols, and ritual dialogues—are fading, increasing reliance on external systems that may not reflect local values or priorities (San Jose, 2021; World Intellectual Property Organization, 2023).

In this context, language revitalisation and bilingual education are vital for preserving culture and improving health, education, and governance outcomes. Many scholars and policymakers support integrating mother-tongue-based multilingual education (MTB-MLE) into early childhood programs, especially for PVTGs (Dkhar & Kakoty, 2023; Premsrirat & Hairsh, 2025). These initiatives have shown promise in enhancing learning results, reducing dropout rates, and increasing tribal children's self-esteem. Additionally, community-driven efforts to document languages, such as participatory audio and video archives, dictionaries, storybooks, and digital storytelling platforms, are becoming important tools for linguistic and cultural empowerment.

There is also increasing recognition that culturally grounded public health communication must include local languages to be effective in the region. For example, training community health workers who speak local dialects or producing audio-visual health materials in tribal languages can greatly improve outreach and participation, especially in sensitive areas such as menstrual health, nutrition, maternal care, and sanitation (Andrulis & Brach, 2007; Schouten et al., 2023; Gore et al., 2024).

In summary, tribal languages are more than mere linguistic artefacts; they are living reservoirs of knowledge and identity, deeply woven into the daily lives and worldviews of Odisha's PVTGs. Protecting these languages is crucial for cultural fairness and key to fostering inclusive development. Without respecting and incorporating these languages, development efforts may continue to marginalise these communities rather than uplift them.

1.1.3. Socio-Demographic and Socio-Economic Patterns

The socio-demographic profile of PVTGs in Odisha highlights significant demographic fragility and social disadvantages compared to other communities. These groups experience high fertility and mortality rates, which result in low or stagnant population growth despite relatively high birth rates (Bhoi & Acharya, 2024; Das et al., 2024). Early marriages, often occurring during adolescence, and short birth intervals further worsen this vulnerability, increasing the risk of adverse health outcomes for mothers and children. Research indicates that childbearing among these groups typically begins before age 18, with limited access to family planning or reproductive health education (Parida, 2016; Bhattacharjee et al., 2023; Das, 2024; Barik et al., 2025; Rang, 2025). Consequently, the infant mortality rate (IMR) and under-five mortality rate for PVTGs are significantly higher than the state and national averages, underscoring persistent gaps in access to healthcare, immunisation, and nutrition (Suvadarsini & Sahoo, 2023; Das et al., 2024; Ghosal et al., 2024).

Sex ratio disparities in some PVTGs reveal underlying gender biases and health inequalities. While many tribal communities traditionally follow matrilineal or egalitarian gender norms, recent data show skewed sex ratios favouring males in certain groups, likely due to son preference (Sabar, 2021; Tripathy, 2023; Mal & Saikia, 2024; Khatun & Mallik, 2025). There are reports of selective neglect and unequal access to nutrition and healthcare for female children (Mohanty et al., 2019). Additionally, literacy rates among PVTGs are considerably lower than those of the broader population, with female literacy often half or less than male literacy, hindered by socio-cultural barriers, geographic isolation, and poor educational infrastructure (Maharana & Nayak, 2017; Thamminaina et al., 2020). Low literacy limits employment prospects and awareness of health, sanitation, and government schemes, thereby sustaining cycles of marginalisation (Nayak et al., 2021; Routray & Mishra, 2022; Hansdah et al., 2024).

From an economic perspective, the livelihoods of Odisha's PVTGs are predominantly based on subsistence agriculture, complemented by hunting, fishing, and the collection of forest resources, including gathering tubers, honey, medicinal plants, and minor forest produce (Mallik et al., 2024; Sahoo, 2024). These activities are highly seasonal and dependent on ecological conditions, rendering PVTG economies vulnerable to environmental change and external pressure. Traditional shifting cultivation (*podu*) and foraging practices have historically sustained these groups in harmony with their ecosystems. However, over the past decades, increasing population pressure, land alienation, and forest degradation have severely disrupted these systems (Macherla et al., 2021; Pradhan & Sahoo, 2024).

The enforcement of restrictive forest policies, such as the Forest Conservation Act (1980) (Comptroller and Auditor General of India, 1980), and gaps in the Forest Rights Act (2006) (Government of India, 2006), have limited access to traditional lands and resources. This has affected the livelihoods of PVTGs (Sahoo et al., 2023; Naik, 2024; Sha, 2024). At the same time, activities like mining, commercial plantations, and infrastructure projects have led to displacement and habitat loss, pushing many households into poverty and food insecurity (Samal, 2025). In response, seasonal and distress migration has become common, especially among young men seeking wage work in nearby towns, mines, and farms (Bhattamishra, 2020; Tripathy, 2025; Panda et al., 2025). However, this type of migration is often insecure and informal, and it frequently fails to offer reliable income or better living conditions.

PVTG households are frequently trapped in a vicious cycle of poverty, malnutrition and ill health. Their economic marginality limits food diversity and access to adequate calories, contributing to chronic undernutrition and micronutrient deficiencies in children and women (Kuiti et al., 2022; Kuiti et al., 2022; Bhuiyan & Rath, 2024; Bhoi & Acharya, 2024; Das et al., 2024; Barik et al., 2025). Malnutrition exacerbates susceptibility to infections and delays physical and cognitive development, affecting educational attainment and future economic prospects. Furthermore, inadequate sanitation and poor access to clean drinking water compound health vulnerabilities, contributing to high rates of diarrheal disease and parasitic infection (Biswas et al., 2024; Kshatri et al., 2025).

The socio-economic disadvantages of PVTGs are also reflected in their limited ownership of land and productive assets. Most PVTG families possess small, fragmented landholdings, if any, with many relying on common property resources (CPRs) in forests for their livelihoods (Behera et al., 2022). However, recent changes in forest tenure regimes and encroachment have diminished CPR availability, further marginalising these communities (Mallik et al., 2024). The lack of financial inclusion, credit facilities, and market access restricts their ability to engage in remunerative activities and invest in improved agricultural practices (Sayyad & Jadhav, 2023).

The social exclusion of PVTGs manifests in economic deprivation and poor access to government welfare schemes. Although several targeted programs exist, such as the Vanbandhu Kalyan Yojana and Tribal Sub-Plan, their implementation is often hampered by geographical remoteness, lack of awareness, and bureaucratic hurdles (Ministry of Tribal Affairs, 2024; Gamit, 2024). This gap in social protection leaves many tribal families vulnerable to shocks and further deepens their intergenerational poverty.

1.1.4. Menstrual Health and Hygiene

Menstrual health and hygiene (MHH) are essential aspects of reproductive health but are frequently overlooked, especially in marginalised Indigenous communities like the PVTGs of Odisha. Menstruation is a natural biological event, yet it remains heavily stigmatised by social norms, cultural taboos, and misinformation, impacting the health, education, and social participation of adolescent girls and women in these groups (Nicholl, 2019). For PVTGs, factors such as geographic remoteness, poverty, low literacy levels, and traditional beliefs pose significant challenges to effective menstrual hygiene management, increasing health risks and perpetuating inequalities.

Odisha's PVTG communities, including the Bonda, Juang, and Dongria Kondh, have unique cultural identities and socio-religious customs that shape their views and behaviours related to menstruation. Often, menstruation is shrouded in secrecy and accompanied by restrictions; girls and women are frequently subject to taboos that exclude them from kitchens, religious sites, or community gatherings during their periods (Behera et al., 2024; Bhoi & Acharya, 2024). These prohibitions stem from traditional beliefs about purity and pollution, which restrict girls' movement and autonomy during menstruation.

A significant challenge is the widespread lack of access to hygienic menstrual products in many low-income countries. Most PVTG girls and women rely on traditional absorbents like old cloth, leaves, or ash, which are often reused without proper cleaning or sunlight drying. This practice heightens the risk of infections such as urinary tract infections (UTIs), reproductive tract infections (RTIs), and other gynaecological problems (Dasgupta & Sarkar, 2008). Furthermore, the absence of privacy and suitable sanitation facilities at home and in schools makes managing menstrual hygiene even more difficult. Many PVTG households lack access to basic sanitation infrastructure, including latrines and clean water, leading women to practice open defecation or wash in rivers and forest streams (Singh, 2019).

The educational gap greatly impacts poor menstrual health. Low female literacy and limited sexual and reproductive health education mean many adolescent girls in PVTG communities lack correct knowledge about menstruation, its biological aspects, or hygiene practices. This gap often causes fear, embarrassment, and misconceptions, which delay the adoption of healthy habits and the seeking of medical help when needed (Patasani et al., 2024; Panda et al., 2024). Furthermore, teachers and health workers in remote PVTG areas often lack the training and resources to provide culturally sensitive and age-appropriate menstrual health education (Thamminaina et al., 2020; Soman et al., 2024; Reang, 2025).

Inadequate menstrual health management impacts more than just physical health. Menstrual stigma and insufficient facilities lead to school absences among adolescent girls, which hampers their educational progress and deepens gender inequality (Anne & Kandasamy, 2024; Joshi & Mendhe, 2025). Persistent absences during menstruation can cause dropouts, lowering future employment prospects and continuing cycles of poverty and dependency.

Various government and non-governmental efforts aim to address menstrual hygiene challenges in tribal Odisha. Initiatives like the National Rural Health Mission (NRHM) and Swachh Bharat Mission (SBM) focus on improving sanitation and hygiene education, including providing sanitary napkins and constructing toilets in tribal areas and schools (Ministry of Housing and Urban Affairs, 2024). However, these programmes often face limitations due to implementation gaps, cultural barriers, and infrastructure deficits in remote PVTG regions (Varshney et al., 2025).

1.1.5. Maternal and Child Health

Maternal and child health (MCH) serves as a key indicator of health equity and socioeconomic development, particularly among marginalised groups like the PVTGs of Odisha. These communities experience higher rates of maternal mortality, neonatal and infant deaths, malnutrition, and restricted access to vital healthcare, reflecting deep-rooted structural inequalities linked to their sociocultural and geographic circumstances (Busch et al., 2022; Madankar et al., 2024; Ghosal et al., 2024; Bhoi & Acharya, 2024; Reang, 2025; Barik et al., 2025).

PVTG women encounter numerous difficulties throughout their reproductive years. Early marriage and adolescent pregnancies are common, driven by deep-rooted cultural norms and a lack of awareness about reproductive health rights, which increases the risk of complications during pregnancy and childbirth (Singh et al., 2024; Srinivasan, 2024). The fifth round of the National Family Health Survey (NFHS-5) indicates that tribal women in Odisha have higher fertility rates and make less use of antenatal care (ANC) services compared to the state average, often delivering at home without skilled birth attendants (PRS Legislative Research, 2020; Tripathi et al., 2023; NFHS-5, 2019–2021). This problem is particularly acute among PVTGs residing in remote, forested regions, where health facilities are limited, and transportation options are scarce (B.M. et al., 2024; Reang, 2025).

Nutritional deficiencies in pregnant and lactating women within tribal communities heighten the risk of negative outcomes for both mother and child. Common issues include chronic energy deficiency, anaemia, and micronutrient shortages such as iron and folic acid, all of which are exacerbated by food insecurity and limited dietary variety (Sharma et al., 2020; Jena et al., 2025). Despite their nutrient-rich nature, traditional forest foods are consumed less due to environmental degradation and restricted access, further impacting maternal nutrition (Bose, 2020; Ghosh-Jerath et al., 2020; Kapoor et al., 2022; Subramanyam & Rao, 2023). Insufficient maternal nutrition contributes to low birth weight, preterm delivery, and increased infant illness and death rates (Lassi et al., 2021; Dassie et al., 2026).

Child health indicators among PVTGs reveal significant vulnerability, with infant and under-five mortality rates (IMR and U5MR) considerably exceeding national averages. Contributing factors include malnutrition, infectious diseases, inadequate sanitation, and limited immunisation coverage (Busch et al., 2022; Madankar et al., 2024; Ghosal et al., 2024; Bhoi & Acharya, 2024; Reang, 2025; Barik et al., 2025). In many PVTG groups, rates of exclusive breastfeeding are low due to gaps in knowledge and cultural practices, and complementary feeding is often of poor quality and infrequent (Ogbo et al., 2019; Ghosh et al., 2022; Reddy et al., 2023). These nutritional deficiencies lead to stunting, wasting, and underweight conditions, which hinder cognitive development and impact future health (De & Chattopadhyay, 2019).

PVTGs tend to prefer traditional medicine and healers over formal health services due to deep-rooted trust (Bhoi & Acharya, 2024; Soman et al., 202). While indigenous practices provide valuable community care, their disconnect from modern healthcare often leads to treatment delays during pregnancy complications and childhood illnesses (Soman et al., 2024). Additionally, language barriers, cultural misunderstandings, and discrimination within healthcare environments discourage seeking institutional care (Al Shamsi et al., 2020).

Government schemes such as the Janani Suraksha Yojana (JSY), the National Health Mission (NHM), and the Integrated Child Development Services (ICDS) have improved maternal and child health outcomes among tribal groups. However, implementation challenges remain in PVTG areas due to geographic remoteness, inadequate staffing, and a lack of culturally sensitive outreach (B.M. et al., 2024). The absence of female health workers within the community further restricts trust and utilisation of services.

Improving MCH among PVTGs requires a comprehensive and culturally sensitive strategy that respects traditional knowledge while enhancing access to quality healthcare. Engaging the community in developing interventions, recruiting tribal health workers, and providing culturally appropriate health education can help address gaps in awareness and access to services (Parhi et al.,

2024; Satav et al., 2025). In summary, maternal and child health in Odisha's PVTGs continues to be fragile, shaped by socioeconomic hardship, cultural influences, and systemic neglect.

1.1.6. Physical Growth and Nutritional Status

Physical growth and nutritional health are crucial markers of child well-being, particularly within marginalised groups like the PVTGs in Odisha, India. These communities face higher rates of undernutrition and growth delays because of socioeconomic hardship, food scarcity, poor sanitation, and limited healthcare access (Kuiti et al., 2022; Kuiti et al., 2022; Bhuiyan & Rath, 2024; Bhoi & Acharya, 2024; Das et al., 2024; Barik et al., 2025).

Growth assessments like height-for-age, weight-for-age, and weight-for-height consistently reveal high levels of stunting, wasting, and underweight among PVTG children. Studies in Odisha's tribal districts indicate that stunting often exceeds 50%, highlighting chronic malnutrition from long-term poor diets and recurrent infections (Kshatri et al., 2025; Bhattacharjee & Reja, 2025). Elevated wasting rates, a sign of acute malnutrition, also point to food shortages and illness episodes. Undernutrition in early childhood hampers cognitive development, school performance, and future productivity, thereby perpetuating intergenerational poverty and vulnerability (Cabal-Herrera et al., 2025).

Undernutrition is widespread among PVTG women, with many exhibiting chronic energy and micronutrient deficiencies, especially anaemia. The National Family Health Survey (NFHS-5) highlights that over 70% of tribal women in Odisha are anaemic, which is often exacerbated by early pregnancies, inadequate diets, and parasitic infections (IIPS & MoHFW, 2021; Tripathi et al., 2023). Micronutrient deficiencies, such as vitamin A, iodine, and zinc, further undermine immune function and increase susceptibility to infections (Venkatesh et al., 2021; Kiani et al., 2022).

Dietary patterns in PVTG communities traditionally rely on diverse forest foods, including wild fruits, tubers, leafy vegetables, and animal proteins, rich sources of macro- and micronutrients (Kapoor et al., 2022; Dutta et al., 2025). However, ecological changes, deforestation, and restricted forest access due to conservation policies have disrupted these food systems, increasing dependence on monotonous cereal-based diets with low nutrient density (Barman et al., 2025; Feurer et al., 2025). Seasonal fluctuations in food availability also contribute to cyclical patterns of malnutrition, with "hungry seasons" marking periods of acute food insecurity in some tribal areas (Bidinger et al., 1986; Mirzabaev et al., 2023; Mutandani et al., 2025).

Infant and young child feeding (IYCF) practices among PVTGs are frequently suboptimal, with low rates of exclusive breastfeeding and delayed introduction of complementary foods that lack dietary diversity (Sharma et al., 2024; Thenarangam et al., 2025). These feeding practices, coupled with poor sanitation and high infection rates, exacerbate the risks of undernutrition and growth retardation (Caruso et al., 2023).

Environmental factors, such as poor access to clean water, sanitation, and hygiene (WASH) facilities, compound nutritional challenges by increasing the incidence of diarrheal diseases and intestinal parasites, which impair nutrient absorption and increase nutrient loss (Bose et al., 2024; Biswas et al., 2024). The convergence of these factors creates a "vicious cycle" of infection and malnutrition, reinforcing each other, making nutritional rehabilitation difficult without integrated health and WASH interventions.

Government nutrition programs, such as the Integrated Child Development Services (ICDS) and supplementary nutrition schemes, have attempted to address these issues. However, their reach and effectiveness in PVTG areas remain limited due to geographic isolation, inadequate infrastructure, and cultural barriers (Shanthi, 2024; Prasad, 2025). Furthermore, interventions often lack tailoring to the unique dietary habits and cultural preferences of tribal populations, thereby reducing their acceptance and impact.

A multisectoral approach is necessary to improve the physical growth and nutritional status of PVTGs. This includes promoting culturally appropriate nutrition education, strengthening local food systems by ensuring sustainable access to traditional forest foods, and improving the quality and coverage of supplementary feeding programs (Vincze et al., 2021; Ghosh et al., 2023).

1.2. Rationale for the Study

This study emphasises the urgent need to tackle the complex marginalisation of PVTGs in Odisha, who are among India's most deprived and underserved groups. Despite the introduction of various policies and welfare programs, such as the *Vanbandhu Kalyan Yojana*, *ST Girls' Hostel Scheme*, *POSHAN Abhiyaan*, *Pradhan Mantri Jan Arogya Yojana (PM-JAY)*, and other tribal development initiatives, their implementation remains inconsistent, fragmented, and often inaccessible to PVTGs. Challenges such as remoteness, illiteracy, language differences, poor transportation, and cultural gaps between the government and tribal communities impede service delivery and diminish the effectiveness of the schemes (Thamminaina et al., 2020; Madankar et al., 2024; Bhoi & Acharya, 2024).

The lack of detailed, community-specific data on PVTGs increases their invisibility in policymaking. Most national datasets and surveys, such as NFHS and NSSO, categorise tribal communities broadly as 'Scheduled Tribes', which hides the serious vulnerabilities and unique cultural features of PVTGs. Without accurate local data, planners and administrators find it difficult to develop or implement targeted interventions tailored to each group's specific needs. Consequently, despite legal protections and policy commitments under the Constitution of India and international frameworks such as the ILO Convention 169 and UNDRIP, PVTGs still face persistent underdevelopment, marginalisation, and cultural loss (Madaan & Mohanty, 2025; Dhaked, 2025).

This project addresses the call for interdisciplinary and community-focused research that combines ethnographic insights with empirical data on demographic, socio-economic, health, and nutritional factors. It examines areas such as tribal language use, menstrual hygiene, maternal and child health, physical growth, and nutritional status within the broader context of kinship systems, belief frameworks, and ecological lifestyles. This comprehensive approach is vital because health and well-being in Indigenous communities are interconnected with social, environmental, and cultural relationships rather than being reduced to medical issues (Reddy et al., 2023; Sahu et al., 2024).

The study also seeks to explore how traditional knowledge systems, especially in health, childbirth, nutrition, and ecological practices, are being challenged or replaced by externally imposed development models. The loss of these Indigenous knowledge frameworks, often without consent or consultation, has serious implications for self-determination, resilience, and sustainable development. Recognising these changes is essential to developing policies that respect cultural identities and empower communities rather than displace them. Additionally, this research is especially relevant given India's commitments to the Sustainable Development Goals (SDGs), including SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), and SDG 10 (Reduced Inequalities). PVTGs, due

to their vulnerability and isolation, are frequently neglected in national efforts to achieve these global goals. The findings from this project can support state and national initiatives like Tribal Sub-Plan budgeting, the Aspirational Districts Programme, and tribal health surveillance by providing detailed, culturally sensitive data.

Moreover, Odisha, which has the highest number of PVTGs, 13 out of 75 nationally recognised, stands out as a vital example for studying tribal development strategies. Insights from Odisha can inform broader debates on tribal policy across India, particularly regarding participatory governance, strengthening local institutions, and development rooted in the cultural context.

The anticipated outcomes of this project are therefore manifold. At the practical level, the findings will help sharpen the targeting of welfare and health interventions for PVTGs by identifying gaps in access, awareness, and acceptability. At the community level, the participatory research process will empower tribal respondents to articulate their priorities, perceptions, and solutions. At the policy level, the project will contribute to evidence-informed strategies that recognise cultural diversity, promote equity, and enhance the accountability of tribal development frameworks.

In sum, the rationale for this study lies in its potential to serve as a bridge between marginalised voices and institutional action, thereby advancing a more inclusive, just, and contextually appropriate model of tribal welfare and development in India.

1.3. Relevance of the Study

The relevance of this study lies in its critical focus on the most marginalised and understudied segment of India's tribal population or PVTGs, within the broader context of health, nutrition, cultural survival, and social equity. Despite constituting a mere fraction of India's population, PVTGs represent a rich mosaic of Indigenous knowledge systems, ecological stewardship, and cultural diversity that are increasingly under threat due to systemic neglect, development-induced displacement, and cultural homogenization (B.M. et al., 2024; Mishra et al., 2025; Veliah et al., 2025). Odisha, which hosts the largest number of PVTGs (13 out of 75 nationally), serves as a microcosm for understanding the deeper structural barriers to tribal development in India.

This study is particularly relevant because it addresses intersecting vulnerabilities rarely studied together in an integrated manner. While several academic and government studies have examined specific aspects, such as tribal nutrition or literacy rates, a significant gap remains in holistic, community-based research that integrates ethnography, tribal languages, socio-economic patterns, menstrual hygiene, maternal-child health, physical growth, and nutrition within a single analytical framework. This integrated approach not only provides a more comprehensive understanding of tribal well-being but also aligns with the current shift in development thinking that emphasises intersectionality, cultural responsiveness, and local knowledge (Narain, 2022; Bhattacharjee & Reja, 2025).

Furthermore, the study is timely and relevant in light of India's commitment to achieving the SDGs, especially in tribal-dominated districts that continue to lag in health, education, gender equality, and poverty reduction. By identifying region-specific constraints and cultural factors that influence access to healthcare, sanitation, education, and nutrition, the study can offer grounded insights for improving the delivery and effectiveness of flagship programs such as *POSHAN Abhiyaan*, *Ayushman Bharat*, and the Tribal Health Action Plan.

From a policy perspective, this study provides evidence-based backing for better planning, particularly within the Tribal Sub-Plan (TSP) and PVTG Development Plans, which currently lack targeted focus and sufficient community involvement. By capturing the lived experiences, belief systems, and local knowledge of PVTGs, the project aims to help policymakers, NGOs, and local officials move away from top-down, one-size-fits-all strategies. Instead, it promotes culturally sensitive, decentralized, and participatory approaches to tribal development (B.M. et al., 2024).

This research highlights the significant linguistic and cultural importance, as many tribal languages spoken by PVTGs, such as *Remo* (Bonda), Juang, Saura, and Dongria's *Kui*, are approaching extinction. Language loss is closely tied to the disappearance of entire knowledge systems, including traditional understandings of medicinal plants, ecological signals, and indigenous healing practices (Cámara-Leret & Bascompte, 2021; Rao, 2024). Incorporating tribal language dynamics into this study bolsters efforts at both national and global levels to preserve languages, revive cultural heritage, and uphold Indigenous rights.

This study's importance also reaches academic discourse. It fills a crucial gap in current literature by providing interdisciplinary insights that integrate public health, anthropology, linguistics, and rural development. It will be a useful resource for scholars, students, and practitioners involved in tribal studies, public policy, gender and health, and Indigenous knowledge systems.

Finally, the study has practical value for empowering communities. Employing field engagement and participatory methods allows tribal voices to shape the research agenda and establish priorities. This inclusive strategy fosters trust between communities and researchers, laying the groundwork for community-led advocacy, leadership growth, and capacity building. By addressing Odisha's PVTGs in a comprehensive, respectful, and interdisciplinary manner, this research offers a timely and vital contribution to tribal development, public health, and cultural sustainability.

1.4. Objectives of the Study

This interdisciplinary project investigates the multifaceted dimensions of life among the Particularly Vulnerable Tribal Groups (PVTGs) in Odisha. The study aims to bridge knowledge gaps across ethnography, language, socio-demographics, economy, health, and nutrition. The following general and specific objectives have been formulated to guide the inquiry.

1.4.1. General Objective

To conduct a comprehensive investigation into the ethnographic, linguistic, socio-demographic, socio-economic, and health dimensions, including maternal-child health, nutritional health and health and hygiene practices of selected PVTGs in Odisha, India, to generate context-sensitive evidence to inform inclusive policy and programmatic interventions.

1.4.2. Specific Objectives

1. To document the ethnographic profiles of selected PVTGs in Odisha, including cultural traditions, kinship patterns, magico-religious practices, and indigenous governance structures.
2. To explore the linguistic ecology of PVTG communities, including the use, transmission, and endangerment of tribal languages, and the implications for communication, education, and healthcare.

3. To assess the socio-demographic profile of PVTG households, including age structure, household composition, fertility, mortality, literacy, and gender disparities.
4. To examine the socio-economic status of PVTG families in terms of income sources, occupational patterns, land ownership, housing, and access to basic amenities such as drinking water, sanitation, and electricity.
5. To study health and hygiene practices among adolescent girls and women of reproductive age, focusing on knowledge, beliefs, restrictions, access to sanitary materials, and related health outcomes.
6. To evaluate maternal and child health indicators, including antenatal care (ANC), institutional delivery, immunisation, breastfeeding, nutritional supplementation, and child morbidity and mortality prevalence.
7. To measure physical growth parameters of PVTG children and adolescents using anthropometric tools (height, weight, and BMI), and assess growth patterns using WHO reference standards.
8. To determine the nutritional status of PVTG populations through indicators such as stunting, wasting, underweight, anaemia, and dietary diversity.
9. To analyse health-seeking behaviour and the effectiveness of institutional delivery and public health outreach.

CHAPTER – II

METHODOLOGY

2.1 Introduction

This chapter explains the research design, sampling framework, data collection tools, and analytical methods used in this interdisciplinary study of Odisha's PVTGs. The study combines both qualitative and quantitative approaches to examine their cultural, linguistic, socio-economic, and health conditions. It aims to maintain scientific rigour while respecting local contexts and indigenous knowledge. A community-based, systematic approach was employed to gather primary data from households and individuals across 10 PVTGs in Odisha, focusing on districts and blocks where these populations are primarily found.

2.2.1 Study Area

The study areas were selected using a systematic, data-driven approach to accurately represent each PVTG. Districts and blocks were chosen based on the density and demographic importance of PVTG populations, as identified from the 2011 Census, tribal welfare department records (Scheduled Castes & Scheduled Tribes Research and Training Institute, 2019), and lists from the Integrated Tribal Development Agencies (ITDAs). Priority was given to administrative units with the highest concentrations of target PVTGs to maintain cultural and contextual relevance. Within these units, villages were selected through a participatory process involving local ITDA officials, tribal leaders, community elders, and frontline health workers. This ensured that the sampled villages had a substantial PVTG population and reflected diverse socio-geographical, ethnographic, and health characteristics, which were essential to this comprehensive and inclusive study.

The study was conducted in selected districts of Odisha (Malkangiri, Rayagada, Kandhamal, Kendujhar, Deogarh, Mayurbhanj, and Gajapati) where PVTGs reside in substantial numbers. The terrain is often inaccessible and underdeveloped, with limited transport, healthcare, and education infrastructure. Fieldwork was conducted with local school authorities, NGOs, ITDAs, community leaders and the local public.

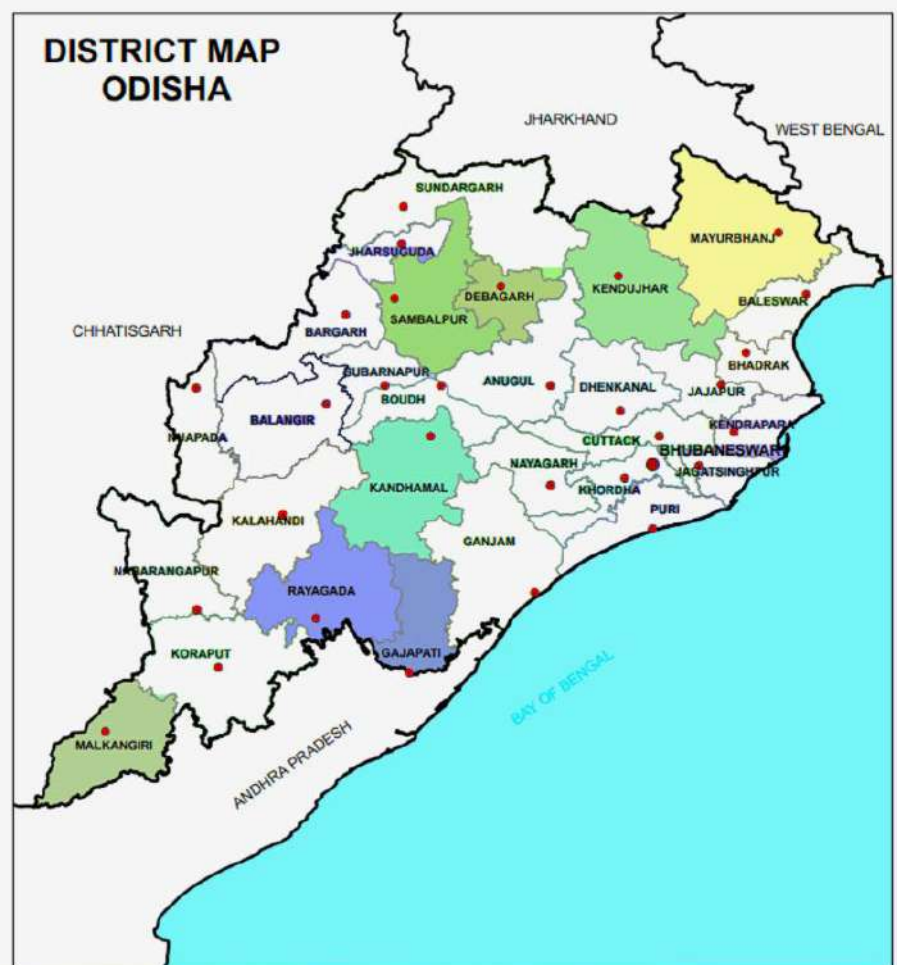
2.2.1.1 Odisha: A Living Tapestry of Tribal Traditions

Odisha's physiography shows notable intraregional variation, shaped by intricate geological formations, river systems, and coastal dynamics. Situated between 17.49°N and 22.34°N and 81.27°E and 87.29°E, Odisha covers around 155,707 square kilometres, ranking as India's ninth-largest state, with a 476-kilometre coastline along the Bay of Bengal (Government of Odisha, 2015).

The state is bordered by West Bengal, Jharkhand, Chhattisgarh, and Andhra Pradesh. Its physiographic divisions are grouped into three main regions: the Coastal Plains, the Middle Mountains, and the Plateaus and Rolling Uplands. The Coastal Plains, known as the "Hexadeltaic Region," extend from the Subarnarekha to the Rushikulya rivers and are nourished by six major rivers, Subarnarekha, Budhabalanga, Baitarani, Brahmani, Mahanadi, and Rushikulya, earning the reputation as the "rice bowl of Odisha" for their agricultural richness (Government of Odisha, 2024). Chilika, Asia's largest brackish-water lagoon, and Ansupa, the largest freshwater lake in the state, are notable hydrological features in this region.

Paradeep stands out as the only natural harbour among coastal ports, while Dhamara and Gopalpur are evolving into medium-sized ports. The Middle Mountains, part of the Eastern Ghats, cover nearly three-quarters of Odisha and host its highest peak, *Deomali* (1,672 metres), in the Koraput district. These ranges, including the *Similipal-Meghasani*, *Malayagiri*, and *Gandhamardan* hills, are remnants of the ancient Gondwana landmass (Herbarium JCB, n.d.). The Plateau and Rolling Uplands consist of elevated areas like the Panposh-Keonjhar-Pallahara plateau and the Nabarangpur-Jeypore plateau, ranging from 300 to 900 metres above sea level. These formations result from fluvial and tectonic activity. Odisha also boasts attractions such as Barehipani Falls, the highest in the state at 399 metres (1,309 feet), and numerous hot springs. The fertile floodplains of river valleys support agriculture. The state's diverse landscape influences the distribution of tribal communities, mainly in four regions: the Northern Plateau (25.5%), the Eastern Ghats Region (29.2%), the Central Table Land (24.1%), and the Coastal Tract (21.2%) (Sharma & Mohan, 2024).

The PVTGs in Odisha display a distinct pattern of settlement that corresponds to the state's varied geographical regions: the Northern Plateau, the Eastern Ghats Region, the Central Tableland, and the Coastal Tract. The Northern Plateau, covering parts of Sundargarh, Mayurbhanj, and Keonjhar districts, is inhabited by PVTGs such as the Hill Kharia, Mankidia, and Birhor, who live in the forested uplands and depend on shifting cultivation and gathering forest produce (Parida & Mishra, 2023). The Eastern Ghats Region, which extends across the rolling hills and forest zones of districts including Rayagada, Malkangiri, Nabarangpur, and Koraput, has the highest density of PVTGs, including the



Dongria Kondh, Bonda, Kutia Kondh, and Lanjia Saora. These communities reside in ecologically fragile hill tracts and maintain close ties to forest ecosystems (Bulliyya, 2010). In the Central Tableland region, comprising parts of Kandhamal, Boudh, and Kalahandi districts, PVTGs like the Paudi Bhuyan and Chuktia Bhunjia inhabit forested valleys and slopes, relying mainly on subsistence agriculture (Ota et al., 2010; Mallik et al., 2024). Although more economically developed, the Coastal Tract hosts few PVTGs, due to historical marginalisation and ecological unsuitability for traditional tribal ways of life. Consequently, the PVTG population in Odisha remains predominantly concentrated in the more remote and ecologically delicate hill terrains of the state's interior,

presenting both development challenges and opportunities for culturally sensitive policy measures (Scheduled Castes & Scheduled Tribes Research and Training Institute, 2019).

2.2.1.2.A Malkangiri District

Climate & Soil

Malkangiri district lies in the southwestern part of Odisha and experiences a tropical monsoon climate, marked by extremely hot summers with temperatures reaching 47°C and cooler winters dipping to around 13°C. The region receives approximately 1,600-1,700 mm of rainfall annually, primarily during the southwest monsoon from June to September. Humidity remains high throughout

the monsoon and post-monsoon months, contributing to the area's tropical vegetation. The district's soil is primarily black, especially in valleys and uplands, and is rich in nutrients due to natural decomposition from forest cover and seasonal runoff (Government of Odisha, 2026).

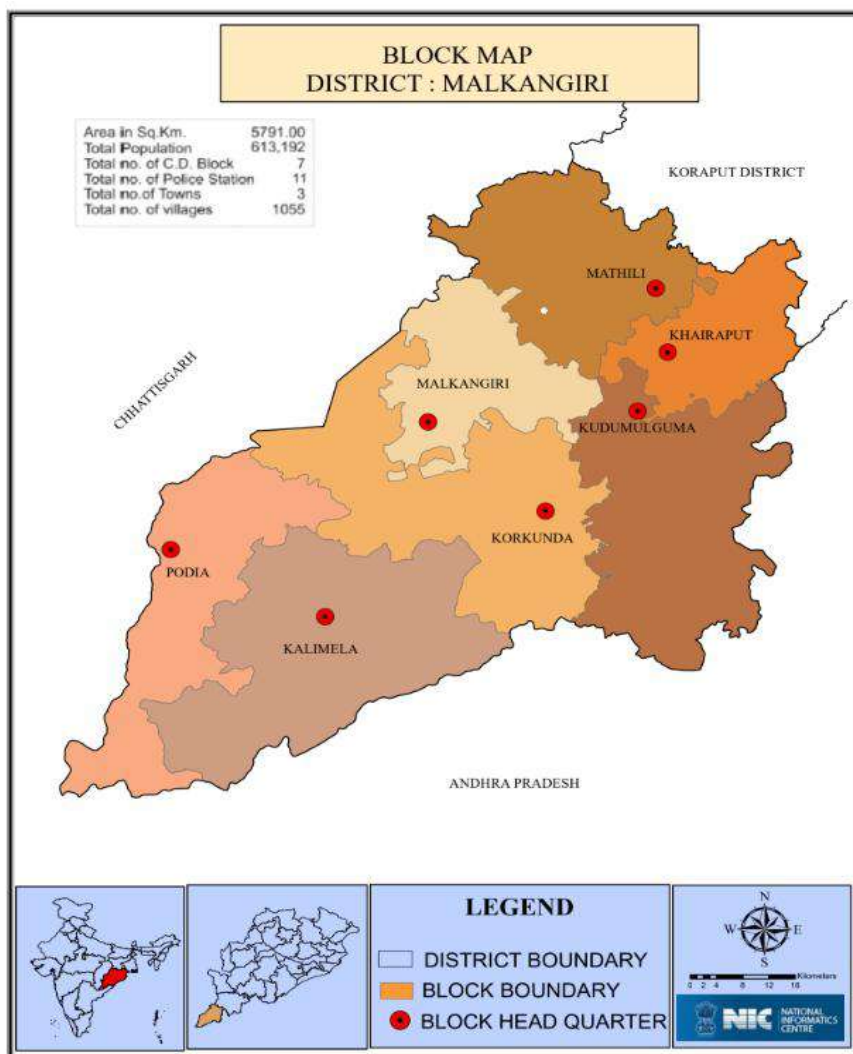
Flora & Fauna

Situated in the Eastern Ghats, Malkangiri's forest ecosystem comprises tropical moist and dry deciduous forests. The district hosts diverse tree species, including sal (*Shorea robusta*), teak (*Tectona grandis*), bamboo (*Bambusa spp.*), rosewood (*Dalbergia latifolia*), and tamarind (*Tamarindus indica*), thriving in its black and lateritic soils. Local fauna includes typical Indian forest mammals like deer, boars, and leopards, as well as various bird and reptile

species. Notably, the Balimela Wildlife Sanctuary, covering about 160 square kilometres, provides a protected habitat for many of these species (Mani, 1974; Sahu et al., 2010; Khadanga et al., 2023).

Agriculture & Cropping Patterns

Agriculture forms the foundation of Malkangiri's rural economy, with around 24.6% of its 579,100 hectares dedicated to farming. The primary crop seasons are Kharif (June-October), Rabi (November-February), and Summer (March-May). Major crops include high-yielding varieties (HYV) and traditional paddy, millets, maize, pulses, groundnut, and sesame during Kharif; wheat, gram, mustard, and various vegetables during *Rabi*; and summer pulses like mung. Through



initiatives such as the SETU and Integrated Tribal Development Agency (ITDA) cluster programmes, farmers are transitioning from illicit cannabis cultivation to high-value, sustainable crops like organic vegetables, dragon fruit, turmeric, and jackfruit, benefiting over 750 farmers across 68 villages (Malkangiri District Portal, n.d.).

Demography & Population

The 2011 Census recorded Malkangiri district's population at around 613,192, with a population density of 106 people per square kilometre. This region is mainly tribal, with Scheduled Tribes accounting for about 57.8% and Scheduled Castes accounting for 22.6%. The district has a slightly higher number of females, with a sex ratio of 1,016 females to 1,000 males. Urban development accounts for only 8%. The primary languages include Odia (34%), Koya (23.4%), Bengali (21.5%), and various indigenous tribal languages.

Education

The literacy rate in Malkangiri is roughly 49.5%, with a significant gender disparity: approximately 59% of males are literate, while only 38% of females are. Among the tribal population, female literacy declines sharply to about 6%. The district has a network of primary schools and over 1,000 anganwadi centres.

Economy & Occupation

The economy of Malkangiri is predominantly agrarian, with agriculture accounting for approximately 46.4% of the district's Gross Domestic Product. The industrial and service sectors contribute 21.3% and 32.4%, respectively, with finance and public services accounting for a major part of the latter. Per capita income was reported to be around ₹27,122 in 2011-12. Despite rich forest resources covering nearly 40% of the district, industrial development remains marginal. Recent shifts towards agro-industries and minor forest produce (MFP) value chains attempt to diversify occupational avenues (Malkangiri District Portal, n.d.; Odisha Shramajeebee Mancha, n.d.).

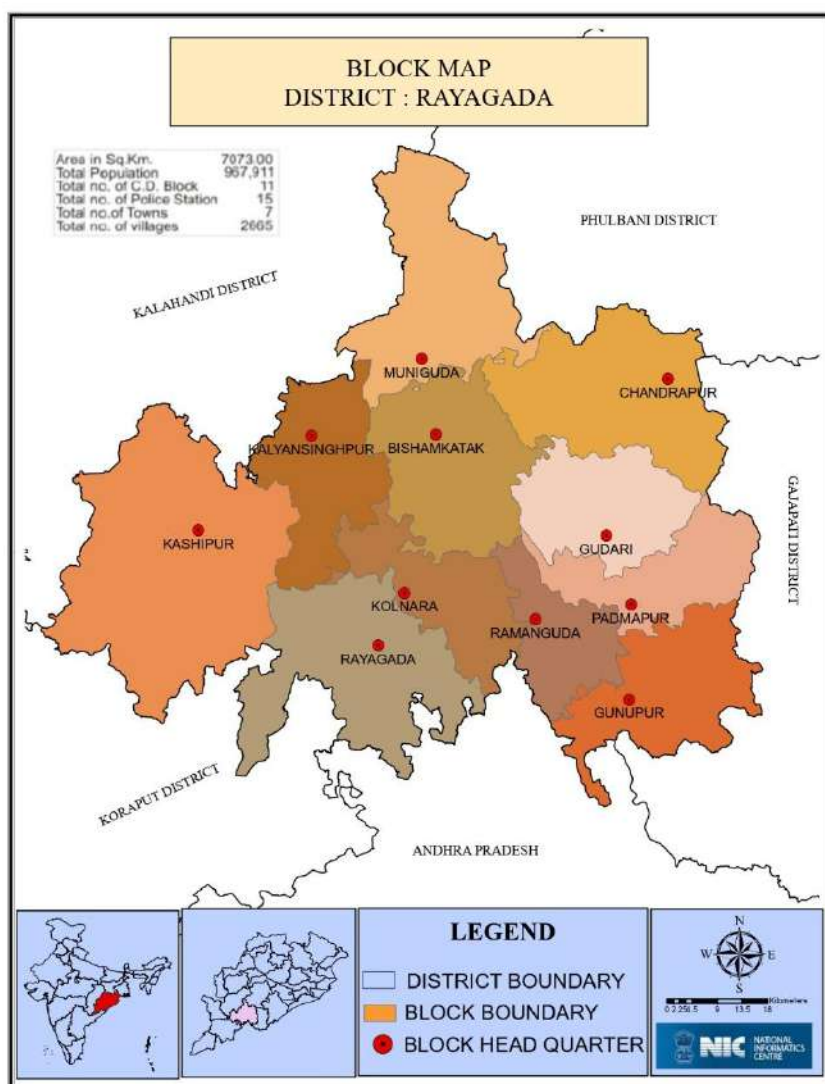
Health

Public health indicators in Malkangiri are alarmingly poor. About 33% of children under five suffer from malnutrition, displaying signs of wasting, stunting, and underweight conditions. The Infant Mortality Rate (IMR) ranges from 48 to 56 per 1,000 live births, while the Maternal Mortality Rate (MMR) is around 245 to 297 per 100,000 live births, substantially higher than state averages. In 2024, a Japanese Encephalitis outbreak caused the deaths of 61 children, exposing severe gaps in paediatric healthcare and immunisation coverage, which remains below 33%. Nonetheless, recent initiatives, such as rice fortification through the Public Distribution System and mid-day meal schemes, have resulted in modest declines in anaemia among children and women (Society for Nutrition, Education and Health Action [SNEHA], 2024).

Occupational & Economic Status

Malkangiri primarily relies on an agricultural and forest-based economy. More than half of the residents are involved in farming and related industries, with ongoing efforts to increase income through cultivating high-value crops, agro-processing, and rural entrepreneurship. However, challenges such as low literacy rates, inadequate healthcare infrastructure, and limited industrial development continue to hinder the district's socio-economic progress (Malkangiri District Portal, n.d.).

2.2.1.3. Rayagada District



Climate & Soil

Rayagada district in southern Odisha has a tropical monsoon climate with distinct seasonal patterns. Summers can get very hot, reaching up to 40°C, while winters tend to be mild, averaging around 14°C. The area receives about 1,200-1,400 mm of rainfall annually, mostly during the southwest monsoon from June to September. Its hilly landscape, composed mainly of lateritic, red loamy, and black soils, supports both forests and agriculture. The richer lateritic soils, enriched by organic matter from forest litter, are ideal for cultivating paddy, millet, and pulse

Flora & Fauna

Rayagada is a part of the Eastern Ghats and is rich in biodiversity. The forests are mainly tropical moist deciduous, featuring species such as sal (*Shorea robusta*), teak (*Tectona*

grandis), mango, jackfruit, mahua (*Madhuca indica*), and various medicinal plants. The region is home to numerous tribal communities that rely on forest resources for their livelihood. Wildlife includes barking deer, wild boar, jungle cat, Indian hare, and various reptiles and avian species. Biodiversity is protected in areas such as the Karlapat Wildlife Sanctuary, although encroachments and deforestation pose conservation challenges (ENVIS Centre Odisha, 2021).

Agriculture & Cropping Patterns

Agriculture remains the main livelihood for most residents of Rayagada. The district spans 7,584 km², with roughly 30% of this area under cultivation. Paddy is the dominant crop, cultivated during the Kharif season, while Rabi crops include pulses, groundnut, and vegetables. Shifting cultivation, known locally as 'podu' farming, persists among tribal communities in upland regions. Recent initiatives such as agro-climatic schemes and watershed programs are promoting settled farming, vegetable cultivation, and horticulture. The Odisha Millet Mission has significantly contributed to reviving traditional millet varieties such as ragi and foxtail millet, thereby enhancing food security and income for local farmers (Rayagada District Portal, n.d.).

Demography & Population

According to the Census 2011, Rayagada had a population of approximately 967,911 with a density of 128 persons per square kilometre. The district has a significant tribal population (nearly 56%), with the major tribes being Saura, Kondh, and Paroja. The sex ratio is 1,048 females per 1,000 males, higher than the national average. Scheduled Castes form about 14% of the population. Major languages include Odia, *Kui* (a Dravidian language), Telugu, and Saura. Tribal dialects dominate rural and forested pockets (Census of India, 2011).

Education

Rayagada's literacy rate is around 50.9%, significantly below the national average. Male literacy is approximately 62%, while female literacy is about 39%. Educational challenges stem from geographic remoteness, poverty, and socio-cultural barriers, particularly among tribal communities. The district has several educational institutions, including the Government College, Rayagada and tribal residential schools, yet many villages lack functional schools or trained teachers. State initiatives such as SSA and ST & SC Residential Schools aim to close the educational gap (Odisha Shramajeebee Mancha, n.d.; Rayagada District Portal, n.d.).

Economy & Occupation

Rayagada's economy is primarily based on agriculture, forestry, and mineral resources. Paddy, millets, and pulses are the major crops, while minor forest produce, such as sal leaves, tamarind, and mahua flowers, supplement tribal incomes. The district also has significant industrial potential, driven by bauxite and graphite deposits. The Jeypore–Rayagada aluminium industrial corridor is an emerging economic zone. Agro-processing and tribal artisanry (like Saura painting) are promoted under government livelihood missions. However, poverty levels remain high, and unemployment among youth persists (Rayagada District Portal, n.d.; District Industries Centre, 2021).

Health

Rayagada faces serious health challenges, especially in remote tribal regions. The district suffers from high malnutrition rates among children, with stunting affecting about 35% of those under five. Infant Mortality Rate is estimated at around 52 per 1,000 live births, and Maternal Mortality Ratio stands at approximately 260 per 100,000 live births. Common health issues include malaria, diarrheal diseases, anaemia, and tuberculosis. Health infrastructure includes a District Headquarters Hospital, community health centres, and primary health centres, but there is an acute shortage of specialists and paramedics. Efforts under the National Health Mission (NHM) and NGOs have improved immunisation and institutional deliveries (UNICEF India, 2023).

Occupational & Economic Status Summary

The occupational profile of Rayagada reflects a traditional agrarian society undergoing gradual transformation. About 60% of the working population is engaged in agriculture and allied sectors. Tribal communities also depend on forest gathering and wage labour. With greater access to education and government schemes such as MGNREGA and Mission Shakti, women's SHGs and microenterprises are emerging. However, challenges such as inadequate infrastructure, low literacy, and persistent health inequities slow inclusive development (Rayagada District Portal, n.d.).

2.2.1.4. Kandhamal District

Climate & Soil

Kandhamal district, situated in the hilly tracts of central Odisha, features a moderate subtropical climate with notable altitudinal variation. Summer temperatures range from 20°C to 40°C, while winter temperatures can drop to around 4°C in higher elevations, especially in places like Daringbadi, known as the “Kashmir of Odisha.” The average annual rainfall is approximately 1,500–1,800 mm, mainly during the southwest monsoon from June to September. The soils are predominantly red loamy and lateritic, rich in iron and aluminium oxides, but relatively low in nitrogen and organic content. These soils support forest vegetation and dryland agriculture (Kandhamal District Portal, n.d.).

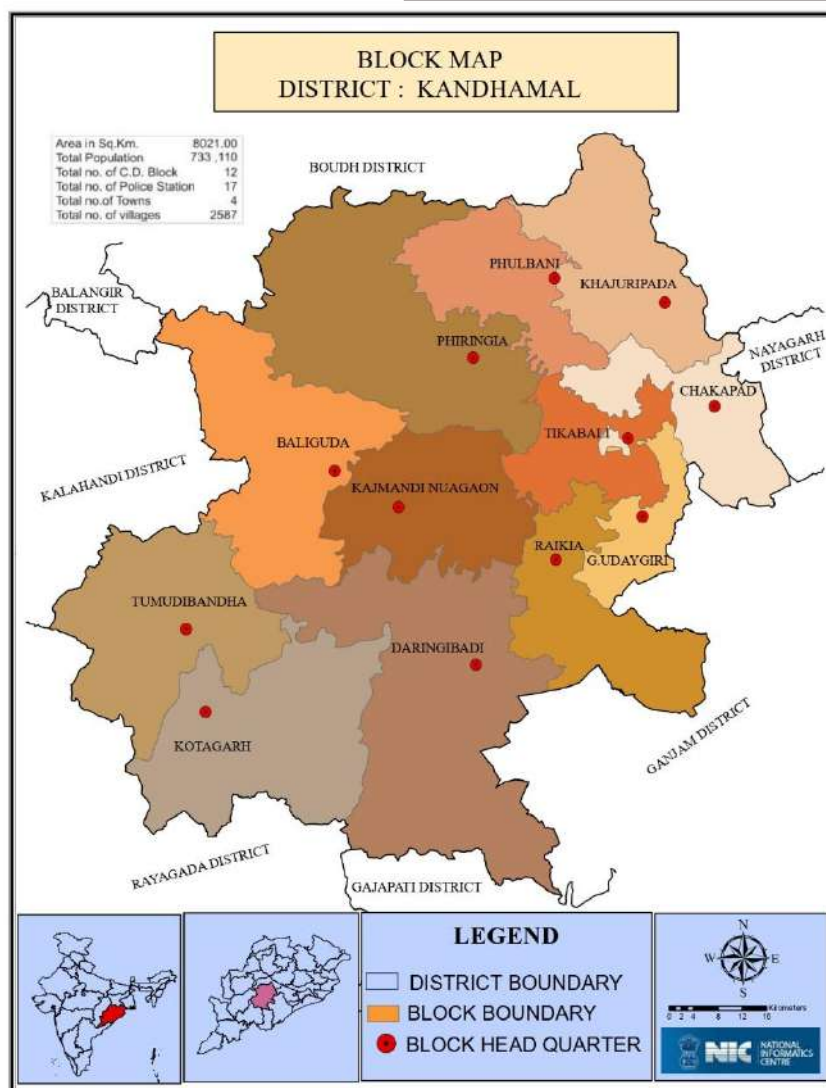
Flora & Fauna

The district is part of the Eastern Ghats biodiversity hotspot, with extensive forest cover accounting for more than 60% of the land area. Tropical moist deciduous and semi-evergreen forests dominate, comprising species such as sal (*Shorea robusta*), bamboo, teak (*Tectona grandis*), mahua (*Madhuca indica*), and medicinal herbs. Wildlife includes elephants, leopards, barking deer, giant squirrels, sloth bears, and various reptiles and birds. The Kotagarh Wildlife Sanctuary, spanning over 400 km², is a significant conservation zone. Forest produce, including turmeric, sal leaves, and honey, plays a vital role in tribal livelihoods (ENVIS Centre Odisha, 2021).

Agriculture & Cropping Patterns

Agriculture in Kandhamal is mainly subsistence-based and depends heavily on rainfed farming, with over 70% of residents relying on it. The region has about 1.6 lakh hectares of cultivable land. Kharif crops include paddy, millets such as finger millet and foxtail millet, maize, and pulses, while Rabi crops consist of mustard, lentils, and vegetables. Kandhamal is particularly famous for its organically cultivated turmeric, which has GI (Geographical Indication) status. Traditional shifting cultivation (*podu*) persists in some tribal upland areas. However, efforts such as watershed development and tribal cluster farming are being promoted to foster settled, sustainable agriculture (Kandhamal District Portal, n.d.; Centre for Science and Environment, 2023).

Demography & Population



As per the 2011 Census, Kandhamal has a population of approximately 733,110, with a density of 91 persons per km², one of the lowest in Odisha. The district has a Scheduled Tribe population of 53.6%, predominantly from the Kondh and Kui tribes, and a Scheduled Castes population of 16.9%. The sex ratio stands at 1,037 females per 1,000 males. Kui is the principal tribal language, while Odia and Hindi are also spoken. The district is predominantly rural, with over 90% of the population living in villages (Census of India, 2011).

Education

Kandhamal's literacy rate is approximately 64.1%, aligning closely with the state average. Male literacy is around 74%, whereas female literacy is about 54%. Tribal communities, especially women, still face significant educational challenges. Educational institutions include government high schools, Ekalavya Model Residential Schools, and Kasturba Gandhi Balika Vidyalayas. Despite these facilities, issues like teacher absenteeism, inadequate infrastructure, and high dropout rates persist. Various NGO and government programs aim to enhance access to education and improve its quality, with a focus on tribal children (Odisha Shramajeebee Mancha, n.d.).

Economy & Occupation

Kandhamal's economy primarily relies on agriculture, with limited industrial activity. Over 65% of its workforce is engaged in farming and related sectors. The district's economy is largely forest-based, involving the collection and sale of non-timber forest produce (NTFP) such as tamarind, sal leaves, honey, and medicinal plants. The organic turmeric sector has grown significantly, with tribal cooperatives exporting to both national and international markets. Various livelihood schemes promote small-scale food processing, poultry farming, and handloom weaving. However, poverty and underemployment remain major issues (Kandhamal District Portal, n.d.; National Bank for Agriculture and Rural Development [NABARD], 2022).

Health

Kandhamal faces intricate health challenges, particularly in its remote tribal regions. Malnutrition remains prevalent, with approximately 38% of children under five experiencing stunted growth. The Infant Mortality Rate stands at about 48 per 1,000 live births, while maternal health services are constrained by poor infrastructure and limited access. Although the district has one District Headquarters Hospital and several Community and Primary Health Centres, shortages of doctors and a lack of specialised care hamper the delivery of effective healthcare. Public health efforts such as immunisation campaigns, mobile clinics, and anaemia control programmes have made some progress, but systemic gaps remain (UNICEF India, 2023; Mandankar et al., 2024; Kumari, 2024; Panda, 2024).

Occupational & Economic Status Summary

Kandhamal's workforce mainly works in agriculture, forest-related activities, and informal jobs. Tribal communities primarily depend on subsistence farming and the collection of NTFPs. Women's self-help groups under Mission Shakti are increasingly involved in small-scale enterprises such as turmeric processing, mushroom cultivation, and tailoring. Government programs such as MGNREGA and the Odisha Livelihoods Mission (OLM) play a key role in rural employment. Nonetheless, factors such as geographical isolation, limited infrastructure, and low literacy levels limit overall socio-economic progress (Kandhamal District Portal, n.d.; Sahoo et al., 2018; Maharana et al., 2025).

2.2.1.5. Gajapati District

Climate & Soil

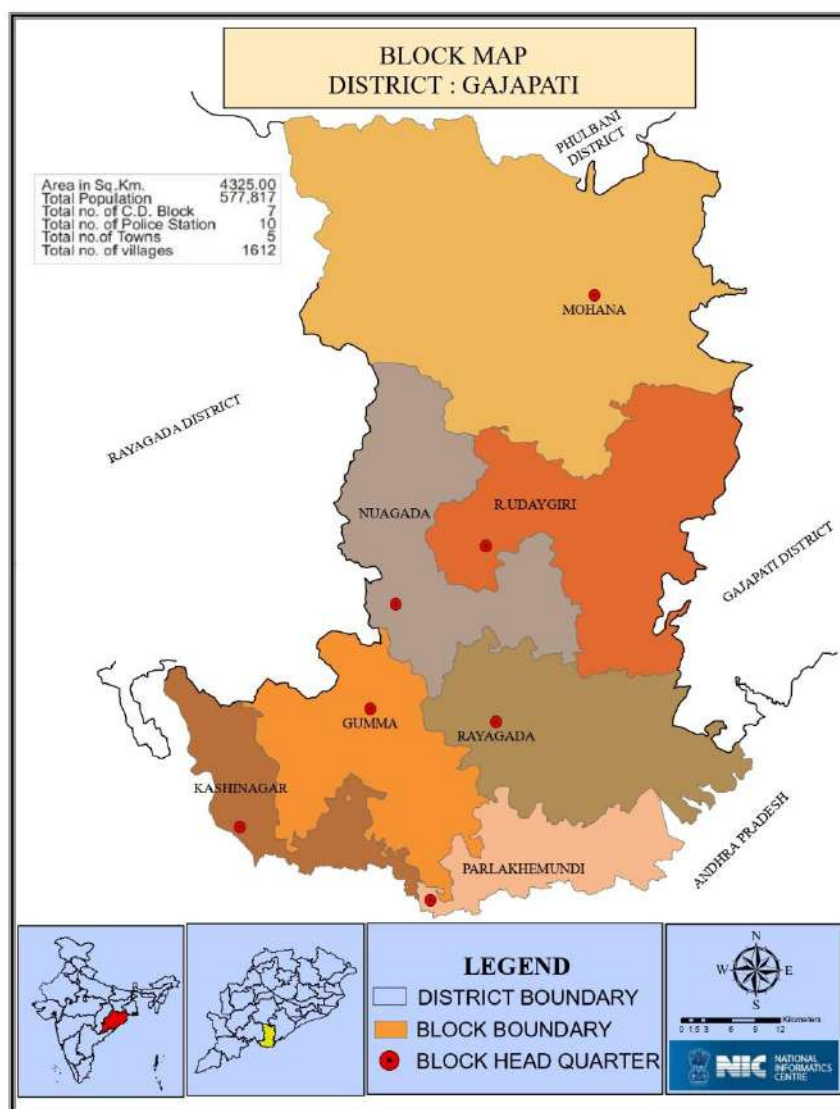
Gajapati district in southern Odisha has a subtropical climate with hot summers and mild winters. Summer temperatures can reach up to 40°C, while winter temperatures range from 10°C to 15°C. The district receives about 1,400–1,600 mm of rainfall annually, mostly during the southwest monsoon from June to September. The main soil types are red and lateritic soils, which are moderately fertile and suitable for rain-fed agriculture and horticulture. Its hilly terrain, varying from 200 m to over 1,000 m, leads to soil erosion and creates diverse microclimates (Gajapati District Portal, n.d.; Rural Educational Activities for Development, 2022).

Flora & Fauna

Gajapati's forest cover constitutes around 58% of its geographical area, dominated by tropical moist deciduous forests interspersed with patches of semi-evergreen vegetation. Common tree species include sal (*Shorea robusta*), teak (*Tectona grandis*), mahua (*Madhuca indica*), and bamboo. The forests support a wide range of fauna, including leopards, elephants, wild boars, deer, and avian species. The forested areas also sustain valuable non-timber forest products (NTFPs), such as sal leaves, honey, tamarind, and medicinal plants, which are vital to tribal livelihoods (Chintala et al., 2015; ENVIS Centre Odisha, 2021).

Agriculture & Cropping Patterns

Agriculture is the primary occupation in Gajapati, with approximately 70% of the population dependent on it. The cultivable area is around 90,000 hectares. Kharif crops include paddy, millets (especially ragi and kodo), maize, pulses, and oilseeds, while Rabi crops comprise vegetables, groundnut, and mustard. The district is known for horticultural crops, including banana, papaya, pineapple, and ginger. Due to undulating topography, much farming is rain-fed and practised on terraced or sloped land. The Odisha Horticulture Mission and other schemes promote integrated farming and irrigation development (Gajapati District Portal, n.d.; NABARD, 2021; Saha et al., 2024).



Demography & Population

According to the 2011 Census, Gajapati has a population of approximately 577,817 with a population density of 133 persons per km². Scheduled Tribes constitute about 54.3% of the population, primarily the Saura tribe, known for their unique language and cultural practices. Scheduled Castes make up about 8.6%. The district has a sex ratio of 1,036 females per 1,000 males. While Odia is the official language, Sora (Saura) and Telugu are widely spoken in tribal and border regions. Around 90% of the population lives in rural areas (Census of India, 2011).

Education

Gajapati's literacy rate is 54.3%, which is below the state average. Male literacy is around 66.4%, while female literacy drops to 42.7%. Tribal literacy, particularly among women, remains low due to socio-economic and geographical challenges. The area has educational infrastructure, including government and tribal residential schools such as the Ekalavya Model and Ashram Schools. Efforts such as the Sarva Shiksha Abhiyan and the Odisha Girls' Incentive Programme aim to reduce dropout rates and improve learning outcomes for tribal children (Odisha Shramajeebee Mancha, n.d.; Gajapati District Portal, n.d.).

Economy & Occupation

Gajapati's economy primarily relies on agriculture, complemented by forest-based livelihoods and migrant labour. Over 65% of the workforce is engaged in agriculture and related sectors. Income is also generated through the collection of non-timber forest products (NTFP), small-scale horticulture, and livestock rearing. The district hosts small industries, including food processing, coir production, and weaving. Due to limited local employment opportunities, Gajapati is a significant source of migrant labour for other Indian states. Government programs like Mission Shakti and MGNREGA play a vital role in creating local jobs and supporting women's self-help groups (NABARD, 2021; Gajapati District Portal, n.d.).

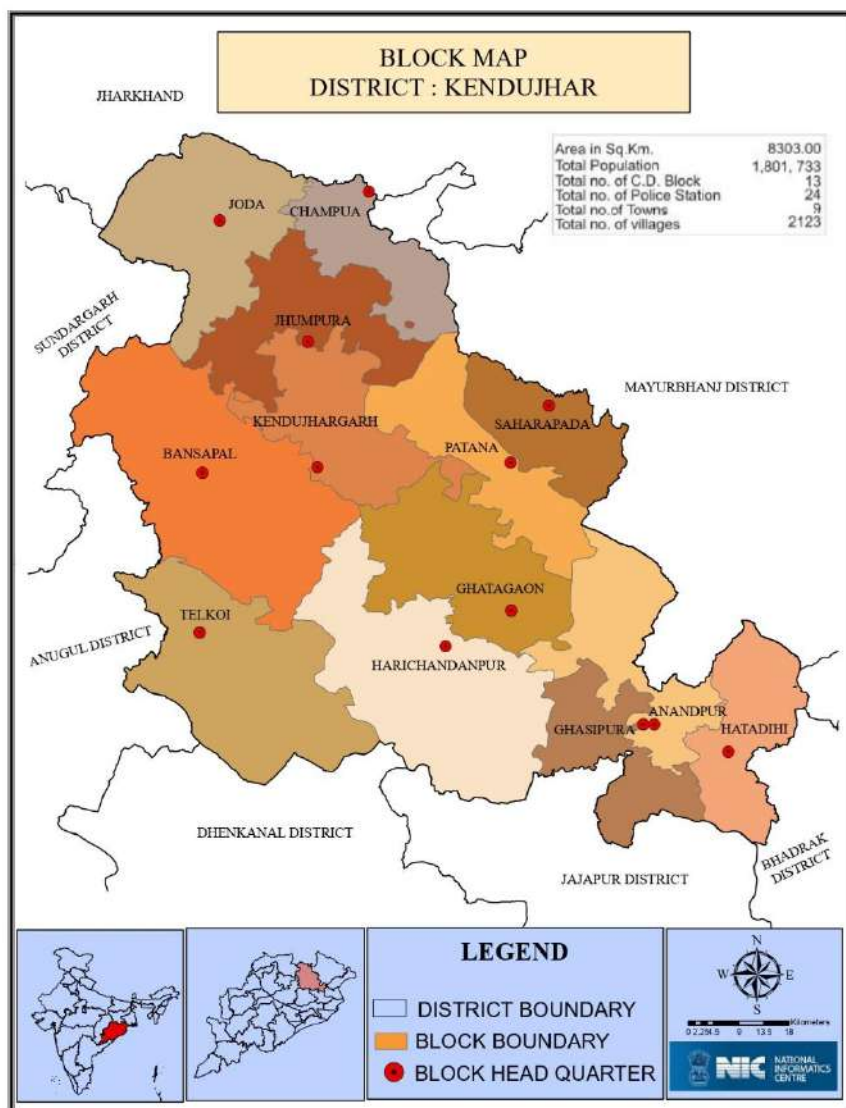
Health

Public health in Gajapati is challenged by poor infrastructure and difficult terrain. Malnutrition persists among children under five, with high rates of stunting and underweight. The Infant Mortality Rate is approximately 50 per 1,000 live births. While the district has one District Headquarters Hospital along with several CHCs and PHCs, many tribal villages remain underserved. Programs for maternal and child health, immunisation campaigns, and mobile medical units are ongoing, but staffing shortages and limited transport connectivity reduce their impact (Sahu et al., 2015; UNICEF India, 2023; Gajapati District Portal, n.d.).

Occupational & Economic Status

Gajapati's workforce is centred on agriculture, NTFP collection, and informal labour. With limited industrial presence, the district faces high out-migration. Government schemes foster livelihood diversification through skill development, microenterprises, and rural employment generation. Mission Shakti SHGs are playing an increasingly important role in socio-economic empowerment. Despite these efforts, Gajapati continues to grapple with structural issues, including low literacy, poor infrastructure, and high poverty levels (Gajapati District Portal, n.d.; NABARD, 2021).

2.2.1.6. Kendujhar District



Climate & Soil

Kendujhar district is located in northern Odisha and has a tropical monsoon climate marked by hot summers, high humidity, and mild winters. Summer temperatures can reach 45 °C, while winter temperatures average 11–13 °C. The area receives about 1,400–1,600 mm of annual rainfall, mainly during the southwest monsoon from June to September. The main soil types are laterite, red loamy, and black cotton soils, with varying fertility. Upland regions are mostly covered by less fertile lateritic soils, while river valleys tend to have more fertile alluvial soils (Odisha Agriculture Department, 2021; Das et al., 2024)

Flora & Fauna

Kendujhar boasts rich biodiversity, with

approximately 37% of its area covered by forests. Situated within the Eastern Ghats and Chotanagpur Plateau ranges, it features tropical moist deciduous and semi-evergreen forests primarily composed of sal (*Shorea robusta*), teak (*Tectona grandis*), kusum, and harida trees. The region's wildlife includes elephants, leopards, sloth bears, barking deer, and wild boars. The Hadgarh Wildlife Sanctuary and parts of the Similipal Biosphere Reserve are vital to the district's ecological diversity. Additionally, non-timber forest products such as sal leaves, kendu leaves, medicinal herbs, and honey play an important role in supporting the tribal communities' economies. (Bassi et al., 2014; ENVIS Odisha, 2021).

Agriculture & Cropping Patterns

Agriculture is the primary occupation in Kendujhar, with over 60% of the working population engaged in farming and related activities. The total cultivable area is approximately 385,000 hectares. Paddy is the dominant Kharif crop, while other important crops include millets, pulses (black gram and green gram), oilseeds (mustard and sesame), and maize. Rabi season sees the cultivation of vegetables, wheat, and pulses. Due to undulating terrain and dependence on rainfall, a significant portion of farming is rain-fed. The district has also seen the promotion of horticulture, especially mango, banana, and turmeric, through government schemes such as MIDH and RKVY (Kendujhar District Portal, n.d.; NABARD, 2022; Srivathsa et al., 2023).

Demography & Population

As per the 2011 Census, Kendujhar district has an approximate population of 1.8 million, ranking it among the more densely populated districts in Odisha. Its population density is roughly 217 individuals per square kilometer. Scheduled Tribes make up about 44.5% of the total population, primarily comprising Juang, Bhuyan, and Munda communities. Scheduled Castes account for around 11%. The sex ratio is 988 females per 1,000 males. The main languages spoken are Odia, which is predominant, along with Ho, Santali, and Mundari in tribal regions (Census of India, 2011).

Education

The literacy rate in Kendujhar is approximately 69%, with a gender gap, male literacy at around 78% and female literacy at 60%. Educational infrastructure includes government schools, model schools, and residential tribal schools, such as the *Eklavya Model Residential Schools* (EMRS). Institutions such as Dharanidhar Autonomous College contribute to higher education. However, tribal belts face challenges regarding school dropouts and learning outcomes. Schemes like *Sarva Shiksha Abhiyan*, Odisha Girls' Incentive Programme, and *Mo School Abhiyan* are working to enhance access and quality of education (Odisha Shramajeebee Mancha, n.d.; Kendujhar District Portal, n.d.).

Economy & Occupation

Kendujhar has a varied economy driven by mining, agriculture, and forest-based livelihoods. The district, rich in minerals, holds large deposits of iron ore, manganese, and chromite. Mining and quarrying significantly contribute to the local economy by generating employment and revenue. Nevertheless, agriculture remains the primary source of employment. Non-agricultural jobs include collecting forest produce, small-scale trading, and artisan crafts. Labour migration is frequent, especially from tribal regions. Development efforts are funded through the Odisha Mineral Bearing Areas Development Corporation (OMBADC) and the District Mineral Foundation (DMF), as reported by NABARD (2022) and the Kendujhar District Portal.

Health

Kendujhar's healthcare infrastructure includes a District Headquarters Hospital, sub-divisional hospitals, CHCs, PHCs, and SCs. However, remote tribal areas are still underserved due to limited connectivity and healthcare staff shortages. Major public health issues involve malnutrition, a high infant mortality rate of roughly 45 per 1,000 live births, and anaemia among women and children. The National Health Mission (NHM) supports interventions such as mobile medical units, the Janani Suraksha Yojana, and immunisation drives to improve maternal and child health. Additionally, district-specific anaemia and nutrition surveys are being integrated into school and anganwadi monitoring systems. (UNICEF India, 2023; Odisha Health Mission, 2022).

Occupational & Economic Status

Kendujhar/Keonjhar exemplifies a dual economy, with one part rooted in traditional agriculture and the other driven by mineral-based industry. While mining has stimulated urbanisation and infrastructure development in certain areas of the district, the rural and tribal economy still relies heavily on subsistence farming and forest resources. Skill development, tribal welfare initiatives, and micro-enterprise promotion through Mission Shakti play crucial roles in diversifying livelihoods and curbing migration. Despite its mineral wealth, issues such as displacement, environmental harm, and

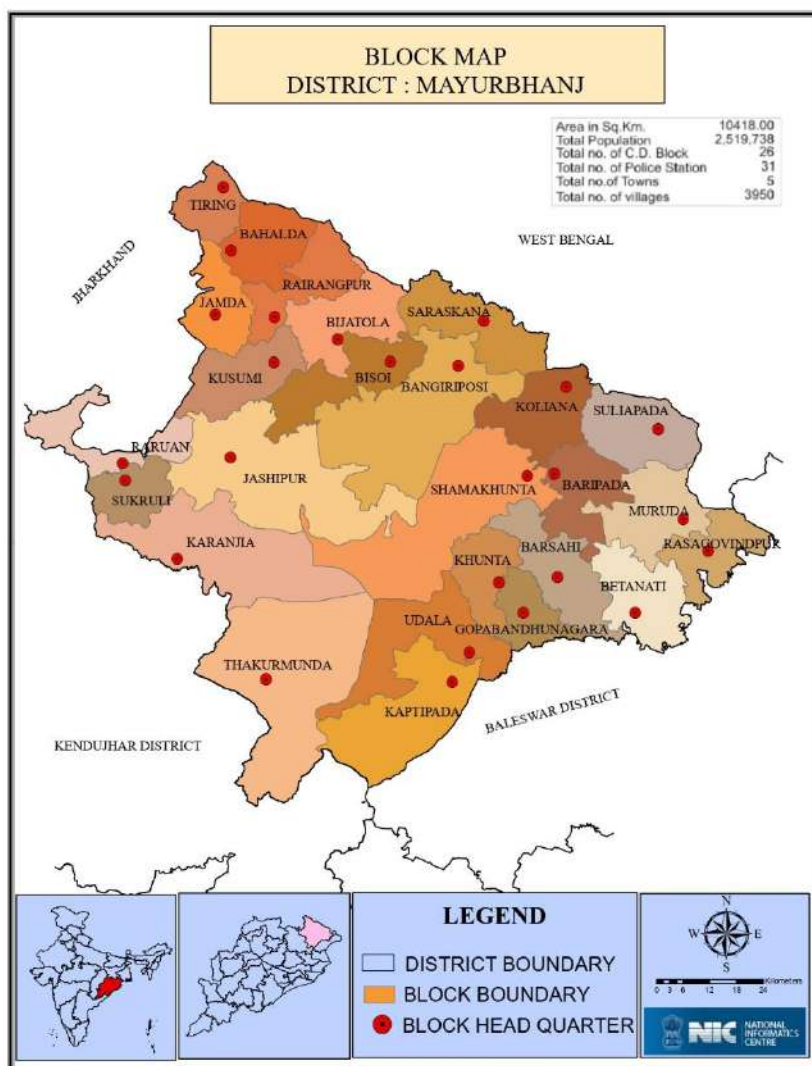
tribal marginalisation require integrated development strategies. (Kendujhar District Portal, n.d.; NABARD, 2022; Panda, 2024).

2.2.1.7. Mayurbhanj District

Climate & Soil

Mayurbhanj, situated in the northern part of Odisha, has a tropical monsoon climate with distinct seasonal changes. Summers can be quite hot, with maximum temperatures reaching 40–45 °C, while winters are relatively mild, dropping to around 10–12 °C. The district receives an average annual

rainfall of 1,500–1,700 mm, mainly during the southwest monsoon from June to September. The main soil types include lateritic, red loamy, and alluvial soils. Lateritic soils are common in the hilly and upland areas, whereas alluvial soils dominate the river valleys and lowlands, supporting agriculture and forest growth. (Odisha Agriculture Department, 2021).



Flora & Fauna

Mayurbhanj is ecologically rich, housing the Similipal Biosphere Reserve, one of India's most important protected areas and a UNESCO-recognised biosphere. The district's forests cover nearly 37% of its geographical area and are composed of tropical moist deciduous and semi-evergreen types. Dominant tree species include sal (*Shorea robusta*), teak, mahua, bamboo, and medicinal plants. The Similipal Tiger Reserve is home to diverse wildlife, including tigers,

elephants, leopards, gaurs, deer species, and rare birds and reptiles. The forest also supports the livelihoods of tribal communities through non-timber forest products (NTFPs), such as sal leaves, honey, and tendu leaves (ENVIS Centre, Odisha, 2021; Similipal Biosphere Reserve Authority, 2022).

Agriculture & Cropping Patterns

Agriculture is the primary livelihood for the majority of the population in Mayurbhanj. The net sown area is around 366,000 hectares. Kharif crops include paddy (the most widely cultivated), maize,

millet, pulses, and oilseeds. Rabi crops consist of wheat, gram, mustard, and vegetables. Agriculture is predominantly rain-fed, though minor irrigation systems are in place. The district has recently emphasised horticulture, especially mango, banana, and turmeric, through schemes such as RKVY and MIDH. Organic farming practices and integrated farming systems are promoted in tribal blocks (Mayurbhanj District Portal, n.d.; NABARD, 2022).

Demography & Population

According to the 2011 Census, Mayurbhanj's population is approximately 2.5 million, ranking it third-most populous in Odisha. The population density stands at about 241 individuals per square kilometer. Scheduled Tribes make up roughly 58.7% of residents, with major groups including the Santhal, Ho, Bhumija, and Munda. Scheduled Castes represent about 7.3%. The sex ratio is 1,005 females for every 1,000 males. Odia is the main language, but within tribal communities, Santali, Ho, and Mundari are also widely spoken. (Census of India, 2011).

Education

Mayurbhanj has a literacy rate of about 63.2%, with a notable gender gap: approximately 73.1% of males are literate compared to 53.5% of females. The district features an extensive network of primary and secondary schools, as well as several colleges. Tribal regions face challenges such as high dropout rates and inadequate infrastructure. Government initiatives such as the Eklavya Model Residential Schools (EMRS), *Sarva Shiksha Abhiyan*, and *Mo School Abhiyan* aim to improve access to quality education, especially for tribal children. (Odisha Shramajeebee Mancha, n.d.; Mayurbhanj District Portal, n.d.).

Economy & Occupation

Mayurbhanj's economy is primarily agrarian, with more than 70% of the workforce in the agricultural and allied sectors. However, the district also has notable mineral deposits, including iron ore and laterite, especially in Gorumahisani and Badampahar. Forest products and small-scale industries such as weaving, pottery, and bamboo craft provide secondary income. Government initiatives such as Mission Shakti and the Odisha Livelihoods Mission support non-farm employment. Migration for seasonal labour remains a significant phenomenon in tribal belts (NABARD, 2022; Mayurbhanj District Portal, n.d.; Suna & Bandia, 2025).

Health

Healthcare infrastructure in Mayurbhanj includes the Pandit Raghunath Murmu Medical College in Baripada, District Headquarters Hospital, CHCs, PHCs, and Sub-Centres. Despite progress, tribal and remote areas still struggle with limited access to healthcare. Major public health issues are malnutrition, high anaemia prevalence, and maternal and infant mortality rates (IMR $\approx 50/1,000$). Programs like the National Health Mission (NHM), *Janani Suraksha Yojana*, and Routine Immunisation Campaigns have improved health outcomes. However, staffing shortages and limited outreach remain significant challenges, especially in distant blocks. (UNICEF India, 2023; Odisha Health Mission, 2022).

Occupational & Economic Status

Mayurbhanj's economy is mainly agricultural and forest-based, with a growing but limited industrial sector. Its high tribal population, dependence on rain-fed farming, and limited industrial diversification pose development challenges. Government efforts in tribal welfare, skill training,

health infrastructure, and the conservation of ecosystems like Similipal are essential for sustainable growth. Nonetheless, ongoing issues such as poverty, unemployment, and migration require focused strategies. (Mayurbhanj District Portal, n.d.; NABARD, 2022).

2.2.1.8. Deogarh District

Climate & Soil

Deogarh district, situated in the northwestern part of Odisha, exhibits a tropical monsoon climate. Summers are typically hot and dry, with temperatures reaching 45 °C, while winters are cooler, with temperatures occasionally dipping to 12 °C. The district receives approximately 1,200–1,400 mm of average annual rainfall, predominantly during the southwest monsoon from June to September. The dominant soil types include red loamy and lateritic soils, which are moderately fertile and support rain-fed agriculture. Soil erosion is a concern on undulating terrains, prompting the adoption of soil conservation and watershed development measures (Odisha Agriculture Department, 2021).

Flora & Fauna

Deogarh is characterised by a mix of tropical dry deciduous and moist deciduous forests, with forest cover spanning about 44% of its geographical area. The flora includes sal (*Shorea robusta*), teak, kusum, mahua, and bamboo. The district supports diverse fauna, including barking deer, wild boar, langurs, and various reptiles and birds. Deogarh's forests also provide significant non-timber forest products (NTFPs), such as sal leaves, mahua flowers, and medicinal plants, which are vital to local tribal economies (ENVIS Odisha, 2021; Odisha Forest Department, 2021).

Agriculture & Cropping Patterns

Agriculture is the backbone of Deogarh's economy, employing most of its rural population. The net sown area is around 75,000 hectares. Major Kharif crops include paddy, maize, millet, and pulses, while Rabi cultivation includes wheat, lentils, mustard, and vegetables. Agriculture is predominantly rain-fed, with limited irrigation facilities provided by minor lift irrigation projects and check dams. Horticulture is gaining momentum, with increased cultivation of mangoes, papayas, and cashews under schemes like MIDH (Deogarh District Portal, n.d.; NABARD, 2022).

Demography & Population

According to the 2011 Census, Deogarh has a population of approximately 312,520, making it one of Odisha's less populated districts. The population density is 106 persons per square kilometre. Scheduled Tribes account for 35.2% and Scheduled Castes for 16.5% of the population. The sex ratio is 976 females for every 1,000 males. Odia is the main language, though tribal dialects such as Kisan and Munda are also spoken in rural and forested regions. The district is mainly rural, with only a small proportion of the population living in urban areas. (Census of India, 2011).

Education

Deogarh has an overall literacy rate of about 73%, with 81% for males and 65% for females. While this exceeds the state average, disparities persist in tribal and remote regions. The district offers a variety of government and private educational institutions, including colleges. Initiatives like Mo School Abhiyan and Eklavya Model Residential Schools aim to improve both access to and the quality of education for marginalised groups. (Odisha Shramajeebee Mancha, n.d.; Deogarh District Portal, n.d.).

Economy & Occupation

Deogarh's economy is predominantly agricultural, with about 65% of residents involved in farming and related activities. The district's industrial sector is limited, mainly consisting of small-scale operations such as rice mills, forest product units, and handicrafts. It also has deposits of iron ore and manganese, although mining remains sparse and regulated. Forest resources are vital for local livelihoods. Employment is additionally supported by programmes such as MGNREGS and Odisha Livelihoods Mission. (NABARD, 2022; Deogarh District Portal, n.d.).

Health

Deogarh's healthcare infrastructure includes one District Headquarters Hospital, multiple Community Health Centres (CHCs), Primary Health Centres (PHCs), and Sub-Centres. Yet, access remains challenging in remote regions. Maternal and child health metrics are below the state average, with notable issues like high anaemia and undernutrition rates. The district's Infant Mortality Rate (IMR) is around 45 per 1,000 live births. Key health programs include *Janani Suraksha Yojana*, *Rashtriya Bal Swasthya Karyakram*, and mobile medical units that reach hard-to-reach areas (Health & Family Welfare Department, Government of Odisha, 2022; UNICEF India, 2023).

Occupational & Economic Status

Deogarh is primarily a rural district whose economy relies on agriculture, forestry, and related sectors. Its sparse population and plentiful forest resources present opportunities for sustainable eco-development. However, challenges such as limited irrigation, insufficient industrial diversification, and inadequate healthcare infrastructure persist. Government programs focused on rural development, tribal welfare, and agroforestry offer potential for inclusive growth, especially when complemented by capacity-building and enhanced service delivery in remote regions. (NABARD, 2022; Deogarh District Portal, n.d.).

2.2.2. Study People

Bonda (Remo)

The Bonda tribe, with a population of 12,231 according to the 2011 Census, mainly inhabits the Khairput block in Malkangiri district. Their literacy rate is low at 33%, with a significant gender gap of 39.79% for males and 25.74% for females, highlighting considerable educational inequalities. Bondas speak a language from the Austroasiatic (Mundari) family (Linguistic Survey of Odisha, 2002). Known for their distinctive material culture, Bonda women are recognised for wearing heavy bead necklaces and often marrying younger men, a practice called age hypogamy. Their livelihoods include handloom weaving, archery, broomstick making, and small-scale farming. Although they have transitioned from nomadic lifestyles to settled cultivation, they continue to face challenges such as limited healthcare and educational access, poor menstrual hygiene infrastructure, and high rates of undernutrition among children and mothers. (SCSRTI, 2023; Sahoo et al., 2023; Barik, 2025).

Dongria Kondh

Numbering 9,659 individuals, the Dongria Kondh inhabit the Niyamgiri hills of Rayagada, particularly the Bissam Cuttack block. Their literacy rate is critically low at 6.35% (male: 7.14%, female: 5.71%). A Dravidian-speaking group, they are well known for their sacred ecology and

resistance to industrial intrusion during the Niyamgiri movement. Dongrias are exceptional agroecologists who practise horticulture and terraced farming. Their cultural identity is deeply tied to Niyam Raja (a mountain deity). Despite the shift toward settled farming, maternal-child health remains poor, and girls face extreme educational deprivation. Health services remain underutilised due to cultural and geographical barriers (Billiyya, 2010; Devi, 2016; SCSTRTI, 2023; Prusty, 2024).

Didayi

With a population of 8,890, the Didayis mainly live in the Khairput and Kudumulguma blocks of the Malkangiri district. Their literacy rate is only 6.87% (male: 9.24%, female: 4.76%). As part of the Austroasiatic language family, their livelihoods include bamboo basketry, weaving, archery, and forest gathering. Recent efforts have promoted a shift towards settled agriculture. Health and hygiene issues, especially related to menstruation, are significant. Poor maternal nutrition and low rates of institutional delivery affect child survival and development outcomes (SCSTRTI, 2023; Gudia, 2024; Gudia & Pattnaik, 2024).

Juang

The Juang community, numbering 47,095, mainly resides in the Banspal, Harichandanpur, and Ghatgaon blocks of Keonjhar. Their literacy rate is approximately 30%, with 35% for men and 25% for women. They speak Mundari and primarily engage in woodcraft and collecting minor forest produce. A distinctive cultural feature is their bachelor's dormitory system for young men. While they are gradually shifting from shifting cultivation to settled agriculture, challenges such as migration, unemployment, and limited access to healthcare continue. Child undernutrition and women's anaemia remain ongoing concerns. (Census of India, 2011; Pradhan & Sahu, 2022; SCSTRTI, 2023; Mohapatra et al., 2023; Kuiti et al., 2022a; Kuiti et al., 2022b).

Kutia Kondh

The Kutia Kondh number 39,761 and mainly reside in Kandhamal and Kalahandi districts, particularly in the Tumudibandha and Lanjigarh blocks. They have a low literacy rate of 4.98%, with 6.39% for males and 3.52% for females, making them among the least literate groups. As a Dravidian linguistic community, they practise traditional crafts such as mat and broomstick making. Although they are shifting towards settled farming, they continue to face serious health challenges, including very high maternal mortality, anaemia, and early pregnancies. Deep-rooted endogamy and strict social customs often hinder access to health and education services (Behera, 2021; Mohanty, 2022; Samantray, 2024; Acharya et al., 2024).

Lodha

The Lodha, with a population of 9,785, are mainly concentrated in the Mayurbhanj district (Baripada, Badasahi, and Khunta blocks). Literacy is low at 27.2% (male: 31.06%, female: 23.56%). They belong to the Indo-Aryan linguistic family and are traditionally rope and bamboo craft workers. Although settled agriculturalists still engage in forest gathering, deep-seated superstitions, strong belief in ghosts, and lack of awareness hinder the adoption of reproductive health and hygiene practices. Adolescent girls face particular challenges in managing menstruation hygienically (Hansdah, 2018; Mishra & Bhunia, 2024; Mohanty & Mohanta, 2025).

Lanjia Saora

The Lanjia Saora, numbering 40,913, live in Rayagada (Gunupur) and parts of the Gajapati district. Their literacy rate is 30.68%, with 36.34% for men and 25.14% for women. They are a Mundari-speaking community, known for 'Idital' wall paintings and traditional water management practices. Their farming has shifted from shifting cultivation and stone terracing to cashew and other horticultural plantations. Women face health issues due to menstrual taboos and limited access to sanitary products or health education. Child growth monitoring takes place irregularly, leading to underreported cases of malnutrition. (SCSTRTI, 2018; Ghadei et al., 2021; Prasad & Jena, 2022; SCSTRTI, 2023).

Hill Kharia

The Hill Kharia, with a population of around 2,800, mainly reside in Mayurbhanj's Bisoi block. Their literacy rate stands at 41.75%, with 44.51% of men and 39.26% of women being literate. They belong to the Mundari community and primarily earn through NTFP collection and broomstick making. Having transitioned from hunting and gathering to agriculture, the Hill Kharia still preserve sacred groves. Although their literacy levels have somewhat improved, challenges persist in accessing healthcare, especially regarding antenatal care and immunisation, due to cultural seclusion and difficult terrain that hinder service delivery. (Ota & Sahoo, 2008; Tudu, 2017; Behera & Panigrahy, 2020; Tudu & Mohapatra, 2021; Panda, 2022; SCSTRTI, 2023).

Mankidia

The Mankidias, numbering 2,222, live in Mayurbhanj's Jashipur and Karanjia blocks. While precise literacy rates are scarce, they are recognised as among the most illiterate groups. They produce baskets, ropes, and leaf plates and are skilled monkey trappers, known as 'mankad' in Odia. Although now settled in agriculture, their vulnerable condition is clear in their fragile housing, reliance on forest incomes, and marginalisation. Menstrual health remains an issue due to cultural taboos and limited access to clean water and sanitation. (Sahoo, 2013; Behera & Panigrahy, 2020; Odisha Health Mission, 2023; Marndi, 2024).

Paudi Bhuyan

The Paudi Bhuyan, numbering 61,303, are spread across Angul, Keonjhar, and Sundargarh. Literacy stands at 33.18% (male: 34.84%, female: 31.35%). They speak an Indo-Aryan dialect and engage in leaf-plate making and shifting agriculture, which is now becoming more settled. They are recognised for their distinctive agricultural rituals and cattle-based farming. Despite moderate literacy levels, tribal girls continue to drop out early. Anaemia, diarrhoeal diseases, and poor maternal health indicators remain common in their settlements (Kahlon & Singh, 2020; Baradi & Dash, 2021; Bhowmick, 2022; Kahlon & Singh, 2023; SCSTRTI, 2023; Naik & Sethi, 2025).

2.3. Research Design

This study uses a mixed-methods research approach, combining quantitative surveys with qualitative ethnographic techniques to offer a detailed and nuanced understanding of the socio-demographic, economic, health, and cultural aspects of PVTGs in Odisha.

The quantitative part comprises structured household surveys and individual assessments to systematically measure various indicators. These include household composition, educational levels,

occupation, income, sanitation, nutritional status (such as anthropometric measurements), blood pressure, haemoglobin levels, and access to health and welfare services. Standardised tools and protocols ensure consistency and reliability of data across different tribal groups and study locations.

Complementing this, the qualitative component employs ethnographic techniques such as participant observation, unstructured and semi-structured interviews, focus groups, and life history narratives. These methods facilitate an in-depth understanding of lived experiences, cultural practices, belief systems, kinship structures, language, gender roles, and indigenous knowledge that influence health behaviours and social organisation in PVTG communities. This dual approach aligns with the need to incorporate both etic (external, observable, and measurable) and emic (insider, experiential, and contextual) perspectives. While etic data provide objective insights for policy and comparison, emic perspectives reveal culturally rooted meanings and practices often missed by quantitative methods alone. Combining these approaches enhances the validity, depth, and cultural relevance of the findings. By using this mixed-methods strategy, the study aims to bridge the gap between numerical data and human experience, offering a more holistic and context-sensitive analysis of the challenges and resilience strategies of PVTG households. This approach is especially appropriate given the complexity of engaging with indigenous communities, whose social realities are shaped by historical marginalisation, ecological dependencies, and distinct cultural frameworks.

2.4. Universe of the Study

This study focuses on households from all ten PVTGs residing in Odisha, India. These groups are among the most socially and economically marginalised, as well as geographically isolated, each with unique cultural, linguistic, and ecological traits. Odisha hosts the largest number of PVTGs in India, including the Bonda, Didayi, Dongria Konth, Kutia Konth, Hill Kharia, Juang, Lanjia Saora, Lodha, Paudi Bhuyan, Chuktia Bhunjia, Saora, Mankidia, and Birhor. While ideally, data would have been collected from all 10 groups for comprehensive coverage, practical issues such as logistical challenges, limited access to remote areas, and field staff availability led to a purposive sampling method.

Ten PVTG communities were carefully selected for primary data collection based on representativeness, spanning diverse agro-ecological zones, including hill forests, river valleys, and alluvial plains. These groups exemplify diverse environmental conditions, livelihood strategies, and developmental issues, enabling the study to explore the complex links between ecological settings and human well-being. This strategic selection enhances the reliability and richness of the data and ensures that fieldwork remains manageable in challenging, often politically sensitive regions. The method follows qualitative and mixed-method research standards, emphasising depth, relevance, and diverse contexts over broad coverage.

2.5. Sampling Design

A systematic, community-based approach was adopted to collect primary data from households (HHs) and individuals (N) across 10 PVTGs in Odisha. The sample was collected in selected districts and blocks where PVTG populations are primarily concentrated. The sampling frame used a purposive yet representative selection strategy, ensuring equitable coverage of geographical, cultural, and demographic variability within each PVTG group. 2,041 households and 9,222 individuals were covered across 10 PVTGs spanning multiple districts, blocks, Gram Panchayats (GPs), and villages.

2.5.1. Selection of Study Areas

The study areas were chosen systematically and based on data to accurately represent each PVTG. Districts and blocks were selected based on the concentration and demographic significance of PVTG populations, as identified from the 2011 Census, tribal welfare department records, and Integrated Tribal Development Agency (ITDA) listings. Priority was given to administrative units with the highest density of these groups to maintain cultural and contextual relevance. Within these selected areas, villages were chosen through a participatory process involving local ITDA officials, tribal leaders, community elders, and frontline health workers. This approach ensured that the sampled villages had a substantial PVTG population and represented diverse socio-geographical, ethnographic, and health characteristics, thereby supporting a comprehensive and inclusive study.

- Stage 1: District Selection – Based on the concentration of PVTG populations and accessibility, districts such as Malkangiri (Bonda, Didayi), Rayagada (Dongria Kondh), Kandhamal (Kutia Kondh), Keonjhar (Juang, Paudi Bhuyan), Deogarh (Paudi Bhuiyan), and Mayurbhanj (Lodha, Mankidia, Hill & Kharia) were chosen.
- Stage 2: Village Selection – Villages notified under PVTG coverage were selected in consultation with local block officials and ITDA records.
- Stage 3: Household Sampling – Within all selected villages, 150-200 households were randomly selected for each tribal group. A total of 1500–2000 households were surveyed across the selected PVTGs, ensuring adequate representation of various ages, genders, and socio-economic backgrounds.
- Stage 4: Individual Selection – For ethnographic and ethnic-language studies, 10 to 15 individuals aged 50 years or younger were chosen from each tribal group. Additional samples from women (15–49 years), schoolchildren (6-10 years), adolescents (10–18 years), and preschool children (0–5 years) were selected for detailed health and nutrition assessments.

2.5.2. Household Sampling

- A complete enumeration of PVTG households was conducted in selected villages where the PVTG population was limited or scattered. In larger PVTG habitations, a systematic random sampling approach was applied to select households to ensure representativeness.
- For each selected village, a household listing was prepared and used to select households proportionally, considering household size, demographic composition, and socio-economic characteristics.
- A total of 2,041 households were surveyed, with household sizes ranging from small nuclear families to extended family clusters, capturing intra-household diversity.

2.5.3. Individual Sampling

- Within each selected household, all available and consenting individuals were included in the study to ensure comprehensive data on demographic, health, economy and socio-cultural parameters.
- Individual-level data included age, gender, reproductive health, child health, and behavioural practices, especially nutrition, hygiene, and maternal and child health.
- A total of 9,222 individuals were covered, emphasising ensuring adequate representation of women, children, and adolescents, given the focus on maternal and child health research.

2.5.4. Ethical Considerations and Community Consent

- Prior to data collection, informed consent was obtained from community leaders and individual respondents.
- Ethical approvals were secured from appropriate Utkal University review boards, and data collectors were trained in ethical practices, including confidentiality and cultural sensitivity.
- Local language-speaking field investigators familiar with tribal dialects were deployed to facilitate better communication and community engagement.

2.5.5. Data Collection Tools and Quality Assurance

- Standardised and pre-tested questionnaires were used for data collection, tailored to the linguistic and cultural contexts of each PVTG group.
- Tools were developed in Odia (Only ethnographic) and English dialects with input from local translators and cultural mediators.
- Post Doctoral Fellows (PDF) and Research assistants (RA) conducted regular field checks and validation to ensure data accuracy and completeness.

2.5.6. Data Coverage and Scope

- The methodology ensured intra-PVTG diversity by covering multiple GPs and blocks within each district. For instance, within the Didayi group alone, samples were collected from villages under three different GPs. (Table 2.4.6.1)
- Large PVTG groups such as Bonda, Kutia Kandha, and Juang received broader geographical sampling to capture inter-village and inter-block variability. (Table 2.4.6.1).

Table 2.5.6.1: Summary and Socio-Demographic Details Of The Study Population

SL No.	Tribal name	Distri ct	Block	GP	Village	Househol d (HH)	Individ ual (N)	Total collected individual	2011 census individuals
1	Didayi	Malka ngiri	Khairput	Rasabed a	Mudulig uda	137	659	1107	8890
				Andraha l	Dumapa da	28	148		
			Kudumu lguma	Kudumu lguma	Chillipa dar	14	76		
					Purunag uma	55	224		
2	Bonda	Malka ngiri	Malkang iri	Challan guda	Nuagud a	31	150	1060	12231
			Khairput	Mudulip ada	Bandha guda	69	307		
					Mudulip ada	46	201		
				Kadamg uda	Khurigu da	89	402		
3	Dogria Kondha	Rayag ada	Bissam Cuttack	Kurli	Khamba si	105	635	1166	9659
					Khajuri	68	387		
			Munigud	Munikh	Sakata	33	144		

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			a	ol					
4	Kutia Kandha	Kandh amal	Belaghar	Belagha r	Batipad a	43	225	1021	39761
					Munda maska	34	155		
					Rangap aru	70	375		
					Sadangi	9	48		
					Tuakela	17	80		
				Guma	Gochak a	11	56		
				Jhiripani	Gurlima ska	16	82		
5	Lodha	Mayur bhanj	Morada	Barkand	Tiansi	85	355	886	9785
				Gudigao n	Gudigao n	74	291		
					Handi bhanga	59	240		
6	Mankidi a	Mayur bhanj	Bisai	Batibed a	Chatani	21	64	261	2222
			Jashipur	Durdura	Durdura	31	97		
			Karanjia	Patbil	Kendum undi	29	100		
7	Hill Kharia	Mayur bhanj	Jashipur	Ektali	Ektali	22	73	781	2800
				Matiaga rh	Matiaga rh	63	211		
					Kapand a	38	146		
				Podagar h	Badajhil li	26	86		
					Podagar h	15	61		
					Palgoda	11	39		
			Karanjia	Batapala sa	Sialinai	34	149		
				Padbili	Kendum undi	4	16		
8	Paudi Bhuiya	Deoga rh	Barkote	Kaliapal	Pachirip ani	47	193	909	61303
				Saida	Raguda kudar	86	318		
					Saranko t	63	247		
			Tileibani	Tainsar	Katei	38	151		
9	Lanjia Saora	Gajapa ti	Gumma	Bhubani	Shtrigud a	13	64	1165	40913
				Serango	Tarajasi ng	36	179		
				Tumula	Jadasing i	20	108		

					Pandrun g	129	655		
					Rungur unguba	34	159		
10	Juang	Keonj har	Banspal	Kodipas a	Ghungi	33	157	866	47095
					Kundhei	131	580		
					Tala kansa	24	129		
Total						2041	9222	9222	234659

Table 2.5.6.2: Sample Summary Statistics

SL	Tribe	HH Sample	N Sample	2011 Census Pop	Est. HHs (Census ÷ 5)	HH Sample %	Individual Sample %
1	Didayi	234	1107	8890	1778	13.16	12.45
2	Bonda	235	1060	12231	2446	9.60	8.67
3	Dongria Kondha	206	1166	9659	1932	10.66	12.07
4	Kutia Kandha	204	1021	39761	7952	2.57	2.57
5	Lodha	218	886	9785	1957	11.14	9.05
6	Mankidia	81	261	2222	444	18.24	11.75
7	Hill Kharia	211	781	2800	560	41.61	27.89
8	Paudi Bhuiya	234	909	61303	12261	1.91	1.48
9	Lanjia Saora	232	1165	40913	8183	2.83	2.85
10	Juang	188	866	47095	9420	1.99	1.84
	Total	2041	9222	234659	46932	4.37	3.93

2.6. Tools of Data Collection

A. Ethnographic Observations and Interviews for Language Study

Primary data resources

Ethnographic fieldwork was the main qualitative approach used to gain in-depth, context-rich insights into the socio-cultural aspects of the communities studied. Lengthy stays in the villages (approximately 30 days) enabled social researchers to observe participant behaviour, daily routines, spatial organisation, and informal social interactions. This immersive method helped them understand not just what people say, but also how they live, behave, and interact socially and culturally. In addition to observation, semi-structured interviews with key community members and stakeholders provided a broader understanding of local realities.

Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs)

• Elders and Priests

Key Informant Interviews (KIIs) with village elders and traditional priests were conducted to gather detailed narratives about ancestral customs, oral histories, spiritual practices, and ritual authority. As cultural guardians, these individuals offered invaluable insights into lineage-based kinship systems, sacred festivals, local governance structures, and the transmission of intergenerational knowledge. Interviews were conducted in the local dialect, often with interpreters familiar with the tribal oral traditions, and were audio-recorded with participants' consent for accurate transcription.

• Tribal Language Speakers and Ritual Specialists

Linguistic insights were gained through interactions with native speakers and ritual specialists, who provided a critical understanding of the role of language in maintaining cultural continuity, facilitating ceremonial practices, and communicating with the sacred realm. Interviews focused on language use across various settings, including home, market, school, and health centres, and documented the challenges of linguistic marginalisation. The collected data helped capture the vitality and domains of tribal language pronunciations, especially among the 10 PVTG communities. In the present ethno-linguistic study, the International Phonetic Alphabet (IPA) is a crucial tool for transcribing the pronunciation of every traditional word in each PVTG.

• International Phonetic Alphabet (IPA)

The International Phonetic Alphabet (IPA) provides a standardised notation system for accurately representing each distinct sound (phoneme) of a language, regardless of its written form or absence of a script (International Phonetic Association, 1999; Ladefoged & Johnson, 2015). Data were collected through audio-recorded interviews, elicitation sessions, and participant observation involving native speakers, traditional storytellers, and ritual specialists. Words and phrases that included kinship terms, ritual vocabulary, flora and fauna names, and everyday speech were transcribed phonemically in real time, then verified through repeated pronunciation tasks and consensus among multiple speakers (Hyman, 2003; Crowley & Thieberger, 2007; Kratochvíl, 2009). Attention was paid to segmental features (consonants and vowels), suprasegmental features (stress, tone, intonation), and articulatory properties (place and manner of articulation) (Ladefoged & Maddieson, 1996; Hussein, 2025). The resulting IPA transcriptions offer an objective, replicable, and scientifically sound way to document each tribe's spoken language, aiding linguistic comparison, endangered language preservation, and the development of inclusive language policy and education (Austin & Sallabank, 2011; Khadimilly, 2022; Taguchi et al., 2023).

These Interactions Covered

• Cultural Rituals, Taboos, Kinship, and Social Structure (primary data sources)

All ethnographic engagement data were analysed to understand the symbolic and social roles of rituals, food taboos, mourning and marriage customs, clan-based affiliations, and local social hierarchies. Field notes, interview transcripts, and audio recordings were thematically coded to find patterns and differences in cultural practices within and among PVTG communities.

• Language Use in Daily Life, Schooling, and Other Access

The study investigated the use of tribal languages across various functional areas, including the home, market, religious ceremonies, schools, and other services. Particular focus was given to code-switching patterns, language decline, and obstacles to accessing services caused by language

mismatches with government officials. Triangulation was used by verifying information from tribal speakers and teachers.

- **Odisha Tribal Development Society (OTDS) Reports (secondary data sources)**

Published reports and annual reviews from the Odisha Tribal Development Society were systematically reviewed to supplement field findings with statistical data on health, education, livelihood, and infrastructure indicators for PVTGs. These documents provided an institutional perspective on development planning, scheme coverage, and intervention outcomes at the district and state levels.

- **Ministry of Tribal Affairs and SCSTRTI Publications (secondary data sources)**

Policy briefs, evaluation reports, and tribal development guidelines from the Ministry of Tribal Affairs and the Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI), Bhubaneswar, were analysed to contextualise local-level observations within broader policy frameworks. These secondary resources helped align field insights with national and state-level strategic priorities.

- **Published Articles on Odisha's PVTGs from Internet Sources (secondary data sources)**

A targeted literature review was conducted using academic databases and credible online sources to compile previously published articles, case studies, and grey literature on Odisha's PVTGs. Priority was given to peer-reviewed articles and ethnographic studies relevant to specific tribal groups included in the present study.

B. Structured Household Questionnaire

A detailed questionnaire was administered to household heads or knowledgeable members of the communities to gather data on-

Demographics (age, sex, family size, birth/death records)

A carefully designed and administered structured questionnaire targeted household heads or, if unavailable, knowledgeable adult members in each sampled household to collect precise and comprehensive demographic information. This approach ensured the reliability of data on key variables, including age, sex, family size, and vital events (births and deaths). The questionnaire underwent pre-testing through a pilot survey to verify its cultural appropriateness, clarity, and logical sequence. Face-to-face interviews were carried out by trained field investigators fluent in the local language(s), facilitating effective communication and minimising response errors. Respondents were selected based on their familiarity with household composition and demographic events, thereby improving data validity. Additionally, data on ages and vital dates were cross-checked with household records, health documents (Voter card, Aadhar Card, driving licence, passport, etc.), or community registers to reduce recall bias and enhance accuracy.

Education and Literacy

A comprehensive questionnaire was thoughtfully developed and administered to household heads or other knowledgeable adults to assess educational and literacy levels within households. It gathered data on each member's highest educational attainment, classified as Illiterate, ICDS (Integrated Child Development Services), Primary School, Secondary School, Higher Secondary, College/Diploma, and University, consistent with the Indian education system and early childhood exposure. Skilled interviewers, fluent in local languages and dialects, conducted face-to-face interviews to ensure understanding and reduce misreporting. Visual aids and examples helped respondents accurately identify educational levels, especially in communities with limited formal education. When available, responses were verified against school certificates, ICDS records, or household educational documents, enhancing the accuracy and reliability of data on educational attainment and literacy across diverse households.

Occupation

A detailed questionnaire was administered to household heads or other informed adults to explore households' occupational patterns and sources of income. Carefully designed, the tool aimed to document each economically active member's primary and secondary occupations, along with the household's overall income sources. Data covered various income-generating activities, including wage labour, salaried jobs, agriculture, forest-based livelihoods, seasonal migration, petty trading, government programs, and traditional crafts. Trained interviewers conducted face-to-face conversations in local languages or dialects to ensure an accurate understanding of occupational terms and minimise misclassification. This approach provided reliable, contextually relevant data on livelihood strategies and economic well-being at both individual and household levels.

Housing type, room numbers and a separate kitchen

A structured, context-sensitive questionnaire was administered to household heads or other knowledgeable adult members to assess households' housing conditions. The questionnaire captured detailed information on the type of housing structure (e.g., kutcha, semi-pucca, pucca), number of rooms used for sleeping or living, and the presence or absence of a separate kitchen. These indicators were selected to reflect both economic status and household infrastructure adequacy. Trained field investigators conducted face-to-face interviews using local terminology to ensure an accurate understanding of housing types. Where possible, responses were verified through visual inspection and cross-checked with documents such as land records, ration cards, or housing scheme registration. Special care was taken to distinguish between temporary and permanent structures and to record shared spaces. This methodological approach provided a reliable and nuanced picture of household-level spatial adequacy, ownership security, and living conditions.

Access to amenities like drinking water, sanitation, cooking fuel and electricity

A structured questionnaire was used to evaluate the basic amenities available to households, targeting household heads or knowledgeable adults. It focused on access to drinking water, sanitation, cooking fuels, and electricity. The survey recorded details such as main water sources (like piped water, tube wells, wells, or rivers), toilet types (including open defecation, pit latrines, and flush toilets), primary cooking fuels (coal, kerosene, wood, LPG), and electricity access for lighting or other needs. Trained field investigators, fluent in local dialects and familiar with technical terms, conducted face-to-face interviews to ensure consistent and clear data collection. When possible, observational checks verified reported infrastructure such as electrical wiring, fuel storage, or sanitation facilities. In tribal and rural areas, special care was taken to account for seasonal water

fluctuations and the use of mixed fuel types. This comprehensive approach provided a reliable assessment of household amenities, which are crucial indicators of living standards and public health.

Utilisation of Government scheme (e.g., PDS, SHG, ICDS)

A comprehensive, organised questionnaire was given to household heads or other knowledgeable adults to evaluate their participation in government welfare programs and the benefits they received. The questionnaire aimed to collect data on awareness, registration, and use of key schemes like the Public Distribution System (PDS), Self-Help Groups (SHGs), and Integrated Child Development Services (ICDS). Respondents provided details on the types and frequency of benefits such as subsidised food, financial support, supplementary nutrition, and health checkups, along with their membership status and perceived barriers or satisfaction levels. Trained field investigators conducted interviews in local languages, using probing questions to ensure complete and accurate responses, especially from those with partial or irregular scheme involvement. When relevant, physical verification of scheme-related documents, such as ration cards, SHG passbooks, and ICDS cards, was performed to confirm the information. Particular care was taken to identify discrepancies between enrollment and actual benefit receipt. This method enabled a detailed understanding of the reach, effectiveness, and gaps in public service delivery across diverse socio-economic and geographical settings.

C. Menstrual Health Module & Maternal and Child Health Checklist

Menstrual health

- **Age at Menarche**

To obtain precise data on age at menarche, women aged 18–49 were asked to recall their first menstrual experience through a culturally sensitive, non-invasive method. All-female, trained interviewers employed locally understandable terms and analogies to aid recall and reduce embarrassment. To enhance accuracy, the event was cross-verified against major life milestones, such as starting school, festivals, or family events. Data collection was conducted using a semi-structured format that allowed for contextual narratives, and the collected information was coded for age-group analysis and developmental comparisons across different sub-populations.

- **Knowledge and Beliefs about Menstruation**

Participants were interviewed using a culturally adapted schedule that explored their sources of information (mothers, peers, teachers, health workers), perceived causes of menstruation, and associated beliefs or taboos. The schedule incorporated open- and closed-ended questions to document prevailing socio-cultural constructs (e.g., impurity, isolation, food restrictions). Interviewers used participatory techniques, such as storytelling and picture aids, to foster a safe environment for disclosure. Responses were analysed thematically to identify patterns of menstrual literacy and the influence of cultural norms across generations.

- **Use and Disposal of Absorbent Materials**

Data on menstrual absorbent materials were collected through detailed probing on current and past use, availability, affordability, and preferences. Participants were asked about types of materials used

(cloth, sanitary pads, leaves, ash), cleaning methods, frequency of change, and methods of drying and storing reusable materials. Additionally, disposal practices were recorded, distinguishing between environmentally safe and hazardous methods (e.g., burning, open dumping, latrine disposal). Field observations and visual aids helped validate self-reports, and practices were assessed concerning health risks and access to sanitation infrastructure.

- **School Absenteeism or Work Withdrawal**

The study explored how menstruation affected women's participation in education and livelihoods. Women were asked to recall school absences during adolescence and any current work interruptions related to menstruation. Interviewers also examined the reasons for absenteeism, such as pain, sanitation issues, or social stigma, utilising vignettes and anonymous reporting to reduce social desirability bias. These findings were cross-checked with responses from teachers, ASHAs, and community members, where applicable, and analysed by occupation, educational level, and access to menstrual management.

- **Reproductive Tract Infections (RTIs) and Hygiene Practices**

Information on hygiene practices and self-reported symptoms related to reproductive tract infections (RTIs) was collected through structured interviews, using carefully worded, non-stigmatising questions. Women were questioned about practices such as handwashing before and after changing absorbents, use of soap and water, access to private washing facilities, and changes in hygiene during menstruation. Symptom checklists (e.g., itching, unusual discharge, odour) were used to detect RTI indicators. Interviewers were trained to identify potential underreporting caused by shame or fear, and ethical guidelines were followed to provide referral support when needed. The collected data were analysed to explore links between poor hygiene, traditional practices, and reported health symptoms.

Maternal and Child Health Checklist

- **Antenatal and Postnatal Care Utilisation**

The study utilised a structured checklist administered to mothers of children under five and pregnant women to evaluate maternal health service utilisation. The questions addressed the frequency and timing of antenatal care (ANC) visits, types of services provided (such as blood pressure measurement, tetanus vaccination, and weight checks), and involvement in postnatal care (PNC) within 48 hours and up to six weeks postpartum. Interviewers used culturally appropriate, locally adapted terminology to enhance comprehension, particularly in areas with limited exposure to formal healthcare. Responses were cross-verified with maternal health cards or Janani Suraksha Yojana (JSY) records where available. The collected data were analysed to assess the coverage and quality of maternal healthcare services provided to tribal women.

- **Institutional Delivery or Home Birth**

Data on place of delivery were obtained through direct questions about the most recent birth, distinguishing between institutional deliveries (either government or private facilities) and home births. Details on the facility type, distance, transport mode, and related costs were documented for institutional deliveries. For home births, information was gathered on the presence of traditional birth

attendants (dais), birth preparedness, and sterile practices. This section sought to identify barriers to opting for institutional delivery, including geographic isolation, cultural preferences, and perceived quality of care. Where possible, responses were cross-verified with input from ASHA or AWW.

- **Immunisation Status of Children**

Caregivers were asked to report their children's immunisation status for those under five, including vaccines covered by the Universal Immunisation Programme (UIP) such as BCG, OPV, DPT, Hepatitis B, and Measles-Rubella, to assess child health protection. Immunisation cards were reviewed when available for verification; otherwise, maternal recall was used, supported by pictorial prompts of vaccines and references to local vaccination events. Data were grouped by age to evaluate age-appropriate coverage and dropout rates. Challenges such as vaccine hesitancy, cold chain issues, and gaps in health services were qualitatively noted.

- **Access to Iron and Folic Acid, Supplementary Nutrition**

The questionnaire included specific items to assess maternal and child access to iron and folic acid (IFA) tablets, deworming medicines, and supplementary nutrition provided through Integrated Child Development Services (ICDS) or Village Health and Nutrition Days (VHNDs). Mothers were asked about the frequency and duration of IFA consumption during pregnancy, and whether they received take-home rations (THR), hot cooked meals, or ready-to-use therapeutic foods (RUTF) for themselves and their children. Responses were validated by checking maternal health cards or by field observation at nearby Anganwadi Centres. This allowed for the assessment of the effectiveness of nutritional outreach and the reliability of the supply chain in tribal settings.

- **Knowledge about Child Nutrition and Breastfeeding**

Mothers and caregivers were interviewed to evaluate their knowledge and practices regarding infant and young child feeding (IYCF). The interview covered topics including breastfeeding initiation, exclusive breastfeeding duration, complementary feeding, and dietary diversity. Open-ended and probing questions aimed to uncover culturally rooted beliefs and misconceptions. The data reflected mothers' understanding of nutrition timing, food texture, and local weaning foods. To enhance clarity and accuracy, interviewers used visual aids and scenario-based questions.

D. Growth, Nutritional Status & Health

Tools and techniques for Growth Assessment

A comprehensive anthropometric methodology was adopted to assess the physical growth and nutritional status of children aged 1 month to 18 years, adhering strictly to the standardised protocols recommended by the World Health Organisation (WHO, 1995; 2006, 2008). The growth assessment involved three key anthropometric parameters, i.e. height (or length), weight, and Body Mass Index (BMI), each measured and calculated with high precision and reliability.

Initially, weight was documented. For children under 2 years, a calibrated digital infant scale with 100-gram accuracy was used to weigh infants without clothing or nappies for precision. For children aged 2 years and above, portable electronic scales with 100-gram precision measured weight, with

children standing still on the scale platform without footwear and in light clothing (Cogill, 2003; WHO, 2008). All scales underwent regular calibration with standard test weights before and during data collection to avoid measurement drift or errors.

In the second step, the child's length or height was measured based on age. For children under 24 months or those unable to stand unaided, recumbent length was measured with a horizontal infantometer. The child lay on their back, with their head on the fixed headboard, knees flat, and feet flexed at right angles, touching the movable footboard. For children aged 24 months and older, standing height was measured using a portable stadiometer to the nearest 0.1 cm. The child stood barefoot, heels together, arms relaxed at the sides, and head aligned in the Frankfort horizontal plane (where the lower orbit and upper ear canal are level). If standing was difficult, recumbent length was measured and then converted to approximate standing height by subtracting 0.7 cm, following WHO guidelines (WHO, 2006). Measurements were taken twice, with the average used. If readings differed by more than 0.5 cm or 200 g, a third measurement was performed.

The third step involved calculating Body Mass Index (BMI) with the standard formula: $BMI = \text{weight (kg)} \div \text{height}^2 (\text{m}^2)$. After obtaining BMI and other raw anthropometric data, age- and sex-specific z-scores were computed for height-for-age (HAZ), weight-for-age (WAZ), weight-for-height (WHZ), and BMI-for-age (BAZ). A Z-score, also known as a standard deviation score, is a statistical measure showing how far an individual's value deviates from the median of a reference population, relative to the population's standard deviation.

- **It is calculated using the formula:**

$$Z = (\text{Observed value} - \text{Median value of reference population}) / \text{Standard deviation of reference population (WHO, 2006)}.$$

A Z-score of 0 means the measurement is exactly at the median of the reference distribution. A positive Z-score indicates a value above the median, while a negative Z-score indicates a value below the median. The score's size reflects how many standard deviations the value is from the median. In anthropometric and nutritional assessments, Z-scores are vital for comparing measurements such as height, weight, and BMI with international growth standards. They help determine if a child is growing normally, undernourished, or overnourished (de Onis et al., 2004).

These z-scores were calculated using WHO Anthro software (for children aged 0–59 months) and WHO AnthroPlus software (for children and adolescents aged 5–18 years), both of which utilise international growth reference standards developed by WHO in 2006 and 2007 (WHO, 2009; de Onis et al., 2007).

Nutritional Status of Preschoolers, School, and Adolescents

The WHO guidelines define nutritional status using a z-score system: a score below -2 SD indicates undernutrition (e.g., stunting, wasting, or underweight), depending on the measure, while a score above +2 SD signals overweight or obesity (WHO, 2006). Key anthropometric indices include Weight-for-Height (WHZ), Height-for-Age (HAZ), Weight-for-Age (WAZ), and BMI-for-Age (BMZ), which are vital for evaluating children's growth and nutritional health. WHZ assesses body weight relative to height and serves as an indicator of acute malnutrition or wasting, often caused by recent illness or food shortages (WHO, 2006). HAZ measures linear growth and indicates chronic undernutrition or stunting, usually due to long-term deprivation or recurring illness (de Onis &

Blössner, 1997). WAZ combines weight and height influences to classify underweight status, though it cannot distinguish between stunting and wasting (WHO, 2006). BMZ, calculated as weight (kg) divided by height (m) squared and adjusted for age and sex, is widely used to detect thinness, overweight, and obesity in 5–19-year-olds, especially during adolescence, when body composition rapidly changes (de Onis et al., 2007; WHO, 2007). These indices together enable thorough monitoring of both acute and chronic malnutrition.

Nutritional Assessment Among Adults

Body Mass Index (BMI) is a widely used anthropometric indicator for assessing nutritional status in adults, calculated by dividing weight in kilograms by the square of height in meters (kg/m^2). In the context of Asian populations, including tribal communities, conventional WHO's BMI cut-offs may underrepresent health risks due to ethnic differences in body composition and disease susceptibility. Therefore, this study employed Asia-specific BMI classifications as recommended by the World Health Organisation Expert Consultation (2004), which define underweight as $\text{BMI} < 18.5 \text{ kg}/\text{m}^2$, normal weight as $18.5\text{--}22.9 \text{ kg}/\text{m}^2$, and overweight as $\geq 23.0 \text{ kg}/\text{m}^2$. These thresholds are considered more appropriate for South Asian populations, which are known to have higher body fat percentages at lower BMIs than Western populations (WHO, 2004; Misra et al., 2009; Misra, 2015; Tham et al., 2022; Riaz & Lodhi, 2025).

For field data collection, weight was measured with a calibrated digital scale ($\pm 100 \text{ g}$ accuracy) while participants were barefoot and in light clothing. Height was taken using a portable stadiometer ($\pm 0.1 \text{ cm}$ accuracy) while the participant remained standing upright, barefoot, with the head in the Frankfort horizontal plane (Lohman et al., 1988). All anthropometric measurements were performed by trained field staff to reduce measurement errors, and instruments were regularly calibrated to ensure precision. Particular care was taken to respect cultural sensitivities and engage with the community, considering the unique sociocultural context of tribal populations, which can impact participation and data quality (Bharati et al., 2008). Data analysis involved sex- and age-stratified BMI assessments to identify subgroup vulnerabilities and inform targeted interventions.

Central Obesity Assessment Among Adults

Waist circumference (WC) is a practical and reliable measure for assessing central (abdominal) obesity, a significant risk factor for cardiometabolic conditions, particularly among Asian populations, where visceral fat can accumulate at lower body mass indices (Misra et al., 2009; WHO, 2011). In this study, WC was measured with a non-stretchable, flexible tape placed horizontally at the midpoint between the lower edge of the last palpable rib and the top of the iliac crest, following the WHO STEPS protocol. Measurements were taken while participants stood upright, with arms relaxed at their sides and feet shoulder-width apart, at the end of a normal exhalation (WHO, 2008). The measurement was recorded to the nearest 0.1 cm, ensuring no skin compression occurred.

To evaluate central obesity, Asia-specific cut-offs were applied: $\geq 90 \text{ cm}$ for men and $\geq 80 \text{ cm}$ for women, as recommended by the WHO Expert Consultation for Asian Populations (Misra et al., 2006; WHO, 2011). All field investigators underwent training in standardised anthropometric procedures to reduce intra- and inter-observer variability. Multiple measurements were taken for quality control, and the average of two consistent readings (within 0.5 cm) was used for analysis. Data were stratified by age and sex to identify patterns and disparities in central adiposity among different tribal subgroups.

Blood Pressure Assessment Among Adults

Blood pressure (BP) is a crucial clinical indicator of cardiovascular health and a primary marker for diagnosing hypertension in adults. In this research, systolic (SBP) and diastolic (DBP) blood pressures were measured according to a standardised protocol aligned with the World Health Organisation (WHO, 2005) and American Heart Association (Whelton et al., 2018) guidelines. Using a validated automatic digital sphygmomanometer (Omron Hem-7124 Bp Monitor) with an appropriately sized cuff based on the participant's arm circumference (Omron Healthcare, n.d.), the measurements were conducted. Participants were instructed to rest seated for at least 5 minutes, with legs uncrossed and arms supported at heart level, before the measurement. BP was recorded on the right upper arm while the participant was relaxed, with two readings taken at 2-minute intervals; the average was used for analysis. If the readings differed by more than 10 mmHg, a third measurement was taken, and the two closest values were averaged.

Hypertension was classified according to the Asia-Pacific criteria, defining it as SBP ≥ 140 mmHg and/or DBP ≥ 90 mmHg (Chalmers et al., 1999; WHO & ISH, 2003). Prehypertension was described as SBP 120–139 mmHg and/or DBP 80–89 mmHg. Participants were grouped by sex and age to examine demographic variations in blood pressure. All field investigators underwent comprehensive training in BP measurement techniques to ensure accuracy and reduce inter-observer variability. Equipment was regularly calibrated, and quality control was maintained throughout the study. Special attention was given to cultural sensitivity and confidentiality, especially in tribal areas where medical devices might raise concerns. This approach ensured reliable blood pressure screening among indigenous adults, whose exposure to lifestyle risk factors is increasing due to nutrition transitions and limited healthcare access (Babu et al., 2024; Vennam et al., 2024; Kumar & Singh, 2025; Chinnaiyan et al., 2025).

All field investigators underwent thorough training in measurement techniques, standard operating procedures, and instrument use to ensure precise data collection and minimise anthropometric errors. During field visits, inter-observer and intra-observer variability were regularly assessed. Instruments were routinely checked and recalibrated throughout data collection. Each measurement was taken twice, and data entries were validated to detect anomalies or biologically implausible values (Cogill, 2003; WHO, 2008). This meticulous method ensured that the growth data obtained were accurate, dependable, and suitable for detailed statistical and epidemiological analyses.

Blood Glucose Assessment Among Adults

To evaluate glycemic status in adult tribal men and women, random (non-fasting) capillary blood glucose levels were measured with portable, validated glucometers, following WHO guidelines for community diabetes screening (WHO, 2006; IDF, 2017). The measurements took place in field settings, with participants advised not to change their eating habits before testing. Capillary blood was collected from the fingertip using a sterile, single-use lancet, and glucose levels were determined with glucometer test strips (Dr Morepen BG-03 Gluco One Glucometer Combo) according to the manufacturer's instructions (Dr Morepen, n.d.). Devices were calibrated daily before data collection, and field investigators received training in biosafety, standard procedures, and ethical communication to ensure accurate results and participant safety.

Diagnostic thresholds are based on guidelines from the American Diabetes Association (ElSayed et al., 2023) and WHO (2006) for random blood glucose. Participants with levels of ≥ 200 mg/dL (11.1 mmol/L) and hyperglycaemia symptoms, such as polyuria, polydipsia, or unexplained weight

loss, were classified as diabetic. Those with levels from 140–199 mg/dL (7.8–11.0 mmol/L) were considered pre-diabetic (WHO, 2006; ElSayed et al., 2023). A glucose level below 140 mg/dL indicates normal blood sugar. All participants underwent a structured interview to gather socio-demographic data, dietary habits, physical activity, and any history of diabetes or medication use.

Given the rising burden of metabolic disorders among tribal groups, who are often underdiagnosed due to limited healthcare access and nutritional transitions, random blood glucose testing offers a practical, cost-effective approach for large-scale diabetes screening (Shrivastava et al., 2023; Bhoi & Acharya, 2024). Ethical approval was secured, and individuals with hyperglycemia were directed to the closest primary health centre for further assessment and treatment.

Anaemia Assessment Among Adults

Haemoglobin (Hb) concentration is a critical biomarker for assessing anaemia, particularly in populations vulnerable to nutritional deficiencies and limited access to healthcare, such as tribal communities. This study measured haemoglobin levels using the HemoCue® Hb 301 photometer, a portable, point-of-care device validated for field use due to its high sensitivity and specificity (WHO, 2011; Neufeld & Garcia-Casal, 2019). Capillary blood was collected by finger-prick using sterile lancets, following universal precautions and aseptic techniques. Blood was drawn into a microcuvette and immediately analysed to determine haemoglobin concentration in grams per deciliter (g/dL). Daily quality control calibration was performed using manufacturer-provided controls, and all field investigators underwent standardised training in biosafety, instrument handling, and sample collection protocols.

Classification of anaemia followed the World Health Organisation (2011) guidelines: for adult males, anaemia was defined as Hb < 13.0 g/dL; for non-pregnant adult females, Hb < 12.0 g/dL. Further categorisation included mild anaemia (11.0–12.9 g/dL for men, 11.0–11.9 g/dL for women), moderate anaemia (8.0–10.9 g/dL), and severe anaemia (<8.0 g/dL), respectively.

2.7. Data Processing and Analysis

Quantitative Data Analysis

Quantitative data collected from household surveys were organised and processed using Microsoft Excel and IBM SPSS Statistics (Version 20) for subsequent data cleaning, coding, and statistical analysis. Initial screening involved identifying missing values, outliers, and inconsistencies to ensure data accuracy and completeness (Meyers et al., 2007; Kwak & Kim, 2017; Sharifnia et al., 2026). Descriptive statistics, such as means, standard deviations, frequencies, and percentages, summarised demographic, socioeconomic, anthropometric, and health-related data. To assess growth and nutritional outcomes, anthropometric indices, including height-for-age, weight-for-age, weight-for-height, and BMI-for-age z-scores, were calculated using WHO Anthro software for children under 5 and WHO Anthro Plus for those aged 5–19, following WHO growth standards and references (WHO, 2006; WHO, 2010).

- **Thematic Coding of Qualitative Data**

All qualitative data, including field notes, interview transcripts, and observation reports, were analysed using a thematic, inductive coding approach. The data were transcribed, translated as needed, and thoroughly read multiple times to identify patterns, recurring concepts, and culturally

embedded meanings. Codes were generated both deductively, based on the research questions, and inductively from the data (Linneberg & Korsgaard, 2019; Bingham, 2021). These codes were then organised into broader themes and sub-themes that reflect the social, cultural, and health experiences of PVTG communities. This analytical method allowed for a detailed understanding of lived realities while ensuring contextual sensitivity and grounded interpretation (Sutton & Austin, 2015; Hayes, 2023; Hayes, 2025).

- **Triangulation for Validity and Contextual Richness**

To improve the credibility and reliability of the qualitative results, methodological triangulation was used, combining insights from qualitative stories with quantitative survey data. This approach allowed for cross-checking emerging themes against statistical data, thereby enhancing internal validity and minimising researcher bias (Zainal Abidin et al., 2024; Ahmed, 2024). For instance, self-reported experiences of food insecurity and health beliefs were validated against anthropometric and socio-economic data to provide comprehensive insights into malnutrition and health outcomes. This triangulation ensured that the findings were both empirically solid and richly contextualised, highlighting the interaction between cultural practices and structural factors impacting PVTG communities.

- **Use of Photography for Visual Ethnography**

Photographic documentation was used as an additional ethnographic method to visually capture the socio-cultural practices of PVTG groups. Photos of traditional homes, attire, food customs, health, rituals, and community events served not only as illustrations but also as important data points, deepening interpretative insights and contributing to a virtual ethnography of tribal life (Berthet et al., 2023; Dahal, 2025). These images complemented textual analysis by effectively depicting nonverbal cultural cues, spatial layouts, and environmental factors often overlooked in verbal descriptions. All photographs were taken with prior consent and in accordance with ethical standards for visual research (Carmichael & Mizrahi, 2023; Liu & Tseng, 2024).

2.8. Ethical Considerations

- Informed consent was obtained from all the participants.
- The study was reviewed and approved by the Institutional Ethics Committee, Utkal University, Vani Vihar. (*Reference No: IEC/UU/2022-06, dated 02/03/2022; Version No.1.0 dated 15.07.2021 & 2.0 dated 15.03.2022*).
- Confidentiality and anonymity were maintained throughout.
- Culturally appropriate communication and gender-sensitive interviewing were ensured, especially during menstrual and maternal health modules.

2.9. Limitations of the Study

- Geographical inaccessibility and poor road connectivity limited reach to some PVTG hamlets.
- Language barriers posed challenges, although they were mitigated through local translators.
- Seasonal migration affected household availability during fieldwork.
- Certain sensitive issues, like menstrual taboos and reproductive health, had limited disclosure in some communities.

CHAPTER-III

ETHNOGRAPHY & ETHNIC LANGUAGE

3.1 Introduction

An ethnographic study is a qualitative research method that involves immersion in a specific social or cultural setting to understand the people, their behaviours, and their perspectives. Characterised by long-term participant observation, in-depth interviews, and detailed field notes (Sampson, 2004; Mannay & Morgan, 2015; McLeod, 2024; Raj et al., 2024), this approach has gained increasing importance in social science research. It offers a holistic view of social phenomena, capturing the complexities and subtleties of human behaviour and social interactions that may be overlooked by more quantitative methods (Linstead, 1997; Mannay & Morgan, 2015; Raj et al., 2024). Ethnography allows exploration of "elusive, ambiguous and tacit aspects of research settings" and the development of grounded theory from "thick" or "rich" data (Linstead, 1997; Sokolova et al., 2025). This is especially useful for understanding complex issues such as corruption, where anthropological insights can reveal cultural and social implications that differ across contexts (Torsello & Venard, 2015). Despite concerns that ethical constraints and approval processes may limit traditional ethnographic methods, they are increasingly valued by non-academic organisations aiming for social, cultural, or behavioural change (Lewis & Russell, 2011). This shift has fostered "embedded" or collaborative research approaches that uphold core participant observation principles while adapting to new contexts. In summary, ethnography remains vital to social science research, providing unique insights into human behaviour and social processes. Its capacity for deep, localised knowledge and detailed descriptions complements big data approaches, particularly in the digital era (Wang & Liu, 2021). By adopting reflexivity and responding to emerging challenges, ethnography continues to evolve, maintaining its relevance for understanding complex social phenomena and for supporting multidisciplinary fields such as management and organisational studies (Linstead, 1997).

Ethnographic research with tribal groups in India has been essential in uncovering the complex social, cultural, economic, and religious aspects of some of the nation's most marginalised and diverse communities. These studies are key to understanding the intricate fabric of tribal life, which is often overlooked in mainstream conversations. Classic ethnographies, such as those by Verrier Elwin (1943, 1955), laid foundational work by documenting myths, customs, kinship systems, and rituals among tribes like the Baiga and Gond in Central India. Contemporary research has expanded on this by addressing urgent issues such as displacement from development projects, cultural loss, shifts in gender roles, and health inequities. For example, Baviskar (1997) critically analysed how tribal identities and traditional knowledge are shaped by government forest and water policies, particularly among the Bhil and Gondi communities. Similarly, Nathan and Kelkar (2004) explored how globalisation and market integration impact tribal economies, illustrating how Adivasi communities manage modern challenges while striving to uphold their indigenous identities. Ethnographic studies also examine tribal health practices, such as traditional healing and cultural views of diseases, providing valuable insights for culturally sensitive public health strategies (Trundle et al., 2024). These works emphasise the rich diversity of tribal experiences and underscore the importance of participatory, culturally aware approaches in policy, development, and research. They preserve the ethnographic richness of tribal communities and advocate for their rights and recognition amid a rapidly changing socio-political environment.

Ethnographic research among tribal communities in Odisha has significantly deepened our understanding of the region's diverse and complex indigenous cultures. Odisha hosts 64 distinct tribal

groups, including 13 PVTGs, making it a key site for anthropological study in India. Early researchers such as Verrier Elwin (1950) set the stage with detailed descriptions of the Bondo tribe, including their myths, rituals, kinship, and social norms. These pioneering efforts provided rare insights into their spiritual beliefs, oral traditions, and ecological knowledge. In recent years, ethnography has broadened to address issues such as displacement, cultural change, gender roles, and health disparities among Odisha's tribes. For instance, Padhi and Panigrahi (2011) studied the Dongria Kondh, focusing on their sacred link to the Niyamgiri hills and how mining threatens their cultural and spiritual sustainability. Similarly, Tripathy (2025) examined how traditional tribal governance has been altered by modernisation and government policies. Ethnographic studies have also explored tribal health practices, as seen in the work of SCSTRTI, Odisha (2014), which documented indigenous medicinal knowledge and its relationship with modern healthcare among the Santal and Kandha tribes. These studies are crucial for preserving indigenous cultural heritage and emphasise the need for participatory, inclusive development policies that honour tribal perspectives and autonomy. Grounded in the lived experiences of tribal communities, ethnographic research in Odisha serves as an essential tool for advocacy, planning, and safeguarding tribal traditions amidst rapid socio-economic change.

Ethnographic research among PVTGs in Odisha has been vital in revealing their distinct cultural, social, and economic traits. The groups, once called Primitive Tribal Groups, often possess pre-agricultural technology, subsistence-based economies, low literacy, and declining or stagnant populations, categorising them as some of India's most at-risk societies. Early researchers such as Verrier Elwin (1950, 1955) documented the Bonda and Saora communities in depth, focusing on social structures, mythology, and rituals. His work underscored the necessity of culturally sensitive engagement with tribal communities. More recent studies have highlighted issues such as displacement, environmental harm, loss of traditional livelihoods, and the impact of modern state systems. For example, Tatpati et al. (2016) studied the Dongria Kondh's resistance to bauxite mining in the Niyamgiri Hills, illustrating their spiritual and ecological ties to their environment. Nandy & Nayak (2024) examined shifting gender roles and government welfare schemes among the Juang and Kutia Kondh tribes, showing both resilience and vulnerability amid socio-economic changes. Research has also focused on indigenous knowledge related to agriculture, health, and forest conservation (Singh & Sadangi, 2012; Satapathy & Bosoi, 2021; Sahoo, 2024; Pothal, 2024; Pattanaik et al., 2025). These ethnographies help preserve intangible cultural heritage and shape inclusive policies respecting PVTG perspectives. As Odisha navigates development while safeguarding tribal rights, ethnographic insights offer a valuable, ground-level understanding of how PVTGs perceive and adapt to change, underscoring the research's crucial role in fair and sustainable governance.

The distribution of PVTGs across different Indian states reflects the country's complex socio-cultural and ecological diversity. According to the latest government records, India officially recognises 75 PVTGs, scattered unevenly across 18 states and one union territory (MoTA, 2023). Odisha holds the largest share, accounting for 13 PVTGs, which include the Bonda, Dongria Kondh, Saora, Lanjia Saora, Kutia Kondh, Junag, Paudi Bhuyan, Chukutia Bhunjia, Lodha, Hill Kharia, Birhor, Maknidia and Didayi. Madhya Pradesh and Chhattisgarh host significant numbers of PVTGs, such as the Baiga and Kamar, who reside in the dense forests of central India. Maharashtra accounts for three PVTGs, including the Katkari and Kolam, often concentrated in the Sahyadri ranges (Xaxa, 2020; Pardhi, 2024). Tamil Nadu hosts groups like the Toda and Kattunayakan in southern India, predominantly inhabiting the Nilgiri and Western Ghats regions (Béteille, 1998; Lagachu, 2020; Govindharaj, 2023). The Andaman and Nicobar Islands are home to five PVTGs, including the Jarawa, Great Andamanese, and Onge, whose existence is critically endangered due to ecological vulnerabilities

and external intrusions (Pandya, 2009). States like Gujarat, Kerala, Rajasthan, Tripura, and West Bengal have one or two recognised PVTGs, with relatively minor populations facing socio-economic marginalisation. These groups, often characterised by pre-agricultural levels of technology, stagnant or declining populations, and extreme economic backwardness, remain at the heart of India's efforts towards inclusive tribal development. Despite constitutional safeguards and targeted welfare programs, the spatial distribution of PVTGs continues to reflect deep-seated historical inequalities and challenges related to land rights, access to health, and cultural preservation (Xaxa, 2020; MoTA, 2023). A nuanced understanding of their geographic distribution is essential for devising culturally sensitive, context-specific policy interventions.

3.1.1. Geographical distribution of the selected communities in India

3.1.1.1. Birhor/Mankidia

The Birhor, also known as Mankidia or Mankirdia, are one of the PVTGs with a distribution and traditional migratory pattern that are significant in the geographical landscape of eastern and central India. Mainly found in Odisha's Mayurbhanj district, especially in Karanjia and Jasipur blocks, the Birhor have adapted to a semi-nomadic way of life closely connected to forests (see Table 3.1.1). They depend on forest resources, particularly for making ropes from *Siali* fibre (*Bauhinia vahlii*), creating a complex relationship with their environment. Specific geographic zones provide the raw materials crucial for their survival. Their environmental dependence has historically influenced their migratory routes, leading to settlements not only in Mayurbhanj but also in forested areas of Sambalpur, Sundargarh, Balasore, Cuttack, and Ganjam districts. The spread of Birhor populations across these ecologically rich regions highlights the importance of access to diverse forest types for their traditional livelihoods. Outside Odisha, their presence is also noted in adjacent states such as Jharkhand, West Bengal, Madhya Pradesh, and Maharashtra, reflecting their history of mobility along contiguous forest belts (Xaxa, 2005). This broad yet environmentally specific distribution emphasises the crucial role of geography in shaping their socio-economic practices, cultural resilience, and the challenges they face due to deforestation and habitat loss. Understanding the spatial dynamics of the Birhor provides key insights into how environment, economy, and culture intersect in PVTG communities in India.

3.1.1.2. Bonda (Bondo)

The Bonda, also known as the Bondo, is one of India's most geographically isolated and culturally distinctive PVTGs. Their primary settlements are concentrated in the rugged and remote Bonda Hills, located within the Khairput block of Odisha's Malkangiri district. The geographical seclusion of the Bonda Hills, characterised by steep terrain, dense forests, and limited infrastructure, has played a critical role in preserving the Bonda community's traditional lifestyle and cultural identity over the centuries. This isolation has fostered a strong dependence on subsistence agriculture, particularly shifting cultivation (*podu*), as well as gathering minor forest products. The region's topographical and ecological characteristics deeply influence these activities. The harsh terrain and relative inaccessibility have historically protected the Bondas from extensive external influences, allowing their unique language (*Remo*), indigenous attire, social structures, and rituals to endure relatively unchanged. However, despite their preference for seclusion, historical patterns of inter-regional mobility, especially in search of supplementary livelihoods, have led to the migration of some Bonda groups beyond their traditional territories into neighbouring states such as Andhra Pradesh and Telangana. These migratory trends reflect both the Bonda's adaptability to new ecological settings and the pressures exerted by declining forest resources and changing socio-

economic conditions in their ancestral lands. Thus, the geographical setting of the Bonda Hills is not merely a backdrop but a central determinant of Bonda society, shaping their modes of subsistence, social organisation, and responses to external pressures. Understanding the geography of the Bonda settlements is therefore crucial for any comprehensive study of their cultural flexibility, vulnerabilities, and the impact of contemporary developmental interventions in the region.

3.1.1.3. Didayi

The Didayi, an indigenous community closely linked to the Bonda tribe, hold significant geographical importance within Odisha's tribal landscape. Primarily inhabiting the Kudumul Guma and Khairput blocks of Malkangiri district, the Didayi have historically established their settlements in the hilly, forested terrains that characterise this southern region of the state. The geography of Malkangiri, with its undulating hills, dense forests, and riverine systems, has profoundly shaped the Didayi's subsistence patterns and cultural practices. Their dependence on shifting cultivation (locally known as *poduchasa*) and on the extensive use of forest produce, such as fruits, tubers, medicinal plants, and minor forest resources, demonstrates deep ecological knowledge and adaptation to the natural environment. The isolation offered by the rugged terrain has helped maintain many of their traditional practices, social customs, and language, though these have undergone gradual transformations due to external influences. However, socio-economic changes and the search for better livelihood opportunities have triggered migration among some Didayi groups, resulting in smaller Didayi populations in adjoining regions, such as the Koraput district. This migratory expansion illustrates the dynamic interplay among geography, economic necessity, and cultural preservation. Moreover, despite growing developmental pressures and deforestation, the Didayi's continued dependence on the forests and hills highlights the critical role that their geographical setting plays in sustaining their way of life. The physical landscape not only defines Didayi's material culture but also serves as a barrier to rapid assimilation into mainstream society, allowing the retention of unique traditions amidst ongoing change. Thus, understanding the Didayi's geographical context is essential for appreciating their cultural resilience and framing sustainable development initiatives that respect their traditional knowledge systems and ecological relationships.

3.1.1.4. Juang

The Juang tribe, primarily concentrated in the forested tracts of Keonjhar district, particularly in the Banspal, Harichandanpur, and Telkoi blocks, has historically adapted to the challenges and opportunities of its rugged, hilly surroundings. These forested hills, interspersed with streams and rocky terrain, have not only shaped the Juang's subsistence strategies, such as hunting, gathering, and shifting cultivation, but have also profoundly influenced their social structures, rituals, and material culture. Juang's intimate relationship with their environment is reflected in their rich oral traditions, songs, and myths, many of which centre around nature and ancestral spirits tied to specific geographic features. While Keonjhar remains their heartland, Juang populations have gradually extended into adjoining districts like Dhenkanal, Sundargarh, and Cuttack, a movement likely influenced by ecological pressures and socio-economic interactions with neighbouring communities. This expansion beyond their core territory illustrates an adaptive response to changing environmental and livelihood dynamics while maintaining a strong cultural core rooted in forest-based living. The Juangs' ability to sustain their traditional practices amidst environmental degradation and developmental encroachments highlights the critical role of geography not just as a backdrop, but as a dynamic factor shaping their pliability and identity. Therefore, understanding the Juang's spatial distribution and ecological ties is essential for engaging with their cultural conservation and development needs, particularly in an era of rapid environmental and socio-economic transitions.

3.1.1.5. Paudi Bhuiyan (Bhuiyan, Bhuinya, Bhuiyar, Bhuihar)

The Paudi Bhuiyan primarily concentrated in Odisha's Keonjhar, Sundargarh, Deogarh, and Dhenkanal. The Paudi Bhuiyan have established their core settlements in ecologically diverse, often rugged terrain, particularly in blocks such as Banspal, Lahunipada, Pallahara, and Barkote, as well as in the Bonai subdivision. These regions, characterised by hilly landscapes, dense forests, and river valleys, have played a crucial role in shaping the Paudi Bhuiyan's socio-economic practices, especially their dependence on subsistence agriculture and the collection of minor forest produce. The relative geographical isolation provided by the forested hills has enabled the community to preserve many of its traditional customs, religious practices, and social institutions, despite mounting external pressures over time. Notably, historical migration patterns have extended Paudi Bhuiyan's presence beyond Odisha into neighbouring states, including Bihar, West Bengal, and Assam, reflecting complex ecological adaptation processes, economic necessity, and socio-political interactions (Sinha, 1984). These migratory movements underscore a broader geographical dynamism that distinguishes the Paudi Bhuiyan from more geographically static communities, illustrating their capacity to negotiate diverse environmental settings while maintaining a core cultural identity. The spatial distribution of the Paudi Bhuiyan today thus stands as a testament to their deep-rooted connection with the forests and hills of Odisha and their historical engagement with broader regional networks across eastern India. Understanding the geography of the Paudi Bhuiyan settlements is critical for appreciating their cultural and historical evolution and framing inclusive policies that address their contemporary developmental challenges within these varied ecological contexts.

3.1.1.6. Dongria Kandha

The Dongria Kandha, one of the most ecologically attuned and culturally distinct tribal groups of Odisha, derive their identity and resilience primarily from their close association with the Niyamgiri Hills. Primarily inhabiting the Rayagada and Koraput districts, with settlements concentrated in blocks such as Bissam-Cuttack, Kalyansingpur, Muniguda, and Biswanathpur, the Dongria Kandha have historically adapted to the mountainous, forest-rich terrains of the Eastern Ghats. The rugged slopes, dense sal forests, and numerous streams of the Niyamgiri region have profoundly shaped their traditional livelihoods, which revolve around shifting cultivation (*podu*), horticulture, and gathering forest produce. Their sophisticated knowledge of biodiversity management and conservation practices is intricately tied to the specific ecological conditions of their homeland. The Niyamgiri Hills are not merely a physical space for the Dongria Kandha but are also regarded as sacred, with the deity Niyam Raja embodying the spirit of the mountains, further reinforcing the spiritual dimension of their geographical attachment. While their main settlements are in Rayagada and Koraput, a smaller section of the Dongria Kandha has also migrated into parts of Kalahandi district, reflecting minor patterns of intra-regional movement in response to ecological, social, and economic pressures. The significance of geography for the Dongria Kandha cannot be overstated, as their traditional practices, religious beliefs, and community governance structures are all intimately connected to the land they inhabit. Recent developmental and mining pressures have brought the Dongria Kandha into national and international focus, underscoring the critical importance of preserving their geographic and cultural landscape for their continued survival. Thus, understanding the Dongria Kandha's relationship with the Niyamgiri geography offers crucial insights into broader themes of indigenous rights, environmental sustainability, and cultural resilience in India.

3.1.1.7. Hill Kharia

The Hill Kharia exhibit a broad, ecologically diverse geographical distribution that has profoundly influenced their cultural and economic practices. Predominantly settled in Odisha's Mayurbhanj district, particularly within the Karanjia and Jasipur blocks, the Hill Kharia have adapted to the hilly, forested landscapes characterising this region. The dense sal forests, rolling hills, and scattered water bodies of Mayurbhanj offer a natural setting conducive to their traditional subsistence activities, including hunting, gathering, shifting cultivation, and the collection of minor forest produce. Beyond their core settlements, the Hill Kharia have gradually extended into other districts such as Sundargarh, Sambalpur, Deogarh, Balasore, Keonjhar, and Dhenkanal, reflecting both natural population movements and responses to ecological and socio-economic changes (Tribal Welfare Research Institute Jharkhand, n.d.; Bara, 2022). Their dispersal into varied geographical zones has necessitated adaptive strategies, allowing the Hill Kharia to engage with diverse ecological niches while maintaining core elements of their cultural identity. Outside Odisha, their presence in states like West Bengal, Bihar, Madhya Pradesh, Maharashtra, and Jharkhand highlights historical patterns of migration, possibly driven by the search for livelihood opportunities, displacement due to forest clearances, or integration into larger labour economies. The Hill Kharia's extensive geographic spread underscores their resilience and flexibility in navigating diverse environmental and social landscapes. However, it also challenges the cohesion of their cultural practices across regions.

3.1.1.8. Kutia Kandha

The Kutia Kandha primarily inhabit the hilly and forested regions of Phulbani (now part of Kandhamal) and Kalahandi districts, with significant concentrations in administrative blocks such as Baliguda, Tumudibandh, and Lanjigarh. The Kutia Kandha are a subgroup of the larger Kandha tribe. They are known for their distinct clan-based social organisation, ritualistic practices, and jungle-based economy centred around shifting cultivation (*podu*), forest gathering, and limited animal husbandry. Linguistically, they speak a dialect of *Kui*, a Dravidian language. However, many are now bilingual in Odia due to increasing interaction with non-tribal populations and the influence of state mechanisms. Over the decades, socio-economic pressures, deforestation, and development-induced displacement, particularly the expansion of mining and industrial projects in the Kalahandi region, have disrupted traditional livelihoods, leading to the seasonal and permanent migration of small Kutia Kandha groups to neighbouring states such as Andhra Pradesh and Tamil Nadu in search of wage labour and subsistence security. Despite state and central government efforts to implement targeted welfare schemes for PVTGs, the Kutia Kandha continue to experience high levels of poverty, malnutrition, and educational marginalisation, necessitating more culturally sensitive and locally adapted interventions (Ota, 2020). However, their rich heritage of rituals, animistic beliefs, and ecological knowledge systems remains integral to their identity and offers valuable insights into sustainable living and forest conservation.

3.1.1.9. Lodha

In Odisha, the primary concentration of the Lodha tribe is within the Mayurbhanj district, particularly across the Suliapada and Moroda blocks, where the terrain is a mix of forested uplands and fertile lowlands. The natural environment of Mayurbhanj, with its moderate hills, forest cover, and riverine systems, historically supported the Lodhas' hunter-gatherer lifestyle, allowing them to rely extensively on forest produce, hunting, and rudimentary forms of shifting cultivation. However, with gradual deforestation, increased administrative control over forests, and socio-political pressures, the Lodhas transitioned toward settled agriculture, adapting to the region's changing

ecological and economic realities. Beyond Odisha, the Lodha community has established significant populations in the Midnapur and Hoogly districts of West Bengal and Singhbhum (now largely part of Jharkhand) in Bihar, highlighting a broader historical migratory pattern likely driven by displacement, land alienation, and opportunities for labour migration. This dispersal across varied ecological settings, from the forested tracts of Singhbhum to the fertile plains of Midnapur, demonstrates the Lodhas' adaptability to diverse landscapes while simultaneously negotiating socio-economic marginalisation. The geographical spread of the Lodha tribe thus reflects both historical continuities and ruptures, influencing their contemporary struggles for land rights, social recognition, and economic security.

3.1.1.10. Lanjia Soura (Hill Saora)

The Lanjia Soura primarily inhabit the hilly and forested regions of Odisha's Rayagada, Gajapati, and Ganjam districts. The Lanjia Soura have established their major settlements in blocks such as Gunupur, Gumma, and Puttasing. The geographic settings of these districts have profoundly influenced their traditional livelihood patterns, particularly their reliance on shifting cultivation (*poduchasa*), horticulture, and forest-based subsistence activities. The spatial organisation of their villages, often located on hill slopes with terraced fields, reflects their environmental knowledge and adaptation to the ecological conditions of the Eastern Ghats. Beyond Odisha, the cultural and historical linkages of the Lanjia Soura extend to neighbouring states, with communities found in Assam, West Bengal, Andhra Pradesh, Bihar, Madhya Pradesh, and Maharashtra (Ota, 2009; Ghadei et al., 2021; Prasad & Jena, 2022; Jena, 2022). These linkages suggest migration patterns, inter-tribal interaction, and broader socio-political exchanges that have historically connected the Lanjia Soura to wider regional networks. Despite migration and external influences, the community has retained a distinct cultural identity, including unique traditions of ritual wall painting (*idital*), indigenous cosmology, and socio-political organisation centred around clan and village councils. The geographical spread of the Lanjia Soura highlights their historical mobility and adaptability and underscores the challenges they face today in maintaining cultural continuity amid changing environmental and developmental landscapes.

The geographical distribution of PVTGs offers significant insight into the complex socio-economic and historical processes that have shaped their settlement patterns. Most of these tribes are concentrated in the state's forested and hilly regions, where the dense, resource-rich landscapes have historically supported their traditional livelihoods, such as shifting cultivation, hunting, gathering, and the collection of forest produce. However, their presence across multiple districts in Odisha and beyond, in neighbouring states such as West Bengal, Jharkhand, Madhya Pradesh, Maharashtra, Bihar, and Andhra Pradesh, suggests patterns of migration driven by various factors, including resource scarcity, displacement due to developmental projects, and economic opportunities. These migration patterns have expanded their geographical spread and increased their interactions with diverse socio-political environments, shaping their cultural practices and community organisation. The spread of these communities underscores the importance of understanding regional geographies when implementing development policies. In particular, targeted developmental initiatives are essential for these marginalised groups to preserve their unique cultural identities, languages, and traditional knowledge systems while addressing their socio-economic needs. Furthermore, the geographical locations of these communities, often in ecologically sensitive areas, call for environmentally sustainable practices that integrate their cultural heritage with modern development objectives. Preserving the cultural and ecological landscapes in which these tribes thrive is thus critical in ensuring that future development projects do not undermine their traditional way of life. This detailed analysis of Odisha's PVTG distribution reveals the historical and socio-economic forces

at play. It highlights the need for culturally sensitive and geographically informed policy frameworks that empower these communities without disrupting their way of life.

3.1.2. Techno-Economic stages

3.1.2.1. Birhor/Mankidia

The Birhor (also known as Mankidia or Mankirdia) have traditionally relied on hunting and gathering as their primary economic activities (Table 3.1.2). This subsistence-based economy allowed them to utilise forest resources in areas such as the Mayurbhanj district, where they lived close to their environment. Their traditional skills in hunting, gathering forest produce, and crafting tools, such as ropes and leaf plates made from Siali leaves



Photo 3.1.2.1: Mankidia Artisan Twisting Siali Fibres into Durable Cordage: An Ethnographic Testament to Enduring Indigenous Craftsmanship (Source: CoE-STMC, UJ)

and fibres, were central to their livelihood (Photo 3.1.2.1). However, with the encroachment of modern agricultural practices and the loss of forest land, the Birhor have adapted by diversifying their economic activities. Many now engage in forest collection, preparing handicrafts from natural fibres, and working as daily wage labourers. This shift from a purely forest-based economy to a more market-driven model reflects the changing dynamics of their geographical environment and their efforts to maintain economic stability in modernisation.

3.1.2.2. Bonda

The Bonda tribe traditionally practised shifting cultivation, a sustainable farming technique suited to their challenging environment.

Shifting cultivation enabled them to manage soil fertility and exploit the diverse forest resources in their region (Photo 3.1.2.2). In recent years, however, the Bonda have increasingly shifted towards settled agriculture, focusing mainly on horticultural crops such as cashew nuts, which have become an important economic resource. This transition is part of the broader trend among tribal



Photo 3.1.2.2: Verdant Slopes of Bondaghati: Ethnographic Glimpses of Shifting Hill Cultivation Amidst Monsoonal Genesis (Source: CoE-STMC, UJ)

communities towards integrating into the mainstream economy while retaining some of their agricultural practices.

Additionally, many Bondas now engage in wage labour, a response to external pressures and the need for supplementary income. The economic adaptation of the Bonda tribe demonstrates their resilience in a rapidly changing socio-economic landscape.

3.1.2.3. Didayi

The Didayi, a tribe closely related to the Bonda, reside in the hilly and forested regions of Malkangiri district, primarily in the Khairput and Kudumul Guma blocks. Traditionally, the Didayi practised shifting cultivation, a method well-suited to the region's steep and forested terrain. However, due to land scarcity and the encroachment of development, many Didayi have moved toward settled agriculture (Photo 3.1.2.3). The tribe now grows staple crops and participates in wage labour to supplement their income. This shift from shifting cultivation to settled agriculture reflects the broader economic transformations among tribal communities in response to modern economic forces.



Photo 3.1.2.3: Didayi Women Harvesting Paddy: A Glimpse into the Settled Agricultural Traditions of Odisha's Tribal Heartland (Source: CoE-STMC, UU)

3.1.2.4. Juang

The Juang tribe has traditionally practised shifting cultivation, taking advantage of the fertile land and diverse plant and animal resources in their environment. Over time, the Juang have integrated more settled agricultural practices and cultivated crops such as guava and jackfruit while engaging in wage labour to meet their economic needs. This shift towards settled agriculture, particularly horticulture, reflects their adaptation to modern agricultural methods while maintaining a strong connection to traditional agricultural knowledge. The Juangs' economic practices are a testament to their resilience and ability to integrate traditional practices with newer economic opportunities. Their unique blend of traditional and modern economic activities illustrates their adaptability to changing environments and market forces.

3.1.2.5. Paudi Bhuiyan

The Paudi Bhuiyan, found in Keonjhar, Sundargarh, and Dhenkanal districts, traditionally engaged in shifting cultivation as their primary mode of agricultural production. The Paudi Bhuiyan's economy was initially based on the sustainable use of forest resources, supplemented by shifting cultivation, which allowed them to balance crop production and forest conservation. Over the years, however, the tribe has gradually adopted settled agriculture, grown staple crops and engaged in wage labour to

meet their needs. This shift reflects both the increasing pressure to settle in one place due to land scarcity and the introduction of modern agricultural practices (Photo 3.1.2.5). Despite these changes, the Paudi Bhuiyan has retained aspects of their traditional farming systems, which remain vital to their socio-economic fabric.



Photo 3.1.2.5: Sedentary Agronomic Landscapes of the Paudi Bhuiya: Emblems of Enduring Ethno-Agrarian Legacy (Source: CoE-STMC, UU)

3.1.2.6. Dongria Kandha

The Dongria practice shifting cultivation, utilising the fertile and diverse ecosystems of the Niyamgiri Hills for their agricultural activities. However, as external pressures such as industrialisation and development projects have increased, the Dongria have shifted towards settled agriculture, particularly the cultivation of crops such as pineapple and custard apple (Photo 3.1.2.6). The transition from shifting cultivation to settled agriculture and wage labour has profoundly impacted their socio-economic structure.



Photo 3.1.2.6: Dongria Kondha of Niyamgiri: Orchestrating Pineapple Terrains through Transhumant Hill-Fallow Cultivation (Source: CoE-STMC, UU)



Photo 3.1.2.7: Hill Kharia Women Foraging Lignous Resources from the Sylvan Wilderness (Source: CoE-STMC, UU)

3.1.2.7. Hill Kharia

The Hill Kharias have traditionally relied on collecting forest products, including honey and lac resin, to sustain their economy. The dense forests and rich biodiversity of the Mayurbhanj region have been crucial to their traditional economy, including agriculture and forest-based activities. In recent years, however, many Hill Kharias have transitioned to settled agriculture, cultivating various crops while continuing to depend on forest resources for supplementary income (Photo 3.1.2.7). This shift towards a more diversified economy reflects the increasing integration of the Hill Kharia into the mainstream economy while preserving their connection to the forest, which remains an important part of their economic activities.

3.1.2.8. Kutia Kandha

The Kutia Kandha traditionally practised shifting cultivation. Their economy was based on the sustainable use of land and forest resources. In recent decades, however, the Kutia Kandha have increasingly adopted settled agriculture, growing crops such as pineapple and custard apple. The move to settled agriculture responds to land pressures and the need for greater economic stability (Photo 3.1.2.8). Like many other tribes in Odisha, the Kutia Kandha have had to adapt their traditional agricultural practices to the changing socio-economic conditions, which often include market integration and wage labour.



Photo 3.1.2.8: Kutia Kandha of Belghar: Orchestrating Paddy Cultivation through Ancestral Sedentary Agronomic Praxis (Source: CoE-STMC, UU)

3.1.2.9. Lodha



Photo 3.1.2.9: Lodha of Mayurbhanj: Weaving Tenacious Cordage from Sabai Grass. (Source-SCSTRTI)

The Lodha tribe has historically been engaged in hunting and gathering, although many have now transitioned to settled agriculture. The fertile lands of Mayurbhanj have allowed the Lodha to cultivate various crops, contributing to their shift from a subsistence-based economy to a more stable, agriculture-based livelihood. In addition to agriculture, the Lodha are known for their expertise in rope-making using *Sabai* grass (*Eulaliopsis binate*), a skill that has provided them with supplementary income (Photo 3.1.2.9). This diversification in their economic activities reflects the Lodha's ability to adapt to the changing economic landscape while maintaining cultural traditions and agricultural practices.

3.1.2.10. Lanjia Soura

The Lanjia Soura have traditionally practised shifting cultivation and terrace farming, both well-suited to their homeland's hilly, forested terrain (Photo 3.1.2.10). As with other tribes in Odisha, the Lanjia Souras are transitioning to settled agriculture, focusing on cashew cultivation and engaging in wage labour. This shift represents a broader adaptation trend to external economic pressures, such as land encroachment and the need for economic diversification. The Lanjia Soura's connection to their land and their gradual transition to horticulture and settled farming underscore the importance of balancing traditional agricultural practices with the realities of modern economic demands.



Photo 3.1.2.10: Lanjia Saora of Gajapati: Persevering in Shifting and Hill-Terrace Agronomy (Source: CoE-STMC, UU)

3.1.3. Settlement Pattern:

3.1.3.1. Birhor/Mankidia

Their settlement patterns among Birhor/Mankidia reflect deep interdependence with forest ecosystems, mobility for subsistence, and social organisation. Traditionally, the Birhor construct temporary settlements known as “*Kumba*” or “*Tanda*”, depending on regional terminology (Photo 3.1.3.1). These settlements are typically established in forested fringes or clearings, often on revenue land or forest margins. They are dismantled or shifted periodically based on forest produce or resource availability. The layout of these villages features a distinctive linear pattern: two parallel rows of huts facing each other, with a central open space used for communal activities, meetings, and social interactions. (Table 3.1.3)

This bipartite linear structure facilitates ease of communication and visual contact among all settlement members. It is vital in ensuring collective security, particularly in forested and sometimes hostile environments. The houses are small, temporary structures, often constructed using locally available materials such as bamboo, twigs, thatch, and leaves. These huts are typically low to the ground, with a single room and a sloping roof to protect against rain. The open central lane between the two rows functions as a shared social and cultural space, reinforcing kinship ties, egalitarian values, and participatory decision-making.



Photo 3.1.3.1: Birhor/Mankidia Abode: Clustered 'Kumbas' Align to Form the Lineal Settlement 'Tunda'. (Source: SCSTRTI)

In Odisha, Mankidia settlements are often found in districts like Mayurbhanj, Keonjhar, and Sundargarh. They are frequently located near sal forests where they can collect *siali* fibre, wild fruits, honey, and medicinal plants. Their semi-nomadic tendencies and dependence on shifting forest zones make permanent housing and integration into mainstream village life difficult. Birhor/Mankidia in the Similipal hill ranges have been resettled under programs such as the PVTG Housing Scheme, which have provided them with pucca houses.



Photo 3.1.3.1.a: Government-Facilitated Birhor/Mankidia Colony with Linearly Aligned Dwellings (Source: CoE-STMC, UU)

However, modernisation pressures and forest access restrictions have increasingly disrupted their traditional settlement patterns (Photo 3.1.3.1.a). State interventions often promote sedentarisation, which, while providing basic amenities such as schools or anganwadi centres, may simultaneously undermine traditional mobility, spatial logic, and subsistence patterns. Preserving traditional

Birhor/Mankidia settlements thus requires sensitive planning that balances development goals with cultural continuity and environmental sustainability.

3.1.3.2. Bonda

The Bondas exhibit two distinct settlement patterns reflecting their geographic positioning and socio-cultural transitions. The Hill Bondas, who reside in the upper reaches of the Bonda Hills (part of the Eastern Ghats), maintain scattered settlements that are organically adapted to the rugged, undulating terrain. These hamlets, locally referred to as “*padas*”, are often perched on hill slopes or ridgelines and are composed of a few households, usually from extended kin groups (Photo 3.1.3.2). Houses are built using local materials such as bamboo, mud, and thatch and are widely spaced to facilitate subsistence cultivation (shift cultivation or *podu*), access to forest resources, and a degree of autonomy and privacy. This spatial dispersion also reflects the Bonda worldview that values self-dependence, clan identity, and socio-political independence from external control.



Photo 3.1.3.2: ‘Padas’ - The Distinctive Settlement Morphology of the Hill Bonda Community (Source: CoE-STMC, UU)

In contrast, the Plain Bondas, who have either migrated voluntarily or have been resettled by development and welfare agencies, tend to live in more nucleated or linear village patterns, often in valley or foothill areas where accessibility to roads, markets, and services is greater (Photo 3.1.3.2.a). These settlements are more organised and compact, with houses often aligned along roads or paths in a row, reflecting influences from non-tribal village layouts and increased interaction with mainstream administrative and welfare institutions.

This transition in settlement pattern is not merely spatial but also socio-cultural, indicating a gradual shift in lifestyle, occupational patterns (from shifting to settled agriculture), and exposure to external institutions such as schools, health centres, and government schemes. While these settlements offer better connectivity and access to services, they expose the Bondas to pressures for cultural assimilation, changes in diet, clothing, and language use, and, at times, the loss of traditional practices.

The coexistence of these two settlement patterns, i.e. scattered and linear, within a single tribal group, is a compelling example of how geography, state intervention, and socio-economic integration can simultaneously shape indigenous spatial behaviour. While Hill Bonda settlements remain steeped in traditional ecological knowledge, clan-based land use, and social autonomy, Plain Bonda villages reflect a hybrid adaptation in which traditional identity is negotiated in response to

modernisation and development pressures. This duality poses a critical challenge for policymakers: ensuring that welfare interventions aimed at improving living standards do not erode the cultural integrity, spatial logic, and ecological wisdom inherent in traditional Bonda settlement patterns.



Photo 3.1.3.2.a: 'Padas' — The Characteristic Settlement Configuration of the Plainland Bonda Community

(Source: CoE-STMC, UU)

3.1.3.3. Didayi

The Didayi showcase distinctive traditional settlement patterns reflecting their deep relationships with the natural landscape, kinship structures, and subsistence strategies (Photo 3.1.3.3). Their settlement pattern is marked by an individualistic housing arrangement, where each homestead stands isolated within its own fenced enclosure, typically made of bamboo or forest twigs. These enclosures protect agricultural produce, livestock, and domestic space and underscore the Didayi's cultural preference for self-sufficiency, privacy, and localised autonomy. Unlike the nucleated village forms seen in many tribal areas, the Didayi maintain small, dispersed, functionally independent units, though still embedded within broader kin-based networks. Each fenced compound includes a residential hut, granary, small garden patches, and space for rearing poultry or goats, indicating an integrated, subsistence-oriented spatial logic.



Photo 3.1.3.3: Terraced Hill-Slope Habitations of the Didayi Tribe in Malkangiri District: An Ethnographic Settlement Paradigm *(Source: CoE-STMC, UU)*

3.1.3.4. Juang



Photo 3.1.3.4: Linear Habitation Configuration of the Juang Tribe in Kendujhar District: An Ethno-Spatial Manifestation (Source: CoE-STMC, UU)

The Juang exhibit a dual settlement system shaped by topographical variation and historical migration patterns. In hilly, forested regions, Juang settlements are typically small, scattered hamlets, often consisting of a few households arranged organically along the contours of the land. These hill settlements prioritise ecological adaptability, ease of access to forest produce, and shifting cultivation. The houses are modest and constructed from bamboo, thatch, and mud, with minimal ornamentation, reflecting utilitarian values. However, in the plains and foothill areas, particularly where development interventions and road connectivity have increased, the Juangs live in linear settlements, where houses are aligned along a central road or path. This nucleated layout facilitates interaction with service providers, schools, markets, and administrative institutions. The shift from scattered to linear arrangements often correlates with access to sedentary agriculture, social services, and greater integration with non-tribal populations (Photo 3.1.3.4)

3.1.3.5. Paudi Bhuiya

The Paudi Bhuiyan exhibit a traditional settlement pattern that closely mirrors that of the Juang, who are geographically proximate and share cultural traits. In the hill regions of Keonjhar, Sundargarh, and Deogarh districts, where the Paudi Bhuiyan traditionally reside, settlements are typically small, scattered, and irregularly distributed, often nestled along hill slopes or near forest edges (Photo 3.1.3.5). These isolated households or hamlets are generally located close to shifting cultivation fields (*podu* land) or forest resources, enabling easy access to food, fuelwood, and minor forest produce. The houses are built from locally available materials such as bamboo, mud, laterite stones, and thatch. They are often oriented without a fixed pattern, shaped more by natural contours and the need for ecological harmony than by standardised planning. These scattered hill settlements reflect a subsistence-oriented lifestyle, prioritising proximity to resources, clan-based autonomy, and minimal environmental disruption.



Photo 3.1.3.5: Paudi Bhuiya Traditional Hill-Slope Habitations of Deogarh District: An Archetypal Ethno-Settlement Morphology (Source: CoE-STMC, UU)

Conversely, in the plains or lowland areas, particularly where development interventions and infrastructure projects have made inroads, the Paudi Bhuiyans are increasingly found in nucleated or linear settlements. In these plains, houses are often arranged along a central path or road, reflecting not only an adaptation to greater land availability and agricultural potential but also a response to state welfare policies and social integration efforts. Still, many Paudi Bhuiyan retain strong cultural connections to their hill roots, and the dual settlement style, linear in the plains and scattered in the hills, represents an adaptive continuum, rather than a complete rupture with tradition.

This spatial duality among the Paudi Bhuiyan reflects a strategic and culturally embedded response to terrain complexities, resource availability, and socio-political change. Like the Juang, the Paudi Bhuiyan demonstrates that tribal settlement patterns are not static, but dynamically responsive to ecological constraints, economic opportunities, and external pressures.

3.1.3.6. Dongria Kandha

Their traditional settlements, known locally as “Basa”, are typically arranged linearly. This spatial configuration aligns closely with their subsistence economy and the topography of the Eastern Ghats. These *Basa* settlements consist of clusters of houses lined

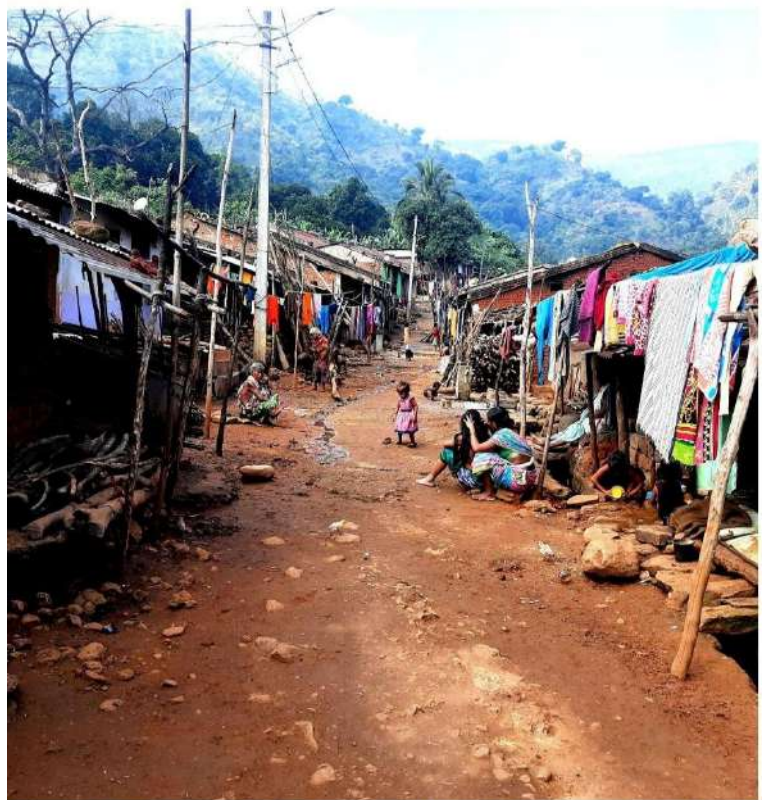


Photo 3.1.3.6: Basa' - The Linearly Aligned Traditional Hill-Slope Settlements of the Dongria Kandha in Niyamgiri, Gajapati District (Source: CoE-STMC, UU)

with a deliberate orientation that facilitates access to shifting cultivation fields (*podu* lands), forest areas, and perennial water sources (Photo 3.1.3.6).

Each household within a Basa typically consists of two to three rectangular huts, constructed using mud, bamboo, and thatch, often accompanied by small granaries and fenced courtyards for drying or storing produce. The Dongria maintain intimate connections with their terraced fruit orchards (locally called *donger*), which are carefully demarcated and passed down through lineages (clans) that structure land use and settlement affiliation. These orchards are located close to settlements and are integral to the Dongria's mixed economy, including horticulture, shifting cultivation, and the collection of minor forest produce. The linear settlement layout aids in organising community labour during sowing and harvesting seasons, supports mutual visibility and communication, and reinforces social cohesion among extended families and clans while allowing for spatial privacy and economic autonomy.

In a time when state-led development often imposes uniform village plans and resettlement models, the Dongria Kandha's linear *Basa* settlements serve as a compelling reminder of the cultural and ecological rationality embedded in tribal spatial organisation. Preserving these traditional forms is essential to protecting biodiversity and livelihoods, and to maintaining the cultural sovereignty and territorial integrity of one of India's most ecologically conscious tribal communities.

3.1.3.7. Hill Kharia

The Hill Kharia exhibit a distinctive linear settlement pattern that embodies ecological adaptation and a communal ethos. Their villages are often compact and nucleated, arranged linearly with two parallel rows of houses flanking a central pathway or open courtyard space (Photo 3.1.3.7). This structural layout is not merely a response to topography or land availability but is deeply intertwined with the Hill Kharia's collective lifestyle, socio-economic practices, and kinship organisation. The alignment of dwellings on either side of a shared space serves multiple functions: it reinforces communal interaction, facilitates mutual assistance in daily activities, and strengthens inter-household relationships, which are central to the community's survival in a forest-dependent economy. The houses are built using locally sourced materials such as mud, bamboo, laterite stone, and thatch, with modest architectural design reflecting subsistence-level economic conditions and traditional ecological knowledge.

Each household typically consists of a single-room unit, sometimes with a verandah or attached kitchen, and often includes a small fenced yard for storing firewood, drying forest produce, or rearing poultry. The linear alignment of these homes ensures equal access to communal spaces, including water sources, threshing grounds, and sacred groves. It enables swift communication across the community in times of need or celebration. The central space between the two rows of houses often serves as a venue for



**Photo 3.1.3.7: Linear Residential Configuration of Hill Kharia
Dwellings in Mayurbhanj District** (Source: CoE-SIMC, UU)

cultural activities, including festivals, dance performances (*Jadur Nritya*), and decision-making meetings by traditional village elders or community heads.

In the context of development and modernisation, this traditional village morphology faces challenges from standardised housing schemes and resettlement policies, which often ignore the cultural and ecological rationality of indigenous architecture and spatial organisation. Preserving the Hill Kharia's settlement patterns is vital for maintaining their socio-cultural integrity and ensuring that development efforts are context-sensitive, participatory, and sustainable. The linear, compact village layout of the Hill Kharia thus serves as a living expression of how space, society, and ecology coalesce in tribal worldviews.

3.1.3.8. Kutia Kandha

The Kutia Kandha primarily inhabits the Tumudibandha and Belghar regions of Kandhamal district, where they reside in distinctive traditional settlements known as "*Naju*". These settlements embody a deeply rooted communal philosophy that shapes their social structure, spatial organisation, and ecological interactions. A typical *Naju* follows a compact, linear arrangement, consisting of two rows of houses facing each other, with an open central pathway or courtyard. This layout mirrors the arrangements among other Kandha subgroups, such as the Dongria and Desia Kandha (Photo 3.1.3.8). This form is not merely architectural; it symbolises the Kutia Kandha's collective identity, in which clan-based kinship, cooperation, and ritual cohesion define village life.

Constructed primarily with locally available materials such as mud, stone, bamboo, and thatch, the houses are single-storey rectangular structures with sloping roofs, designed to withstand the heavy monsoon rains and humid conditions of the Eastern Ghats. Most households include a primary dwelling unit, a small kitchen or hearth area, and a fenced courtyard used for domestic chores and drying food grains. The linear configuration of houses in *Naju* ensures that all families are visually and physically connected, fostering a sense of equality and shared belonging while also making space for communal activities such as festivals, dispute-resolution meetings, and rituals associated with agriculture and ancestor worship. The central courtyard is often the heart of community life, hosting ceremonial dances, feasts, and discussions, and symbolising the social axis around which the village revolves.

The location of *Naju* settlements, often on gentle hill slopes or near forest edges, reflects the Kutia Kandha's dependence on shifting cultivation (*podu*), collection of forest produce, and subsistence farming.



Photo 3.1.3.8: *Naju* Settlement Morphology of the Kutia Kandha Tribe in the Belghar Region of Kandhamal District

Their settlement sites are strategically chosen to allow easy access to podu lands, streams, and sacred groves, ensuring the integration of livelihood and spirituality in daily life. The sacred sal trees, totemic symbols, and clan altars are also typically located within or near the settlement, indicating a close interweaving of cultural and spatial domains. The *Naju* system reinforces the social fabric of the Kutia Kandha by preserving lineage-based neighbourhoods (kutumbas) and fostering intergenerational knowledge transmission, particularly in cultivation, hunting, and the use of medicinal plants.

However, modernisation pressures and development interventions, such as government housing schemes and infrastructural projects, are beginning to challenge this indigenous spatial logic. Standardised cement houses, often built without regard to orientation, kinship clustering, or proximity to sacred spaces, risk eroding the cultural coherence embedded in traditional *Naju* settlements.

3.1.3.9. Lodha

The Lodha primarily follows a distinctive clustered settlement pattern that reflects their transition from forest-based livelihoods to sedentary agriculture. Unlike the linear or scattered arrangements seen among other tribal communities in hilly terrains, Lodha villages are compact and nucleated, often consisting of closely spaced rectangular houses around irregularly shaped courtyards and lanes. These settlements typically form a dense core, with houses facing inwards or grouped in small units, allowing for greater social interaction and cooperation, essential features of their agrarian lifestyle. The clustered layout mirrors a shift from earlier hunting-gathering modes of subsistence to a more settled existence centred on wet-rice cultivation, sharecropping, and wage labour, especially in the plains and lowland areas of Odisha and West Bengal.

Lodha houses are generally rectangular, constructed with mud walls, thatched or tiled sloping roofs, and extended verandas, which serve as transitional spaces for domestic chores, socialising, and storage. The presence of verandas is particularly notable; it reflects the community's adaptation to climatic conditions (providing shade and ventilation). It supports their semi-public domestic culture, where daily life unfolds outside the enclosed inner rooms.

The courtyard spaces shared among households facilitate communal interactions and collective work, especially among kin groups and extended families. This close spatial arrangement also plays a vital role during festivals, weddings, and conflict-resolution meetings, reinforcing social cohesion and mutual accountability within the community.

The choice of clustered settlement patterns is not only practical but also rooted in history. During colonial and post-colonial times, the Lodhas faced significant socio-political upheaval, including displacement, marginalisation, and often criminalisation under the Criminal Tribes Act of 1871. After their de-notification and the government's rehabilitation programmes, the Lodha were gradually pushed, or encouraged, into settling in sedentary, agrarian villages through land redistribution and welfare initiatives. The current clustered housing layout might also reflect outcomes of state planning and land regularisation, as well as cultural preferences for close-knit, supportive communities.

Government housing schemes, such as Indira Awaas Yojana and PMAY, have recently introduced cement houses into Lodha villages. While these developments have improved housing durability, they sometimes disrupt the organic clustering and spatial fluidity of traditional Lodha settlements, raising concerns about the loss of cultural integrity and spatial identity. Thus, any development intervention targeting Lodha communities should consider the social logic of their clustered settlement, a spatial expression of kinship, history, adaptation, and flexibility.

3.1.3.10. Lanjia Saora

The Lanjia Soura are well known for their distinctive zigzag settlement pattern characterised by scattered houses built along hill slopes. These irregular and seemingly non-linear spatial organisations are far from arbitrary; they are deeply intentional expressions of topographical adaptation and cultural cosmology. The zigzag layout of Lanjia Soura villages, often situated at varying elevations on undulating terrain, allows the community to optimise land use for shifting cultivation (podu) while simultaneously adhering to spiritual taboos and ancestral prescriptions that dictate how and where dwellings may be constructed (Photo 3.1.3.10). Their settlements are not



Photo 3.1.3.9: Settlement Morphology of the Lodha Tribe in Mayurbhanj District (Source: CoE-STMC, UU)

centrally clustered but rather dispersed according to sacred geography, reflecting the Soura worldview that land is not just a resource but a living, spirit-inhabited entity.

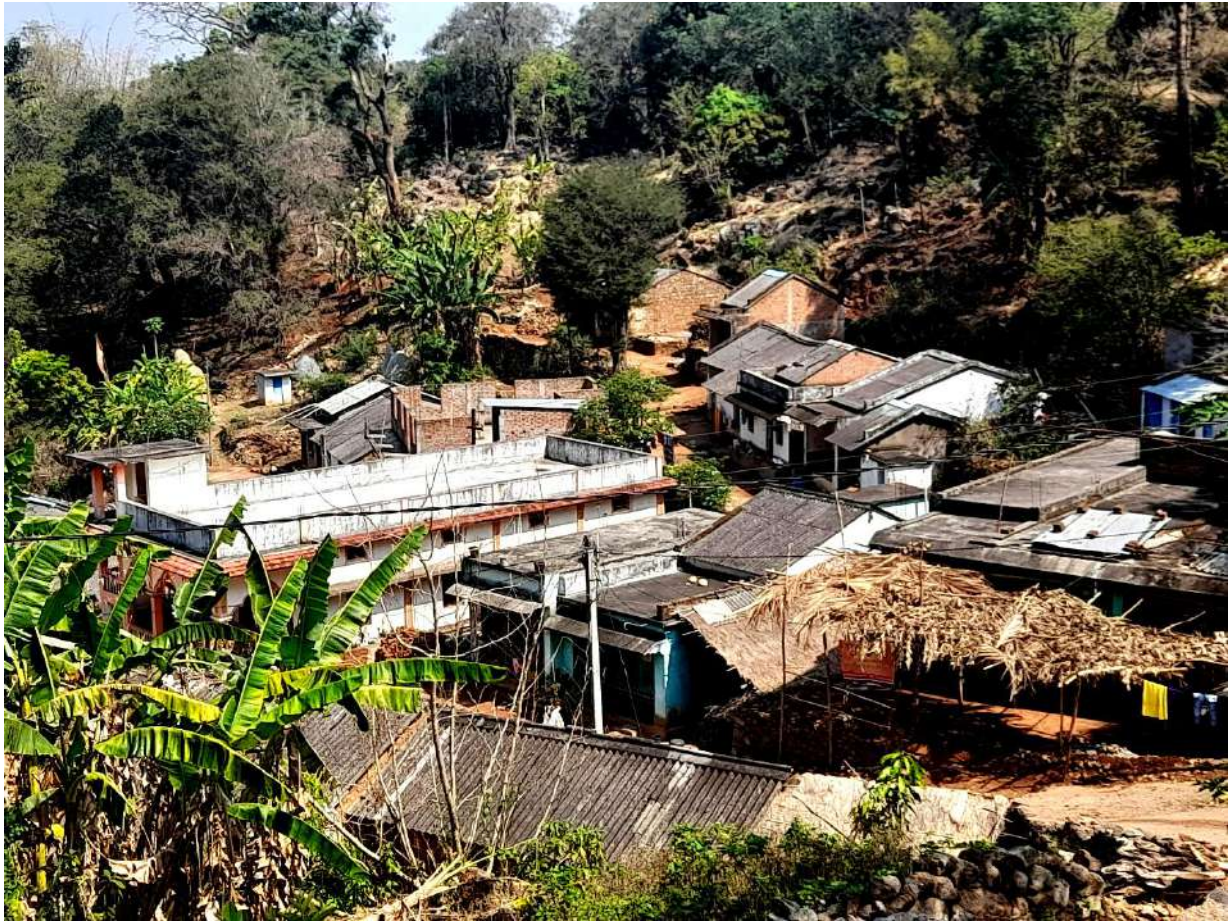


Photo 3.1.3.10: Zigzag Settlement Configuration of Lanjia Saora Households on the Hill Slopes of Gajapati District (Source: CoE-STMC, UU)

Each household, typically constructed with stone walls, bamboo framework, and thatched roofs, is located at a certain distance from others, surrounded by small agricultural plots or forest patches. The houses often sit at angles to one another, forming a zigzag or serpentine pattern that mirrors the natural contours of the hill. This spatial arrangement is not only practical, minimising erosion and maximising drainage during monsoons, but also symbolic, ensuring harmony with the spirits of the land (Lanjia Soura call these entities “*Jani*” and “*Sum*”) and adherence to taboos about building near certain sacred groves, burial grounds, or ritual sites. The layout also reflects a semi-isolated yet socially connected lifestyle, where kin groups maintain visual and ritual proximity while preserving autonomy in economic and domestic life.

The ancestral worship practices of the Lanjia Soura are intricately tied to their settlement pattern. Each household maintains a sacred wall painting, known as “*Idital*,” inside the house, featuring murals that serve as ritualistic memorials for the deceased. These sacred spaces must be built and oriented in particular ways, often influencing the overall layout and direction of house placement within the village. Moreover, the dispersed arrangement enables the Soura to conduct death rituals, spirit appeasement, and agricultural rites without spatial interference, a necessity given their deep reverence for ancestral spirits and natural forces. Seasonal movement of households within the

village perimeter is also not uncommon, based on changes in land fertility, spirit-related omens, or clan-based decisions, further reinforcing the dynamic and responsive nature of their spatial logic.

In contrast to the uniformity promoted by modern housing schemes, the Lanjia Soura's zigzag and scattered settlements represent a living expression of tribal autonomy, sacred geography, and ecological intelligence. Development policies that overlook this traditional pattern risk dislocating the cultural and spiritual foundations of Soura society.

3.1.4. HOUSE TYPE

3.1.4.1. Birhor/Mankidia

The Birhor/Mankidia are known for their temporary, forest-based settlements called *Kumba* or *Tanda*, which are constructed in response to their seasonal movement and subsistence practices. The linear arrangement of their settlements, consisting of two rows of houses facing each other, serves a dual purpose, i.e. social cohesion and collective security. This layout enhances interpersonal relationships and facilitates mutual protection, particularly in areas prone to wildlife threats or the risk of hostile encounters with neighbouring communities. (Table 3.1.4)

The traditional Birhor house, locally known as *Kumba*, is a conical hut that exemplifies their reliance on readily available natural materials from the surrounding forests. These dwellings are typically constructed using branches, leaves, and other forest resources, including bamboo poles and thatched roofs. These provide shelter from the elements and are easy to dismantle and transport when the community shifts locations. The *Kumba's* design is highly functional, with a single-room structure that serves multiple purposes, including sleeping, cooking, and storage. The central area of the hut is used for fire and cooking, while the outer part is often used for storing tools, food items, and livestock, such as goats and pigs, which are integral to their livelihood. The thatched roof of the *Kumba* is typically cone-shaped, providing efficient drainage of rainwater and keeping the hut cool in summer and warm in winter.



Photo 3.1.4.1.a: Permanent Habitations of the Birhor/Mankidia Tribe in Mayurbhanj District: An Enduring Ethno-Architectural Expression (Source: CoE-STMC, UU)

However, the introduction of modern housing schemes and settlement patterns has increasingly encroached on these traditional forms of habitation. Government housing projects designed for permanent settlements often fail to accommodate the Birhor's semi-nomadic lifestyle, leading to social and ecological discontent (Photo 3.1.4.1.a). The *Kumba* or *Tanda* settlement pattern, with its linear configuration and conical houses, remains an important part of their identity, and future development initiatives must carefully consider Birhor cultural values and subsistence needs to ensure sustainable and culturally sensitive solutions.

3.1.4.2. Bonda

The traditional housing style of the Bonda community, particularly the Hill Bondas, offers a vivid reflection of their adaptive strategies to the challenging topography of the Eastern Ghats and their cultural values rooted in self-sufficiency and ecological harmony. Their dwellings, known as *Remosan*, are typically small, circular or rectangular huts constructed from locally sourced, eco-friendly materials, exemplifying an intimate relationship with their environment. These huts are framed with resilient bamboo poles, which are both lightweight and durable, making them ideal for construction in hilly terrains (Photo 3.1.4.2).



Photo 3.1.4.1: 'Kumba'—The Ephemeral Dwellings of the Birhor/Mankidia Tribes, Emblematic of Their Nomadic and Eco-Symbiotic Lifestyle (Source: SCSTRIT)



Photo 3.1.4.2: A Hill Bonda Woman Poised at the Threshold of Her Vernacular Dwelling (Source: CoE-STMC, UU)

Photo 3.1.4.2.a: Bonda Vernacular Dwellings Nestled on the Lower Hill Terrains of Malkangiri District (Source: CoE-STMC, UU)

The walls are plastered with mud and cow dung, which act as natural insulators against heat and cold and serve as antiseptic and insect-repellent agents, an example of indigenous ecological knowledge. Often, these walls are adorned with earth-based paints in vibrant colours, indicating a strong aesthetic sensibility intertwined with cultural expression. The thatched roofs made of *piri*, a wild grass (*Vetiveria zizanioides*) abundantly found in their natural habitat, are steeply sloped to allow rainwater runoff, especially vital in the region's monsoonal climate. This architectural style is not merely functional but deeply symbolic; it signifies the Bondas' sustained dependence on forest produce and their preference for minimal ecological disturbance (Photo 3.1.4.2.a). In contrast, the Plain Bondas, who reside in relatively accessible lowlands, exhibit a shift towards linear village layouts and increasingly assimilate construction elements from mainstream society, reflecting the gradual transformation of their lifestyle under the influence of modernity and state-sponsored development interventions. However, despite these changes, the traditional *Remosan* remains a potent emblem of Bonda identity, encapsulating their pliability, craftsmanship, and continuity of ancestral knowledge in the face of changing socio-economic conditions.

3.1.4.3. Didayi

The traditional housing pattern of the Didayi people reflects their deep-seated cultural ethos of individualism, autonomy, and environmental adaptation. Unlike many other tribal communities that prefer clustered settlements for social cohesion, the Didayis typically reside in isolated homesteads scattered across hilly terrains, enclosed within protective fences, a spatial arrangement that underscores their inclination toward self-sufficiency, privacy, and security.



Photo 3.1.4.3: Didayi Vernacular Dwelling Adorned with Asbestos Roofing in Malkangiri District (Source: CoE-STMC, UU)

Photo 3.1.4.3.a: Didayi Tribe's Tiled-Roof Dwelling Adjacent to Their Cultivated Agrarian Landscape (Source: CoE-STMC, UU)

Their dwellings, commonly called Dabpiri or Hini, are generally modest in scale but carefully organised to support domestic and social functions. These structures usually comprise two internal rooms designated for sleeping and storage, and a front verandah, *Pleda*, which serves as a transitional space for everyday activities, relaxation, and informal interactions (Photo 3.1.4.3). Adjacent to the house lies a fenced courtyard or enclosure called *Turrah*, often constructed with wooden poles and thorny shrubs, which provides a secure area for cooking, keeping livestock, drying agricultural produce, or hosting small social gatherings. This enclosed design offers protection against wild animals and intruders, reinforcing the Didayis' preference for maintaining clear spatial

boundaries between families. Construction materials such as bamboo, wood, mud, and thatch are locally sourced, underlining the community's sustainable use of natural resources and their low ecological impact (Photo 3.1.4.3.a). The layout and materials used in Didayi housing are also suited to the region's climatic conditions, providing insulation during cooler months and ventilation during the hot, humid seasons. Moreover, these architectural choices reflect a harmonious blend of functional pragmatism and cultural symbolism, where the home is not merely a shelter but a microcosm of Didayi values, identity, and way of life. In an era of rapid modernisation, these traditional structures are living testimonies of indigenous knowledge systems and the Didayis' enduring connection to their land and heritage.

3.1.4.4. Juang

The Juang community remarkably adapts its settlement and housing patterns to the ecological and topographical diversity of its habitat. Exhibiting a dual style of spatial organisation, the Juangs inhabit linear settlements in the plains and scattered hamlets in the forested hills. This arrangement highlights the dynamic interplay between environment, mobility, and cultural practice (Photo 3.1.4.4).



Photo 3.1.4.4: Tin-Roofed Sedentary Dwelling of the Juang Tribe in Kendujhar District (Source: CoE-STMC, UU)

Photo 3.1.4.4.a: Tiled-Roof Courtyard 'Inji' Dwellings of Kendujhar District (Source: CoE-STMC, UU)

In hilly regions, their hamlets are often small, irregularly arranged clusters situated on ridges or slopes, facilitating surveillance and defence. At the same time, in the plains, they adopt a more structured, linear settlement with houses aligned on either side of a central path or open space, facilitating communal cohesion and interaction. Their traditional houses, locally referred to as *Inji*, are modest in scale but exhibit efficient spatial planning. Constructed with locally available materials such as sal wood, bamboo, mud, and thatch, *Inji* houses reflect the Juangs' sustainable use of forest resources and their deep ecological consciousness. Each dwelling typically comprises a single room used for sleeping and storage, accompanied by a front verandah where much of daily domestic life, i.e., cooking, weaving, and socialising, unfolds (Photo 3.1.4.4.a). The spatial design of the *Inji* not only meets functional needs but also encodes symbolic meanings, such as harmony with nature, ancestral continuity, and egalitarianism. Even as modernisation brings infrastructural shifts to tribal areas, the traditional Juang housing pattern continues to endure, serving as both a practical shelter and a cultural anchor for the community.

3.1.4.5. Paudi Bhuiya



Photo 3.1.4.5: Tiled-Roof, Mud-Walled Courtyard Dwelling of the Paudi Bhuiya Tribe in Deogarh District (Source: CoE-STMC, UU)

Photo 3.1.4.5.a: Tiled and Poly-Thin Roofed 'Ghara' of the Paudi Bhuiya Tribe (Source: CoE-STMC, UU)

The traditional housing and settlement patterns of the Paudi Bhuiyan community closely mirror those of the Juang, reflecting a shared heritage and a deep environmental awareness. Like the Juangs, the Paudi Bhuiyans exhibit a dual settlement strategy, shaped significantly by ecological context and terrain. In the undulating highlands, where forest resources are abundant but accessibility is limited, they tend to live in scattered homesteads strategically positioned to optimise access to land, water, and forest produce (Photo 3.1.4.5). In contrast, their settlements in the plains adopt a linear arrangement with houses aligned along village paths, roads, or streams, facilitating social interaction, trade, and access to modern amenities. Their traditional dwellings, called *Ghara*, are modest yet functionally sophisticated structures made primarily from locally available materials such as mud, sal wood, bamboo, cow dung, and thatch. These houses typically consist of one or two rooms, often accompanied by a front verandah for household chores, social activities, and seasonal agricultural work. The dwellings are built close together in small clusters, reinforcing the tribe's deep-rooted values of cooperation, interdependence, and collective identity. The clustering also serves practical functions, offering safety from wild animals, enabling joint participation in rituals and festivals, and efficiently sharing labour and resources. The *Ghara* is not merely a physical shelter but a vital cultural unit that houses family life, ancestral spirits, and traditional knowledge systems passed down through generations. While some contemporary influences have introduced semi-permanent materials like brick and tin in accessible villages, the Paudi Bhuiyan continue to preserve their vernacular building practices in more remote areas, thereby maintaining their architectural identity and ecological balance (Photo 3.1.4.5.a). This enduring connection between habitat, social structure, and resource adaptation exemplifies the tribe's resilient strategies for sustainable living amid changing socio-environmental landscapes.

3.1.4.6. Dongria Kandha



Photo 3.1.4.6: 'Ija' - The Traditional Dwelling of the Dongria Kandha Tribe in the Niyamgiri Hills (Source: CoE-STMC, UU)

The Dongria Kandha houses, called *Ija*, are modest yet ingeniously designed to address the functional needs of a hill-dwelling people. These dwellings are rectangular, with steeply gabled roofs resembling railway compartments. This architectural adaptation efficiently sheds rainwater during the monsoon and provides thermal comfort during summer and winter. Constructed predominantly from local materials such as bamboo, wood, stone, mud, and thatch, the *Ija* reflects a low-impact, sustainable building tradition. The walls are generally made of mud plastered over a bamboo framework, while the high, sloping thatch roof, which is often reinforced with wooden beams, protects against heavy rains and strong winds common in the hilly regions. The house usually comprises a single large room for sleeping and storage, while a narrow front space may serve domestic purposes such as cooking, tool-making, and weaving. Surrounding the *Ija*, one often finds patches of cultivated land and fruit-bearing trees, integrating the homestead into the broader horticultural landscape. Clustering of houses in *Basa* patterns also supports collective agricultural work, ritual gatherings, and the transmission of indigenous knowledge. Despite pressures from external development and threats of displacement, the Dongria Kandha maintain their architectural traditions, embodying their ecological intelligence, cultural autonomy, and spiritual bond with the Niyamgiri hills (Photo 3.1.4.6).

3.1.4.7. Hill Kharia

The traditional Hill Kharia dwelling, known as *Ghara*, is a multifunctional, rectangular hut that serves as a living space, cooking area, and storage facility under one roof. These houses are typically built with wooden frames and walls daubed with yellow mud. This locally available clay provides structural integrity and acts as a natural insulator, helping maintain a stable indoor temperature year-round. Most *Ghara* are constructed without windows, an architectural choice that reduces heat loss in winter and minimises solar heat gain during the hot season, reflecting a pragmatic understanding of the region's climatic conditions.



Photo 3.1.4.7: Traditional Vernacular Dwelling of the Hill Kharia Tribe in Mayurbhanj District (Source: CoE-STMC, UU)

The interior space is typically partitioned into areas for cooking, sleeping, and storing grains or tools, although the layout remains flexible to accommodate seasonal and domestic needs. Roofing materials generally include locally collected thatch, bamboo, or wooden planks, with sloped designs to manage rainfall runoff effectively (Photo 3.1.4.7). The houses are often adorned with simple decorative motifs using white or red earth pigments, symbolising cultural continuity and aesthetic expression. Beyond functionality, the Hill Kharia home is imbued with symbolic significance, representing ancestral ties, gender roles, and ritual spaces. The clustering of these homes within the village layout facilitates communal labour and ritual gatherings and acts as a mechanism for preserving traditional knowledge systems and social norms. Despite increasing exposure to modern construction techniques, many Hill Kharia communities continue to favour their indigenous architectural practices, which are sustainable, cost-effective, and deeply embedded in their socio-cultural fabric. Thus, the *Ghara* remains more than just a shelter; it is a material expression of identity, ecological knowledge, and cultural resilience.

3.1.4.8. Kutia Kandha

The Kutia Kandha settlements known as *Naju* are typically arranged in clustered formations, often built on hill slopes or plateaus, and display a loose linear or semi-circular layout. These spatial arrangements support collective living and shared resource use while also accommodating the terrain's topographical demands. The Kutia Kandha houses, traditionally called *Aja* or *Ilu*, are rectangular structures characterised by their low height and compact form adapted to their forested, hilly environment, which demands protection from heavy rains, cold winds, and wild animals (Photo 3.1.4.8).



Photo 3.1.4.8: Linear Settlement 'Aja'—The Traditional Dwelling of the Kutia Kandha Tribe in Kandhamal District (Source: CoE-STMC, UU)

At the same time, the interiors remain modest, typically comprising one or two rooms used for sleeping, cooking, and storage. The artistic embellishment of their exteriors distinctly sets the *Aja* or *Ilu* apart. Kutia Kandha women traditionally decorate the walls with intricate linear and geometric designs, using natural dyes and pigments. These motifs are not merely aesthetic but carry symbolic meanings tied to fertility, protection, and clan identity, transforming domestic space into a canvas of cultural expression.

Roofs are sloped and thatched with locally collected grass or palm leaves, ensuring adequate water runoff during the monsoon season. The courtyard space in front of each house is typically used for pounding grains, drying produce, and conducting ritual activities. The layout of the *Naju* facilitates close-knit interaction among kin and community members, particularly during festivals, harvest rituals, and communal decision-making processes, reinforcing the importance of social cohesion and traditional governance structures. Despite external pressures from modernisation and resettlement policies, the Kutia Kandha continue to uphold their vernacular architecture, which encapsulates their worldview, aesthetic sensibility, and ecological wisdom. Thus, the *Aja* and *Ilu* are not merely shelters but powerful embodiments of identity, heritage, and harmonious coexistence with nature.

3.1.4.9. Lodha

The Lodha traditional house, locally referred to as *Ghara*, is modest in structure, usually rectangular, with a single room and a small front veranda. These houses are constructed from locally available materials such as sun-dried mud bricks, bamboo, thatch, and wooden poles, reflecting their adaptive use of environmental resources and cost-effective construction practices.

The roof is typically low-pitched and thatched with wild grasses or paddy straw, while the walls are plastered with a mixture of mud and cow dung, sometimes reinforced with lime or clay to enhance durability. The veranda, a prominent feature of the *Ghara*, serves as a multipurpose transitional space for resting, drying grains, crafting tools, and socialising with neighbours (Photo 3.1.4.9). The internal space of the house is usually undivided, functioning simultaneously as a living, cooking, and sleeping area, indicative of a minimalistic lifestyle that prioritises functionality over ornamentation. Though simple, the Lodha dwelling is spatially efficient and culturally significant, often housing symbols of clan deities, sacred objects, and agricultural tools. While some modern interventions have introduced brick walls and tin roofs in more accessible areas, many Lodha families preserve their traditional architectural forms, reflecting economic realities and deeply ingrained cultural values and social structures.

Thus, the *Ghara* of the Lodha serves as a functional shelter and a material manifestation of their evolving yet resilient tribal identity.



Photo 3.1.4.9: Lodha 'Ghara' in Mayurbhanj District: Brick-Walled and Tiled-Roofed Traditional Dwellings (Source: CoE-SIMC, UIU)

3.1.4.10. Lanjia Saora

The Lanjia Soura is noted for its distinctive settlement pattern, characterised by zigzag arrangements of scattered houses. This unique spatial configuration is not arbitrary but deeply rooted in environmental necessity and cultural cosmology. Situated predominantly in the undulating terrains of the Eastern Ghats, particularly in the districts of Gajapati and Rayagada, the Lanjia Soura adapt their housing layouts to accommodate the region's steep slopes and dense forest cover. The zigzag pattern enables adequate water drainage, avoids soil erosion, and ensures the structural stability of homes built on uneven ground. Moreover, this settlement design is integrally tied to their belief systems, especially their ancestral worship practices and sacred land use (Photo 3.1.4.10). Each household maintains proximity to sacred groves or burial sites, essential for performing ancestral rites and maintaining spiritual continuity. The spatial dispersion allows families to observe these rites without interference, reflecting their belief that ancestral spirits continue to inhabit specific natural locales and demand respectful distance from everyday activities.

Additionally, the layout mirrors their socio-religious organisation, in which clan autonomy and sacred geography dictate the orientation and spacing of homes. The construction of houses often begins only after rituals are performed to seek approval from ancestral spirits and local deities, underscoring the sacredness of land selection.



Photo 3.1.4.10: Traditional Mud-Walled Dwelling Adorned with Spiritual Art of the Lanjia Saora Tribe in Gajapati District (Source: CoE-STMC, UU)

compelling example of how tribal names in India encapsulate ecological identity, linguistic heritage, and traditional subsistence patterns. The name *Birhor* is derived from two elements in the Munda language family: *bir*, meaning "forest," and *hor*, meaning "man" or "people", thus translating to "men of the forest". This etymology reflects their linguistic roots in the Austroasiatic Munda language group and signifies the profound symbiotic relationship the Birhor have maintained with forest ecosystems for generations. Traditionally, the Birhor are a semi-nomadic hunter-gatherer community whose livelihood depended on collecting forest produce, hunting small animals, and crafting rope from *siali* (*Bauhinia vahlii*) fibre. This activity continues among the Mankidia subgroup in Odisha (Photo 3.1.5.1). Their name, therefore, is not merely a label but an ethno-ecological identity that denotes their intimate knowledge of and dependence upon the forest for sustenance, medicine, shelter, and cultural continuity. (Table 3.1.5)

Historically, the classification of the Birhor under this name also demonstrates the influence of indigenous self-identification and colonial ethnography. British administrators and anthropologists, in their attempt to catalogue India's vast tribal populations, often accepted such descriptive names at face value or translated them into anglicised forms, contributing to their

According to anthropological observations, the Lanjia Soura do not conceive of land merely as a resource but as an entity imbued with spiritual significance, which must be negotiated with the metaphysical world before habitation. This reverence for land and ancestors has led to a settlement structure that balances ecological adaptability with ritualistic propriety. Thus, the zigzag settlement of the Lanjia Soura is a compelling example of how indigenous communities embed cosmological, ecological, and social values into their spatial practices, reinforcing cultural identity and environmental sustainability.

3.1.5. Ethnic history

3.1.5.1. Birhor/Mankidia

The ethnonym *Birhor*, also associated with the subgroup *Mankidia* in Odisha, provides a



Photo 3.1.5.1: Birhor Artisan Crafting Durable Rope from the Fibres of the Siali Tree (Source: CoE-STMC, UU)

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persistence in official records. In some regions, particularly in Odisha and Jharkhand, the Mankidia subgroup is recognised as a PVTG. The term derives from the word *manki*, meaning 'monkey', due to their traditional practice of monkey-catching and training, a livelihood associated with forest life. This variation in naming underscores how tribal identities are often fragmented across geographic and cultural lines, with external appellations sometimes reflecting occupational roles or stereotypical traits rather than self-ascribed ethnonyms.

In sum, the terminology of the name *Birhor*, and its variant *Mankidia*, offers a window into the deep-rooted connections between language, ecology, and identity among India's tribal communities. Far from being arbitrary, such names are ethnohistorical signifiers, shaped by centuries of environmental interaction, linguistic evolution, and social recognition, both from within the community and by external agents. Preserving and understanding these names is crucial for respecting tribal heritage and ensuring that development policies are sensitive to the cultural and ecological values embedded in such identities.

3.1.5.2. Bonda



Photo 3.1.5.2: Bonda Woman Poised as an Emblem of Enduring Traditional Identity (Source: CoE-STMC, UU)

Photo 3.1.5.2.a: Plainland Bonda Girls Participating in Raja Utsav: A Confluence of Tribal Tradition and Mainstream Cultural festival (Source: CoE-STMC, UU)

The *Bonda* people derive their name and ethnographic identity from a complex interplay of colonial anthropology, local administrative records, and indigenous self-perception. Historically, they have been referred to as *Bonda Paraja* or *Bonda Ryots* in the revenue and princely-state documents of the early and mid-20th century, particularly around the 1950s, when *Paraja* denoted peasants or cultivators, and *Ryot* referred to tenant farmers. These terminologies suggest an externally imposed categorisation that linked the Bonda to agrarian roles, despite their traditionally non-agricultural, subsistence-oriented lifestyle centred around foraging, horticulture, and barter systems in the remote hill tracts of the Eastern Ghats (Photo 3.1.5.2). Their indigenous self-designation, however, is *Remo*, meaning "human" or "people" in their language, which belongs to the South Munda branch of the Austroasiatic language family. This contrast between the official nomenclature and the autonym underscores the disjunction between administrative identity and cultural self-definition, a common feature in the ethnonymic histories of many tribal groups across India.

The name *Bonda* itself is believed to have originated from either neighbouring communities or colonial interpretations, possibly as a geographical reference to their settlement area, the Bonda Hills, rather than an indigenous label. The popularisation of the name was further reinforced by anthropologist Verrier Elwin, who conducted extensive studies on the tribe and brought their unique customs and socio-cultural systems to wider academic and public attention through his seminal works. While rich in ethnographic detail, his writings also contributed to the crystallisation of *Bonda* in scholarly literature and government records, leading to its widespread usage despite its exonymic origin. In state classification, the Bonda have been designated as a PVTG, reflecting their small population, low literacy levels, and geographic isolation.

An important shift in the historical narrative of the Bonda concerns their internal migration patterns and resultant sub-group formation. Traditionally, the *Upper Bonda* inhabited the inaccessible highlands of the Bonda Hills in Malkangiri district, living in relative isolation and maintaining a self-sufficient lifestyle. However, some Bonda families migrated to the lower foothills over time due to increased state intervention, developmental projects, and socio-economic pressures. This migration marked a significant transition in settlement patterns and economic behaviour, as the *Lower Bonda* increasingly engaged with non-tribal populations, adopted settled agriculture, and gradually integrated into mainstream economic systems. This bifurcation into Upper and Lower Bonda has not only influenced their spatial and cultural identity but has also created intra-tribal distinctions, with the Upper Bonda retaining more traditional customs and language use. At the same time, the Lower Bonda are more likely to be multilingual and socially adaptive (Photo 3.1.5.2.a).

Thus, the terminology surrounding the Bonda people is emblematic of broader themes in tribal ethnography, namely, the divergence between indigenous self-identification and state-imposed or outsider-generated labels. The evolution from *Remo* to *Bonda Paraja* to the modern administrative classification as *Bonda* reflects layers of historical contact, linguistic shifts, and socio-political categorisation. Understanding these terminological histories is crucial for accurate ethnographic scholarship and formulating culturally sensitive developmental policies that honour the community's self-ascribed identities and resist reductive labelling.

3.1.5.3. Didayi

The *Didayi* community bears a name that reflects the external perception of their cultural and geographical isolation. The term *Didayi* is widely believed to be an exonym given by neighbouring Odia-speaking populations. It is sometimes interpreted to mean "wild people" or "those of the jungle", a reflection not of any intrinsic attributes of the people themselves, but instead of their remote location, non-assimilation into mainstream society, and distinctive way of life. Unlike the community's self-identification, which remains embedded in their unwritten language and oral traditions, the label *Didayi* encapsulates a long-standing history of marginalisation and misrepresentation. Such naming practices were standard during pre-colonial and colonial times, when tribal communities were often named by dominant neighbouring groups or colonial administrators based on their visibility, livelihoods, or supposed temperaments, rather than on indigenous linguistic or cultural identities.

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Linguistically and culturally, the Didayi are closely related to the Bonda or *Remo* people, sharing many linguistic features (belonging to the South Munda subgroup of the Austroasiatic language family), kinship structures, and ritual practices. However, they have retained a distinct group identity, reinforced by territorial and ecological separateness. While the Bonda inhabit the higher hill tracts, the Didayi traditionally dwell in the lower hill slopes and adjacent plains, practising subsistence horticulture, hunting, and gathering (Photo 3.1.5.3). Once voluntary and rooted in ecological adaptation, their isolation became an administrative concern during the colonial and post-independence periods, as the state began classifying and documenting tribal populations for governance, census, and welfare planning. In such documentation, the externally imposed name *Didayi* was retained and standardised, eventually entering the official list of PVTGs recognised by the Government of India.

In recent decades, anthropologists and tribal activists have emphasised the need to respect indigenous naming systems and challenge derogatory or simplistic labels that erase the complexity of tribal identities. For the Didayi, as for many tribal groups in India, reclaiming self-ascribed names and asserting cultural autonomy is not merely a symbolic gesture but an essential part of resisting historical marginalisation and asserting the right to define their identity on their own terms. Recognising the problematic origins and implications of terms like *Didayi* is necessary for more respectful and accurate ethnographic representation and policy-making.



Photo 3.1.5.3: Didayi Women Traversing to the Local Hat to Vend Forest Produce (Source: ColP-SIMC, 1993)

3.1.5.4. Juang

The *Juangs* historically referred to themselves by alternative names such as Patra Savar or Pattus, which translates to "leaf-wearers" - a reference to their ancestral practice of donning garments made from tree leaves, especially during earlier stages of their socio-economic development. This appellation denotes their ecological adaptation and signifies their resourcefulness in utilising forest materials for sustenance and clothing. While outsiders commonly refer to them as *Juang*, this term's etymology and original meaning remain uncertain; however, it has become institutionalised through ethnographic literature and administrative usage over the decades. The label *Patra Savar* links the Juang with the larger cultural matrix of the *Savar* or *Saora* tribes, yet remains a distinctive identifier associated with their material culture.

The symbolic and literal association of the Juang with nature is further emphasised in their origin myth, which narrates that they emerged directly from the earth at *Gonasika* - a sacred site in the Keonjhar district that also marks the source of the *Baitarani* River (Photo 3.1.5.4).

This myth explains their autochthonous status and situates them within a sacred landscape, imbuing their existence with cosmological significance. The belief in *Gonasika* as their mythic birthplace

reinforces the Juang's deep-rooted connection to the land, water sources, and hills surrounding them. It exemplifies how tribal names and self-identifications are interwoven with sacred topography. Such place-based identities often contrast with the administrative labels imposed by colonial and post-colonial governance systems, which sought to standardise tribal nomenclature based on linguistic, racial, or occupational criteria.

During the colonial period, British administrators and ethnographers catalogued the Juang as part of the so-called "primitive tribes" of India, often emphasising their use of leaf-clothing and subsistence horticulture as markers of civilizational backwardness. Verrier Elwin later challenged some of these reductive narratives by highlighting the Jaua's cultural depth, spiritual beliefs, and community organisation in his anthropological writings. However, even his representations occasionally romanticised their perceived primitiveness. The continuation of names like *Patra Savar* in local memory reflects an acknowledgement of historical modes of living and a resistance to homogenised tribal identities.



Photo 3.1.5.4: Gonasika' Temple Region: The Source of the Baitarani River in Kendujhar District (Source: CoE, SMC, UU)

In contemporary contexts, the Juang are recognised as a PVTG and face developmental challenges, including low literacy, limited access to healthcare, and land alienation. However, their ethnonymic history, particularly the use of *Patra Savar*, remains a testament to their flexibility, environmental wisdom, and enduring cultural self-awareness. The persistence of such indigenous terminologies illustrates the role of naming as both a cultural

archive and a political act. It reminds us that tribal names are not merely bureaucratic identifiers, but repositories of historical experience, environmental intimacy, and collective memory.

3.1.5.5. Paudi Bhuiyan

The term *Bhuiyan* derives from the Sanskrit word *Bhumi*, which means "Earth" or "land," reflecting their deep-rooted connection to the land as cultivators and custodians of natural resources. This etymological root underscores the Bhuiyan's identity as land-based communities, historically engaged in agriculture, particularly in Eastern India's hilly and forested terrains. The *Paudi Bhuiyan* further distinguish themselves within the broader Bhuiyan community by adopting the *banghy*, a traditional wooden carrying lever used for transporting heavy loads such as firewood or agricultural produce (Photo 3.1.5.5). The *banghy* has become an emblem of their tribe, symbolising their dependence on forest resources, physical labour, and communal solidarity.



Photo 3.1.5.5: Intricately Woven Bamboo Basket Crafted by the Paudi Bhuiya Tribe of Deogarh District (Source: CoE-STMC, UU)

Photo 3.1.5.5.a: *Banghy* - A Distinctive Cultural Emblem of the Paudi Bhuiya Tribe (Source: CoE-STMC, UU)

Paudi likely refers to the use of a *banghy*, with the prefix *Paudi* symbolising their specific association with this tool and their adaptation to the forested environment. While other Bhuiyan sub-groups may share similar practices, the *Paudi Bhuiyan*'s adoption of the *banghy* as a distinguishing feature has solidified their unique identity within the larger Bhuiyan umbrella. The use of the *banghy* serves both as a practical necessity in their agrarian lifestyle and as a cultural marker, reinforcing their community's connection to the land they cultivate and the forests they depend on for sustenance (Photo 3.1.5.5.a).

The etymology of *Bhuiyan* reflects an occupation and an ontological and spiritual relationship with the earth. In traditional Bhuiyan beliefs, land is considered sacred, and their livelihoods are intricately tied to the rhythms of the soil, seasons, and forest life. This connection to the earth is central to their identity and informs their agricultural practices, social structures, and rituals. In the Bhuiyan worldview, the earth is not a resource to be exploited but a living entity to be respected and nurtured, a belief that continues to shape their interactions with the land and external forces.

Historically, the Bhuiyan people, like many tribal communities in India, were subjected to colonial and post-colonial state classifications that oversimplified their complex identities. Through anthropological and administrative records, the British colonial administrators recorded the Bhuiyan as part of a broader category of "tribal cultivators," a label that did not fully capture the intricacies of their cultural practices and social organisation. The post-independence government of India, while recognising the Bhuiyan as a Scheduled Tribe, further subsumed their identity under the blanket term '*Bhuiyan*', which often obscured the internal diversity of this group, including the unique position of the *Paudi Bhuiyan*. In recent years, however, scholars and tribal activists have emphasised the need to acknowledge such sub-group distinctions to ensure more accurate representation in policy-making, especially in allocating resources and development initiatives.

The terminology of the *Paudi Bhuiyan* from the Sanskrit *Bhumi* to the emblematic *banghy* highlights the complex ways in which tribal names and identities are both shaped by historical and linguistic factors and how they evolve in response to environmental, economic, and political changes. By understanding the origins and meanings of such terms, we gain insight into the deep connection

between tribal communities and the land they inhabit, as well as the need for culturally sensitive policies that respect and uphold the unique identities of these groups.

3.1.5.6. Dongria Kandha

The *Dongria Kandha* residing primarily in the Niyamgiri Hills of southern Odisha derive their ethnonym from their highland habitat and linguistic self-ascription. The term *Dongria* is an exonym, derived from the Odia word 'dongar', meaning 'hill' or 'highland', and hence *Dongria Kandha* translates as "hill-dwelling Kandha" (Photo 3.1.5.6). However, within their own cultural and linguistic framework, the community refers to itself as Dongran Kuan or Drilli Kuan, terms that more authentically express its self-identity. *Kuan*, in the Kui language, a Dravidian tongue spoken by the Kandha, means "people," while *Dongran* or *Drilli* points to their distinct sub-group or lineage. This naming system reflects their topographical roots and self-perception as a culturally autonomous and spiritually grounded people.



Photo 3.1.5.6: Dongar' - The Highland Temporary Dwelling Symbolizing the Agrarian Ethos of the Dongria Kandha in Niyamgiri Hills (Source: CoE-STMC, UU)

Central to the Dongria Kandha's ethnonymic identity is their veneration of *Niyamraja*, the ancestral deity of the Niyamgiri hills, whom they regard as a divine protector and the sovereign of their sacred landscape. Unlike many other tribal communities whose belief systems are often animistic and loosely structured, the Dongria Kandha uphold *Niyamraja* as a central, singular figure around whom their religious life, agricultural practices, and ecological stewardship revolve. Their sacred cosmology binds them in a reciprocal relationship with the forested hills, which they consider the abode of the deity and an inseparable part of their own being. Every hill, stream, and grove within Niyamgiri is imbued with spiritual significance and protected under customary norms that restrict deforestation and overexploitation—practices that have contributed to the ecological integrity of their homeland for generations.

Historically, the *Kandha* tribe, one of the largest Scheduled Tribes in Odisha, has been subdivided into several regional and cultural groups, such as the *Desia Kandha*, *Kutia Kandha*, and *Dongria*

Kandha—each with its own dialects, customs, and ecological adaptations. The *Dongria Kandha*'s hill-dwelling identity and the specificity of their self-designations (*Dongran Kuan* or *Drilli Kuan*) distinguish them from the more plains-dwelling *Desia* or *Kutia* counterparts. The term *Dongria* entered colonial and anthropological literature during British administration and was later institutionalised in post-independence ethnographic surveys and census records. However, these externally imposed terms often failed to capture the cultural intricacies and linguistic self-identifications preserved in oral tradition and local dialects.

The socio-political relevance of these naming practices came to the fore in recent decades during the resistance against proposed bauxite mining projects in the Niyamgiri Hills. The *Dongria Kandha*'s identity, rooted in their worship of *Niyamraja* and in their self-recognition as *Dongran Kandha*, became central to their legal and moral argument for indigenous rights over ancestral lands. Their collective self-naming thus not only asserts cultural autonomy but also acts as a form of political resistance against developmental incursions that threaten their sacred geography and traditional lifeways. The Supreme Court of India, in its landmark 2013 ruling, recognised the community's right to determine the fate of its sacred hills, affirming the role of customary belief systems and local terminology in defending tribal land and identity.

Therefore, the history and terminology of the *Dongria Kandha* encapsulate a profound interplay between topography, self-perception, language, and sacred belief. Their self-identification as *Dongran Kuan* or *Drilli Kuan* reflects an enduring sense of place and belonging that transcends mere administrative nomenclature. It reminds scholars, policymakers, and the public that the true meanings of tribal names often reside not in external labels but in the communities' lived experience, spiritual worldview, and linguistic heritage.

3.1.5.7. Hill Kharia

The *Hill Kharia*, one of the three sub-groups of the broader *Kharia* tribal community, alongside the *Dhelki Kharia* and *Dudh Kharia*, each group possesses a distinctive ethnocultural identity deeply rooted in mythological narratives and oral traditions. Among the most striking of these is an origin myth recorded by colonial ethnographer Edward T. Dalton in his seminal work *Descriptive Ethnology of Bengal* (1872), in which the genesis of the *Kharia* people is symbolically linked to a peafowl's egg. According to this legend, the egg produced three groups of beings: the *Bhanja Kings* of Mayurbhanj emerged from the yolk, representing royal authority; the *Puran* community from the albumen, signifying ritual purity; and the *Kharia* themselves from the eggshell, which places them metaphorically in a humble yet vital position within the cosmic and social order. This myth serves as a foundational narrative of origin. It encapsulates the Hill *Kharia*'s perceived marginality and resilience, situating their identity in the metaphor of containment, protection, and the primal elements of nature.



Photo 3.1.5.7: Hill Kharia women going to sell the forest production to the local market (Source: CoE-STMC, UU)

The term *Kharia* is believed to derive from Proto-Austroasiatic roots, possibly linked to the *Kharia* language, which belongs to the Munda branch of the Austroasiatic family. The name may have denoted initially a particular region, occupational group, or ecological adaptation, an etymological puzzle that remains partly unresolved but underscores their ancient and non-Indo-Aryan heritage. Among the three Kharia groups, the Hill Kharia is the most isolated and traditionally forest-dependent, primarily inhabiting the hilly tracts of Mayurbhanj and Sundargarh, and especially the Similipal region in Odisha. Unlike the *Dudh* and *Dhelki Kharia*, who have undergone varying degrees of assimilation and agrarian settlement, the *Hill Kharia* have historically maintained a hunter-gatherer lifestyle, utilising shifting cultivation and minor forest produce collection as central economic activities.

The symbolism of the eggshell in their origin myth is particularly poignant. In many indigenous traditions, the egg represents the cosmic beginning, fertility, and the life cycle. However, to be born from the shell, its outermost, discarded layer, evokes both marginality and foundational strength. This mythical positioning reinforces a worldview in which the Hill Kharias are custodians of the forest, closely tied to nature but distanced from hierarchical power structures. It also reflects the historically complex social stratification and cultural dynamics between tribal groups and feudal entities, such as the *Bhanja* rulers of Mayurbhanj. While such myths have often been read as evidence of the Kharia's "inferior" social status, they can also be interpreted as symbols of ecological centrality and spiritual resilience, where the shell signifies endurance, humility, and rootedness in the natural world.

The British colonial ethnographic tradition, which included Dalton's recordings, played a dual role - preserving tribal oral narratives while also classifying communities into rigid administrative categories. The *Hill Kharias* were designated as one of the "primitive tribes," a classification that, while acknowledging their forest-dependent livelihood, often rendered them invisible in mainstream socio-political narratives. Post-independence, the Indian government categorised the Hill Kharia as a Scheduled Tribe and later as a PVTG, recognising their economic marginalisation and unique

cultural heritage. Nevertheless, the community continues to face challenges, including land alienation, loss of forest rights, and declining access to traditional livelihoods.

Despite these adversities, the myth of their origin from a peafowl's egg continues to inform Hill Kharia identity, serving as a symbolic reservoir of history, belonging, and cosmological placement. The terminology embedded in such myths, and the persistence of these oral traditions, underscore the profound ways in which tribal communities understand their place in the world - not merely through administrative categories but through metaphors that blend nature, history, and spirituality. It reminds scholars and policymakers alike that tribal names and myths are more than cultural relics; they are active agents of identity, resilience, and meaning-making.

3.1.5.8. Kutia Kandha

The *Kutia Kandha*, one of the most distinct sub-groups of the larger *Kandha* (or *Khond*) tribal population in Odisha, possess a rich cultural heritage grounded in mythological beliefs that link their identity directly to the natural world. The term *Kutia* is etymologically derived from the word "*Kuti*", which in the local dialect refers to a "large hole" or "pit" - a reference to *Sapangada*, the mythical cavern from which they believe their ancestors originally emerged. This myth of emergence from the earth's womb is a powerful metaphor that reinforces their deep spiritual association with the land, forest, and subterranean realms. According to oral traditions preserved among the *Kutia Kandha*, *Sapangada* is a symbolic place of origin and a sacred site imbued with ritual significance (Photo 3.1.5.8). It signifies the primordial bond between their community and the earth, underscoring themes of birth, sustenance, and renewal.



Photo 3.1.5.8: Sapangda: The Ancestral Homeland of the Kutia Kandha in Belghar, Kandhamal District (Source: CoE-STMC, UU)

This cosmogonic belief, wherein the tribe traces its genesis from the earth it inhabits, reflects an indigenous epistemology rooted in animistic and ecological worldviews. Unlike mainstream religious narratives that often place divinity in celestial realms, the *Kutia Kandha* locate their spiritual origins within the depths of the land, which they treat with reverence and protective stewardship. Their connection to *Sapangada* influences their mythology and rituals, agricultural cycles, and burial customs, all of which emphasise returning to and drawing from the earth as the source of life. The act of naming themselves after a geological formation of *Kuti* demonstrates a profound identification with the terrain they inhabit and the belief that their existence is inseparable from the natural environment.

During the colonial period, British ethnographers and administrators categorised the *Kutia Kandha* along with other Kandha groups as "aboriginal hill tribes" known for their fierce independence and elaborate ritual systems, including the infamous *meriah* (human sacrifice) rituals, which were eventually outlawed but have left a legacy of fascination and misunderstanding. However, such colonial categorisations often failed to capture the nuanced self-identifications embedded in tribal terminologies and myths. The internal naming system of *Kutia Kandha*, rooted in *Kuti* and *Sapangada*, offers a counter-narrative to these external labels, emphasising self-perception over imposed classification.

In recent decades, the revival of tribal histories and ethnonyms has gained scholarly attention as part of efforts to reclaim indigenous identity and autonomy. The terminology of *Kutia Kandha*, far from being a mere geographical or administrative marker, emerges as a powerful symbol of cultural memory, ecological philosophy, and ontological grounding. It encapsulates a worldview in which origin, identity, and nature are seamlessly intertwined, a perspective that continues to inform their rituals, resistance to displacement, and community cohesion in the face of modern developmental challenges.

3.1.5.9. Lodha



Photo 3.1.5.9: Lodha Fisherman Engaged in Traditional Net Fishing in Mayurbhanj District (Source: CoE-STMC, UU)

The *Lodha* community derives its ethnonym from the Sanskrit word *Lubdhaka*, meaning "trapper" or "hunter." This etymology, as emphasised by Tapan Kumar Bhowmik, one of the leading scholars on the Lodhas, aptly encapsulates the tribe's ancestral occupation rooted in forest-based subsistence activities, particularly hunting and gathering (Photo 3.1.5.9). The transformation of *Lubdhaka* into *Lodha* over centuries reflects the linguistic adaptation and regional phonetic simplification common to many tribal nomenclatures in India. This derivation is not merely linguistic but deeply symbolic, representing the socio-economic identity of the Lodhas as forest dwellers who traditionally relied on their intimate knowledge of wildlife, forest ecology, and natural resources for survival.

Historically, the *Lodha* were primarily concentrated in the forested regions of Paschim Medinipur and Jhargram districts of West Bengal, and in parts of Mayurbhanj and Balasore in northern Odisha.

Their name and identity have long been entangled with forest-based livelihoods, particularly during the pre-colonial and early colonial periods, when the forest was their primary means of subsistence and a defining aspect of their identity. British colonial administration, however, profoundly altered the Lodha's socio-political status by classifying them under the now-defunct *Criminal Tribes Act* of 1871. This stigmatising label arose from their resistance to colonial forest policies and perceived lawlessness during the British land revenue expansion. This classification criminalised their traditional livelihood practices and left a legacy of long-lasting social marginalisation and cultural displacement.

Despite this colonial-era injustice, the nomenclature *Lodha* remained a key marker of their indigenous identity. The term reminds them of their historical bond with the forest, even as many Lodhas have transitioned from hunting to wage labour, marginal farming, and the collection of forest-based minor produce in the face of ecological degradation and legal restrictions. In the post-independence era, the Indian state attempted to rehabilitate the Lodhas through tribal welfare policies, recognising them as a PVTG due to their low literacy rates, economic hardship, and cultural isolation. Nevertheless, the stigma attached to their historical categorisation lingers, and many Lodhas today face systemic barriers in education, land rights, and political representation.

Social researchers noted that while modernisation has partially assimilated some Lodha families into agrarian economies, a significant community continues to maintain forest-related cultural practices, belief systems, and oral traditions. Their ethnonym, therefore, serves as a bridge between their ancestral identity and contemporary struggles for recognition and dignity. Moreover, the semantic link between *Lubdhaka* (hunter) and their current designation points to the resilience of cultural memory embedded in names - a resilience that enables the Lodhas to reclaim their historical narrative in a context where external perceptions have often been shaped by colonial misrepresentation and administrative apathy.

In contemporary anthropological discourse, the history of the *Lodha* name invites broader reflections on the politics of naming tribal groups in India, how such terms are derived, who assigns them, and what socio-political consequences they carry. In the case of the Lodhas, the name reflects continuity between livelihood and identity, while also serving as a site of negotiation between tradition, survival, and state-imposed structures.

3.1.5.10. Lanjia Saora

The *Lanjia Soura* derive their name from a unique cultural practice emblematic of their identity and physical appearance. The term "*Lanjia*" is derived from the Odia word "*Lanja*," meaning tail, referring to the peculiar tail-like back flap of the male garment traditionally worn by the community, which hangs down in a manner reminiscent of a tail. This visual marker has become a symbolic aspect of their identity and has been used by colonial and postcolonial ethnographers to distinguish them from other *Soura* groups. Verrier Elwin, one of the most influential anthropologists to work in tribal India, referred to them as *Hill Saoras* because they lived in the rugged, elevated regions of the Eastern Ghats in southern Odisha, particularly in the districts of Gajapati and Rayagada.

Unlike the more assimilated plains-dwelling *Saoras*, the *Lanjia Souras* have retained many archaic language, customs, and social organisation traits. Linguistically, they speak a dialect of Sora, a Munda language belonging to the Austroasiatic language family. However, their version preserves older grammatical and phonetic features that have diminished or disappeared in other *Soura*-speaking populations. Culturally, they are known for maintaining complex ritual systems, including ancestor

worship and the elaborate *idital* (or *ital*) wall paintings used to commemorate the dead, an artistic tradition rich in cosmological symbolism and highly regarded in tribal art scholarship (Photo 3.1.5.10). Their unique religious cosmology, which emphasises a pantheon of ancestral and tutelary spirits, is intimately tied to the geography they inhabit, with sacred groves, hills, and streams playing central roles in their spiritual life.



Photo 3.1.5.10: Idital' - Traditional Wall Painting Embodying the Complex Ritual Ethos of the Lanjia Saura District (Source: CoE-STMC, UU)

The classification of the *Lanjia Saura* as a PVTG by the Government of India stems not only from their geographical isolation and economic marginalisation but also from their steadfast resistance to cultural assimilation. While many other tribal communities have experienced erosion of traditional structures due to market integration and development interventions, the *Lanjia Saura* have continued to uphold distinctive social norms, such as cross-cousin marriage, dormitory systems for youth education (*goti* and *dhangdabasa*), and communal labour arrangements. This cultural conservatism, often framed as “primitivism” in older anthropological literature, is now increasingly appreciated as a form of cultural resilience and sovereignty in the face of homogenising pressures.

Saura has historically appeared in ancient texts, including the *Aitareya Brahmana*, where the community was described as a forest-dwelling tribe outside the Vedic folds. Over centuries, various sub-groups of the *Saura* have developed distinct identities based on ecological adaptation, language variation, and historical experience. In this context, the *Lanjia Saura* represent an archaic or “original” form, preserving the pre-Aryan, forest-based cultural matrix in relatively intact form. Therefore, their nomenclature is more than a geographic or aesthetic descriptor; it is an important anthropological category that encapsulates a unique worldview deeply tied to tradition and terrain.

The persistence of the name *Lanjia Soura* in scholarly and administrative discourses reflects both an external perception and internal affirmation of difference. It affirms the importance of indigenous naming systems and cultural practices as forms of identity, continuity, and resistance. As such, their name serves not only as an ethnographic label but also as a living testament to the tribe's cultural sovereignty and historical rootedness.

3.1.6. FAMILY TYPE

3.1.6.1. Birhor/Mankidia



Photo 3.1.6.1: Birhor Family Engaging in Folk Narratives, Fostering Communal Warmth and Affection During the Winter Season (Source: CoE-STMC, UU)

The Birhor follow a nuclear family structure, locally called *Wasa*, which is intricately linked to their traditional hunter-gatherer lifestyle. The nuclear family, consisting of parents and their children, serves as the core social unit within the Birhor community. This family structure suits their nomadic existence, necessitating flexibility and mobility. In their pursuit of forest resources such as fruits, tubers, and wild game, the Birhor family unit remains small to facilitate easy movement across the vast, often rugged terrain. Larger or extended family groups would be less practical, requiring more resources and coordination, hindering the Birhor's ability to relocate swiftly when needed. This *Wasa* structure enables a self-sustaining way of life where family members are closely involved in gathering and hunting, ensuring that the core unit remains closely knit and adaptable to changing environmental conditions. (Table 3.1.6)

The name "Birhor," which translates to "man of the forest," epitomises the tribe's deep connection to the forest environment. Their dependence on the forest for food, shelter, and daily life materials makes the nuclear family model essential, as it enables efficient resource distribution and management within the small family unit. The mobile nature of the Birhor's lifestyle further emphasises the importance of maintaining a manageable family structure that can adjust to the demands of seasonal migration. Unlike agricultural communities, where large family groups are more common due to settled living and the division of labour in farming, the Birhor's dependence on hunting and gathering necessitates a more fluid and compact family organisation (Photo 3.1.6.1).

Furthermore, the Birhor's transition from a purely hunter-gatherer lifestyle to a more settled existence, especially among those now known as Mankidia, does not drastically alter the nuclear family structure. While Mankidia is sometimes used to describe those assimilated into agricultural communities, the nuclear family continues to dominate their social organisation. The Birhor's ability to adapt their family structure while maintaining their cultural identity underscores the flexibility of their social system in the face of changing environments and external pressures. Thus, the Wasa family structure represents the Birhor's functional adaptation to their environment and reflects a broader cultural continuity within the community.

3.1.6.2. Bonda

The Bonda predominantly follows the nuclear family structure, locally called *Dio rem*. This family arrangement is characterised by small, autonomous units consisting of parents and their children, which aligns with the Bonda's traditional social and economic practices. The preference for nuclear families over joint or extended households is rooted in the Bonda's unique societal structure, emphasising individual economic independence while preserving communal values. In Bonda society, each nuclear family operates as an independent economic unit, engaging in subsistence activities such as agriculture, hunting, and gathering. These small family units are better equipped to manage the demands of a self-sufficient lifestyle, where autonomy and mobility are critical. The *Dio rem* structure facilitates personal decision-making regarding resource management, ensuring that each family can adapt to shifting environmental conditions and economic challenges (Photo 3.1.6.2).

The rarity of joint or extended families within Bonda society can also be attributed to their cultural practices, in which each family maintains distinct ownership of land and other resources, often limiting the need for larger, multi-generational households. Unlike agricultural societies, where extended families often collaborate in labour-intensive farming, the Bonda's dependence on shifting cultivation and forest-based subsistence activities reduces the need for complex familial networks. The individual autonomy of the nuclear family is also reflected in how the Bonda manage their social interactions, which are often centred around small familial groups rather than larger communal gatherings. While the Bonda maintain strong kinship ties, these relationships are typically more ritualistic and ceremonial than rooted in day-to-day economic cooperation.



Photo 3.1.6.2: Bonda Family Illustrating Three Generations of Lineage in the *Dio Rem* (Source: CoE-STMC, UU)

Despite their relatively isolated and independent family structures, the Bonda people still uphold a deeply embedded sense of community. Communal values are preserved through social and ritual practices that emphasise solidarity during cultural events such as festivals, weddings, and rites of passage. These rituals are performed collectively, binding individual nuclear families into a larger societal whole, while the *Dio rem* family structure allows for a balance between individual autonomy and communal identity. This combination of nuclear-family independence and a strong sense of communal participation showcases the adaptability of the Bonda social system, in which individuals can maintain both economic autonomy and deep-seated cultural connections.

3.1.6.3. Didayi

The Didayi predominantly adhere to the nuclear family system, which reflects their subsistence-based livelihoods and socio-cultural organisation (Photo 3.1.6.3). The nuclear family system among the Didayi facilitates economic autonomy and social functionality, allowing individual families to manage their resources, decision-making, and responsibilities without the complexities often found in joint or extended family systems (Photo 3.1.6.3.a).



Photo 3.1.6.3: Extended Didayi Family: A Cohesive Kinship Unit in Malkangiri District (Source: CoE-STMC, UU)

Photo 3.1.6.3.a: Nuclear Didayi Family: The Core Household Unit in Malkangiri District (Source: CoE-STMC, UU)

For the Didayi, who inhabit the dense forested regions of Malkangiri, the small, manageable size of the nuclear family proves advantageous for mobility, labour division, and survival in an environment where access to resources is often limited and seasonal.

3.1.6.4. Juang

The Juang demonstrate a distinct preference for the nuclear family system, locally termed *Paribar*. This emphasis on nuclear families is closely tied to the Juang's historical transition from a forest-dwelling, semi-nomadic existence to a more settled agricultural lifestyle. Traditionally, the Juang subsisted on hunting, gathering, and forest-based resources. However, with increasing state intervention, deforestation, and the introduction of land-based livelihood schemes, they gradually shifted toward settled agriculture, cultivating small plots of land on hill slopes and plains. In this new agrarian context, the nuclear family became an efficient social and economic unit, well-suited to managing limited agricultural resources, labour, and household responsibilities. Unlike joint or extended families, which require substantial shared resources and coordinated labour, the nuclear *Paribar* structure offers a streamlined approach to farming and subsistence, allowing decisions on land use, crop selection, and daily activities to be made swiftly within the household.

The *Paribar* typically comprises a husband, wife, and their unmarried children, and each unit generally occupies a separate dwelling, often constructed from locally available materials such as mud, bamboo, and thatch. This spatial separation reinforces familial autonomy while maintaining ties to the larger community through clan affiliations and village councils.



Photo 3.1.6.4: Elder Juang Couple: Patriarchal Heads of the *Paribar*
(Source: CoE-STMC, UU)

The evolution of the Juang family structure is not only a response to environmental and economic changes but also reflects broader social transformations, including shifts in kinship norms, marriage practices, and gender roles. For example, as land ownership and agricultural productivity became central to survival, smaller, nuclear units were better positioned to control resources and organise labour within manageable boundaries. Moreover, the nuclear family's independence facilitates adaptability in the face of external pressures such as land acquisition, forest regulation, and migration for wage labour.

Despite the dominance of the *Paribar* structure, the Juang retain a strong sense of community identity through their lineage groups (*bansa*) and ritual obligations (Photo 3.1.6.4). These extended kin networks become visible during life-cycle ceremonies, festivals, and community decisions, where collective

identity is reaffirmed. However, these interactions do not necessitate co-residence, allowing the nuclear family to remain the functional core of daily life. This balance between familial independence and communal interdependence has enabled the Juang to navigate a changing socio-economic environment while preserving cultural coherence. The *Paribar*, in essence, encapsulates the Juangs' pragmatic response to agrarian life, acting as both a social institution and a symbol of adaptation and resilience.

3.1.6.5. Paudi Bhuiyan

The Paudi Bhuiyan traditionally follow a nuclear family system, locally called *Kutumb*. This family unit typically includes the husband, wife, and their unmarried children, and serves as the fundamental social and economic unit of Paudi Bhuiyan society. The preference for the *Kutumb* structure is deeply rooted in the tribe's semi-nomadic lifestyle and historical dependence on shifting cultivation (locally known as *poduchasa*), which requires small, mobile family groups capable of independently managing the demands of forest-based subsistence. In this context, larger joint or extended families would pose logistical challenges in resource distribution, mobility, and land rotation, making the compact, autonomous nuclear family model far more viable.

The *Kutumb* allows the Paudi Bhuiyan to remain self-reliant in livelihood, decision-making, and social functioning. In particular, shifting cultivation involves clearing forest patches, cultivating for a few seasons, and then moving to new plots, which are labour-intensive yet manageable for small, cohesive family groups. The independence afforded by the nuclear family system facilitates swift decision-making on crop selection, seasonal migration, and land use, which are crucial in a fragile ecological and economic environment. Moreover, Paudi Bhuiyan's social structure is non-hierarchical and egalitarian, supporting the autonomy of individual households rather than centralised authority within joint families. Men and women contribute significantly to household subsistence, where men clear the land and engage in external labour. In contrast, women play key

roles in sowing, weeding, gathering forest produce, and managing the domestic space (Photo 3.1.6.5).



Photo 3.1.6.5: Elder Paudi Bhuiya Couple Preserving Traditional Hunting Implements: Bow, Arrow, and Bolt Head (Source: CoE-STMC, UU)

Although Kutumb forms the primary residential and economic unit, the Paudi Bhuiyans maintain strong ties to their clan (*gotra*) and village-level institutions, particularly during festivals, marriages, and community rituals. These larger social affiliations ensure that nuclear families are part of a cohesive moral and cultural community, even if they live and work independently. The nuclear structure does not signify social isolation but rather a practical response to environmental and economic constraints. With the growing push toward stratification through state-sponsored development programs and forest regulations, the Paudi Bhuiyans are undergoing gradual transformations in their livelihoods and settlement patterns. Nonetheless, the *Kutumb* remains a resilient social unit, adapting to traditional ecological practices and modern interventions without undermining the community's cultural foundations. This blend of flexibility and rootedness underscores the strength of the nuclear family system among the Paudi Bhuiyan, making it a central feature of their identity and survival.

3.1.6.6. Dongria Kandha

Among the Dongria Kandha, the nuclear family system, locally called *Mahaliku*, is the predominant form of social organisation. The preference for the *Mahaliku* structure reflects the Dongria Kandha's deep connection with the Niyamgiri Hills, where they practice a sophisticated form of shifting cultivation, horticulture, and forest foraging. In such a context, the nuclear family offers flexibility and economic efficiency, enabling families to manage their hill-slope gardens (*dongar*) independently. Each *Mahaliku* operates autonomously in decision-making regarding land use, labour division, and the maintenance of their *dongar* plots, which typically include a variety of fruit trees, tubers, and seasonal crops.



Photo 3.1.6.6: Dongria Kandha Women Engaging with Their Children During Forest Foraging Activities (Source: CoE-STMC, UU)

Despite the centrality of the *Mahaliku* in daily life, the Dongria Kandha maintain robust clan-based affiliations, or *kutumb*, which extend social ties well beyond the household. These clans, which are exogamous and totemic, regulate marital alliances, religious responsibilities, and ritual obligations. They provide a framework for social cohesion, conflict resolution, and communal identity across scattered settlements. While individual *Mahaliku* households manage their livelihoods, members of the same clan often assist one another during important agricultural and ceremonial events, reinforcing solidarity. For example, festivals such as Meria and Dangaria Parab involve collective participation across multiple clans and families, where each nuclear household contributes while affirming its place within the wider tribal network.

Gender roles within the *Mahaliku* are clearly defined but not rigid. Women are crucial in agricultural labour, seed preservation, food processing, and the collection of forest produce. At the same time, men are more involved in clearing land, trading surplus produce, and representing the family in village councils. The nuclear structure also allows adaptability in modernisation pressures, such as state-led development, mining threats, and resettlement schemes. The autonomy of the *Mahaliku* enables families to make independent decisions regarding migration, resource allocation, and political resistance, as was evident during the Dongria Kandha's sustained protest against bauxite mining in the Niyamgiri Hills. However, the clan networks remain intact despite these changes, ensuring that social support systems and cultural continuity are preserved.

Thus, the *Mahaliku* serves not only as the basic economic and domestic unit of the Dongria Kandha but also as a symbol of cultural resilience and ecological adaptation. Its embeddedness within a larger network of clan affiliations demonstrates the balance the Dongria Kandha strike between household autonomy and community solidarity, a hallmark of their indigenous identity and sustainable way of life.

3.1.6.7. Hill Kharia

Among the Hill Kharia, the dominant family structure is nuclear, locally called *Ghar* or *Paribar*. The preference for the nuclear *Ghar/Paribar* among the Hill Kharia aligns closely with their subsistence-based lifestyle, which traditionally revolves around hunting, food gathering, and shifting cultivation. However, increasing sedentarisation and agricultural practices have emerged over the past few decades. The nuclear family setup enables these small units to efficiently manage the demands of forest-based livelihoods and agricultural labour while allowing for greater mobility and autonomy in the resource-scarce hilly regions they inhabit.



Photo 3.1.6.7: Elder Hill Kharia Couple: Patriarchal Heads of the Ghar/Paribar (Source: CoE-STMC, UU)

Despite their emphasis on nuclear residence patterns, the Hill Kharia maintain strong extended kinship ties that are critical in sustaining economic cooperation, social support, and ritual obligations. These kinship networks, often based on lineage and clan (or *bansa*) affiliations, facilitate reciprocal labour exchange during agricultural activities, construction of homes, and major life-cycle events such as marriages and funerals. Kinship among the Hill Kharia operates on the principles of mutual aid, whereby members of related *Ghar* units can rely on one another in times of economic hardship, illness, or food insecurity. This system ensures that while the nuclear family remains the residential core, it does not function in isolation but is embedded within a web of supportive social relationships that extend across households and generations (Photo 3.1.6.7).

Gender roles within the *Ghar* are complementary and vital to the functioning of the family unit. Men are primarily responsible for forest clearing, hunting, and occasional wage labour, while women

contribute significantly to domestic duties, gathering forest produce, processing food, and even engaging in cultivation. This division of labour reinforces the economic independence of each nuclear household, yet interdependence among kin remains essential, especially in labour-intensive or ceremonial contexts. The *Paribar* also serves as a primary unit for transmitting traditional ecological knowledge, values, and skills essential for survival in forested environments.

In the face of external pressures, such as land alienation, deforestation, and development-induced displacement, the Hill Kharia have demonstrated remarkable social resilience. Their nuclear *Ghar/Paribar* system, anchored in kinship and cooperation, has enabled them to adapt while preserving cultural continuity. Government interventions, such as housing schemes or agricultural assistance, are often directed at individual households, further reinforcing the nuclear family as the unit of governance and development. However, the Hill Kharia family system's strength lies in its adaptability and its rootedness in a collective tribal ethos, in which the individual family finds security, identity, and purpose within the broader clan-based social fabric.

3.1.6.8. Kutia Kandha

Among the Kutia Kandha, the nuclear family structure is predominant and is locally referred to as *Kutum* (Photo 3.1.6.8). The *Kutum* is central to the everyday life of the Kutia Kandhas, who inhabit the remote, forested highlands of the Kalahandi and Kandhamal districts. Traditionally reliant on shifting cultivation (*poduchasa*), forest gathering, and subsistence agriculture, the nuclear family provides an efficient and autonomous unit for managing land, organising labour, and making decisions regarding resource use. In this context, smaller family units are more manageable and better adapted to the ecological demands of mountainous terrain and scattered landholdings. The *Kutum* also facilitates mobility and flexibility, essential in a socio-ecological setting where families periodically relocate their fields or seek seasonal work.

However, the Kutia Kandha social system accommodates polygynous marriages, particularly among influential men, village elders, or economically better-off individuals. While polygyny is not the norm, it remains culturally sanctioned and is often associated with higher social status or economic advantage. In such cases, a man may take multiple wives, each wife often maintaining her own household or cooking arrangements, leading to what anthropologists sometimes call "compound nuclear families". These arrangements can help manage larger agricultural fields or increase labour availability within the household, especially in contexts where large families are considered beneficial for subsistence and ritual responsibilities. In such instances, the senior wife may hold authority within the domestic hierarchy, but all wives are expected to contribute equally to agricultural and domestic labour.

The family structure of the Kutia Kandha is also deeply embedded in their clan-based exogamous system, where marriage within the same clan is strictly forbidden. These *gotras* regulate marital alliances and help maintain genetic diversity and social cohesion. Even though the *Kutum* functions independently in the economic and domestic spheres, the broader kinship network ensures cooperation during rituals, festivals such as *Meria* and *Bihan Parab*, and life-cycle events such as marriage, childbirth, and death. This balance between nuclear autonomy and clan solidarity is a defining feature of Kutia Kandha social organisation.



Photo 3.1.6.8: Kutia Kandha Couple of Belghar, Kandhamal District: Emblems of Tribal Domestic Life (Source: CoE-STMC, UU)

The nuclear family model is also reinforced by recent developmental and welfare interventions, such as housing schemes, ration distribution, and agricultural subsidies, which are often targeted at individual households. These initiatives have gradually reduced the incidence of extended and joint family systems, further consolidating the *Kutum* as the primary unit of governance and development. However, traditional institutions like the *desa* (village council) and *peno* (spiritual guardian) continue to regulate family relations, conflict resolution, and inheritance, thereby anchoring the Kutia Kandha family within a broader cultural and spiritual framework. The coexistence of monogamous nuclear families and occasional polygynous households reflects the adaptive and hierarchical flexibility within the community's social fabric, shaped by ecological necessity and cultural heritage.

3.1.6.9. Lodha

The Lodha community predominantly adheres to a nuclear-family structure called *Paribar*. The *Paribar* serves as both the economic and social nucleus of Lodha society, reflecting their forest-based subsistence lifestyle, which traditionally revolves around shifting cultivation (*jhum* or *poduchasa*), the collection of non-timber forest products (NTFPs), and occasional wage labour. In the challenging ecological terrain of dense forests and hilly regions, the compactness and autonomy of the nuclear *Paribar* offer practical advantages. Smaller family units can more easily shift cultivation plots, make quick decisions about resource use, and maintain mobility, which is essential for survival in environments with limited or fluctuating access to cultivable land and forest resources.

The economic pragmatism of the nuclear *Paribar* is closely linked to the Lodhas' historical marginalisation and resource constraints. Historically categorised as a "criminal tribe" during British

colonial rule (a designation later denoted), the Lodha faced centuries of social exclusion, displacement, and limited access to institutional support systems. These experiences reinforced their dependence on close-knit, self-reliant family units for economic survival and cultural continuity. Within each Paribar, gender roles are clearly demarcated: men typically handle land clearing, tool-making, and trade, while women are responsible for gathering forest produce, processing food, and managing the home. However, both genders contribute substantially to livelihood activities, underscoring the nuclear household's cooperative nature.

Despite the dominance of the nuclear model, the Lodha maintain strong ties to extended kin and clan networks, particularly during festivals, marriage alliances, and funerary rituals. While these relationships do not necessarily manifest in co-residence or joint family living, they ensure social cohesion, mutual aid, and cultural transmission. The Paribar is thus not an isolated unit but an embedded part of a wider tribal ethos that emphasises reciprocity and collective identity. Additionally, village-level institutions like the *jatsabha* (caste or tribal council) play important roles in maintaining moral and social order, often mediating disputes within and between Paribar units.

Modern interventions, such as land allocation, housing schemes, and welfare benefits, have entrenched the nuclear family as the basic governance and service delivery unit. Government programs typically recognise the Paribar as the primary recipient of benefits like ration cards, housing under the Pradhan Mantri Awas Yojana, and individual forest rights under the Forest Rights Act (2006). While these developments have brought some stability, they have also transformed traditional kinship dynamics, encouraging nuclear living even in contexts where extended families might have once cohabited. The Lodha Paribar remains resilient, balancing ecological adaptation, historical experience, and evolving socio-economic realities.

3.1.6.10. Lanjia Saora

The Lanjia Soura demonstrate notable diversity in family structures, incorporating nuclear and extended family units. The nuclear family, locally known as *Abakukud*, typically comprises a husband, a wife, and their unmarried children and serves as the foundational domestic and economic unit. Alongside this, the *Birindas*, or extended families, are equally significant, often including married sons, their spouses, grandchildren, and sometimes other kin living under a single roof or in proximity. This structural duality reflects the agrarian lifestyle of the Lanjia Souras, who engage in terrace and shifting cultivation (*poduchasa*) on the steep slopes of the Eastern Ghats. Extended families provide a strategic advantage in such an environment, enabling labour pooling for arduous farming tasks such as land clearance, sowing, harvesting, and irrigation management. The *Birindas* system is not just a residential arrangement but a cohesive social and economic unit, governed by shared obligations and collective decision-making. This structure enhances the tribe's capacity to manage communal landholdings, distribute resources equitably, and uphold traditional norms and responsibilities.

Within these extended families, labour is divided along age and gender lines; younger members perform physically demanding agricultural tasks, while elders contribute through supervision, child-rearing, and the preservation of ritual knowledge (Photo 3.1.6.10). Women, in particular, play a crucial role in both the domestic and agricultural spheres, contributing significantly to crop production, food processing, and the maintenance of household economies. The stability provided by the Birindas supports a more ritual-intensive lifestyle, wherein large families collectively observe ancestral worship (*Bonda Budha*), fertility rites, and life-cycle ceremonies that require broader kin participation and resource sharing.

Conversely, *Abakukud*, or nuclear families, among the Lanjia Soura reflect changing socio-economic dynamics, including population pressure, land fragmentation, and government resettlement programs, which often promote independent landholdings. These smaller units are also more agile in responding to modern administrative frameworks, such as receiving targeted welfare benefits, participating in Self Help Groups (SHGs), or engaging in market-based agriculture. The growing prevalence of nuclear families, particularly among younger generations, does not signify a decline in

traditional values but rather an adaptation to new institutional demands and developmental pressures.



Photo 3.1.6.10: Nuclear Family of the Lanjia Soura Community in Gajapati District: Core Domestic Unit
(Source: CoE-STMC, UU)

Despite these structural variations, *Abakukud* and *Birindas* remain firmly anchored in the Lanjia Soura's kinship and clan systems, which regulate marriage, inheritance, and social norms. Clan exogamy, village councils (*Panch*), and ancestral spirit worship bind families across households, ensuring that even nuclear families operate within a collective moral and ritual framework. Thus, the family structure among the Lanjia

Soura reflects not merely household composition but also a dynamic social institution deeply intertwined with their ecological setting, economic strategies, and cultural identity.

3.1.7. MARRIAGE TYPE

3.1.7.1. Birhor/Mankidia

The Birhor community possesses a richly nuanced and diverse matrimonial system, collectively termed *Bapla* in their cultural lexicon. This indigenous framework of marriage encompasses several distinct forms, each representing varying degrees of formality, consent, and ritual complexity. Among the most prevalent is *Nam-Napam Bapla*, or marriage by negotiation, in which familial elders from both sides engage in dialogue to finalise the union, reflecting the community's preference for consensus and social cohesion. Another form, *Udra-Udri Bapla*, refers to temporary or trial marriages. This socially sanctioned arrangement allows couples to live together before formalising

their relationship, a unique mechanism for assessing compatibility. *Bola-Anal Bapla*, or marriage by intrusion, occurs when a suitor enters and stays within the household of the intended bride without formal approval, eventually securing acceptance through persistent presence. The practice of *Jawo-Bapala*, marriage by service, is another culturally significant custom in which the groom resides and works in the bride's family, either as a symbolic gesture of respect or as fulfilment of an agreed-upon. *Golhat-Bapala*, or marriage by exchange, involves reciprocal arrangements between two families in which a brother and sister from one family marry a brother and sister from another, reinforcing kinship bonds through balanced marital alliances. Additionally, the Birhor recognise *HirumBapla*, which facilitates remarriage after widowhood or divorce; *Kala-Kuli Bapla*, denoting traditional arranged marriages; and *Kushi-Kusha Bapla*, which refers to love marriages initiated by mutual attraction and often leading to elopement. The rarely practised but culturally symbolic *Or-Agu* (marriage by capture) also exists, though it has largely transformed into a ritualised form rather than an act of coercion. Despite various forms of marriage, monogamy remains the normative and most widespread form within Birhor society. These elaborate marital customs demonstrate the socio-cultural complexity of the Birhor but also highlight their agency in managing familial and community ties through flexible, adaptive, and socially embedded practices. (Table 3.1.7)

3.1.7.2. Bonda

Among the Bonda tribe, marriage is deeply embedded in their indigenous worldview and is referred to locally as *Sebung*. The Bonda recognise two principal forms of marriage: *Sebung*, or marriage by mutual consent, and *Guboi*, or marriage by capture, which reflect their socio-cultural fabric and traditional autonomy. *Sebung* represents a consensual union between a man and a woman, typically facilitated by family members or elders, and is characterised by mutual agreement and community recognition. This form underscores Bonda's value of personal choice and familial negotiation in cementing marital alliances. In contrast, *Guboi* (marriage by capture) is a more dramatic and culturally unique practice, wherein the groom seizes the prospective bride, often from a *donger* (a forest or swidden cultivation field) or a ceremonial gathering place. The ritualised nature of this capture and communal understanding, and the fact that the captured girl is usually aware of and complicit in the event. Nevertheless, modern influences and state interventions have led to a decline in the literal practice of such capture, with many now recognising it as a symbolic performance rather than an act of abduction. Importantly, despite these diverse forms of union, monogamy is the dominant and socially accepted marital structure among the Bonda, reaffirming their normative framework for familial life and inheritance. The continued observance of *Sebung* and *Guboi* in the Bonda community not only illustrates the tribe's rich cultural continuity but also highlights their adaptive resilience in balancing tradition with changing social realities.

3.1.7.3. Didayi

The Didayi community possesses a rich and distinctive marital culture. Locally referred to as *Bihay*, marriage among the Didayi reflects social adaptability and deeply rooted customs, practised through multiple culturally sanctioned forms. The most common type is *Bihay* proper, or marriage by negotiation, where the bride and groom's families mutually agree on the alliance, often with the intervention of community elders to mediate terms, including bride price and ceremonial obligations. However, alternative and more assertive practices, such as *Gube* (marriage by capture), are also recognised, in which the groom captures the bride, typically from communal gatherings or fields, in a ritualised manner. Though appearing coercive, this form is often pre-agreed upon by the couple and dramatised for cultural value, similar to practices observed among other tribal groups, such as the Bonda and Kondh. Another distinctive form is *Paisa Mudhi*, or marriage by intrusion, in which the

girl takes an active role by entering the boy's household uninvited and declaring herself his wife by assuming the role of a daughter-in-law. In such rare cases, her persistent cohabitation eventually leads to social acceptance and the formalisation of the union. This unique reversal of traditional gender roles exemplifies the relative gender fluidity and autonomy afforded to women in Didayi society compared to patriarchal norms of mainstream communities. While monogamy is the prevailing marital norm, polygamy is not absent and may occur under specific social or economic conditions, such as infertility or widowhood. The Didayi marriage system, therefore, is a compelling reflection of the community's indigenous jurisprudence and adaptive strategies, balancing tradition with interpersonal agency. Despite pressures to homogenise law and religion, these marital practices sustain social cohesion and identity within the Didayi tribal framework.

3.1.7.4. Juang

The Juang community refers to marriage as *Kania*. Their marriage customs are marked by a striking fusion of natural symbolism and cultural expression, embodying their deep relationship with the forested environment they inhabit. Among the Juang, *Phulkusi Kania* is a common form of love marriage that involves subsequent formal arrangements between the bride and groom's families. This form blends personal choice with social sanction, aligning individual autonomy with communal values. More unique, however, are the expressive and ritualised practices of *Am Lesare Kania* and *Kada Lesare Kania*, which reveal how natural elements are integral to Juang matrimonial traditions. *Am Lesare Kania* - "marriage by throwing a mango" - involves a boy expressing his affection by hurling a mango at a girl in the forest. If the girl reciprocates his feelings, the act is taken as a marriage proposal, leading to further customary proceedings. Similarly, *Kada Lesare Kania*, or "marriage by throwing mud," follows the same symbolic gesture, substituting mango with mud - an action rooted in local cultural codes rather than physical aggression. While seemingly playful or unorthodox, these acts serve as socially coded rituals that signal interest and initiate courtship in an environment where nature is both backdrop and participant in daily life. They also underscore the Juangs' creative, environmentally embedded worldview, in which even matrimonial customs are intertwined with ecological elements. Despite the variety in forms and the symbolic richness of these practices, monogamy remains the predominant and socially endorsed form of marriage among the Juang, maintaining stability in household structures and inheritance systems. Thus, the Juang marriage system vividly illustrates how tribal communities in Odisha have preserved ancient customs while adapting them to evolving norms and retaining their distinctive cultural identity rooted in nature and symbolism.

3.1.7.5. Paudi Bhuiyan

The Paudi Bhuiyan possesses a rich array of indigenous marital customs called *Bibha*. These customs reflect a complex interplay of consent, tradition, and symbolic ritual within their socio-cultural fabric. One of the most common and socially sanctioned forms is *Mangi Bibha*, or marriage by negotiation, which involves formal discussions between the families of the bride and groom. This practice typically involves agreements on bride price, rituals, and familial responsibilities, reinforcing kinship alliances and social order. In contrast, *Ghicha Ghichi*, or marriage by capture, is a more dramatic and ceremonial form of marriage, usually enacted during festivals or community gatherings. During this ritualised event, a young man symbolically captures the woman of his choice, and with communal acknowledgement, the act transitions into a legitimate union. While it may appear coercive to outsiders, *Ghicha Ghichi* is often prearranged or mutually understood between the couple. It serves as a familial opposition, fleeing together and returning only after spending time in seclusion. This form of union is eventually legitimised through customary rituals and the payment of a nominal fine to the village council. Another unique form is *Dhuki Pasiba*, or marriage by intrusion, in which a determined girl enters the house of the boy she wishes to marry and begins performing the duties of a daughter-in-law (Photo 3.1.7.5). Over time, such acts of defiance and agency are acknowledged, and the union is formalised, reflecting an unusual but significant space for female assertiveness in tribal marital dynamics. Though these diverse forms coexist, monogamy remains the normative ideal within the Paudi Bhuiyan community, providing social stability and continuity. The coexistence of negotiation, elopement, capture, and intrusion in Paudi Bhuiyan marriage practices exemplifies the tribe's flexible and culturally embedded approach to forming marital bonds, prioritising social harmony over rigid ceremonial orthodoxy.



Photo 3.1.7.5: Newlywed Paudi Bhuiya Couple Performing 'Dhuki Pasiba' Puja at the Gramadevi Shrine (Source: CoE-STMC, UU)

3.1.7.6. Dongria Kandha

The Dongria Kandha refer to marriage as *Haidi*, a culturally rich institution deeply embedded in their clan-based social structure. Marriage among the Dongria Kandha is not merely a union of individuals but a strategic alliance between lineages, reinforcing clan solidarity and maintaining social equilibrium. The tribe primarily practices two significant forms of marriage, i.e. marriage by negotiation and marriage by capture. *Haidi, by negotiation*, is the most preferred and socially sanctioned form, involving a structured dialogue between the bride and groom's families. Negotiations are carried out through designated intermediaries, and terms such as bride price (often paid in kind, including grains or livestock) and ceremonial obligations are meticulously agreed upon, reflecting the tribe's emphasis on reciprocity and clan cohesion. In contrast, *Haidi by capture*, though less common today, persists as a symbolic ritual during festivals or communal events. In this

practice, the groom's party may forcibly "capture" the bride (often with her implicit consent) and take her to his home, where the union is later formalised with customary rites. This act, though dramatised, signifies virility and clan honour and is accepted as valid within the tribal legal framework. Despite these variations, monogamy is generally upheld as the social norm. However, polygyny (where one man marries multiple women) is occasionally practised, particularly in cases where the first wife is infertile or unable to perform household duties, or when alliances with multiple clans are strategically advantageous. Marriage, for the Dongria Kandha, thus serves a reproductive function and is a vital mechanism for sustaining inter-clan alliances, distributing resources, and ensuring community cohesion. Even amid increasing external influences and state-led interventions, the Dongria Kandha have retained their distinct marital customs, which reflect their ecological worldview, kinship values, and resistance to cultural assimilation.

3.1.7.7. Hill Kharia

The Hill Kharia refer to marriage as *Vivah*, which holds profound social and cultural significance within their community. The Hill Kharia practice several forms of marriage, with *Dhuku Bahagar* (love marriage or elopement) and *Ghicha Bahagar* (marriage by ceremonial capture) as the primary forms. *Dhuku Bahagar* is the most individualised form of marriage among the Hill Kharia, in which the union between a man and a woman is initiated by mutual attraction and love, yet still involves family negotiations and social approval. This practice often involves the couple eloping, escaping familial opposition, formalising the marriage through customary rites and paying a nominal fine to the community council. This form of marriage reflects Hill Kharia's flexible approach to personal agency within the broader social norms and customs. On the other hand, *Ghicha Bahagar*, or marriage by ceremonial capture, is a more traditional, ritualistic form in which the groom "captures" the bride during a festival or public gathering. The capture, although symbolic and ceremonial, is seen as a display of strength and virility and carries with it significant social prestige. This practice is still retained in specific socio-cultural contexts, particularly during festivals like the *Chher Chhera* or other community events, where it reinforces community bonds and maintains traditional gender roles. While *Ghicha Bahagar* is increasingly rare, it remains an important part of the Hill Kharia's cultural identity, embodying their deep connection to ancestral practices and public performance as part of their social cohesion. Despite these varied forms, monogamy is the prevailing marital norm within the Hill Kharia community, though, in some cases, polygyny may occur, particularly among wealthier or more influential men. Overall, the marriage customs of the Hill Kharia serve as vital expressions of their socio-cultural dynamics, blending individual choice with traditional norms to foster personal and community well-being.

3.1.7.8. Kutia Kandha

The Kutia Kandha refers to marriage as *Sedi*, a key social institution that embodies a distinctive blend of family arrangements and individual choice. Among the Kutia Kandha, several forms of marriage are practised, each reflecting unique cultural meanings and social functions. The most prevalent form is *Sedi Tatam*, or Sadi Bengana (arranged marriage), in which the families of the bride and groom negotiate the terms of the marriage, including the bride price and other customary obligations, often with the involvement of community elders. This form of marriage underscores the tribe's strong kinship networks, where the union is not only an individual choice but also a means of strengthening familial ties and social bonds. A more traditional and dramatic form is *Reja Nona* (marriage by capture), in which the groom, typically during festivals or ceremonial gatherings, forcibly "captures" the bride, often with her consent, in a public display of strength and virility. While this practice is symbolic and ceremonial, it reinforces social roles and tribal solidarity. Another

notable practice is *Guisat Sedi* (marriage by elopement), in which the couple often faces familial opposition, elopes, and then formalises the marriage through customary rites. This form reflects a more individualistic approach to marriage, where personal affection supersedes familial expectations and social constraints. Additionally, *Ghar-join Sachenja* (marriage by service) involves a groom working for the bride's family, often for a stipulated period, before being formally accepted as the bridegroom. This practice, which may resemble a form of trial marriage or apprenticeship, emphasises labour exchange and familial approval as essential components of the marital process. While these varied marriage practices coexist within the Kutia Kandha community, monogamy remains the dominant marital norm. However, polygyny may occur under specific circumstances, such as infertility or other social conditions. Collectively, the marriage practices of the Kutia Kandha exemplify a balanced integration of individual desires, familial arrangements, and community acceptance, demonstrating the tribe's adaptability and cultural resilience.

3.1.7.9. Lodha

The Lodha tribe refer to marriage as *Beha*, a central social institution that governs the formation of families and inter-community relationships. Among the Lodha, marriage practices are diverse, reflecting a blend of traditional customs and evolving social preferences. One of the most common forms of marriage is *arranged marriage*, where the bride and groom's families play a central role in negotiating terms, including the bride price, dowry, and the formal rituals that precede the union. This traditional practice emphasises the importance of familial ties, and the community views marriage as a means of consolidating kinship and ensuring social continuity. Another form of marriage within the Lodha community is *love marriage*, or *Beha by love*, which, although less common, is increasingly practised, particularly among younger generations. In this form, individuals choose their partners based on mutual affection, and while familial consent is still sought, the couple's personal agency in the decision-making process is highly valued. The *marriage by exchange of sisters*, a practice known as *Sister Exchange Marriage*, is also notable among the Lodha. In this system, a family gives one of their daughters in marriage to another family in exchange for the marriage of a daughter from that family to one of their sons. This practice fosters a system of reciprocity and strengthens alliances between different households or clans, reinforcing the community's social fabric. Though these varying marriage forms coexist, monogamy remains the dominant marital practice in the Lodha tribe, though instances of polygyny can occur, particularly in situations involving social or economic considerations. The Lodha's marriage customs thus represent a dynamic blend of old traditions and modern adaptations, as the tribe navigates the complexities of maintaining social order while embracing new forms of personal choice and agency.

3.1.7.10. Lanjia Saora

The Lanjia Soura refer to marriage as *Sirong*, an institution rich in cultural significance and diversity. Among the Lanjia Soura, various marital customs exist, demonstrating the community's flexible approach to marriage while maintaining traditional norms. The most prevalent form of marriage is the *Daisai* or *Pura Serung* (arranged marriage), in which the bride and groom's families discuss and finalise terms such as bride price, dowry, and other customary obligations (Photo 3.1.7.10). This form of marriage highlights the communal and familial role in maintaining social cohesion and kinship ties, a cornerstone of Lanjia Soura's social structure. However, the tribe also practices *Ding Dong Boi* (marriage by physical capture), a ritualised form of marriage wherein the groom forcibly captures the bride, typically during festivals or community events. The act of capture, while appearing coercive to outsiders, is a highly symbolic practice, deeply embedded in the tribe's cultural values of strength, virility, and clan honour. Following the capture, the union is formally recognised



Photo 3.1.7.10: Transformation of Traditional *Daisai* to Christian Rituals Among the Lanjia Saora of Pendrong Village, Gajapati District (Source: CoE-STMC, UU)

through ceremonies that reinforce its legitimacy. Another significant marriage form among the Lanjia Soura is *Alishim/Bauli Serung* (love marriage), where individuals choose their partners based on mutual affection. However, this form remains less common and often requires familial approval. In contrast to other tribal groups, polygyny is notably prevalent among the Lanjia Soura, where a man may take multiple wives, particularly when social or economic advantage is sought, such as acquiring more labour for agricultural work or strengthening clan alliances.

The practice of polygyny among the Lanjia Soura distinguishes them from many other PVTGs (Particularly Vulnerable Tribal Groups), reflecting a distinct matrimonial framework that balances individual choice with social and economic factors. While monogamy remains common in many instances, polygyny continues to be a socially accepted form of marriage within this community. Thus, the Lanjia Soura's marriage practices represent a dynamic blend of traditional customs, clan-based strategies, and individual preferences, ensuring the continuity of their social and economic systems.

3.1.8. BRIDE PRICE

3.1.8.1. Birhor/Mankidia

Among the Birhor, the practice of bride price (*Ganangholds*) has distinct cultural and socio-economic significance. Unlike the more common pattern among tribal societies where the groom's family pays the bride price, the Birhor deviate from this norm, with the bride's parents providing the *Ganang*, which traditionally includes a nominal amount such as four annas (approximately Rs. 7), four hens, two goats, and about 50 kilograms of rice. This reversal is noteworthy in anthropological discourse, as it highlights the diversity and complexity within the institution of marriage across tribal groups in India. The modesty of the *Ganang* reflects the Birhor's subsistence economy, which is predominantly based on hunting, gathering forest products, and rudimentary forms of shifting cultivation. The community's minimal engagement with the cash economy and its dependence on forest-based livelihoods mean that even symbolic offerings, such as poultry and grain, carry substantial socio-cultural weight. (Table 3.1.8)

The *Ganang* is not merely a transactional exchange but a ritualised affirmation of the marital alliance, aligning with the Birhor's deeply embedded communal traditions and belief systems. The items offered serve ceremonial and practical purposes; hens and goats are often consumed during the marriage feast. At the same time, rice is distributed among kin, reinforcing reciprocity and collective

participation. This practice also mirrors the egalitarian ethos of the Birhor society, where marriage is more a union of clans and labour-sharing units than an assertion of patriarchal dominance or a display of wealth. Furthermore, the role of the bride's parents in initiating the marriage payment underscores a unique gender dynamic, wherein familial obligations and mutual support systems take precedence over hierarchical marital customs. Though economically small, the *Ganang* embodies the values of cooperation, interdependence, and cultural identity within the Birhor community. As modernisation and socio-economic pressures encroach upon such vulnerable tribal groups, the continuity of such practices is increasingly threatened, making documentation and understanding of customs like *Ganang* essential for preserving indigenous knowledge systems. In essence, the Birhor's approach to bride price exemplifies a nuanced model of marriage economics, deeply rooted in their ecological setting and communal way of life.

3.1.8.2. Bonda

Among the Bonda tribe, the practice of bride price, locally termed *Ginning*, occupies a central place in their matrimonial and economic systems. In a pattern that contrasts with most tribal practices in India, the *bride's parents pay the groom's family for the ginning and typically comprise* a cow, a bullock, and approximately 20 to 30 kilograms of cereals. This reverse form of bride price underscores the uniqueness of Bonda marital customs and reflects the community's deep-rooted agrarian ethos. Livestock in Bonda society is not merely symbolic; it represents vital assets essential for agricultural productivity, sustenance, and socio-economic mobility. Cattle serve multifaceted roles, providing labour for ploughing, organic manure for farming, and milk for nutritional needs, thus integrating subsistence and cultural value into the bride price transaction.

The payment of *Ginning* is not a mere formality; it constitutes a binding social contract between the two families and clans involved. This transaction formalises the marital alliance and activates a series of reciprocal obligations such as labour-sharing, festival participation, and mutual aid, which are fundamental to the survival and cohesion of Bonda society. Furthermore, the responsibility of the bride's family to pay the *Ginning* suggests a distinctive social structure in which marital alliances are initiated as gestures of alliance-building and strategic social positioning, rather than expressions of male dominance or the commodification of the bride. It also reflects the autonomy and significance accorded to women within Bonda culture, where their labour and fertility are integral to household economies and the continuation of lineages. Despite the pressures of modernisation, state-led development interventions, and market integration, the practice of *Ginning* remains largely intact, indicating the resilience of Bonda customs and their resistance to cultural homogenisation.

This unique inversion of the typical bride-price norm raises critical questions in the anthropological literature about the fluidity and diversity of gender roles, economic exchange, and kinship practices in tribal India. Scholars have argued that such practices challenge mainstream assumptions about patriarchy and marriage transactions by demonstrating context-specific models of social organisation that are deeply informed by ecological settings and historical continuity. Thus, the *Ginning* among the Bonda is not just a ceremonial payment, it is a culturally encoded practice that anchors familial relations, gender dynamics, and economic sustainability within one of India's most resilient tribal communities.

3.1.8.3. Didayi

Among the Didayi, the practice of bride price, locally known as *Gineng* or *Jhola Dabu*, presents a compelling example of how marriage customs intertwine with subsistence lifestyles and cultural

rituals. Uniquely, as with the neighbouring Bonda and Birhor communities, the Didayi diverge from the more prevalent tribal pattern in which the groom's family pays the bride price; instead, the bride's parents are responsible. This reverse payment system is deeply symbolic and socially significant, comprising 10 kilograms of rice, a goat, a cash component, and five gallons of fermented sago palm liquor. Each item in the *Gineng* package carries both practical and cultural meaning. Rice and goat serve both subsistence and ceremonial functions, often forming part of the wedding feast. At the same time, fermented sago palm liquor is particularly important, as it reflects the Didayi's long-standing tradition of using locally brewed drinks to foster communal bonding, appease ancestral spirits, and sanctify major life events.

The inclusion of *sago palm drink*, a culturally significant fermented beverage, demonstrates the Didayi's deep-rooted connection to their ecological environment and ritual life. Fermented beverages among many tribal groups, including the Didayi, are not merely intoxicants but are laden with symbolic value; they are used in birth ceremonies, marriage rituals, and even death rites, marking transitions in social and spiritual identity. By incorporating such items into the bride price, the Didayi emphasise the sacred and communal dimensions of marriage, in which the union of two individuals is simultaneously a union of families and a reaffirmation of tribal cohesion. Moreover, the structure and content of *Gineng* reflect the Didayi's subsistence economy, based on forest produce, shifting cultivation, and small-scale livestock rearing. These transactions are modest in monetary terms but rich in cultural substance, with every component reinforcing reciprocal obligations between affinal kin and fostering long-term alliances between clans.

Anthropologists have noted that such bride price customs among PVTGs challenge mainstream assumptions about gender roles and marital economics. The fact that the bride's family undertakes the responsibility of the payment, including valuable resources such as livestock and fermented drinks, suggests a social order in which women's roles are viewed through a lens of communal integration and labour contribution rather than commodification. As modernisation and legal interventions gradually reach these secluded communities, practices like *Gineng* remain resilient, though increasingly hybridised with monetary components or simplified due to economic constraints. Nevertheless, the *Gineng* of the Didayi is a living testament to the intricate interplay between ecology, economy, and ritual in shaping marriage customs among India's most vulnerable and culturally rich tribal populations.

3.1.8.4. Juang

Among the Juang tribe, the custom of bride price is locally known as *Kania Mula*. This traditional practice reflects the economic aspects of marital alliances and the Juang society's deeply communal, kinship-oriented fabric. Unlike many other tribal groups where the bride price is a straightforward transaction between two nuclear families, the *Kania Mula* involves a collective contribution from various close kin of the bride, namely her father, paternal uncle, maternal uncle, and a community-appointed middleman known as the *khandaria*. The bride price package typically includes three rupees in cash, 25 kilograms of parboiled rice, 25 kilograms of raw rice, one chicken, two gallons of rice beer (*handia*), and a saree for the bride's mother. This aggregation of contributions symbolises a shared responsibility in negotiating and formalising marriage and highlights the social embeddedness of individual unions within the wider clan and village network.

Including multiple relatives in providing the *Kania Mula* underlines the importance of marriage as a communal institution among the Juang. It reinforces familial reciprocity, clan solidarity, and continuity of intergenerational bonds. The contribution of the *khandaria*, an intermediary and

matchmaker, further illustrates the Juang marriages' organised and ritualised nature, where social consensus and communal approval are crucial. Items such as rice and rice beer are not merely consumables; they hold ritual significance, serving as offerings during the wedding feast and enabling the following communal celebration. The saree offered to the bride's mother is also symbolically meaningful, a gesture of honour and respect that recognises her role in raising the bride and fulfilling familial duties. The relatively small monetary amount contrasts with the weight of in-kind contributions, which are more aligned with the subsistence-based, agrarian lifestyle of the Juang, who rely heavily on shifting cultivation, minor forest produce, and artisanal work.

Anthropologists have long observed that such systems of bride price in tribal India serve multifaceted purposes: they act as economic transactions, instruments of alliance-building, and mechanisms for redistributing resources within and between kin groups. In the Juang context, the *Kania Mula* emphasises that marriage is not a private affair but a communal event that necessitates contributions, consensus, and cooperation from extended family and village members. It also subtly conveys a gendered acknowledgement of the bride's familial lineage and the shared labour that has gone into raising her, a recognition materially expressed through the symbolic offerings. Despite the encroachment of modern legal systems and evolving socio-economic conditions, the Juang continue to adhere to this custom, underscoring the resilience and cultural depth of indigenous matrimonial traditions in Odisha. The *Kania Mula*, thus, is not just a tradition of material exchange but a testament to the Juang's intricate social systems, their value for kinship bonds, and the cultural continuity of their identity amidst change.

3.1.8.5. Paudi Bhuiyan

Among the Paudi Bhuiyan tribe, the bride price tradition is called *Kania Mula*, mirroring the terminology used by the culturally proximate Juang tribe. This matrimonial custom involves a complex, communal form of contribution, in which several kin members of the bride's family, especially her father, maternal and paternal uncles, and even the village headman, participate in the payment process. The standard composition of the *Kania Mula* among the Paudi Bhuiyan includes 7 to 10 *pai* (approximately 25 kg) of rice, three goats, three bullocks, and a *dhoti* gifted to the bride's maternal uncle. The inclusion of multiple livestock, particularly bullocks, is emblematic of the tribe's dependence on a mixed economy comprising pastoral and agricultural activities. Bullocks are critical assets within the Paudi Bhuiyan socio-economic system, used for ploughing terraced fields, transporting goods, and as indicators of wealth and social status within the community.

The distribution of *Kania Mula's* responsibilities across the extended family network and village leadership reflects the collective ethos of the Paudi Bhuiyan people, where marriage is not a solitary contractual arrangement but a significant socio-cultural event. It reinforces kinship bonds, affinal relationships, and village-level solidarity, ensuring that the marriage serves the interests of the nuclear families and the larger social group. The gift of a *dhoti* to the maternal uncle is especially symbolic; it acknowledges the maternal lineage's role in the bride's upbringing and its ritual responsibilities in wedding ceremonies, thereby emphasising bilateral kinship recognition. Moreover, the emphasis on rice and livestock as central components of the bride price reflects the tribe's subsistence patterns, which rely on shifting cultivation, settled agriculture, and the rearing of domesticated animals. These materials are practical, providing food for the wedding and future use, and deeply imbued with symbolic meanings of fertility, prosperity, and familial obligation.

The *Kania Mula* of the Paudi Bhuiyan anthropologically illustrates the multidimensional nature of bride price in tribal India, where economic, ritual, and relational dimensions are tightly interwoven.

Unlike the dowry system prevalent in many non-tribal Hindu communities, which often commodifies women and places the economic burden on the bride's side, the *Kania Mula* system functions as a form of social investment and exchange, reinforcing cooperative relationships within and across kin groups. It also helps maintain intergenerational equity, as the resources mobilised for one marriage are often reciprocated over time through similar contributions in other kin marriages. The continued observance of *Kania Mula*, despite external influences from modern legal reforms and development programs, is a testament to the resilience of Paudi Bhuiyan cultural traditions and their adaptive capacity in preserving indigenous systems of social organisation and value transmission.

3.1.8.6. Dongria Kandha

Among the Dongria Kandha, the practice of bride price, known as *Modar*, plays a central role in forming marital alliances and reinforcing social hierarchies within the community. The *Modar* system differs from the typical bride-price practices observed among other tribal groups. It involves multiple contributors from the bride's side, most notably the bride's father's mother and the broader village community. This collective involvement in determining the bride price emphasises the communal nature of marriage within the Dongria Kandha society, where marriage is viewed not just as the union of two individuals but as a broader social contract between families and villages. The standard payment for *Modar* typically includes 50 kg of rice, two buffaloes, 15 litres of alcohol (approximately 1 gallon), a saree for the bride, household utensils, and brass metal plates.

Including livestock, particularly buffaloes, in the *Modar* highlights the Dongria Kandha's pastoral and agrarian economy. Buffaloes are essential assets in their economy, serving both as sources of labour for agricultural activities and as indicators of wealth and social status. Buffaloes are highly valued for their role in farming, particularly for ploughing, and are an important source of milk and manure. As such, the payment of buffaloes in the bride price serves both practical and symbolic purposes, reaffirming the groom's economic capacity and ability to provide for the bride. Including 15 litres of liquor, typically handia (a fermented rice drink), further highlights the cultural significance of fermented beverages in Dongria Kandha rituals. Liquor is often used in ceremonial contexts, including weddings, and is vital in facilitating social bonding and ancestral worship. Similarly, brass metal plates and utensils are valuable household items and hold ritualistic significance. They are often used in wedding feasts and subsequent ceremonies, symbolising prosperity and good fortune.

The *Modar* system thus underscores the Dongria Kandha's intricate social organisation, in which marriage involves a reciprocal exchange of material goods that affirm the groom's social standing and that of the broader kinship network. Moreover, this practice reinforces the significance of community involvement and approval in marital transactions, ensuring that the union is not only a personal but also a communal event. Through the payment of rice, livestock, liquor, and utensils, the *Modar* ritual serves as a key mechanism for maintaining social order, fostering intergenerational wealth transfers, and upholding traditional values amid modernisation and external economic influences. *Modar*'s resilience among the Dongria Kandha highlights the endurance of indigenous customs in an increasingly globalised world, marking the tribe's ongoing commitment to preserving its unique cultural heritage and social fabric.

3.1.8.7. Hill Kharia

Among the Hill Kharia, the practice of bride price, known as *Pana*, is a distinctive feature of their marriage customs. Unlike more elaborate or commodified bride price systems found in other tribal or

non-tribal communities, the *Pana* system is characterised by its simplicity and minimal monetary exchange, reflecting the Hill Kharia's egalitarian social structure and subsistence-based economy. The bride price typically consists of a modest payment of Rs. 2.50, alongside 10 kg of rice and cloth for the bride's mother and other female relatives. The relatively small amount of cash and the emphasis on rice and cloth underscore the Hill Kharia's agricultural and domestic economy, in which rice is a staple food and cloth is an important cultural item, particularly in social rituals and ceremonies.

The low monetary value of *Pana* suggests that the Hill Kharia do not view marriage as a commercial transaction, a contrast to the more elaborate bride price practices found among many other tribal groups in Odisha. Instead, the *Pana* system emphasises familial bonds, social cohesion, and the communal nature of marriage within the tribe. This relatively simple exchange of goods highlights the Hill Kharia's traditional values, in which marriage is not commodified but is viewed as a social and cultural union between families, reinforcing kinship ties rather than facilitating economic transactions. Moreover, the payment made by the bride's parents reflects a societal norm where the bride's family takes on the financial responsibility, a practice common in many tribal communities, and the minimal economic burden of *Pana* ensures that marriage remains accessible for all members of the community, regardless of economic standing.

Regarding social implications, the *Pana* system helps maintain the Hill Kharia's egalitarian traditions by avoiding the commercialisation of marriage seen in some other tribal and non-tribal practices, where the bride price can be a significant financial burden. By keeping the transaction simple and grounded in the tribe's agrarian lifestyle, the *Pana* system reinforces the values of cooperation, mutual support, and equality among the Hill Kharia. Furthermore, it ensures that marriage focuses on social and familial bonds rather than material wealth or status. This approach to bride price safeguards the tribe's cultural heritage, preserving its social fabric and resisting the pressures of modernisation and commercialisation that often erode traditional practices. The *Pana* system, therefore, stands as a testament to the Hill Kharia's resilience in maintaining their indigenous customs, reflecting a deep commitment to egalitarianism and communal harmony.

3.1.8.8. Kutia Kandha

Among the Kutia Kandha, the traditional bride price is *Jala* or *Kalu Tapineru*, where the bride's maternal uncle and parents pay. This practice highlights the significant role of extended kin in establishing marriage alliances within the tribe. The bride price in the Kutia Kandha community typically consists of 20 kg of rice, a buffalo, food grains, dress for the bride, and ornaments. Including livestock, such as buffaloes, reflects the agrarian and pastoral nature of the Kutia Kandha economy, where cattle are essential for agricultural labour and serve as symbols of wealth and social standing. Buffaloes are particularly valuable for their utility in farming and as a marker of the groom's ability to provide and his family's economic stature.

The presence of food grains and rice underscores the subsistence-based economy of the Kutia Kandha, where rice is the primary staple and food grains serve both as a form of sustenance and a medium of exchange. However, including dress and ornaments reveals the evolving cultural and social dynamics within the tribe. Ornaments, often including necklaces, bangles, and other jewellery, reflect an increasing emphasis on personal adornment and status within the Kutia Kandha community. While traditional in many ways, the bride price system has shown signs of adaptation, with ornamental items indicating a shift toward valuing external social standing and beauty markers.

This shift could be attributed to the influence of outside cultural interactions and the growing integration of tribal societies with the broader socio-economic structures of India.

The *Jala* or *Kalu Tapineru* system, while rooted in customary practices, thus reflects a combination of traditional and evolving values. The relatively high value placed on cattle, rice, and ornaments shows the tribe's adaptation to changing economic conditions while still holding on to deep-rooted communal and familial responsibility symbols. The practice emphasises kinship ties, with both the bride's maternal uncle and parents contributing, suggesting a broader communal responsibility in marriage arrangements, not limited to the nuclear family. The gradual incorporation of ornamental items in the bride price may also indicate a desire to align with or distinguish themselves from external societal norms, a response to growing interactions with neighbouring communities and the influence of market economies. Consequently, the Kutia Kandha's bride price system provides a vivid example of how indigenous practices can evolve in response to internal community needs and external pressures.

3.1.8.9. Lodha

Among the Lodha, the practice of bride price is called *Kanya Pana*, in which the bride's parents traditionally pay. While largely symbolic and modest, this bride price system has undergone notable changes due to modern economic influences. The traditional *Kanya Pana* typically consisted of a small amount of money (ranging from Rs. 5 to 7) along with other goods, such as cloth for the bride's parents, a goat or a chicken, and brass utensils. These items reflect the subsistence economy of the Lodha, where livestock and agricultural products play a key role in the tribe's economic activities. The modest cash payment, initially relatively low and accompanied by food and household items, was symbolic rather than financial, emphasising kinship and familial responsibility rather than commodification.

However, in recent times, the amount of the cash payment has shifted, with *Kanya Pana* now typically set at Rs. 501. This increase indicates a broader trend of monetisation in tribal marriage customs, which may be influenced by the encroachment of market economies, the introduction of formal currency systems, and greater integration of tribal societies into national economic frameworks. The increased monetary value could reflect the tribe's adaptation to modern economic systems, where the symbolic value of the transaction is preserved. However, the means of exchange have evolved to accommodate the rise of cash economies and inflation. The shift from Rs. 5 to Rs. 501 is not just a reflection of inflation or rising costs but also a sign of how external economic forces are reshaping traditional practices, often in subtle ways that still maintain the cultural and familial significance of the bride price system.

Including livestock, such as goats or chickens, and brass metal utensils further highlights the community's agrarian lifestyle and the value placed on items that hold both practical and cultural significance. Livestock, particularly goats and chickens, are essential for sustenance, while brass utensils are valued as durable and auspicious items, often used in wedding feasts and other rituals. Including cloth for the bride's parents also underscores the importance of familial bonds and the reciprocal nature of the *Kanya Pana* system, in which the bride's family plays a central role in the marriage transaction. Despite the modernisation of the payment amount, the bride price's essential elements, livestock, utensils, and cloth, remain tied to the Lodha's agricultural traditions and social structure.

The *Kanya Pana* system thus provides a fascinating example of how traditional tribal customs can adapt to contemporary changes while maintaining their cultural core. The shift toward higher cash payments signals the influence of modern economic trends on tribal societies. However, including traditional goods like livestock and household items suggests that the Lodha community continues to value the bride price's social, cultural, and symbolic aspects to solidify familial ties and reinforce social cohesion. This dynamic illustrates the resilience and adaptability of indigenous practices in the face of external economic and cultural pressures, ensuring that traditional customs persist even as they evolve in response to broader societal transformations.

3.1.8.10. Lanjia Saora

The Lanjia Soura follows the *Panshal* custom as their form of bride price. The *Panshal* system, traditionally paid by the bride's parents, is a flexible and adaptive practice that involves both cash and kind, reflecting the community's responsiveness to changing economic conditions. In this system, the bride's family contributes to the payment, which often includes a mixture of livestock, agricultural products, and a monetary sum. This combination of tangible goods and cash reflects Lanjia Soura's nuanced approach to marriage transactions, in which the flexibility of the bride price enables families to adapt to their available resources and prevailing economic circumstances, whether subsistence-based or influenced by the broader market economy.

The payment in *Panshal* traditionally includes items that reflect the Lanjia Soura's agrarian and forest-dependent lifestyle, such as rice, livestock (goats, chickens, or buffaloes), and cloth, as well as a sum of money that may vary according to the economic situation of the families involved. Livestock, such as goats and buffaloes, hold significant value in the community as a source of sustenance and wealth, symbolising the groom's ability to provide and his family's social standing. These animals also play essential roles in agricultural activities, contributing to ploughing and manure production and are central to the community's livelihood. Rice and cloth, on the other hand, serve as both practical necessities and symbols of respect, reinforcing the importance of sustenance and traditional craftsmanship in the tribe's way of life.

Including cash alongside livestock and goods highlights the adaptability of the Lanjia Soura in a changing world. While traditional forms of bride price, such as livestock and agricultural products, remain essential, the introduction of monetary payments indicates the increasing influence of market economies and formalised currency systems on the tribe's customary practices. The flexibility inherent in the *Panshal* system allows the bride's family to adjust the bride price based on what is economically feasible, reflecting a pragmatic response to external pressures, such as inflation, wage labour, and market prices for livestock and agricultural products. This adaptability ensures that marriage remains accessible to all families, regardless of economic hardship, while also upholding the social and cultural significance of the transaction.

Furthermore, the *Panshal* system's flexibility allows variations in the bride price across subgroups or even within individual families within the Lanjia Soura community, depending on the specific economic context of the marriage. This adaptability enhances the system's resilience, allowing it to survive and evolve despite external economic forces, while preserving the fundamental values of kinship, familial responsibility, and social cohesion. The *Panshal* system, therefore, provides an insightful example of how indigenous practices can adapt to contemporary economic realities while maintaining their cultural essence, reflecting the resilience and resourcefulness of the Lanjia Soura in negotiating their traditional practices in a changing world.

3.1.9. CLAN (GOTRA) NAME

3.1.9.1. Birhor/Mankidia

Among the Birhor (Mankidia) tribe, the social organisation is distinctly shaped by the Khunt (lineage), which serves as a critical framework for maintaining kinship order and regulating marriage alliances. This lineage-based system reflects a firm adherence to exogamy, wherein individuals are strictly prohibited from marrying within their own clan or sub-clan, thereby promoting genetic diversity and fostering wider social networks across the community. The Birhor clans are deeply totemic, with names often derived from elements of the natural environment, such as wild animals, birds, and plants—underscoring their intrinsic connection to nature. For instance, clan names such as *Bonga* (wild grass), *Anduali* (wild cat), *Luthuma* (flower), *Keonduar* (a kind of plant), *Taga* (wild big cat), *Gidhi* (vulture), and *Sunari* (a bird) serve as symbolic representations of the tribe's reverence for ecological entities. These totems are not merely names; they hold cultural, spiritual, and ecological significance, as each clan identifies with a specific natural element believed to be its ancestral or protective symbol. Totemic taboos are strictly followed, with clan members often refraining from harming or consuming the species associated with their totem, reinforcing ecological conservation practices deeply embedded in traditional belief systems. (Table 3.1.9)

The *Aleya Orha*, or sub-lineage, further delineates kinship ties and adds granularity to social identity, often dictating roles and responsibilities within the tribal structure. These divisions maintain social harmony by distributing familial and ritual duties among various clan branches. The exogamous rule, regulated by the Khunt and Aleya Orha systems, ensures that marital alliances serve not only as unions between individuals but also as strategic linkages between extended families and clan groups, thereby strengthening communal cohesion. The Birhor's clan system thus exemplifies a model of indigenous ecological knowledge, where social structures reflect human relationships and symbiotic ties with nature. It highlights the embeddedness of tribal identity within environmental contexts, a relationship increasingly studied and valued in anthropological and ecological scholarship. As modernisation and external influences encroach upon tribal ways of life, the Birhor clan system remains a vital symbol of cultural resilience and ecological wisdom.

3.1.9.2. Bonda

The Bonda tribe organises its intricate social structure through the *Kudas* clan system. This system governs marital practices, social identity, and intra-community relations. Each clan, or *kuda*, is an exogamous unit, meaning that individuals are strictly forbidden from marrying within their own clan, thereby ensuring that marital alliances extend beyond immediate kin and reinforce social cohesion among different segments of the tribe. The Bonda clans are deeply intertwined with ancestral lineage and traditional occupational roles, with prominent clans including *Badnaik*, *Challan*, *Dhangere-Majhi*, *Kirsani*, *Muduli*, *Sisa*, *Dora*, *Jigiri*, and *Mandra*. These names are not arbitrary; they indicate the clan's historical function within Bonda society or their association with a revered ancestor. For instance, names such as *Majhi* and *Muduli* often denote leadership or administrative roles. At the same time, *Kirsani* may relate to agrarian occupations, showcasing how social functions were historically embedded in clan identity.

The *Kudas* clan system is not only a social mechanism but also serves as a moral and ritual guide, helping to regulate conduct and preserve traditional values. The exogamous norm enforced by the clan structure promotes alliances between diverse families, enhancing inter-clan cooperation and reducing the risk of familial conflicts. It also aligns with broader tribal cosmologies in which social

harmony is linked to the observance of inherited customs and prohibitions. Ritual purity and respect for ancestral codes are maintained through strict adherence to these exogamous principles. Moreover, the clan names and affiliations are passed down through patrilineal descent, with sons inheriting their father's clan identity, reinforcing patriarchal lineage and continuity. These clan-based regulations are not codified in written law but are maintained through oral traditions, storytelling, and community consensus, illustrating the self-regulatory nature of tribal customary law.

Notably, the *Kudas* system among the Bonda also reflects a resistance to external influences and a continued effort to preserve indigenous identity. Despite increasing contact with non-tribal societies, the Bonda have retained much of their clan-based social structure, using it as a buffer against cultural erosion. The vitality of the clan system in everyday social affairs, from marriage arrangements to dispute resolution, underscores its integral role in maintaining the cultural fabric of Bonda society. As modernisation introduces new socio-economic pressures, the *Kudas* clan system remains a resilient institution, exemplifying the tribe's commitment to preserving its unique heritage.

3.1.9.3. Didayi

The Didayi tribe follows a deeply symbolic clan system known locally as *Gta* or *Bongo*, which reflects their strong spiritual and ecological orientation. The *Gta/Bongo* system is totemic, meaning each clan is associated with a specific totem (typically an animal) that is revered as a spiritual ancestor or protective entity. These totems provide a sense of group identity and serve as guiding symbols for the community's moral and ritual life. The major Didayi clans include *Nkhoo* (tiger), *Mala* (cobra), *Gbe* (deer), *Mosali* (crocodile), and *Goi* (tortoise), each with mythological significance and representing traits such as strength, agility, wisdom, and resilience. The association with these animals reflects the Didayi worldview, in which human life is intricately linked to the natural environment, and animals are considered ancestors or embodiments of sacred forces.

Totemic taboos are strictly enforced within this system; members of a particular clan are prohibited from harming, killing, or consuming their respective totem animal, as doing so is believed to invoke misfortune or spiritual retribution. Such taboos reinforce clan identity and contribute to ecological conservation, as reverence for particular species naturally results in their protection. Furthermore, the Didayi observe strict exogamy at the clan level; members of the same clan cannot marry each other under any circumstances, a rule that helps to maintain genetic diversity and strengthens alliances between different families and sub-groups. These rules are enforced through oral traditions, communal oversight, and the guidance of tribal elders, ensuring the intergenerational transmission of cultural values and norms.

In Didayi cosmology, these clans are believed to have originated from the mythical union between humans and their spirit-animal counterparts, and each clan often recounts its origin through elaborate myths and folk narratives. These stories are recited during festivals, initiation rituals, and marriage ceremonies, thereby embedding clan identities within the larger cultural and religious fabric of Didayi society. The *Gta/Bongo* system also plays a vital role in the social governance of the tribe, influencing inheritance, ritual roles, and conflict resolution. Despite exposure to external influences such as formal education, state policies, and market economies, the Didayi have retained the core elements of their clan system, using it to preserve their distinct cultural identity and resist assimilation into mainstream society. The enduring relevance of the *Gta* or *Bongo* system stands as a testament to the Didayi's resilient connection to their ancestral traditions and natural environment.

3.1.9.4. Juang

The Juangs follow a complex, well-structured clan system locally known as *Bok* or *Khilli*. This clan system is a social classification and a fundamental pillar in regulating marriage, kinship, and community relationships. The Juangs organise their clans into two broad exogamous groups: the *Bandhu* clans and the *Kutumb* clans. Each of these groups contains numerous sub-clans, which are further differentiated into *Saman Bok* (male lineages) and *Saman Roy* (female lineages), indicating a gendered dimension to their kinship structure. This dual division is instrumental in maintaining exogamy, as individuals are strictly prohibited from marrying within their clan group (*Bandhu* or *Kutumb*), thereby strengthening inter-clan bonds and widening social networks.

The *Bandhu* clans generally represent closer agnatic ties, whereas the *Kutumb* clans are understood as more distant kin, often involved in secondary marital exchanges or ceremonial collaborations. This distinction creates a dynamic balance within the Juang social framework, where kinship extends beyond the nuclear family into a broad network of mutually obligated lineages. The separation into male (*Saman Bok*) and female (*Saman Roy*) lines further highlights the Juang emphasis on balancing gender roles within the clan identity, a relatively rare feature among tribal groups, which adds a nuanced layer to their clan-based organisation. The clan names often have symbolic, totemic, or ancestral significance, reflecting natural elements or mythic progenitors. They are passed down through patrilineal descent, aligning with the Juang's broader patriarchal social order.

Regarding marriage customs, the clan system serves as both a moral code and a social mechanism, where violations of exogamous rules are seen as personal transgressions and communal offences requiring ritual purification and social sanction. Elders and village councils play a central role in monitoring and enforcing these customs, thereby preserving the sanctity of the clan divisions. Moreover, clan affiliations influence participation in rituals, death ceremonies, and inheritance practices, making the *Bok* or *Khilli* system an all-encompassing framework that governs nearly every aspect of Juang social life. Despite growing exposure to external socio-economic forces, such as formal education and urban migration, the Juangs continue to uphold their clan distinctions, adapting them to contemporary circumstances without compromising their cultural integrity. Thus, the Juang clan system exemplifies a resilient and deeply rooted tribal institution that sustains social cohesion, cultural identity, and intergenerational continuity in modernisation.

3.1.9.5. Paudi Bhuiyan

Among the Paudi Bhuiyan, the *Khilir* or *Khilli* clan system is a cornerstone of their socio-cultural organisation. This exogamous clan system is critical in maintaining social structure, regulating marriage alliances, and preserving group identity. The Paudi Bhuiyan society is divided into several clans, such as *Saraikali*, *Kakrani*, *Darsahi*, *Sasual*, *Bankada*, *Pana Saing*, *Terlokuli*, *Kodakodi*, *Rana*, *Balbahansa*, and *Rantadi*, which function as distinct lineage groups that trace descent through a common ancestor, typically through the male line. The strict observance of clan exogamy prohibits marriage within the same *Khilli*, thus enforcing genetic diversity and inter-clan solidarity.

Each clan name is imbued with cultural, occupational, or territorial significance, indicating either the ancestral profession of the group (such as blacksmithing, agriculture, or priesthood), a geographic association (such as a hill, stream, or settlement), or a symbolic totemic connection. These names help reinforce clan identity, linking individuals to a shared genealogy and a broader historical and cultural legacy. The *Khillir* system also plays a role in conflict resolution, property distribution, and ritual obligations, where clan elders often mediate disputes and oversee community rites.

Moreover, maintaining these clans amid external influences such as industrialisation, migration, and formal education is a testament to the resilience of tribal cultural institutions. While modernisation has introduced changes in lifestyle and economic practices, the Paudi Bhuiyan continue to uphold the integrity of their clan system, viewing it as integral to social order and spiritual heritage. Thus, the *Khilli* system ensures marital regulation and is a repository of indigenous knowledge, cultural norms, and communal governance. As noted, the persistence of the *Khilli* structure among the Paudi Bhuiyan reflects a conscious cultural continuity that resists homogenising forces, affirming tribal distinctiveness in an evolving socio-political landscape.

3.1.9.6. Dongria Kandha

The Dongria Kandha practice a clan system known locally as *Padar* or *Kuda*, which forms the foundation of their kinship structure and governs many aspects of their social life. The Dongria Kandha are divided into nine major clans, i.e. *Wadeka*, *Kadraka*, *Kundika*, *Sikoka*, *Pusica*, *Prasca*, *Bengaska*, *Melaka*, and *Kurunjalika*. Each of these clans represents a group of unilineal descent traced through the male line (patrilineal), and they are strictly exogamous, meaning individuals are prohibited from marrying within their own clan. This prohibition prevents inbreeding and fosters inter-clan alliances, essential for maintaining the social fabric and unity of the Dongria Kandha community.

The clan names often carry historical or geographical significance and may relate to ancestral origin myths, revered totems, or ecological features of their native territory. The clan structure is deeply embedded in the tribe's cultural ethos, shaping social norms, rituals, inheritance patterns, and conflict-resolution mechanisms. The Dongria Kandha consider their clan affiliation a sacred aspect of identity, often invoking it in ceremonial contexts such as marriages, funerals, and community feasts. The *Padar* system also plays a central role in decision-making processes within the *Niyam Raja* or village council, where clan elders represent their respective groups in consensus-building and governance.

Moreover, the adherence to clan exogamy underscores a broader worldview that emphasises balance, respect for ancestral traditions, and communal interdependence. Despite growing external influences from industrial development and state-led interventions in the Niyamgiri region, the Dongria Kandha have vigorously defended their cultural institutions, including their clan-based social structure, as a form of resistance and identity preservation. Their clan system is not merely a social mechanism but a living expression of the Dongria Kandha's relationship with their land, ancestry, and collective memory. It continues to serve as a resilient structure that maintains social order, sustains cultural continuity, and asserts tribal autonomy in the face of encroaching modernity.

3.1.9.7. Hill Kharia

The Hill Kharia adheres to a *Bansa* clan system, which forms the backbone of their social organisation and cultural identity. *Bansa* denotes lineage, and each clan within this system traces its ancestry to a common totemic origin, often inspired by elements of nature such as animals or trees. Prominent clans among the Hill Kharia include *Sal* (*Ranisia*), *Ashoka* (*Katulipania*), *Saru* (*Paniodia*), *Balia* (*Duarbandhia*), *Saluk* (*Talapania*), and *Nag* (*Siala*). These names are not arbitrary; they reflect the clan's symbolic association with specific natural entities believed to be ancestral guardians. For example, the *Sal* clan reveres the *Shorea robusta* tree, while the *Nag* clan venerates the serpent, which holds ecological and spiritual significance within Kharia cosmology.

The totemic belief system underlying the *Bansa* structure serves multiple sociocultural purposes. Firstly, it reinforces ecological ethics, as clan members are traditionally forbidden to harm or consume their totemic animal or tree, thereby encouraging local biodiversity conservation. Secondly, it upholds the principle of clan exogamy, i.e. marriage within the same clan is strictly prohibited, regardless of actual blood relations. This rule is rooted in the belief that members of the same *Bansa* share a common ancestor, and marrying within the group would offend the ancestral spirits and disrupt social harmony. In this way, the clan system plays a crucial role in structuring marital alliances and reinforcing kinship networks across dispersed Hill Kharia settlements.

Furthermore, these clans serve as ritual and spiritual cohesion units, each maintaining distinct ceremonial practices to honour its totemic guardian. During festivals, especially those linked to the agricultural cycle and nature worship, offerings are made to these spirits to seek protection, fertility, and communal well-being. Despite modernising influences and socio-economic pressures, the *Bansa* system remains a vital element of Hill Kharia identity. It provides a social framework and a spiritual worldview rooted in reciprocal relationships with the natural world, showcasing the tribe's deep interdependence with its ecological environment. As such, the Hill Kharia clan system exemplifies a harmonious blend of cultural tradition, social regulation, and environmental stewardship.

3.1.9.8. Kutia Kandha

The Kutia Kandha follows a clan system known locally as *Barga*, *Gochhi*, or *Bansa*. This clan system is central to the community's social organisation and cultural practices. The Kutia Kandha clans are totemic, with names derived from plants, animals, and natural elements, such as *Nundruka*, *Saraka*, *Timaka*, *Sukbicha*, *Adanga*, *Rodamaka*, *Urlaka*, and *Kadraka*. These totemic identifiers serve as ancestral symbols, believed to embody the clan's protective spirits and to reflect the tribe's profound spiritual and ecological connection to its natural environment.

This clan system strictly regulates marriage customs within the Kutia Kandha. Members of the same *Barga* or *Gochhi* are prohibited from marrying one another, as they are considered kin sharing a common mythical ancestor. This exogamous rule is fundamental to preserving the moral and social fabric of the tribe, promoting alliances between clans, thereby strengthening broader kinship ties and inter-clan cooperation. The enforcement of exogamy through the clan structure prevents incestuous relationships and ensures the circulation of social obligations and reciprocity across the community. These alliances also play a significant role during important life-cycle rituals, such as birth, marriage, and death, where kinship support systems are activated, and responsibilities are shared.

Moreover, the totemic clan names carry symbolic value, often associated with traits or natural forces that the clan identifies with or reveres. For instance, a clan named after a particular tree or animal may hold that entity as sacred, refraining from harming or consuming it. This belief system guides ethical conduct and supports environmental conservation, as particular species receive informal protection through cultural taboos. Despite external influences from modernisation, formal education, and state-led development programs, the *Barga* or *Gochhi* system remains deeply embedded in the socio-religious consciousness of the Kutia Kandha. It continues to serve as a vital mechanism for maintaining social order, transmitting indigenous knowledge, and preserving cultural identity in a rapidly changing world.

3.1.9.9. Lodha

The Lodha community follows a distinct *Gotra* clan system integral to their social structure and cultural identity. The *Gotra* system in Lodha society is deeply totemic, with clan names drawn from a wide array of natural elements such as animals, birds, fish, and even mythical creatures. Prominent *Gotras* include *Bugta* (tiger), *Bhukta* (bear), *Chirka Alu* (a type of forest yarn), *Mallik Makar* (a mythical sea monster), *Kotal Moon* (grasshopper), *Nayak Sal* (fish), *Parmanik* (a bird), and *Bag Bagh* (tiger). These names symbolise the community's spiritual and ancestral connections, reflecting the tribe's reverence for the natural world and their belief in the power and protection of ancestral totems.

The *Gotra* system is vital in regulating marriage practices within the Lodha community, as members of the same *Gotra* are prohibited from marrying one another. This practice enforces exogamy, ensuring marriages occur between individuals from different *Gotras*, strengthening inter-clan relationships and enhancing social cohesion. The prohibition against marrying within the same *Gotra* also underscores the belief in shared descent from a common ancestor, typically represented by the clan's totemic symbol. Thus, the *Gotra* system not only prevents incest but also reinforces the tribal community's interconnectedness, as each *Gotra* is linked through spiritual and genealogical ties to the larger social structure.

Totemic clans are central to the Lodha worldview, and each *Gotra* carries specific cultural and ritualistic significance. The Lodha people associate their totems with various qualities, behaviours, and attributes. For example, the *Bag Bagh* (tiger) *Gotra* signifies strength and courage. At the same time, the *Nayak Sal* (fish) *Gotra* may symbolise fluidity or resilience, reflecting the traits of the animal or element it represents. In addition to serving as lineage identifiers, these totems are believed to offer protection and blessings to the clan's members, who are expected to honour their clan's symbol by refraining from harming the animal or element associated with it. This reverence for nature is integral to the tribe's cultural practices and ethical conduct.

Overall, the *Gotra* system in the Lodha community is a foundational aspect of their social fabric, providing a sense of identity, continuity, and spiritual connection with nature. Despite the pressures of modernisation, the system remains a crucial part of Lodha culture, fostering unity, pride, and respect for ancestral traditions.

3.1.9.10. Lanjia Saora

The Lanjia Soura present a distinctive social structure compared to many other tribes in the region, as they do not adhere to a clan-based system. Unlike many tribal communities in Odisha, where the clan or *Gotra* system plays a central role in determining social relationships and regulating marriage practices, the Lanjia Soura community emphasises lineage and totemic symbols less. Instead, marriage alliances within the Lanjia Soura are primarily guided by social and economic compatibility rather than the strict rules of clan exogamy that govern many other tribal communities.

This lack of a formalised clan system sets the Lanjia Soura apart from other tribal groups in Odisha, where clan affiliation often dictates marriage eligibility, social roles, responsibilities, and cultural practices. In communities with clan-based structures, like the Dongria Kandha or the Bonda, individuals are expected to marry outside their own clan to maintain social harmony and prevent incest. At the same time, the Lanjia Soura prioritises more pragmatic considerations, such as shared values, mutual benefits, and economic stability between families.

This flexibility in marital arrangements reflects a unique approach to kinship and social organisation, where the emphasis is placed on personal choice and the economic and social viability of the marriage, rather than rigid adherence to ancestral or totemic affiliations. The Lanjia Soura's focus on compatibility also suggests a more fluid and adaptable social structure, enabling them to navigate changing economic and social environments without the constraints often imposed by rigid clan systems. In addition, this lack of a clan structure provides greater freedom in social interactions and alliances, potentially fostering a more egalitarian society by eliminating the hierarchies typically associated with clan-based systems. The absence of a clan system among the Lanjia Soura highlights the diversity of social organisation among Odisha's PVTGs, illustrating the adaptability of indigenous tribes in responding to their specific cultural, environmental, and economic contexts.

3.1.10. BIRTH RITUALS

3.1.10.1. Birhor/Mankidia

Among the Birhor/Markidia, birth rituals serve as an essential cultural mechanism for welcoming the newborn into the community's social and spiritual domains. The Birhor people, primarily residing in the forested regions of Jharkhand and Odisha, maintain a semi-nomadic lifestyle closely tied to nature and animistic belief systems. The birth ritual, locally known as *Uthiari* or *Hapan Hoi*, is a significant event marked by physical and spiritual cleansing. The purification ceremony is traditionally held on the twelfth day after the child's birth, signifying the transition from a liminal state, considered impure and vulnerable, to full acceptance into the household and community. During this period, the mother and infant are typically secluded to protect them from malevolent spirits and to allow the mother to recover. The *Uthiari* ritual involves the symbolic use of water, fire, and earth, often accompanied by chanting, burning sacred herbs, and offering food to ancestral spirits, reinforcing the tribe's belief in supernatural guardianship.

A unique feature of this ritual among the Birhor is the maternal grandfather's role in naming the child, which is highly unusual in a predominantly patrilineal society. This ceremonial act underscores the cultural recognition of matrilineal ties in early childhood. It reflects a nuanced kinship system in which maternal relatives play a vital role in the newborn's socialisation. The name chosen often carries deep symbolic value, drawing from natural elements, ancestral names, or events surrounding the birth. Despite the Birhor's patriarchal descent system, this moment of matrilineal prominence highlights the tribe's fluid and context-specific approach to kinship roles. Moreover, this duality in kinship practices illustrates how tribal societies, while often categorised under rigid anthropological frameworks, possess complex and adaptive social structures that allow for the coexistence of seemingly contradictory norms.

In contemporary times, although the Birhor community faces pressures from external influences such as resettlement schemes, modernisation, and public health interventions, the *Uthiari* ritual continues to hold cultural significance. It affirms the community's identity and continuity, and serves as a form of resistance against cultural erosion. Efforts by anthropologists and local advocates to document and preserve such indigenous rituals are crucial for safeguarding intangible cultural heritage and promoting culturally sensitive approaches to tribal welfare programs.

3.1.10.2. Bonda

The Bonda tribe's birth rituals are deeply imbued with spiritual symbolism, reflecting the community's strong ancestral consciousness and cyclical understanding of life and death. The Bonda

people, speakers of the *Remo* language and adherents of animistic traditions, consider childbirth not merely biological but a profound spiritual event. In this context, the *Gupasing* birth ritual is a central practice, conducted on the 21st day after the child's birth. This ritual marks a significant purification process where the mother and child, considered ritually impure during the postnatal period, are cleansed through sacred bathing, offerings to spirits, and the ceremonial lighting of fires to ward off malevolent influences. The extended period before purification reflects the community's deep respect for spiritual protocols and the need to ensure complete ritual safety for both mother and infant.

One of the most striking aspects of the *Gupasing* ritual is naming the child after a deceased ancestor. This practice underscores the Bonda people's belief in the reincarnation or spiritual continuation of ancestral souls. The act of naming is not taken lightly; it is typically performed by an elder or religious functionary well-versed in the clan's lineage and ancestral histories. Through dreams, omens, or the guidance of a *kulanijhi* (a traditional spiritual healer), the community identifies which ancestor's soul has returned in the newborn. This belief positions the child not as a new individual but as a spiritual heir, bearing the departed ancestor's personality traits, responsibilities, and protection. As a result, the child is integrated into the social and spiritual fabric of the community from birth, with their role already partially defined by the identity of the ancestor they are believed to embody. This ritual reinforces kinship ties and ensures continuity of cultural memory across generations, anchoring each individual in a broader ancestral narrative.

Despite growing exposure to external influences such as state welfare programs, formal healthcare services, and missionary activity, the Bonda community has largely retained the sanctity of the *Gupasing* ritual. Its persistence is a testament to the resilience of indigenous belief systems and the tribe's resistance to cultural dilution. By embedding spiritual lineage into the birth process, the Bonda not only affirm the sanctity of life but also reassert their cosmological worldview, in which the boundaries between the living and the dead are fluid, and every birth reaffirms ancestral presence and tribal identity.

3.1.10.3. Didayi

Among the Didayi, birth rituals form a foundational element of their spiritual life and social organisation. The Didayi people, who speak a variant of the *Gutob* language and follow animistic religious practices, view childbirth as a spiritually charged event, necessitating a series of carefully structured rites to ensure the well-being of both the mother and the newborn. The central birth ritual, *Uparataye*, is typically observed on the 21st day following birth. During this interlude, the mother and infant are considered ritually impure and remain in semi-seclusion, cared for by female relatives and protected through the use of symbolic charms and herbal smoke to ward off evil spirits. On the 21st day, the *Uparataye* ritual is conducted to purify and socially recognise the child. This ceremony involves ritual bathing, cleaning the birthing space, and offering food and liquor to household spirits and ancestors.

The most significant feature of *Uparataye* is the naming of the child by the *Polasi*, the traditional village priest and spiritual intermediary. The *Polasi* is a highly respected figure within the Didayi community, entrusted with performing religious rites and mediating between the human and spiritual worlds. His involvement in naming the newborn underscores the Didayi people's deep dependence on religious functionaries for guidance during life-cycle events. The name bestowed is often derived from a deceased ancestor, a significant event, or a dream interpreted by the *Polasi*. This naming process is not a mere formality but a sacred act that symbolically initiates the child into the tribe's spiritual lineage, reinforcing community ties and the belief in continuity between past and present.

generations. The choice of name is also thought to influence the child's destiny and social role, revealing the tribe's cosmological understanding of names as carriers of spiritual energy and ancestral blessings.

The *Uparataye* ritual, emphasising purification, naming, and invoking spiritual protection, encapsulates the Didayi tribe's holistic view of birth as a physical and metaphysical process. It reinforces the authority of traditional religious institutions, maintains social order, and transmits cultural values. Despite modern influences such as government health interventions and formal education programs, the Didayi adhere to their indigenous birth customs, reflecting a broader resistance to cultural homogenization and a commitment to preserving their unique worldview. The endurance of the *Uparataye* ritual in contemporary times highlights the community's spiritual resilience. It underscores the essential role of ritual specialists like the *Polasi* in sustaining the Didayi's collective identity.

3.1.10.4. Juang

In the cultural fabric of the Juang tribe, an indigenous group primarily residing in the forested hills of the Keonjhar and Angul districts of Odisha, birth rituals play a central role in establishing the newborn's spiritual and social legitimacy. The Juang people, belonging to the Austroasiatic language family and recognised as a Particularly Vulnerable Tribal Group (PVTG), observe a birth ritual known as *Uthiari* or *Nimincha*, typically performed on the seventh day following childbirth. Unlike other tribal communities that delay purification rituals until the 21st day, the Juang conduct this rite earlier, signifying both a pragmatic and symbolic transition of the newborn and mother from a state of ritual impurity to full community integration. During the seven days, the mother and child are secluded within the household, attended to by female relatives who ensure that protective taboos are upheld to guard against spiritual harm. On the seventh day, ritual bathing of both mother and child is conducted, and the domestic space is cleansed with cow dung and sacred water, elements that symbolise fertility and spiritual renewal.

A distinctive feature of the *Uthiari/Nimincha* ceremony is the pivotal role played by the maternal uncle in naming the child. This avuncular involvement reflects a significant cultural pattern in Juang kinship systems, in which maternal relatives (particularly the mother's brother) significantly influence early child-rearing and ceremonial practices. The act of naming by the maternal uncle is both symbolic and functional, where it not only legitimises the child's presence within the broader kin group but also reflects the maternal lineage's enduring role in nurturing, protecting, and socialising the child. Names are often selected based on ancestral heritage, natural phenomena, or events coinciding with the child's birth, and are believed to shape the individual's personality and fate. The prominence of the maternal uncle in this ritual underscores a nuanced kinship structure in Juang society, wherein patrilineal descent coexists with strong matrilineal obligations. This feature is often underrepresented in mainstream anthropological descriptions of tribal communities.

The *Uthiari/Nimincha* ritual, with its blend of purification, familial integration, and ancestral invocation, reaffirms the Juang tribe's worldview, wherein birth is both a sacred return to ancestral continuity and a reaffirmation of community ties. Despite modernising forces such as institutional healthcare and formal education, this ritual remains a vital cultural anchor. It blesses and protects the newborn and reinforces kinship bonds, especially between maternal kin and their sisters' offspring. This enduring practice highlights the Juang tribe's intricate social organisation and the importance of maintaining traditional roles and responsibilities within the extended family.

3.1.10.5. Paudi Bhuiyan

Among the Paudi Bhuiyan community, the birth of a child is regarded as a sacred and communal event, marked by the performance of the *Akosia* or *Namatula* ritual. Deeply rooted in their indigenous belief system, which blends animistic spirituality with ancestor veneration, the *Akosia/Namatula* ritual is conducted on the 21st day after childbirth, a period traditionally viewed as a time of liminality and vulnerability for both mother and infant. During the three-week seclusion, the mother and newborn are considered ritually impure and are cared for in isolation, typically within a separate room or hut. The purification ceremony on the 21st day involves ritual bathing, smearing of cow dung and turmeric on the threshold of the home, and lighting a sacred fire, all intended to cleanse the physical space and reestablish harmony with ancestral and nature spirits. Rice, liquor, and cooked meat are offered to family deities and forebears, reflecting the tribe's belief in spiritual guardianship and the cyclical nature of life and death.

A notable feature of the *Akosia/Namatula* ritual is the conferral of naming rights upon the child's grandparents, which underscores the deep reverence accorded to elders in the Paudi Bhuiyan social structure. By entrusting the naming responsibility to the grandparents, the community acknowledges their role not merely as elders but as custodians of family lineage, oral history, and cultural memory. The name chosen is often linked to deceased ancestors, significant historical figures within the clan, or natural phenomena surrounding the child's birth. In this way, naming serves a dual purpose: it honours the past while preparing the newborn for their place within the extended family network. The act of naming is accompanied by blessings and chants, symbolically transferring ancestral wisdom and protection to the child. This practice reaffirms the continuity of cultural values and kinship roles across generations, highlighting the integral role of intergenerational knowledge transmission in preserving tribal identity.

Despite increasing exposure to modernisation, public health systems, and formal education, Paudi Bhuiyan upholds the *Akosia/Namatula* ritual as a vital rite of passage. It serves as a religious observance and a reaffirmation of communal values, particularly the respect for elders and the maintenance of familial and spiritual continuity. In a rapidly changing world, such traditions offer cultural resilience and a sense of rootedness, allowing the community to navigate modernity without severing ties to its ancestral heritage.

3.1.10.6. Dongria Kandha

Among the Dongria Kandha tribe, the birth of a child is considered both a biological and a deeply spiritual event, necessitating elaborate rituals to ensure cosmic balance and social integration. The Dongria Kandha follow the *Mila-Daru* ceremony, a significant postnatal ritual typically performed on the 21st day after the child's birth. During the intervening period, both the mother and child are viewed as being in a transitional and impure state, and they are kept in seclusion under the care of elder female family members. This phase is considered critical, as it exposes them to physical and supernatural vulnerabilities. The *Mila-Daru* ritual functions as a purification rite and the child's formal induction into the community, involving ritual cleansing, household purification, and offerings made to clan deities and nature spirits for protection and prosperity.

A culturally significant aspect of the *Mila-Daru* ritual is the naming of the newborn, which is carried out by the maternal uncle. This tradition highlights the centrality of matrilineal kinship roles within the Dongria Kandha social system. Although the tribe broadly follows a patrilineal descent system, the maternal uncle's responsibility in bestowing the child's name indicates a deep-rooted cultural

mechanism that balances patriarchal authority with avuncular influence. This gesture of naming symbolises respect and acknowledgement of the maternal lineage. It reflects the broader social reality in which maternal kin play active roles in caregiving, socialisation, and ceremonial functions. The names selected often honour deceased ancestors, prominent clan members, or natural phenomena, such as the season or the environment at birth. Such naming practices are thought to imbue the child with desirable qualities or ancestral blessings, creating a spiritual bridge between past and present generations.

The *Mila-Daru* ceremony, therefore, is more than a familial event; it is a communal celebration that affirms the tribe's cosmological worldview, reverence for kinship obligations, and commitment to cultural continuity. In particular, the maternal uncle's role serves as a cultural reminder of the importance of maintaining balanced familial responsibilities, where maternal kin are not peripheral but central to the child's early social world. Even amid increasing exposure to mainstream education, medical institutions, and external cultural pressures, the Dongria Kandha remain steadfast in preserving the sanctity of the *Mila-Daru* ritual. This resilience in upholding traditional practices reinforces their cultural identity and ensures the intergenerational transmission of values, beliefs, and social roles.

3.1.10.7. Hill Kharia

Among the Hill Kharia tribe, the birth of a child is marked by the ritual known as *Nalta* or *Naam Karan*, a ceremonial practice observed on the 21st day after birth. Deeply embedded within their patriarchal social framework, this ritual signifies the child's transition from a state of biological existence to one of social and spiritual identity within the community. During the 21-day postpartum period, the mother and newborn are considered ritually impure and are kept in a separate space under the care of elder women. This period is also seen as a time when both mother and child are vulnerable to supernatural forces, necessitating protective charms, herbal fumigation, and observance of food taboos. On the 21st day, the purification phase of the *Nalta* ritual is conducted, involving a sacred bath, cleansing of the household, and offerings to ancestral spirits and local deities to ward off malevolent influences and ensure the child's health and spiritual well-being.

A distinctive feature of the *Nalta* or *Naam Karan* ritual among the Hill Kharia is the father's central role in naming the child. Unlike other tribal communities in Odisha that grant naming authority to maternal kin or village elders, the Hill Kharia entrust this role to the father, reflecting their strong patriarchal lineage system. The father's authority to name signifies his role as the primary custodian of family lineage, property rights, and ritual obligations. The name chosen often commemorates ancestors, reflects spiritual aspirations, or symbolises natural or seasonal events surrounding the child's birth. The act of naming is not merely administrative but a socially sanctioned ritual that confers identity, kinship affiliation, and future expectations upon the child. The father's role in this process also emphasises the male-centric organisation of Hill Kharia society, in which descent, inheritance, and clan affiliation are traced through the paternal line, and the male head of the family is regarded as the ultimate decision-maker in familial and communal affairs.

Despite increasing exposure to state-run healthcare programs and education systems, the Hill Kharia preserve the *Nalta* ritual as a cornerstone of their cultural identity. It is a vital mechanism through which tribal cosmology, social order, and familial responsibilities are transmitted across generations. Moreover, the ceremony reinforces the tribe's collective memory and belief in ancestral continuity. At the same time, the father's leadership role in the ritual affirms traditional gender hierarchies and sustains the tribe's customary governance structure. In a rapidly modernising world, such rituals not

only fulfil spiritual and social functions but also act as bulwarks of cultural preservation for communities navigating the tension between tradition and change.

3.1.10.8. Kutia Kandha

Among the Kutia Kandha tribe, the birth of a child is a significant socio-religious event marked by the performance of the *Daru Itina* or *Siali* ritual. This ritual stands out for its early timing, where the purification ceremony is conducted on the third day after birth, one of the earliest among tribal communities in Odisha. The Kutia Kandha, known for their subsistence lifestyle, animistic beliefs, and reverence for ancestral spirits, consider the immediate postnatal period as a critical phase of transition, during which the newborn and mother are spiritually liminal. Ritual seclusion is observed for three days, during which the mother and child are confined to a designated corner of the house or an adjacent hut, believed to be vulnerable to malevolent forces and spiritual impurities. On the third day, purification rites involve bathing the mother and child with herbal-infused water, cleaning the house using cow dung and turmeric, and making offerings to clan deities and ancestors to bless the newborn and protect the family from misfortune.

A culturally remarkable aspect of the *Daru Itina/Siali* ritual is the shared responsibility for naming the child, divided between the father's and the mother's families. This bilateral involvement in naming departs from the more common patrilineal emphasis observed in many tribal societies and underscores a more balanced kinship structure within the Kutia Kandha community. The paternal family typically proposes names that reflect clan heritage, ancestral identity, or cultural symbols. At the same time, the maternal side may contribute names based on personal or environmental circumstances surrounding the child's birth. This shared naming process signifies both lineages' collaborative role in shaping the child's social and spiritual identity, illustrating a kinship model that values reciprocity and mutual respect between affinal and consanguineous relatives. Including maternal kin in such a pivotal rite suggests that while the Kutia Kandha maintains a patrilineal descent system, they acknowledge and honour matrilineal ties, particularly in early childhood socialisation and ceremonial functions.

The *Daru Itina/Siali* ritual is thus not only a ceremony of physical purification but also an expression of the tribe's unique worldview, which harmonises spiritual cosmology with social structure. It facilitates the newborn's integration into the community, affirms the responsibilities of both lineages, and reinforces the Kutia Kandha's broader cultural values of cooperation, reciprocity, and ancestral continuity. Despite the encroachment of modernisation and external development programs, this early postnatal ritual continues to be practised widely, serving as a critical marker of tribal identity and intergenerational cohesion. Through such rituals, the Kutia Kandhas preserve their intangible heritage, uphold familial harmony, and assert cultural agency amid rapid socio-economic transformations.

3.1.10.9. Lodha

The Lodha community observes the *Ekusia* birth ritual, a vital cultural practice marking the transition of the newborn into the social and spiritual realms of the community. This ritual is performed on the 21st day after birth, a common timing for purification rituals among several tribal groups in the region, and it serves both to cleanse the mother and child of ritual impurity and to symbolise the child's formal integration into the family and society. During the initial days following birth, the mother and infant are considered spiritually vulnerable. They are isolated within the household under the care of female relatives to protect them from harmful influences and support

their recovery. The *Ekusia* ritual involves a series of purification practices, including bathing, cleaning the home with sacred substances such as turmeric and cow dung, and offering to household deities and ancestors. These practices are intended to ensure the child's well-being, ward off evil spirits, and safeguard the family's prosperity.

A distinctive feature of the *Ekusia* ritual is the maternal uncle's role in naming the child. Despite the broader patriarchal structure that defines the Lodha kinship system, the maternal uncle is responsible for selecting the child's name. This practice reflects the significant matrilineal influence within the community's social organisation. This naming responsibility is a powerful symbol of the maternal lineage's role in the child's life, asserting that maternal kin, particularly the mother's brother, hold a key position in early child-rearing and social functions. While the Lodha tribe operates within a patriarchal descent system, this act of naming reveals the dynamic and sometimes flexible nature of their kinship practices. The maternal uncle's involvement highlights a balance of power between paternal and maternal kin and the tribe's recognition of the maternal side as integral to the child's identity formation. Names are typically chosen based on ancestral connections, significant events surrounding the birth, or natural elements, and are believed to bestow blessings and a sense of belonging to both the maternal and paternal lines.

The *Ekusia* ritual, which focuses on purification, naming, and spiritual protection, encapsulates the Lodha community's worldview and blends animistic beliefs with strong kinship ties. It reinforces the community's respect for elders, particularly maternal figures, while maintaining the overarching influence of patriarchal authority in matters of lineage and inheritance. Even in the face of modern healthcare systems and socio-economic changes, the endurance of such rituals underscores the Lodha tribe's cultural resilience and commitment to preserving their traditions. Through rituals like *Ekusia*, the Lodha people mark significant life events and ensure the continuity of their social and spiritual values across generations.

3.1.10.10. Lanjia Saora

The Lanjia Soura tribe practices the *Kudetin* birth ritual, a significant cultural observance that reflects the tribe's strict adherence to patrilineal kinship structures. The *Kudetin* ritual is performed on the seventh day after a child's birth, marking a critical point in the transition of the newborn from a state of spiritual vulnerability to social integration. The seventh day is considered an auspicious time for purification. During this period, the mother and child remain secluded in the home, with specific taboos and restrictions observed to protect both from negative spiritual influences. The purification ceremony involves bathing the mother and child, cleaning the household with sacred substances such as cow dung and turmeric, and offering to the ancestral spirits and local deities. These rites are intended to safeguard the newborn's health, secure blessings for the family, and restore balance to the household, which is believed to have been disrupted during the child's birth.

A key feature of the *Kudetin* ritual is naming the child, which is solely the responsibility of the father's side of the family. This practice reflects Lanjia Soura's patrilineal descent system, in which lineage, inheritance, and social identity pass through the male line. In this system, the father's family holds exclusive authority over matters related to the child's identity, including the naming process. Names are typically selected based on the paternal family's lineage, ancestral connections, or significant events surrounding the birth. This singular role of the father's family in the naming process reinforces the centrality of male authority within Lanjia Soura society, where paternal kin are seen as the primary agents of lineage continuity and social cohesion. The father's family's involvement in naming also highlights the patriarchal framework in which property and social

responsibilities are passed down through the male heirs, underscoring the tribe's firm adherence to patrilineal values.

The *Kudetin* ritual, with its purification rites and naming practices, serves as an essential mechanism for the Lanjia Soura tribe to affirm the newborn's place within the community's social and spiritual fabric. It ensures that the child is integrated into the male lineage and protected under the ancestral guardianship of the father's family. While modern influences and external changes continue to affect tribal communities across Odisha, the persistence of the *Kudetin* ritual reflects the Lanjia Soura's resilience in preserving their traditional kinship practices, reinforcing the importance of familial ties, and asserting the centrality of male authority in maintaining the tribe's social structure.

3.1.11. DEATH RITUAL

3.1.11.1. Birhor/Mankidia

Death is marked by the *Ghelutum* ritual among the Birhor (Mankidia) tribe of Odisha. This solemn and intricate process reflects the tribe's deep spiritual connection to their ancestral lands and natural surroundings. The Birhors view death not as an end but as a transition, where the soul of the deceased moves from the earthly realm to the spiritual world, becoming one with the spirits of nature. This belief in spirit survival is central to their death rituals, which aim to ensure a peaceful journey for the deceased's soul and maintain harmony between the living and the spiritual realms. The death ritual begins with a pollution period lasting for seven days, during which the immediate family of the deceased is considered ritually impure. During this period, they refrain from social interaction and observe specific dietary restrictions to cleanse both the body and the spirit. This purification process is essential for preventing the pollution of the community and ensuring that the deceased's spirit transitions smoothly into the afterlife. (Table 3.1.11)

The *Ghelutum* ritual also involves the burial of the deceased at a designated burial ground known as *Gachhad* or *Gochinai*. This sacred space holds deep significance within the tribe's worldview. The choice of burial site reflects the Birhor's strong connection to their ancestral land, with the burial ground often located near the community's dwelling areas, symbolising the ongoing relationship between the deceased and the living. The burial is a highly ritualistic affair, with specific offerings made at the site to honour the spirit and ensure its peaceful integration with the spirits of nature. These offerings may include food, symbolic items, and sacred substances believed to help guide the soul into its new existence. The tribe believes that through these rituals, the deceased's spirit becomes part of the natural world, watching over the living and providing protection and guidance to the community.

The *Ghelutum* ritual honours the deceased and reaffirms the Birhor's connection to their ancestral heritage and natural surroundings. By integrating the deceased's spirit into the broader spiritual world, the tribe seeks to maintain balance and harmony in its environment. The role of nature, the community's collective responsibility to care for the deceased's spirit, and the significance of ancestral land recur throughout the death rituals, highlighting the tribe's animistic beliefs and the spiritual interconnectedness between the living, the dead, and the natural world. As modernity continues to encroach upon tribal ways of life, the preservation of such rituals remains vital in maintaining the Birhor's cultural identity and spiritual continuity.

3.1.11.2. Bonda

Unlike other tribal communities in Odisha, the Bonda tribe follows the *Sairem* death ritual. This significant cultural practice underscores their deep reverence for the deceased and their belief in the spiritual connection between the living and the dead. The *Sairem* ritual is marked by a ten-day pollution period, during which the deceased's immediate family is considered ritually impure and refrains from engaging in social activities. This period of purification is essential for cleansing the individuals and the community, as the Bonda believe that the deceased's soul, if not properly honoured, can continue to exert influence over the living. This spiritual contamination can affect the well-being of the family and the broader community, making it crucial to perform specific rituals to appease the deceased's spirit and restore balance. The pollution period is not only a time for physical and social withdrawal but also for engaging in religious practices that help to facilitate the smooth transition of the deceased's soul into the afterlife.

A central aspect of the *Sairem* ritual is the *Gaitang*, or purification process, which involves multiple steps to cleanse the household and the family members. This purification involves offering food, water, and symbolic items to the ancestral spirits, reinforcing the Bonda tribe's belief in their ancestors' power to affect the living. During this time, the deceased's family performs rituals at the burial site and home, offering sacrifices to appease the spirit and ensure it does not disturb the living. Specific offerings, such as chickens, rice, and alcohol, are presented to the spirits, which are believed to help guide the soul to the afterlife and protect the family from misfortune. The house is also ritually cleansed, with specific rituals performed by the family members and village elders to purify the space and remove negative spiritual influences.

The *Sairem* ritual also reflects the Bonda's animistic worldview, where the spiritual and physical realms are deeply interconnected. The tribe believes that without proper honouring and ritual observance, the dead may continue to exert power over the living, influencing events and even causing illness or death. This belief in the deceased's continued influence necessitates a thorough and respectful approach to death rituals, reinforcing the role of ancestral spirits in maintaining the tribe's balance and harmony. Through the *Gaitang* purification process, the Bonda ensure that the deceased's spirit is appropriately integrated into the spiritual world, thus protecting the living from any harmful effects of the deceased's lingering presence.

The ten-day period of mourning and purification, along with the various ritual offerings and ceremonies, demonstrates the Bonda tribe's deep commitment to maintaining spiritual balance and honouring the deceased. Despite the pressures of modernisation and external influences, the *Sairem* ritual remains a vital component of Bonda cultural identity, ensuring the continuity of their spiritual beliefs and practices. This process highlights the tribe's focus on ancestral reverence and the belief in the interconnectedness of the living and the dead, reflecting a broader cultural framework that continues to guide their practices in a rapidly changing world.

3.1.11.3. Didayi

The Didayi community of Odisha follows the *Pitakasa* or *Likasing* death ritual. This spiritual practice underscores the tribe's belief in the lingering presence of ancestral spirits and their continued influence on the living. The ritual begins with a 10-day pollution period, during which the deceased's family refrains from social activities and observes various purification practices. This period is considered essential for cleansing both the physical and spiritual impurities associated with death, and it reflects Didayi's deep conviction that the soul of the deceased may remain in the earthly realm unless proper rituals are performed to guide it to the next existence. During the pollution period, the deceased's family members follow strict guidelines regarding food, social interactions, and

behaviour, emphasising the importance of spiritual purification and maintaining the integrity of the community.

The Gighayesha ritual, a crucial offering to the deceased's ghost, marks the culmination of the ten days. This ritual involves presenting various offerings, including food, alcohol, and sacred items, believed to appease the spirit and ensure its peaceful transition to the afterlife. The immediate family members perform the Gighayesha under the guidance of religious functionaries or village elders, who help facilitate the connection between the earthly and spiritual realms. The offerings made during the *Gighayesha* are symbolic gestures of respect and reverence for the deceased, acknowledging the enduring presence of ancestral spirits in the lives of the living. By making these offerings, the Didayi community seeks to ensure that the deceased's soul is honoured correctly and guided into its next stage of existence, preventing any disruption or misfortune that may arise from an unappeased spirit.

This belief in the continued existence of ancestral spirits and their potential influence on the living underscores Didayi's animistic view, in which the boundary between the physical and spiritual worlds is fluid. The *Pitakasa* or *Likasing* ritual is not merely a ceremonial act of mourning but a profound spiritual process to maintain balance and harmony within the community. The offerings made during the *Gighayesha* are considered necessary to prevent the soul from becoming restless or malevolent, thereby ensuring a peaceful transition to the ancestral realm. This process reinforces the Didayi's cultural emphasis on the interconnectedness of the living, the dead, and the spirits of nature, highlighting their belief in the cyclical nature of life and death.

In summary, the Didayi community's death rituals, particularly the *Pitakasa* or *Likasing* ritual, serve as an essential means of maintaining spiritual equilibrium and honouring the deceased. The ten-day pollution period and the final *Gighayesha* offering reflect their deep respect for ancestral spirits and their commitment to ensuring that the deceased's soul finds peace and guidance in the afterlife. As modernisation and external influences continue to reshape tribal practices, preserving these rituals remains vital in upholding the Didayi's cultural identity and spiritual beliefs.

3.1.11.4. Juang

The Juang tribe of Odisha follows the *Gaja* death ritual, reflecting their deep spiritual beliefs while acknowledging practical and social considerations in mourning. The *Gaja* ritual involves a two- to five-day pollution period, demonstrating the tribe's inherent flexibility in its approach to death rituals. Unlike the more rigid practices observed among other tribal communities, the Juang allow variation in the length of the pollution period, a decision often influenced by family consensus and the specific circumstances surrounding the death. This flexibility highlights the tribe's adaptive nature, in which social dynamics, such as the availability of relatives and the broader community's readiness to participate in mourning rituals, play a critical role in determining the duration of the purification process. During this period, family members of the deceased are considered ritually impure and abstain from social interactions and specific activities, which is meant to cleanse them of the spiritual pollution associated with death.

The *Gaja* ritual is central to the Juang's spiritual worldview, which is deeply rooted in animism and ancestor worship. While the pollution period serves as a time of purification, the tribe's mourning practices are also shaped by communal ties and practical considerations. The decision to vary the length of the pollution period reflects the tribe's pragmatic approach to balancing spiritual obligations with everyday realities. For instance, the mourning period may be extended if there are significant

social or familial obligations, such as the availability of close relatives or important communal events. However, it can also be shortened if the family is prepared to proceed with the rites. This flexibility allows the Juang to maintain social harmony, demonstrating the tribe's understanding of the interconnectedness between spiritual rituals and social structures.

In addition to the pollution period, the *Gaja* ritual involves family members and religious specialists performing specific rites, such as offerings to the deceased's spirit and symbolic acts intended to guide the soul to the afterlife. These rituals honour the departed and ensure the soul is peacefully integrated into the spiritual realm. The varying length of the pollution period underscores the Juang tribe's belief in the fluidity of time and the importance of communal participation in the mourning process. While the *Gaja* ritual may vary from community to community in duration, the core purpose remains the same: to preserve spiritual balance, pay respect to the deceased, and ensure the continuity of the ancestral spirit.

Thus, the *Gaja* death ritual exemplifies the Juang tribe's unique approach to death, emphasising spiritual purification and the importance of family and community consensus in mourning. This adaptability in the mourning period allows the tribe to maintain their cultural and spiritual practices while integrating social realities. It explains how traditional rituals can evolve to meet contemporary needs.

3.1.11.5. Paudi Bhuiyan

Among the Paudi Bhuiyan tribe of Odisha, the *Dasa* death ritual is a crucial aspect of their cultural and spiritual practices, ensuring the smooth transition of the deceased's soul into the ancestral world. The ritual is marked by a ten-day pollution period, during which the immediate family of the deceased is considered ritually impure and must refrain from social interactions. This mourning period serves as a purification process for the living and a necessary ritual to honour the departed soul. During this time, the family focuses on performing various rites to ensure that the soul of the deceased is properly guided and integrated into the ancestral realm. The pollution period allows the family to come to terms with the loss while maintaining the community's spiritual and social balance. It reflects Paudi Bhuiyan's belief in the interconnectedness of the living and the dead, with the deceased's spirit needing specific rituals to ensure it does not linger or cause harm to the living.

The *Dasa* ritual includes several rites and offerings throughout the ten days. Family members, under the guidance of village elders or religious leaders, make offerings to the deceased, including food, symbolic items, and sacrifices, to ensure the soul's peaceful passage. These offerings are believed to appease the deceased's spirit and facilitate its transition into the world of ancestors, where it is thought to continue to exert influence over the living. The observance of these rituals helps maintain harmony within the community, ensuring that the deceased's soul is respected and can continue to watch over and protect the family. The importance of the pollution period thus lies not only in purification but also in preserving social cohesion by reaffirming the tribe's spiritual beliefs about life after death.

In addition to the spiritual significance, the *Dasa* ritual also plays an essential role in reaffirming the Paudi Bhuiyan's cultural identity. The mourning practices and rites surrounding death are deeply embedded in the tribe's traditions and reflect a broader worldview that sees death as a continuation of life in a different form. The ten-day mourning period, along with the specific death rites, underscores the Paudi Bhuiyan's reverence for their ancestors and their belief in the ongoing connection between the living and the dead. As with many indigenous communities, these death rituals are vital for

preserving cultural continuity. They ensure that each new generation is taught the importance of honouring their ancestors and maintaining the spiritual practices that bind the tribe together.

With its ten-day pollution period and focused death rites, the Dasa ritual represents a powerful expression of the Paudi Bhuiyan tribe's spirituality and social organisation. It underscores their belief in the cyclical nature of life and death and highlights the importance of ritual in maintaining both spiritual and social harmony within the community.

3.1.11.6. Dongria Kandha

Among the Dongria Kandha, death is not viewed as a definitive end but rather as a natural transition within the eternal life cycle. This philosophical worldview is reflected in their distinctive *Hateyas* death ritual, which is relatively brief, spanning only two days, followed by the *Mahania* purification ceremony. The brevity of the mourning period is deliberate, symbolising the tribe's deep-seated belief in the regenerative power of nature and the cyclical essence of existence. For the Dongria Kandha, who maintain a close spiritual and ecological relationship with their environment, death is seen as a return to the earth and a renewal of natural balance. During the *Hateyas* ritual, the deceased is typically buried, and offerings are made to appease the spirit, ensuring it becomes a benevolent ancestor rather than a restless soul. Community elders and family members play a pivotal role in this process, guiding the ritual proceedings and maintaining the sanctity of tribal customs.

After the burial, the *Mahania* ceremony focuses on purification and reintegration. This ritual marks the end of the pollution period and symbolically restores harmony between the deceased's family and the larger community. The Dongria Kandha regard this purification not merely as a ritual necessity but as a spiritual cleansing that aligns the family with the rhythms of the natural world. It underscores the belief that death, like the changing of seasons or the growth of new vegetation, is a necessary and recurring phenomenon, not to be feared but respected. The short mourning period also allows the community to quickly resume its collective responsibilities toward agriculture and nature worship, key pillars of Dongria Kandha life. This reinforces their resilience and cultural emphasis on continuity, underscoring that life must go on and that the spirit of the departed has found its place within the broader cosmological order.



Photo 3.1.11.6: Dongria Kandha Performing the 'Hateyas' Ritual in the Niyamgiri Hill (Source: CoE-STMC, UU)

Moreover, the Dongria Kandha's death rituals reflect an animistic cosmology, in which every element of nature, i.e. mountains, rivers, trees, and animals, is believed to be imbued with spiritual significance. Their reverence for Niyam Raja, the mountain deity, extends to ancestral spirits, who are believed to dwell in the natural surroundings and to offer protection to the living. Thus, the *Hateyas* and *Mahania* rituals are personal family affairs, while communal events reaffirm the tribe's connection to its ancestral land and the environment. These practices are crucial in preserving the Dongria Kandha's identity, linking past generations to the present and future through a continuous thread of ritual, belief, and ecological stewardship. In a rapidly changing socio-political context where tribal lands and customs are under threat, such death rituals stand as powerful testimonies to indigenous resilience and the enduring relevance of traditional ecological knowledge.

3.1.11.7. Hill Kharia

Among the Hill Kharias, the rituals surrounding death are deeply symbolic and structured, reflecting their broader cosmology and social values. The death ceremony, known as *Antyeshthi Kriya* or *Das Karma*, marks a significant cultural rite that facilitates the deceased's transition from the realm of the living to that of the ancestral spirits. The pollution period spans ten days, during which the deceased's immediate family is considered ritually impure. This period is marked by mourning, withdrawal from regular social activities, and abstention from religious rituals. It is a time of reflection and spiritual preparation, culminating in the *Karama* purification ceremony. The *Karama* involves ritualistic cleansing of the household, the symbolic washing of family members, and the offering of food, particularly grains and rice, and sometimes animal sacrifices, to appease the deceased's spirit and ensure its peaceful journey to the ancestral world.

The Hill Kharia believe that if these rites are not correctly performed, the soul of the deceased may become restless or malevolent, potentially bringing misfortune to the family. Thus, the *Das Karma* is not merely a symbolic ritual but a profoundly spiritual act to maintain harmony between the worlds of the living and the dead. Elders and ritual specialists play a central role in overseeing these ceremonies, reciting prayers and guiding the family through each step to ensure that cultural protocols are followed meticulously. During the ten-day mourning period, the family is also visited by extended kin and members of the community, who bring offerings and share in the grief, reaffirming the social bonds that sustain the Hill Kharia's communal way of life.

The *Karama* ceremony, often conducted at the end of the ten days, is especially important. It symbolises the restoration of purity to the household and marks the formal reintegration of the bereaved into the tribe's social fabric. Offering food feeds the deceased's symbolic spirit and reinforces the community's belief in reciprocity between the living and the dead. Once appeased through proper rites, Ancestral spirits are believed to watch over and protect the family. These rituals, therefore, serve a dual purpose: they honour the individual who has passed away while also strengthening the group's cultural and spiritual continuity.

In the face of modern influences and shifting socio-economic conditions, the Hill Kharia continue to uphold these death rituals as a vital expression of their identity and worldview. The observance of *Antyeshthi Kriya*, the ten-day pollution period, and the *Karama* purification preserve traditional beliefs and help reinforce communal solidarity and the intergenerational transmission of cultural knowledge.

3.1.11.8. Kutia Kandha

The Kutia Kandhas' death rituals are deeply intertwined with their animistic worldview, in which natural elements and sacrificial rites play a central role in facilitating the soul's journey to the ancestral realm. The principal death ritual, known as *Dasah*, is marked by a pollution period lasting three to eight days, depending on the deceased's status and the consensus of the family and community elders. This variability demonstrates the flexibility and contextual nature of tribal rituals, while reflecting practical aspects such as the availability of ritual materials and community involvement. During this mourning phase, the family refrains from regular activities, social interactions, and religious observances, signifying their liminal status between purity and impurity. The culmination of this period is marked by the *Haladi* purification ceremony, an elaborate ritual involving symbolic and material elements of cleansing and spiritual reconciliation.

The *Haladi* ritual, central to the Kutia Kandha's mortuary customs, employs turmeric powder (*haladi*) known not only for its antiseptic properties but also for its spiritual symbolism of purity and regeneration. The ritual also includes the sacrifice of three chickens, whose blood is believed to appease the deceased's spirit and facilitate its peaceful passage into the world of ancestors. The use of mango bark in the purification process further reinforces the tribe's profound connection to the natural world. Mango trees, considered sacred among many tribal groups, symbolise fertility, continuity, and the life-death cycle. The bark is either burnt or used in washing rituals, symbolically cleansing the deceased's environment and family from spiritual pollution. Together, these elements form a powerful rite that blends tangible, nature-based resources with intangible spiritual beliefs, a hallmark of the Kutia Kandha's animistic faith system.

The *Dasah* ritual and its associated purification practices serve religious and spiritual functions and operate as mechanisms of social cohesion. The community often gathers to support the bereaved family, offering assistance, sharing food, and participating in ritual acts. Elders, traditional healers, or shamans often lead ceremonies, reaffirming their roles as custodians of cultural knowledge. Through these communal rituals, the Kutia Kandha reinforce values of reciprocity, continuity, and respect for the natural and ancestral worlds. Importantly, these rites ensure that the deceased's soul does not become a wandering spirit, which could bring misfortune to the living. By channelling grief through structured ritual practices, the tribe transforms personal loss into collective memory, ensuring the spiritual well-being of the deceased and the community.

In an era of increasing modernisation and external influences, the continued observance of *Dasah* and *Haladi* rituals reflects the Kutia Kandha's resistance to cultural erosion and their commitment to preserving ancestral wisdom. These rites are more than symbolic gestures; they are lived traditions that encapsulate a holistic worldview centred on nature, spirit, and kinship.

3.1.11.9. Lodha

Among the Lodha tribe of Odisha, death is a moment of mourning and a profound spiritual transition, necessitating an intricate set of rituals to restore balance within the community and the natural order. The tribe observes the *Dasa* death ritual, a ten-day mourning period during which the deceased's immediate family undergoes a phase of ritual impurity. This *pollution period* is a culturally mandated time of isolation and abstention from religious, social, and agricultural activities. The Lodhas, like many other tribal communities, believe that the deceased's soul lingers in the earthly realm immediately after death. Without proper rites, it may become a wandering or

malevolent spirit. The *Dasa* period is therefore essential not only for grieving but also for preparing both the spirit of the deceased and the bereaved family for spiritual reintegration.

At the conclusion of this period, the *Sudhi Kriya* (purification ceremony) is performed, which marks the spiritual cleansing of the family and the symbolic return to social normalcy. The *Sudhi Kriya* involves ritual bathing, offerings of rice and water, and sometimes small animal sacrifices, all aimed at purifying the household environment and ensuring that no lingering impurity or spiritual residue remains. The act of purification is not limited to physical spaces; it also encompasses emotional and communal restoration. Family members receive blessings from elders, and neighbours and kin gather to partake in a communal meal, signalling the end of mourning and the renewal of collective life. This public reintegration is critical, as it affirms the tribe's interconnected social structure and the vital role of its rituals in maintaining social equilibrium.

The Lodha tribe's death rituals reflect a broader animistic and ancestral belief system, where the line between the living and the dead is porous, and proper rites serve as the bridge between these two realms. The *Sudhi Kriya* honours the deceased, pacifies ancestral spirits, and ensures their benevolent presence within the community. Through these rituals, the Lodhas reaffirm their cultural identity and cosmology, in which every life event, such as birth, death, marriage, or illness, is mediated by ritual acts that bind the individual to the family, the community, and the spiritual world. As modern influences permeate tribal societies, the Lodhas' continued adherence to traditional death rituals underscores their commitment to preserving indigenous knowledge systems and cultural resilience.

3.1.11.10. Lanjia Saora

Among the Lanjia Souras, death is not seen as a singular event but as a gradual, sacred journey culminating in the soul's complete integration into the ancestral realm. This belief is articulated through their distinctive two-stage death ritual, reflecting the complexity of their spiritual cosmology and profound respect for the dead. The first stage, known as *Guar*, is performed shortly after death and typically spans 12 to 15 days. This phase involves intensive mourning, ritual offerings, and communal gatherings, during which the family and broader community express their grief and begin the spiritual preparations for the deceased's transition. During *Guar*, the body is ceremonially buried, and offerings such as food, liquor, and domestic animals are made to appease the soul, which is believed to linger near the family during this time. The communal feast during this phase reinforces social bonds and collective remembrance, marking the beginning of the deceased's journey toward the ancestral world.

However, the process does not conclude with *Guar*. The second and more significant ritual, *Karjya*, is conducted one to two years later, once the family has accumulated the necessary resources and consulted with spiritual leaders and elders. *Karjya* symbolises the soul's final release and its full integration into the world of the ancestors. This delayed ritual allows the soul to complete its transitional phase and ensures it has been properly honoured and remembered. The ceremony involves complex rites including sacrificial offerings, symbolic performances, and the erection of commemorative stones or wooden posts, which serve as tangible markers of the deceased's passage into ancestral status. These memorials are believed to maintain an ongoing link between the living and the dead, allowing future generations to invoke ancestral blessings during times of crisis or celebration.

The two-stage funeral system of the Lanjia Soura thus emphasises both the impermanence of physical life and the enduring presence of the soul. It reflects a worldview in which death is seen not

as an abrupt cessation but as a transformation that requires ritual mediation, communal support, and spiritual validation. The temporal gap between *Guar* and *Karjya* allows the family to process grief over time while reinforcing the tribe's intergenerational continuity and reverence for elders. These practices are emblematic of Lanjia Soura's broader religious ethos, in which rituals serve as mechanisms for both spiritual navigation and cultural preservation. Despite the encroachment of modernisation and shifting socio-economic pressures, the Lanjia Soura have retained these intricate death rituals, underscoring their role in safeguarding community identity and spiritual integrity.

3.1.12. Magico-Religious Practices

3.1.12.1. Birhor/Mankidia

The magico-religious practices of the Birhor (also known as Mankidia in Odisha) tribe reflect a rich, deeply animistic worldview intricately woven into the fabric of their daily lives and cultural heritage. As a traditionally nomadic and forest-dwelling tribal community, the Birhor people maintain a polytheistic belief system centred on the worship of multiple nature and ancestral deities. Central to their religious practice is the veneration of *Sing Bonga*, the Sun God, believed to be the supreme life-giving force, and Hapram, the ancestral spirit who protects the family and lineage. The pantheon further includes deities such as *Logo Bir*, a powerful protective spirit who safeguards the tribe from malevolent forces; *Budhi Mai*, a revered female ancestral deity symbolising fertility and nurturing; *Bandar Bir*, the Baboon God; and *Hanuman Bir*, the Monkey God, both of whom are believed to embody strength, agility, and guardian powers. (Table 3.1.12)

These deities are not merely symbolic but are actively engaged with through rituals, invocations, and sacrifices. During key life events such as childbirth, the male ancestral spirit *Ajadaeren* is invoked to ensure the newborn's health and spiritual security. This process reflects the tribe's belief in the supernatural guardianship of human life from its inception. The Birhor also observe clan-based worship of *Bonga*, their totemic deity, which is honoured through seasonal rituals, including offerings of fruits, small animals, and brewed liquor. These rituals are often conducted during important agricultural or foraging cycles, aligning their religious practices with the rhythms of nature, thus reinforcing their dependence on and reverence for the environment.

Magico-religious specialists such as shamans and spirit mediums are critical in mediating between the human and spiritual realms, diagnosing spiritual ailments, performing exorcisms, and conducting rituals to appease offended spirits. The Birhor cosmology attributes misfortunes such as illness, natural disasters, or poor hunting outcomes to the displeasure of spirits or the influence of malevolent supernatural forces. Therefore, rituals of propitiation and purification are integral to restoring spiritual balance. These practices serve not only as a form of religious devotion but also as a mechanism of social cohesion, cultural continuity, and psychological assurance in the face of uncertainties and hardships posed by their forest-dependent lifestyle.

Despite increasing exposure to modernity and external influences, many Birhor communities uphold these traditions, particularly in remote forest areas of Jharkhand, Odisha, and Chhattisgarh. Their magico-religious system encapsulates a holistic worldview wherein the natural, ancestral, and spiritual dimensions are inseparably linked, revealing a sophisticated indigenous theology governing individual conduct and collective tribal identity. Understanding these practices offers critical insight into the tribe's epistemology, resilience, and how spiritual beliefs guide ecological stewardship and social organisation.

3.1.12.2. Bonda

The Bonda tribe, one of the most ancient and isolated tribal groups residing in the hilly terrains of the Malkangiri district in Odisha, upholds a magico-religious system deeply rooted in nature worship and spiritual cosmology. Central to their belief is the veneration of *Patkhanda Maaparabu*, the Supreme Creator, regarded as the divine architect of the cosmos, human life, and the natural order. While *Patkhanda Maaparabu* occupies the highest tier in the Bonda spiritual hierarchy, day-to-day religious practices focus predominantly on worshipping *Hundi* or *Bursung*, the revered Earth Mother deity. *Hundi* is seen as the embodiment of fertility, agricultural abundance, and ecological harmony (Photo 3.1.12.2). The Bonda people maintain an intimate and reciprocal relationship with the land. *Hundi* is honoured as the nurturing force that sustains their livelihood and ensures the cyclical renewal of life.

Ritual practices surrounding *Hundi* are elaborate and community-driven, involving sacrificial offerings, feasts, and seasonal festivals, particularly during sowing and harvesting periods. These ceremonies are intended to appease the Earth Mother, maintain the cosmic balance, and secure blessings for bountiful crops, good health, and protection from calamities. Animal sacrifices, often of chickens, pigs, or goats, are a key component of these rituals, reflecting a tradition of sacrificial offerings intended for spiritual propitiation. The rituals are conducted by tribal priests or elders, who possess traditional knowledge passed down through generations and serve as intermediaries between the human and spiritual realms. These magico-religious observances not only reinforce the tribe's collective identity and social cohesion but also affirm their ecological ethos and reverence for the environment.



Photo 3.1.12.2: *Hundi* - The Sacred Abode of the Earth Mother Where the Bonda Seek Blessings for Bountiful Harvests (Source: CoE-STMC, UU)

Photo 3.1.12.2.a: *Thakurani Mandira*: Sacred Shrine of Lower Bonda Worship *Sitala Mata* for Protection Against Diseases (Source: CoE-STMC, UU)

In Bonda cosmology, natural elements such as rivers, forests, hills, and even specific trees are considered sacred, inhabited by spirits that can influence human destiny. Any disturbance to these natural entities without appropriate ritual observance is believed to provoke spiritual retaliation, resulting in illness, crop failure, or misfortune. Hence, spiritual appeasement becomes a protective mechanism embedded within their environmental interactions. Although the influence of

modernisation and external religions is increasingly evident in tribal areas, the Bonda people have preserved mainly their traditional magico-religious system due to their geographic isolation and strong cultural continuity (Photo 3.1.12.2.a). These practices serve religious purposes and function as indigenous knowledge systems that govern ethical conduct, ecological sustainability, and community welfare.

3.1.12.3. Didayi

The Didayi tribe, an indigenous community predominantly found in the Malkangiri district of Odisha, exhibits a vibrant magico-religious system that integrates worship of powerful deities, protective spirits, and natural forces, reflecting their cultural identity and close relationship with the environment. Central to their religious belief is *Budha Bhairav*, the principal deity of the Didayi people, who embodies divine protection, justice, and strength. *Budha Bhairav* is not merely a spiritual figure but also a guardian of the community, invoked in times of collective distress or personal crises to ward off evil spirits, resolve conflicts, and ensure societal harmony. Alongside this central deity, the Didayis pay homage to *Hundi*, their revered village deity, often identified with the Mother Earth archetype. *Hundi* symbolises fertility, agricultural prosperity, and ecological balance, qualities vital to the sustenance of this agrarian tribe (Photo 3.1.12.3).



Photo 3.1.12.3: Hundi - The Sacred Abode of the Earth Mother
Where Didayi Seek Blessings for Fertile Harvests (Source: CoE-STMC, UU)

Rituals associated with these deities are performed with deep reverence and communal participation. Seasonal festivals, agricultural ceremonies, and life-cycle rituals such as birth, marriage, and death incorporate offerings, chants, and sacrificial acts to appease these deities and maintain cosmic equilibrium. The Didayis believe that neglecting ritual obligations or angering the spirits through environmental disruptions or moral transgressions can lead to misfortune, such as crop

failure, illness, or natural calamities. Thus, religious practices are not confined to the spiritual realm alone but are integrally linked to environmental stewardship and social order. Ritual specialists or traditional priests, known for their inherited knowledge of chants, offerings, and ceremonial sequences, play a crucial role in mediating between the community and the divine forces. Their roles include diagnosing spiritual ailments and conducting purification rituals to expel malevolent influences.

The presence of a Mother Earth figure, personified through *Hundi*, underscores the Didayis' ecological consciousness and dependence on the land. Their worldview sees nature not as an external resource but as a living, sentient force deserving respect and ritual reciprocity. This holistic belief system, combining animism, ancestor worship, and shamanistic practices, underpins the tribe's cultural resilience and communal cohesion. Despite external pressures from modernisation and state-driven integration programs, the Didayi continue to uphold their magico-religious practices as a vital part of their identity and cosmology. These rituals serve spiritual functions, preserve traditional ecological knowledge, and reinforce moral codes within the community.

3.1.12.4. Juang

The magico-religious practices of the Juang tribe represent a dual system of worship that harmonises reverence for cosmic forces with deep-rooted ancestral veneration. At the core of their belief system is the worship of *Dharma Devta*, identified with the Sun God, who embodies cosmic order, truth, and the regulating force of the universe. *Dharma Devta* is perceived as the supreme deity, presiding over the moral and natural order of life, and is invoked for light, vitality, and divine justice. Complementing this celestial worship is their devotion to *Basukimata*, the Earth or Mother Goddess, symbolising fertility, prosperity, and agricultural abundance (Photo 3.1.12.4). Together, these deities reflect the Juang worldview, which sees life as a balance between the heavens' spiritual forces and the earth's nourishing power.



Photo 3.1.12.4: Juang Tribe Demonstrating Devotion to Basuki Mata for Agricultural Prosperity and Fertility (Source: CoE-SIMC, UU)

Equally central to Juang magico-religious life is the veneration of their ancestral deity *Sala*, whose spiritual presence is believed to influence the health, fortune, and overall well-being of the family and clan. The Juangs maintain that the spirits of their ancestors do not depart permanently from the earthly realm; instead, they remain active agents in the community's life, capable of granting blessings or causing misfortune depending on whether they are appeased. Therefore, ancestral worship is a crucial ritual obligation. Sacrificial rites, often involving the offering of chickens, goats, liquor, or grains, are conducted to honour *Sala*, typically during significant occasions such as birth ceremonies, marriages, seasonal festivals, or during times of crisis and illness. These rituals are carried out with the guidance of traditional priests or family elders, who are considered knowledgeable in ritual customs and oral traditions passed down through generations.

These magico-religious practices are not only spiritual in essence but also serve as social mechanisms for reinforcing kinship bonds and intergenerational continuity. By honouring cosmic and ancestral forces, the Juang people integrate their spiritual and material worlds into a cohesive system of belief and practice. Their ceremonies and offerings are not isolated religious acts but are

embedded in the rhythms of agricultural life, social structure, and ecological awareness. The sacredness attributed to the sun, earth, and ancestral spirits underscores their holistic view of the universe, in which every entity, divine or human, natural or supernatural, plays a role in sustaining balance and harmony. Despite growing external influences, including the spread of formal religions and socio-economic changes, the Juang community has retained much of its traditional magico-religious ethos, guiding its values, customs, and worldview.

3.1.12.5. Paudi Bhuiyan

The Paudi Bhuiyan exhibit a deeply layered magico-religious belief system that seamlessly merges ancestral veneration with mythological spirituality. *Bodam Budha* and *Badam Budhi* are central to their cosmology; the original ancestral pair is believed to be the first human beings created by divine forces (Photo 3.1.12.5).



Photo 3.1.12.5: Badam Budha: Revered by the Paudi Bhuiya as the Primordial Humans Created by Divine Forces
(Source: CoE-STMC, UU)

These two figures are seen as mythological progenitors and revered as sacred ancestors who symbolise the tribe's origins, continuity, and survival. Their worship upholds familial bonds and reaffirms the spiritual lineage that connects the present generation with their primordial past. The *Karanga Budhi*, regarded as the Supreme Deity in the Paudi Bhuiyan pantheon, represents the ultimate force governing life, fertility, protection, and cosmic order. *Karanga Budhi* is venerated through sacrificial offerings and community rituals, particularly during key agricultural and life-cycle ceremonies as the ruling deity of the spiritual realm.

Complementing this central belief structure is the unique worship of *Rahani Vauni Sata Bhauni*, or the Seven Sister Spirits, who occupy a vital position in the religious hierarchy. These feminine deities are believed to wield considerable influence over health, fertility, domestic harmony, and overall prosperity. Rituals invoking the Seven Sisters are typically conducted during sowing and harvesting seasons, festivals, and periods of illness or family misfortune. Their worship is highly gendered and communal, often involving symbolic offerings such as rice, turmeric, and flowers, as well as the ritual sacrifice of poultry or goats. The spiritual significance of these deities underscores the tribe's polytheistic worldview, where both male and female divine forces operate in

complementary balance, and every supernatural being has a designated role in maintaining the equilibrium between human society and the unseen world.

Paudi Bhuiyan's magico-religious structure reflects a well-organised spiritual hierarchy that integrates ancestral spirits, nature deities, and mythological beings into a coherent belief system. This religious model explains the origins of life and natural phenomena and provides a framework for moral behaviour, environmental respect, and community cohesion. Spiritual specialists such as village priests, shamans, and elders are pivotal in facilitating rituals, interpreting omens, and mediating between the human and spiritual domains. Furthermore, their rituals serve an important ecological function, often tied to agricultural cycles, forest conservation, and social well-being, revealing an inherent ecological ethics embedded within their religious practices.

Despite increasing exposure to modernity, missionary influences, and economic development programs, the Paudi Bhuiyan continue to preserve their ancestral belief systems with remarkable resilience. Their magico-religious practices define their identity and act as cultural anchors that link the tribe's past, present, and future generations through shared spiritual heritage.

3.1.12.6. Dongria Kandha

The Dongria Kandha exhibit a profound magico-religious system centred on the worship of nature spirits and ancestral deities. At the core of their spiritual worldview is *Dharani Penu*, the revered Mother Goddess and Earth Spirit, who symbolises fertility, protection, and sustenance as the ultimate maternal force. *Dharani Penu* is believed to govern the health of crops, women's fertility, and the community's overall well-being.



Photo 3.1.12.6: Dongria Kandha Paying Homage to Jatrakudi Penu for Ensuring Agricultural Prosperity (Source: CoE-STMC, UU)

The veneration of *Jhankar* complements her worship, a powerful guardian spirit who embodies the mystical energies of forests, hills, and rivers, natural landscapes central to the Dongria Kandha way of life. These deities form the spiritual foundation of the tribe's intimate relationship with the natural world, emphasising a worldview in which ecology and divinity are inseparable.

The Dongria Kandha also honour *Jatrakudi Penu*, the village deity and protector, whose presence is invoked to maintain social harmony, community justice, and agricultural prosperity (Photo 3.1.12.6). Ritual practices honouring these deities are deeply immersive and communal, characterised by drumming, trance-like dancing, chanting of ancestral songs, and elaborate animal sacrifices, often of goats or chickens. These rituals, conducted by tribal priests known as *Jani*, serve as a means of spiritual communication and ecological synchronisation, aiming to appease both benevolent and

malevolent spirits. The performances during such ceremonies are not merely symbolic. However, they are believed to facilitate direct contact with the supernatural realm, wherein the shaman or spiritual medium enters a trance to convey divine messages or diagnose misfortunes befalling the village.

Ritual offerings to *Dharani Penu* and *Jhankar* are made especially during planting and harvesting, festivals such as *Meria*, and drought, disease, or social unrest. These ceremonies serve spiritual purposes, reinforce traditional ecological knowledge, promote social unity, and renew the tribe's ethical commitment to protecting and preserving its sacred landscape. The spiritual geography of the Dongria Kandha, comprising sacred groves, hills, streams, and stones, is metaphorical and forms a living religious map that guides their daily practices and moral behaviour. Violating these sacred sites without ritual consent is believed to provoke divine retribution, manifesting as crop failure, illness, or ecological disaster.

The Dongria Kandha's magico-religious practices thus reveal a sophisticated cosmology in which nature, divinity, and community life are intertwined in a dynamic, cyclical relationship. Despite increasing external pressure from development projects, deforestation, and cultural assimilation, the Dongria uphold their traditional beliefs with remarkable resilience. Their rituals serve as cultural resistance, spiritual affirmation, and environmental guardianship, making them among the most ecologically conscious tribal communities in India.

3.1.12.7. Hill Kharia



Photo 3.1.12.7: Hill Kharia Tribe Worship *Thakurani*, the Earth Goddess, for Communal Prosperity (Source: CoE-STMC, UU)

The Hill Kharia possess a rich and deeply symbolic magico-religious tradition rooted in their close-knit relationship with nature and ancestral heritage. Their religious practices centre around worshipping *Thakurani*, the Earth Goddess, and *Dharam Devata*, the Sun God, the two powerful deities representing the dual forces of fertility and cosmic order. *Thakurani* is revered as the

embodiment of soil, crops, and sustenance, and is believed to reside in the natural elements of the village landscape, such as sacred groves, termite mounds, and trees. Rituals to appease *Thakurani* are particularly prominent during agricultural cycles, especially at sowing and harvesting, when the community gathers to collectively offer rice, fruits, and flowers, and occasionally to perform animal sacrifices. These ceremonies, often marked by drumming, dancing, and communal feasting, symbolise the tribe's dependence on the Earth's fertility and commitment to maintaining harmony with the environment.

On the other hand, *Dharam Devata* embodies solar energy, truth, and time. As the celestial deity, he is invoked during sunrise rituals and major festivals to seek protection, enlightenment, and seasonal regularity. His presence in Hill Kharia cosmology reflects a broader tribal theme of honouring the cyclical rhythms of nature, light and darkness, rain and drought, planting and reaping. The duality of *Thakurani* and *Dharam Devata* establishes a spiritual equilibrium between the terrestrial and celestial domains, underscoring a holistic worldview in which human life is deeply interwoven with natural and supernatural forces.

Complementing this cosmic devotion is the worship of *Estadebta*, the tribe's ancestral spirit and familial guardian. *Estadebta* is honoured through seasonal offerings, family-based rituals, and acts of remembrance conducted by clan elders. This ancestral worship reaffirms lineage ties, invokes the protective presence of forebears, and ensures continuity between the living and the departed. The Hill Kharia believe that ancestral spirits possess the power to influence everyday life, protecting crops, healing illnesses, and guiding important decisions. Failure to honour *Estadebta* is thought to bring misfortune, highlighting the moral and spiritual responsibilities of the living to maintain ancestral relationships.

The Hill Kharia's magico-religious practices thus exemplify a sophisticated blend of animism, ancestor worship, and agrarian spirituality. Their rituals function as religious obligations and social instruments for community cohesion, ecological stewardship, and cultural resilience. Despite facing growing pressures from deforestation, modernisation, and religious assimilation, the Hill Kharia continue to preserve their indigenous belief systems, which serve as powerful expressions of their identity and worldview. These practices reflect a living tradition in which every element of nature is sacred and every ritual reaffirms the tribe's enduring bond with land, spirit, and ancestry.

3.1.12.8. Kutia Kandha

The Kutia Kandha upholds a deeply entrenched magico-religious tradition that reflects their profound symbiosis with nature, wildlife, and ancestral forces. Their cosmology is rooted in a polytheistic framework in which multiple deities are believed to govern different aspects of the natural and spiritual worlds. At the centre of their worship is *Dharani Penu*, the revered Mother Goddess, who symbolises fertility, the earth's nurturing power, and the cyclical rhythms of life (Photo 3.1.12.8). Her veneration is central to agricultural success, and she is invoked during sowing and harvesting seasons with offerings of grains, flowers, and, occasionally, sacrificial animals. Through these rituals, the Kutia Kandha express their gratitude for sustenance and seek continued blessings for their land's fertility and people's health.

In addition to *Dharani Penu*, the Kutia Kandhas also worship *Sorupenu*, the Hill God, who is regarded as the protector of the mountains and forests that form the ecological backbone of their territory. The rugged terrain of the Eastern Ghats is not only home to their villages but is considered sacred ground, housing the spirits of deities, ancestors, and totemic animals. *Sorupenu* is appeased

during forest-related rituals and village festivals to ensure that the community remains in harmony with the hills, from which they derive medicinal herbs, wood, and other forest products vital for their sustenance. Another significant deity in their pantheon is *Orgadapenu* or *Gopalapenu*, worshipped as the divine protector of wild animals. This deity reflects the tribe's deep ecological ethics and recognition of the interdependence between human life and biodiversity. Worship of *Gopalapenu* emphasises the necessity of coexistence with the wildlife that shares their environment, and rituals performed in this deity's honour often involve symbolic gestures to promote balance and respect for nature.

The village deity, *Takarani*, serves as the spiritual sentinel of the community, ensuring social order, protection against external threats, and the well-being of the community. Her shrine, typically located at the village entrance or near a sacred grove, serves as a space for communal worship during crises such as disease outbreaks, natural calamities, or disputes. During *Takarani* rituals, the community comes together in a collective act of devotion, guided by village priests and spiritual mediators who offer sacrifices, chant sacred invocations, and enter trance states to communicate with the deity. These ceremonies serve as spiritual observances and instruments of social integration, reinforcing communal values, shared responsibilities, and moral behaviour.

The Kutia Kandha's magico-religious belief system, emphasising the interconnectedness between human survival, land, and wildlife, illustrates an ecological worldview that predates modern environmentalism. Their rituals function as spiritual and ecological acts, maintaining the balance between the seen and unseen worlds. Despite modernisation, displacement, and pressures to convert to other religions, the Kutia Kandha continue to uphold their traditional faith as a source of cultural identity, environmental stewardship, and spiritual resilience.

3.1.12.9. Lodha

The Lodha tribe embodies a multifaceted magico-religious belief system that integrates spiritual morality, environmental veneration, and traditional health practices. Central to their cosmology is the worship of *Dharma Devta*, the God of Righteousness, who symbolises justice, cosmic balance, and social order. *Dharma Devta* is believed to oversee the moral conduct of individuals and the community, ensuring harmony and punishing transgressions through misfortunes or spiritual unrest. The reverence for *Dharma Devta* reflects the Lodha people's deep concern for ethical living and communal responsibility, which is reinforced through ritual observances and the oral transmission of mythologies surrounding righteous ancestors and divine retribution.

Alongside this moral deity, the Lodhas honour *Basumata* or Mother Earth, considered the giver of life, fertility and sustenance. *Basumata* is worshipped during key agricultural cycles, especially



Photo 3.1.12.8: Kutia Kandha Worship 'Dharani Penu' - The Mother Goddess of Agricultural Prosperity (Source: CoE-SFAC, UJ)

before sowing and after harvest, with offerings of rice, flowers, vermillion, and milk. Her worship underscores the tribe's agricultural dependence and ecological consciousness, promoting sustainable land use practices and spiritual gratitude for nature's bounty. The sacredness of land and soil in Lodha rituals is not merely symbolic. However, it reflects a lived ecological ethic in which environmental degradation is believed to disrupt the community's spiritual equilibrium.

A unique and deeply pragmatic dimension of Lodha magico-religious life is the veneration of *Sitala Maa*, the Goddess of Epidemics and Village Deity. Unlike other tribal groups, the Lodhas explicitly integrate health and healing within their religious framework through the ritual appeasement of *Sitala*. She is invoked to protect the community from diseases like smallpox, fever, and epidemics, which were historically devastating. Rituals dedicated to *Sitala Maa* often include herbal medicines, sacred chants, animal sacrifices, and exorcisms performed by village shamans or traditional healers known as *ojhas*. These ceremonies are conducted in open courtyards or near sacred trees, where effigies of the goddess are placed and offerings made to avert illness and spiritual afflictions. The worship of *Sitala* highlights the tribe's holistic understanding of disease as a disruption of physical and spiritual health, demanding medical and religious intervention.

Another significant deity in the Lodha pantheon is *Baram* or *Garam*, the Jungle Deity, believed to be the protector of forests and wildlife. The Lodhas regard the forest as a living spiritual entity, home to deities and ancestral spirits who must be appeased before entering or extracting resources. Rituals performed for *Baram* often precede hunting or forest foraging and include symbolic boundary marking, chanting, and blood offerings. These rites reflect a reciprocal relationship with the natural world, where respect and restraint are mandated by divine authority.

The Lodha's magico-religious practices thus present a rich tapestry of spiritual beliefs that link morality, ecology, and public health. Their ritual systems are culturally significant and are practical tools for community regulation, ecological balance, and epidemic control. In the face of marginalisation, modernisation, and cultural erosion, these practices continue to serve as pillars of identity, resilience, and environmental ethics within Lodha society.

3.1.12.10. Lanjia Saora

The Lanjia Souras uphold a rich, deeply symbolic magico-religious tradition that interweaves nature worship, ancestor veneration, and belief in protective spirits. Central to their cosmology is the worship of *Labosum*, the benevolent Mother Goddess, who symbolises fertility, nurturance, and the vital forces of life. She is regarded as the sustainer of all living beings. She is invoked during agricultural festivals and fertility rites, where offerings of rice, fowl, and liquor are made at sacred groves or altar-like stones. The reverence for *Labosum* emphasises the Lanjia Soura's strong ecological consciousness and matrilineal spiritual values, wherein the earth and its resources are viewed as sacred gifts to be respected and preserved.

Rudesum, the Supreme God, embodies cosmic order and spiritual authority, complementing this divine feminine figure. While *Labosum* governs life's earthly and maternal aspects, *Rudesum* presides over the broader metaphysical realm, guiding the soul's journey after death and overseeing moral conduct. Ritual invocations to *Rudesum* are solemn and led by ritual specialists or shamans (*Kudan*), who mediate between the physical and spiritual worlds. This duality in divine governance, maternal sustenance and paternal oversight reflects a cosmological balance and social harmony deeply rooted in Lanjia Soura culture.

Another key figure in their pantheon is *Mandua Sum*, the Village Deity, who acts as the immediate guardian of the settlement, overseeing day-to-day spiritual welfare and protecting the community from disease outbreaks, droughts, and misfortunes. Rituals for *Mandua Sum* are often communal and involve animal sacrifices, trance-like dances, and rhythmic drumming, believed to appease the spirit and renew the village's spiritual boundaries. These ceremonies also serve as important social functions, reinforcing solidarity, cooperation, and the shared responsibility of spiritual upkeep.

The Lanjia Souras also venerate *Jodisum*, the guardians of the village entrance, who are believed to ward off evil spirits, malevolent intruders, and negative omens. Shrines dedicated to *Jodisum* are placed at key access points into the village and are marked with totemic symbols or carved stones, often called *menhirs*. These standing stones, prominently displayed near sacred trees or at the base of ancient banyan roots, are not just spiritual markers but also ancestral memorials, linking the present community with the spirits of their forebears. Planting a stone during a *Karjya* (death purification ritual) symbolises the integration of a departed soul into the ancestral lineage and the spiritual fortification of the village.

Totemic symbols, sacrificial ceremonies, and clan-based spiritual duties all play a critical role in maintaining the moral and metaphysical fabric of Lanjia Soura society. Each clan is responsible for specific ritual performances and guardianship over certain sacred sites, ensuring the transmission of religious knowledge and the protection of ancestral heritage. The interplay between guardian spirits, clan responsibilities, and ritual cycles underscores a complex magico-religious system that serves spiritual needs and preserves social structure, cultural identity, and ecological balance.

In an era of rapid change and diminishing traditional practices, the magico-religious system of the Lanjia Soura stands as a powerful testament to their resilience, community cohesion, and enduring reverence for ancestral wisdom and the sanctity of nature.

3.1.13. MAGICO-RELIGIOUS HEAD

3.1.13.1. Birhor/Mankidia

The Birhor (or Markidia) tribe has a unique religious and social structure centred on specialised roles essential to the community's spiritual well-being. At the centre of the tribe's religious practices is the *Dehuri* (or *Dhiri*), the religious leader responsible for performing key rituals associated with significant life events, such as birth, death, and the worship of clan deities. The *Dehuri* plays a crucial role during annual festivals, conducting rituals to invoke divine blessings for the tribe's well-being (Photo 3.1.13.1). These rituals are vital for maintaining harmony with the spiritual world and ensuring the land's fertility and the people's prosperity. The *Dehuri's* duties are intertwined with a deep understanding of the tribe's traditional beliefs, emphasising the interconnectedness of humans, nature, and the spiritual realm.

In addition to the *Dehuri*, the *Dakua*, who serves as the village messenger, plays an important role in communication within the tribe and with neighbouring communities. The *Dakua's* position is especially critical during times of crisis or when important messages must be conveyed to other villages or external authorities. They ensure the smooth flow of information, including spiritual messages, ritual instructions, and announcements of key events such as festivals or communal gatherings. This role highlights the tribe's dependence on oral traditions and direct communication, which are deeply embedded in their social structure.

Another significant figure in the Birhor community is the *Mati*, a witch doctor who occupies a central role in the tribe's healing practices. The *Mati*'s responsibilities extend beyond simple medical treatment; they also include diagnosing and addressing spiritual ailments. Using a combination of herbal remedies and spiritual rituals, the *Mati* helps to cure illnesses, protect individuals from evil spirits, and maintain balance between the physical and supernatural worlds. This dual role as healer and spiritual protector makes the *Mati* indispensable to Birhor society. They are often called upon during times of illness, misfortune, or spiritual disturbance, and their expertise in handling physical and spiritual ailments positions them as key figures in maintaining the community's overall health.

These religious and spiritual leaders are central to the Birhor's social and spiritual life. The *Dehuri*, *Dakua*, and *Mati* play crucial roles in preserving the tribe's customs and beliefs, fostering spiritual and social unity within the community. Their responsibilities exemplify the tribe's strong ties to ancestral traditions, respect for nature, and continuous efforts to sustain harmony and balance.



Photo 3.1.13.1: Dehuri of the Mankidia Tribe Presenting Sacred Herbal Plants (Source: CoE-STMC, UU)

3.1.13.2. Bonda

The Bonda tribe is renowned for its rich cultural heritage and distinctive lifestyle. At the heart of its community is a complex magico-religious leadership system that plays a critical role in maintaining spiritual and social harmony. The *Sisa*, also known as the *Pujari*, is central to this leadership, serving as the village priest responsible for conducting essential rituals and ceremonies throughout the year. The *Sisa* oversees the worship of ancestral deities, performing sacred rites during major festivals and significant life events such as births, deaths, and marriages. These rituals are symbolic and fundamental to the tribe's spiritual well-being and prosperity. Through the *Sisa*, the community directly connects with their ancestors and divine forces, reinforcing Bonda society's social and spiritual fabric.

Alongside the *Sisa*, the *Gurumai*, who acts as a shaman, plays a crucial role in the tribe's spiritual leadership. The *Gurumai* is regarded as a spiritual intermediary, tasked with divining the spirits' will and calling upon them for healing or guidance on personal and collective matters. This role often involves trance-inducing rituals, sacred chants, and offerings to connect with the spiritual realm. The *Gurumai* addresses the spiritual and emotional needs of the community, possessing the knowledge and power to communicate directly with ancestral spirits to request their blessings, protection, or intervention during difficult times. Additionally, the *Gurumai* serves as a mediator between the human world and the supernatural, ensuring that the tribe's relationship with both their ancestors and the natural world remains balanced.



Photo 3.1.13.2: Disari of the Lower Bonda Tribe in Malkangiri District: Custodian of Tribal Rituals (Source: CoE-STMC, UU & PG Dept. of Anthropology)

A third essential figure in the Bonda tribe's magico-religious hierarchy is the *Disari*, the witch doctor and astrologer (Photo 3.1.13.2). The *Disari* are recognised for their deep understanding of the spiritual world, particularly their ability to detect spirits and offer remedies for both physical and spiritual ailments. Skilled in the use of medicinal plants, herbs, and spiritual incantations, the *Disari* provides healing for illnesses believed to have spiritual causes. This knowledge is passed down through generations, and the tribe highly values their ability to identify and neutralise harmful spirits or curses. The *Disari's* role extends beyond healing; they also practice astrology, offering insights into the fortunes of tribe members and guiding them through significant life decisions based on celestial influences.

Together, these spiritual leaders (the *Sisa*, the *Gurumai*, and the *Disari*) form a triad of spiritual authority that governs the religious practices of the Bonda tribe and maintains its health, well-being, and social cohesion. Their roles are interconnected, each contributing to a holistic understanding of health, spirituality, and the natural world. The Bonda's magico-religious system reflects the tribe's profound connection to nature and the supernatural, with spiritual leaders playing a critical role in preserving the traditions and beliefs that have sustained the community for generations.

3.1.13.3. Didayi

The Didayi tribe has a complex spiritual leadership system intricately linked to their cultural and religious practices. At the forefront of this system is the *Polasi*, the chief priest, who plays a crucial role in guiding the community through significant worship and rituals. The *Polasi* ensures the community fulfils its spiritual obligations, particularly through ceremonies honouring ancestral deities and spirits. These rituals are essential for maintaining harmony with the natural and supernatural worlds. The *Polasi's* leadership is essential during major community events, such as festivals and rites of passage, where they perform prayers, sacrifices, and other sacred rites to invoke

blessings and ensure the tribe's prosperity. This role places the Polasi at the centre of the tribe's spiritual and social life, helping it remain connected to its cultural roots and divine protection.

Working alongside the *Polasi* in the tribe's spiritual leadership is the *Disari*, a shaman deeply attuned to the spiritual realm (Photo 3.1.13.2). The *Disari* mediates between the physical and spiritual worlds, interacting with spirits, deities, and ancestors to offer guidance or intervention. Their role is vital during times of crisis or illness, as the *Disari* is believed to be able to diagnose spiritual ailments, detect malevolent spirits, and provide remedies to restore balance. The *Disari's* practices include various ritual techniques, such as prayer, trance, and offerings, which are believed to possess healing and protective qualities. Their ability to communicate with unseen forces provides spiritual authority and ensures the tribe's spiritual welfare, offering the community a sense of safety and divine connection.

Another important figure in the Didayi tribe's spiritual structure is the *Gunia*, the community's medicine man. The *Gunia* plays a critical role in maintaining the tribe's physical health. As a healer, the *Gunia* combines traditional medicinal knowledge with spiritual healing practices to treat ailments. This can involve using medicinal herbs, roots, and plants, as well as rituals, to remove negative spiritual influences or evil spirits that may cause illness. *Gunia's* work is essential for preserving the tribe's health, especially when diseases are viewed as having spiritual or supernatural origins. Their approach addresses both the physical and spiritual aspects of health, ensuring that the Didayi tribe remains resilient in the face of both natural and spiritual challenges.

Lastly, the *Gurumai*, a female priest, occupies a distinct and respected position within the Didayi tribe's spiritual hierarchy. As the female counterpart to male spiritual leaders, the *Gurumai* conducts rituals, offers prayers, and practices spiritual healing. Her responsibilities often include overseeing rites of passage, facilitating fertility rituals to ensure the tribe's continuity, and providing guidance on personal and communal well-being matters. The *Gurumai's* role is significant, highlighting women's important contributions to spiritual leadership within the community. As both a healer and a counsellor, the *Gurumai* offers essential support to help maintain the tribe's spiritual health.

The Polasi, Disari, Gunia, and Gurumai comprise the backbone of the Didayi tribe's spiritual system. They collaborate to ensure the tribe's connection to the supernatural, address spiritual and physical health concerns, and preserve the community's cultural practices and rituals. Their contributions are vital in sustaining the spiritual and social fabric of the tribe, ensuring that the Didayi people remain in harmony with their ancestors and the natural world.



Photo 3.1.13.2: Disari of the Didayi Tribe in Kudumulgumma Block, Malkangiri District: Guardian of Indigenous Rituals (Source: CoE-SIAC, UJ)

3.1.13.4. Juang

The Juang tribe has a well-defined magico-religious hierarchy crucial to their cultural practices and spiritual beliefs. At the centre of this spiritual system is the Dehuri, the community's chief religious

leader. The *Dehuri* is responsible for performing essential rituals, including ancestral worship, prayers to deities, and other ceremonies designed to ensure the tribe's well-being (Photo 3.1.13.4). These rituals are of utmost importance because they are believed to foster a harmonious relationship between the tribe and the divine realm. The *Dehuri* invokes blessings for the community through these sacred practices, promoting good harvests, health, and overall prosperity. The *Dehuri's* role is deeply rooted in the tribe's reverence for its ancestors and the spiritual forces that influence their lives. As the primary religious leader, the *Dehuri* is vital in preserving the tribe's traditions and maintaining spiritual order within the community.

In addition to the *Dehuri*, the *Raulia*, a shaman and astrologer, occupies an important position within the Juang tribe. The *Raulia* serves as both a spiritual guide and a healer, drawing on their extensive knowledge of astrology and traditional medicine to meet the community's spiritual and health needs. Astrology, a key aspect of the *Raulia's* expertise, is used to predict favourable times for significant activities, such as crop planting or ceremonial events, and guide on personal matters, like marriage, fortune, and family dynamics. The *Raulia's* role is intricately connected to the tribe's beliefs about fate, illness, and divine intervention. For the Juang, the *Raulia* is seen as a mediator between the spiritual and earthly realms, capable of interpreting signs, diagnosing ailments, and offering remedies to restore balance. The *Raulia* combines spiritual healing rituals, herbal medicine, and astrological insight to alleviate suffering and promote harmony for individuals and the community.

The *Raulia's* involvement in health-related issues is particularly crucial, as the tribe believes illness often results from spiritual imbalance or divine displeasure. Individuals seeking consultation with the *Raulia* aim for physical healing and spiritual restoration. *Raulia's* ability to influence individuals' fates and provide insights into their destinies is perceived as a divine gift, and their guidance is sought during moments of uncertainty or crisis. This role emphasises the tribe's understanding that health is not merely a physical condition but is closely intertwined with spiritual well-being.



**Photo 3.1.13.4: Dehuri of the Juang Tribe in Kendujhar District
Performing Rituals to the Earth Goddess** (Source: CoE-STMC, UU)

Together, the *Dehuri* and *Raulia* are essential to the spiritual and physical well-being of the Juang people. Their combined efforts ensure that the tribe remains in harmony with both their ancestral traditions and the divine forces that govern their lives. Rituals, astrology, and traditional healing practices provide the Juang with the spiritual and physical tools to navigate life's challenges, ensuring the tribe's survival, prosperity, and continued cultural vitality.

3.1.13.5. Paudi Bhuiyan

The Paudi Bhuiyan tribe has a unique and well-established magico-religious hierarchy central to the community's spiritual and cultural practices. At the top of this system is the *Dehuri*, the sacerdotal head, responsible for performing essential religious rituals and maintaining the tribe's connection to their ancestors and deities. The *Dehuri* oversees ceremonies of ancestor worship, during which offerings and prayers are made to honour the spirits of past generations, ensuring their continued protection and blessings for the community. Additionally, the *Dehuri* conducts rituals to invoke the favour of gods and goddesses, securing prosperity, good health, and harmony within the tribe. These ceremonies are not just religious practices; they are deeply tied to the tribe's worldview, where ancestral spirits and divine entities are seen as active participants in everyday life. The *Dehuri's* role is pivotal in maintaining the balance between the physical and spiritual realms, serving as the primary conduit for the tribe's sacred rites.



Photo 3.1.13.5: Raulia, the Shaman of the Paudi Bhuiya Tribe in Deogarh District, demonstrating ethnomedical expertise (Source: CoE-STMC, UU)

In addition to the *Dehuri*, the *Raulia*, a shaman and astrologer, plays a vital role in the tribe's spiritual leadership. The *Raulia* is entrusted with divining the will of the spirits and gods, interpreting astrological signs, and offering guidance on matters related to fate and health. The *Raulia* is perceived as a spiritual healer who can identify the causes of illness, often believed to be linked to spiritual or supernatural forces. In times of illness or misfortune, the tribe turns to the *Raulia* for their knowledge of traditional healing methods and spiritual remedies. The *Raulia's* ability to connect with the spiritual world and discern the causes of distress is central to their role. They often perform rituals to appease malevolent spirits or seek divine intervention for healing and protection. This highlights the Paudi Bhuiyan tribe's belief that health and well-being are closely tied to spiritual balance, and they rely on the *Raulia's* divination skills to ensure harmony.

Another crucial figure within the Paudi Bhuiyan community is the *Pangnia*, a sorcerer who operates in the magical and spiritual realms to protect the tribe from evil forces and cure diseases believed to be caused by malevolent spirits or magic. The *Pangnia* possesses profound knowledge of traditional magic, spells, and rituals used to ward off harmful influences and restore the tribe's spiritual equilibrium. The *Pangnia's* role is vital in combating witchcraft or other spiritual harm that may affect the tribe. They use charms, amulets, and incantations to protect individuals and the community from danger. In times of sickness, particularly when illness is perceived as caused by curses or spiritual imbalance, the *Pangnia* is essential to ensuring the tribe's health and spiritual safety. Their work in the magical and spiritual domains is highly regarded, as they serve as the tribe's safeguard against unseen and harmful forces that may disrupt their peace.

Together, these three key figures (the *Dehuri*, *Raulia*, and *Pangnia*) form the spiritual and healing backbone of the Paudi Bhuiyan tribe. Their combined roles ensure that the community remains in

balance with both the natural and supernatural worlds. By performing rituals, offering spiritual guidance, and addressing health and magical concerns, they uphold the tribe's beliefs and practices, safeguarding its physical, spiritual, and cultural integrity. These religious and spiritual leaders are essential in maintaining the tribe's connection to its ancestral roots and divine protectors, contributing to its resilience and continuity in the face of challenges.

3.1.13.6. Dongria Kandha

The Dongria Kandha tribe has a structured, hierarchical spiritual leadership that is essential to its cultural identity and daily life. At the centre of this leadership is the *Jani*, who serves as the ritual head and is primarily responsible for overseeing community worship and sacrificial rituals. The *Jani* is a spiritual leader and a custodian of the tribe's traditions and beliefs. They conduct sacred rites that involve worshipping local deities, ancestral spirits, and nature gods, ensuring the tribe's ongoing connection to the divine. These rituals, led by the *Jani*, are considered vital for the tribe's well-being, as they are believed to bring blessings, prosperity, and protection from malevolent forces. Additionally, the *Jani* acts as an intermediary between the tribe and the spiritual realm, conducting ceremonies crucial for social cohesion and the tribe's spiritual health.

Accompanying the *Jani* is the *Beju*, a shaman who plays a significant and complementary role in the tribe's spiritual leadership. The *Beju* serves as a spiritual healer and protector, called upon to address the community's spiritual and physical ailments. They are believed to be able to communicate with spirits and deities, utilising their knowledge of rituals, chants, and offerings to heal the sick and safeguard the community from harmful influences. Often collaborating closely with the *Jani*, the *Beju* performs significant rituals, ensuring that spiritual practices are conducted correctly and that the community remains protected from malevolent forces. In addition to healing, the *Beju* is also responsible for warding off evil spirits and offering guidance on spiritual matters, making them a vital figure in the tribe's spiritual ecosystem.

Another important figure in the Dongria Kandha spiritual hierarchy is the *Pejeni*, a medicine man who uses traditional methods to treat physical ailments. The *Pejeni's* role is crucial to the community's health and well-being, as they provide knowledge of herbal remedies, medicinal plants, and spiritual practices to treat illnesses believed to have supernatural origins. The *Pejeni* ensures the tribe's resilience in illness, combining spiritual healing with practical medicinal knowledge. Their treatments are deeply connected to the tribe's belief system, where physical health is inseparable from spiritual and cosmic balance.

The *Gurumai*, an astrologer, also plays a significant role. They help the Dongria Kandha people understand the cosmos and its influence on their lives. Through astrological analysis, the *Gurumai* offers guidance on important life events, such as marriages, the timing of agricultural activities, and other community decisions. Their



Photo 3.1.13.5: Pejeni, the Medicine-Man of the Dongria Kandha Tribe in Rayagada District, Exhibiting Ethnomedicinal Expertise (Source: CoE-SIMC, UU)

understanding of celestial forces is essential for making decisions that align with the universe's natural rhythms, thereby promoting balance and success in the tribe's endeavours.

Finally, the *Chan Jani*, who assists the Jani, is important in the tribe's spiritual practices. The *Chan Jani* performs sacrificial rituals, such as offering animals to deities, a key component of the tribe's religious observances. In addition to these sacrificial duties, the *Chan Jani* helps ensure that community rituals are performed smoothly and in accordance with tradition. Their role is indispensable for maintaining the proper conduct of religious activities and supporting the Jani in fulfilling their responsibilities.

These figures (the *Jani*, *Beju*, *Pejeni*, *Gurumai*, and *Chan Jani*) form a coordinated spiritual leadership structure that keeps the Dongria Kandha tribe connected to its spiritual roots, maintains health, and aligns with cosmic forces. Through their roles as spiritual leaders, healers, and astrologers, they protect the tribe's cultural practices and spiritual well-being, ensuring the continuation of their traditions and a harmonious community.

3.1.13.7. Hill Kharia

The Hill Kharia tribe has a deeply rooted spiritual and healing system centred around key religious and medical figures. The *Dehuri*, a priest, serves as the tribe's spiritual leader and plays a crucial role in maintaining the community's spiritual health. As the religious head, the *Dehuri* conducts significant rituals related to ancestral worship, seasonal festivals, and offerings to various gods and spirits. The *Dehuri* ensures that the tribe remains in harmony with spiritual forces, seeking blessings for prosperity, good health, and protection from malevolent spirits. These rituals are integral to the tribe's belief system, in which maintaining a connection to ancestral and divine entities is seen as essential to the community's well-being. The *Dehuri's* role goes beyond ceremony; it is deeply connected to the tribe's understanding of the cosmos and the interrelationship between the spiritual and physical realms.

In addition to the *Dehuri*, the *Gunia*, or witch doctor, plays a vital role in the health and well-being of the *Hill Kharia* tribe (Photo 3.1.13.7). The *Gunia* functions as both a healer and a spiritual practitioner, using traditional medicine, magic, and rituals to address the tribe's physical and spiritual ailments. They diagnose diseases often believed to stem from spiritual imbalances, such as curses or malevolent forces. By employing herbal remedies, charms, and incantations, the *Gunia* treats the symptoms of illness and aims to restore the individual's spiritual equilibrium. This holistic approach reflects the tribe's belief that health is not merely a physical state but is deeply intertwined with spiritual harmony. The *Gunia's* work is crucial in safeguarding the tribe from illness and misfortune, and their role is highly esteemed, especially during periods of sickness or crisis.

The *Gunia*'s ability to bridge the gap between the spiritual and physical worlds makes them indispensable in the daily life of the Hill Kharia tribe. In times of health-related challenges, the community seeks out the *Gunia* not only for their knowledge of medicinal plants and healing practices but also for their expertise in addressing the spiritual causes of disease. The tribe believes that the root causes of illness are often linked to spiritual or supernatural disturbances, and the *Gunia* is entrusted with diagnosing and treating these ailments. This makes the *Gunia* a central figure in ensuring the tribe's physical and spiritual survival.

The *Dehuri* and *Gunia* are the backbone of the Hill Kharia tribe's spiritual and medical systems. Through their involvement in religious rituals and healing practices, they help the tribe maintain balance with the spiritual world, ensuring prosperity, protection from evil, and good health. These figures embody the

tribe's worldview, in which spiritual and physical well-being are inseparable. Their combined expertise is essential for the tribe's continuity and prosperity. Their roles in the community highlight the resilience of indigenous knowledge systems that merge spirituality and healing into a cohesive framework for survival and well-being.

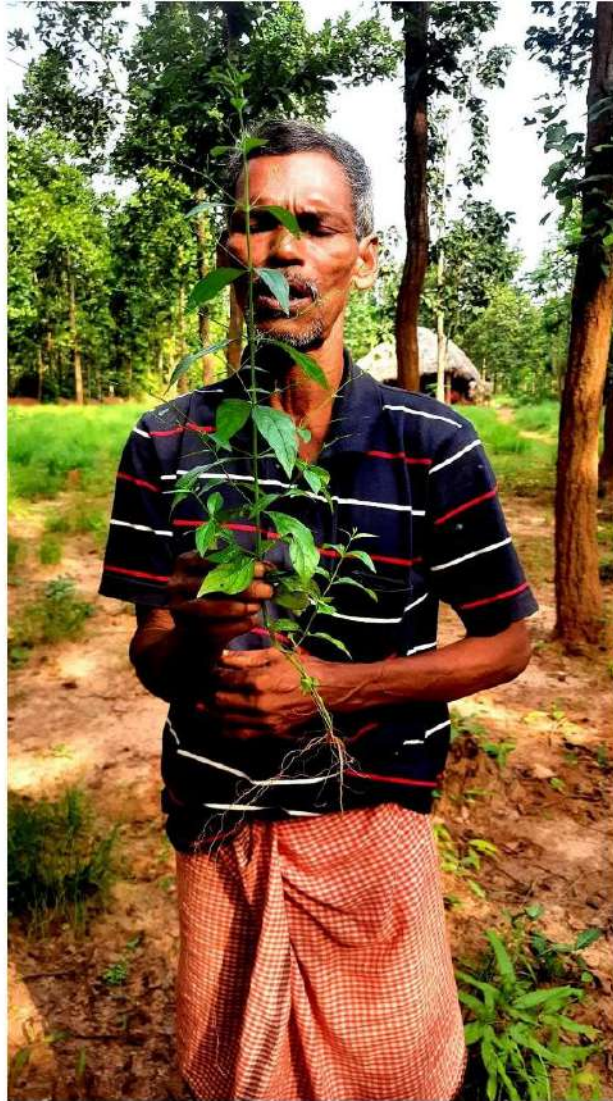


**Photo 3.1.13.7: Gunia of the Hill Kharia Tribe in Mayurbhanj District
Presenting a Medicinal Plant** (Source: CoE-STMC, UU)

3.1.13.8. Kutia Kandha

The Kutia Kandha tribe has a complex, well-structured magico-religious leadership system that reflects their deep connection to spiritual traditions and indigenous health systems. At the centre of their religious practices is the *Jani*, who serves as the community's priest and spiritual guardian. The *Jani* performs all essential rituals associated with worshipping ancestral deities, nature spirits, and local gods. These rituals are typically held during festivals, seasonal transitions, or critical life events such as births, marriages, and deaths. The *Jani* serves as a ritual specialist and moral authority, maintaining balance between the tribe and the supernatural world. His actions are considered vital to the community's collective well-being, as it is believed that ignoring spiritual protocols could lead to disease, crop failure, or natural calamities.



Photo 3.1.13.8: Kutaka - A Traditional Medicine-Man practising Indigenous Knowledge Systems (Source: CoE-STMC, UU)

Photo 3.1.13.8.a: Beju: The Spiritual Performer of the Kutia Kandha Tribe in Kandhamal District (Source: CoE-STMC, UU)

Complementing *Jani's* role is the *Kutaka*, a traditional medicine man who combines herbal knowledge with spiritual techniques to heal the sick (Photo 3.1.13.8). The *Kutaka* is proficient in using indigenous plants, roots, and forest-based resources to treat physical ailments. What distinguishes his practice is its foundation in spiritual belief, the understanding that illness often has supernatural origins, such as spirit possession, curses, or ancestral displeasure. Therefore, the *Kutaka's* healing is both pharmacological and ritualistic. He may recite incantations, offer sacrifices, perform purification rituals, and administer herbal remedies. His dual role as a healer and spiritual mediator reflects the holistic worldview of the Kutia Kandha, where the spiritual and physical realms are intertwined.

Another vital figure in the Kutia Kandha magico-religious system is the *Beju*, a shaman responsible for diagnosing and treating afflictions that stem from metaphysical sources. The *Beju* is believed to possess special powers to communicate with spirits, identify malevolent forces, and restore balance through ritual intervention. He is often called upon during crises such as epidemics, family misfortunes, or unexplained deaths, and is crucial in protecting the community from invisible threats. His rituals may include trance-like states, drumming, dancing, and the use of ritual paraphernalia to summon or expel spirits. The community trusts *Beju* immensely, as his actions are critical to the tribe's spiritual flexibility.

Equally significant is the *Bejuni*, the female counterpart to the *Beju*, who shares many of the same responsibilities. The *Bejuni* is particularly revered for her expertise in witchcraft, divination, and spiritual healing, especially in cases involving children or women. Her participation illustrates the

gender-inclusive nature of spiritual authority in Kutia Kandha society, where men and women serve as intermediaries between the seen and unseen worlds. Bejunis often play a leading role in rituals related to protection, fertility, and household prosperity, and are also consulted for dream interpretation and omens. Their presence not only enriches the community's spiritual life but also ensures that healing practices are accessible and responsive to the specific needs of all tribal members.

The *Jani*, *Kutaka*, *Beju*, and *Bejuni* represent a deeply interconnected spiritual framework within the Kutia Kandha tribe (Photo 3.1.13.8.a). Their collective roles reflect a worldview emphasising balance, ritual purity, and harmony with nature and ancestral spirits. By addressing both physical and metaphysical causes of distress, these magico-religious figures ensure that the tribe remains resilient, spiritually aligned, and socially cohesive amid changing environmental and cultural pressures.

3.1.13.9. Lodha

The Lodha people have a highly organised and intricate magico-religious hierarchy that plays a central role in their spiritual and social lives. At the top of this system is the *Dehuri*, the village priest, who is primarily responsible for performing significant religious rituals. These include seasonal festivals, agricultural rites, and ceremonies related to significant life events such as birth, marriage, and death. The *Dehuri* is a vital link between the community and their ancestral and nature-based deities, ensuring spiritual continuity and appeasing supernatural forces. This priestly figure is held in immense respect, as his work maintains the balance between the sacred and the mundane, a concept deeply rooted in the Lodha worldview.

Supporting the *Dehuri* is the *Talia*, or *Chharidar*, who functions as an assistant priest. This individual helps prepare ritual spaces, collects offerings, manages ritual paraphernalia, and ensures the smooth execution of ceremonies. The assistant's presence is essential during complex rituals that require coordination and adherence to spiritual protocols, especially during collective village worship or sacrificial events. While the *Dehuri* leads, the *Talia* provides essential logistical and spiritual support, highlighting the Lodha's well-established ritual delegation and apprenticeship system.

Another significant figure in the Lodha magico-religious framework is the *Hantakar*, the ritual sacrificer. The *Hantakar* performs animal sacrifices central to many Lodha ceremonies, especially those intended to appease malevolent spirits, ensure agricultural fertility, or request divine intervention in times of crisis. In this cultural context, sacrifice is not merely a ritual act but a deeply spiritual transaction that reaffirms the tribe's covenant with its deities and ancestral spirits. The precision and sanctity with which the *Hantakar* performs his duties are critical, as any mistake or impurity could jeopardise the efficacy of the ritual.

Equally vital is the *Gunni*, the traditional medicine man who represents the Lodha tribe's extensive indigenous knowledge of herbal medicine and healing. The *Gunni* treats various physical ailments using medicinal herbs from the forest, drawing on generations of oral knowledge about the properties of roots, barks, leaves, and minerals. However, the *Gunni's* role extends beyond biomedical healing. Like many tribal healers, he acknowledges the spiritual dimensions of illness, often combining herbal treatments with ritual prayers, offerings, or purifying rites. His dual role as a healer and spiritual practitioner ensures that health is addressed holistically, encompassing both the corporeal and the metaphysical.

The *Byakra*, or shaman, completes the tribe's circle of magico-religious specialists. The *Byakra* is believed to possess supernatural insight and the ability to communicate with spirits, making him the first point of contact when the community suspects spiritual disturbances, such as hauntings, curses, or unexplained misfortunes. The *Byakra* identifies and dispels harmful spirits or uncovers hidden spiritual causes of suffering through divination, trance states, and invocation rituals. His role is indispensable in maintaining spiritual security within the community, particularly during epidemics or collective misfortunes, when his services are most in demand. Thus, the *Byakra* is seen as a healer, spiritual protector, and counsellor capable of navigating the complex interplay between visible and invisible worlds.

The *Dehuri*, *Talia*, *Hantakar*, *Gunni*, and *Byakra* form a comprehensive magico-religious framework that sustains the Lodha tribe's cultural and spiritual life. Each role is specialised yet interconnected, ensuring that every aspect of tribal life, from agriculture and health to rituals and cosmology, is underpinned by a robust system of traditional knowledge and beliefs. This intricate structure reflects the Lodha's resilience, cultural cohesion, and deeply rooted spiritual worldview, wherein ritual practice, healing, and communal harmony are inseparable components of everyday life.

3.1.13.10. Lanjia Saora

The Lanjia Soura tribe of Odisha is an indigenous community known for its rich cultural and spiritual heritage. They possess a unique magico-religious framework centred around highly respected ritual specialists. At the core of this framework is the *Kudan*, who serves as both a priest and a healer. The *Kudan* performs a dual role: he conducts important community rituals related to agriculture, ancestral worship, and lifecycle ceremonies such as births and deaths, while also providing healing through herbal medicines and ritual interventions. This blend of spiritual and medicinal duties reflects the Lanjia Soura belief that health and prosperity are closely connected to spiritual balance and ancestral appeasement.



Photo 3.1.13.10: *Kudan Bai*: Female Religious Specialist of the Lanjia Soura Tribe in Gajapati District (Source: CoE-SIMC, UU)

Complementing the *Kudan*'s role is the *Kudan Bai*, a female religious specialist who serves as a spiritual mediator in her own right (Photo 3.1.13.10). The presence of the *Kudan Bai* highlights the gender-inclusive nature of religious authority within the Lanjia Soura community. She shares responsibilities in overseeing rituals, particularly those related to fertility, family well-being, and household prosperity. Like her male counterpart, the *Kudan Bai* is deeply involved in healing and divination practices. Her active participation in the ritual life affirms the tribe's recognition of the complementary spiritual powers of men and women, especially in ceremonies where gender balance is considered essential for the effectiveness of the rituals.

One of the most remarkable and culturally unique aspects of the Lanjia Soura's spiritual world is their use of ritual wall paintings, known locally as "*Idital*" or "*Ikons*". These wall paintings are not

merely decorative; they are considered ritual artefacts believed to embody and attract the presence of ancestral spirits and deities. The *Kudan* and *Kudan Bai* often supervise or commission these paintings as part of elaborate ceremonies intended to protect the household, commemorate a death, or invoke divine blessings for harvests and fertility. The act of painting transforms the home into a spiritual space where communication with the supernatural is facilitated through symbolic forms and motifs. These artworks are central to the tribe's visual theology, serving as devotional offerings and spiritual safeguards.

Furthermore, the *Kudan* and *Kudan Bai* act as intermediaries between the human and supernatural realms, a role deeply rooted in the Lanjia Soura's animistic cosmology. They are frequently consulted during crises, such as droughts, diseases, or personal misfortunes, to determine whether spiritual imbalances or ancestral displeasure are at play. Their guidance often leads to rituals involving offerings, animal sacrifices, and the renewal of painted icons, all designed to restore harmony between the material and spiritual worlds. Their authority derives not from institutionalised religion but from experiential wisdom, ritual knowledge, and the inherited legacy of tribal cosmology. In this way, they preserve the tribe's traditional ecological knowledge, spiritual resilience, and social cohesion.

Together, the *Kudan* and *Kudan Bai* and the unique practice of ritual painting form a robust spiritual system that sustains the Lanjia Soura tribe. Their religious leadership addresses individual and communal needs and helps preserve cultural identity and intergenerational continuity. These magico-religious figures guard their people's physical health and spiritual integrity, ensuring that the unseen forces governing the universe remain favourable to the community's well-being.

3.1.14. DORMITORY SYSTEM

3.1.14.1. Birhor/Mankidia

The traditional dormitory system among various Indigenous communities in India, including the Birhor and Mankidia tribes, represented a crucial socio-cultural institution that facilitated informal education, intergenerational knowledge transmission, and the socialisation of youth. Among the Birhor and Mankidia, these dormitories were known as *Dhingla* for boys and *Kudi Ada* for girls. Far from mere sleeping quarters, these communal spaces functioned as vibrant cultural centres where children and adolescents were systematically integrated into the community's social fabric. In the evenings, these dormitories would resonate with traditional songs, dances, storytelling, and moral instruction delivered by elders. Through these interactions, youth were inculcated with tribal values, survival skills, gender roles, and collective memory, preparing them for adult responsibilities within their respective communities. These dormitories also reinforced community cohesion and discipline, with older members mentoring younger ones, creating an age-graded structure of mutual respect and support. The architecture and operation of these institutions reflected a deep understanding of youth development and social order, free from formalised schooling systems. However, with increasing contact with mainstream society, the encroachment of modern education, urbanisation, and shifts in economic practices, the traditional dormitory system has witnessed a steep decline and is largely non-functional today. This erosion is not merely a loss of physical infrastructure but signifies the weakening of a vital cultural institution that once sustained tribal identity and intergenerational continuity. Despite its decline, the dormitory system remains a poignant symbol of indigenous pedagogies and communal life, underscoring the need to document and, where appropriate, revive such traditional institutions in culturally sensitive ways. (Table 3.1.14)

3.1.14.2. Bonda

The Bonda tribe of Odisha stands out for preserving one of the most functionally intact and culturally significant dormitory systems in contemporary times. Locally known as *Selanidingo*, with *Ingersing* for boys and *Selaniding* for girls. These dormitories have continued to serve as vital socio-cultural institutions despite widespread erosion of similar systems among other tribal groups. Unlike dormitories in other communities, which have essentially become obsolete, the Bonda dormitories remain integral to the tribe's social organisation, particularly in youth interaction, courtship, and matrimonial alliances. These dormitories provide a culturally sanctioned space for adolescents to gather, share knowledge, and develop interpersonal relationships under the watchful guidance of elders and peer mentors. Significantly, they also serve as platforms for selecting marriage partners, enabling controlled, community-endorsed interactions among youth from different villages, thereby strengthening inter-village relationships and ensuring genetic and social diversity within the tribe. Beyond their matrimonial utility, the *Selanidingo* also serve as centres for the transmission of oral traditions, folklore, and customary laws, thereby reinforcing cultural identity and continuity. Their endurance illustrates the Bonda community's resilience and adaptability, showcasing how traditional institutions can evolve to meet changing social realities without abandoning their core functions. The sustained relevance of the Bonda dormitory system underscores its role not just as a relic of the past but as a living, adaptive mechanism of social organisation, moral education, and cultural preservation. In an era of increasing acculturation and displacement, such functioning dormitories offer critical insights into indigenous systems of governance, pedagogy, and community life that have endured the test of time through contextual innovation and deep-rooted cultural commitment.

3.1.14.3. Didayi

The Didayi tribe of Odisha traditionally maintained a structured dormitory system vital to their youth's cultural and social life. Locally known as *Dhangadabasa* or *Dhangidi Basa*, these institutions were gender-specific, with the boys' dormitory referred to as *Ingire* and the girls' as *Shelia*. Historically, these dormitories functioned as essential sites of informal education, communal bonding, and preparation for adult responsibilities within tribal society. Young community members would reside in these dormitories during their adolescence, learning through participation in collective singing, dancing, storytelling, and practical skills essential to tribal life. Elders and experienced peers acted as informal educators, ensuring the transmission of cultural norms, oral traditions, and social values. These dormitories also facilitated age-specific socialisation, emotional development, and even preliminary courtship under community supervision, making them vital in maintaining social order and continuity.

However, in recent decades, the functional relevance of these dormitories has drastically declined. The rise of formal education systems, increased mobility due to migration, exposure to mainstream lifestyles, and the imposition of external developmental policies have all contributed to the gradual erosion of these indigenous institutions. As children are now expected to attend school and often migrate to towns for better opportunities, the communal life once fostered by the dormitories is giving way to more nuclear and fragmented modes of socialisation. Moreover, state policies prioritising modern development over cultural preservation have marginalised tribal knowledge systems and institutions. The decline of the *Dhangadabasa* and *Shelia* is emblematic of this broader cultural displacement. While some remnants of these institutions may still exist ceremonially or in elders' memories, their social function has been significantly diminished. The near disappearance of the Didayi dormitory system reflects a loss of traditional education structures and a weakening of

communal identity and intergenerational continuity, raising critical concerns about the sustainability of tribal cultures in the face of rapid modernisation.

3.1.14.4. Juang



Photo 3.1.14.4: Majang (Mandaghar): Traditional Dormitory of the Juang Tribe in Kendujhar District (Source: CoE-STMC, UU)

The dormitory system, traditionally used by various tribal communities, including the Juang in Odisha, India, is essential to their social and cultural structure. Among the Juang, the dormitories, known as *Majang* or *Mandaghar*, were once central to the upbringing of children, particularly in terms of social maturation and the reinforcement of cultural norms (Photo 3.1.14.4). Boys, referred to as *Kangerki*, and girls, known as *Selanki*, would live in these dormitories during their adolescence, where they were immersed in communal living and cultural education. This system was critical in maintaining social cohesion, transmitting traditional knowledge, and fostering a sense of identity within the tribe. Though the traditional use of the dormitory system has diminished mainly in modern times, these structures have been repurposed for other communal functions, such as guest houses and village meeting halls. This transformation reflects a partial continuity of communal life, adapting to contemporary needs while symbolising the enduring importance of social bonds and collective identity. The shift from a traditional dormitory system to a more modern form of communal space highlights the adaptability of tribal practices in changing social and economic landscapes. It also underscores the resilience of indigenous cultural systems in preserving their values, despite external pressures. The continued existence of the *Majang* and *Mandaghar* serves as a testament to the Juang people's ability to maintain aspects of their traditional way of life while navigating the complexities of modernisation.

3.1.14.5. Paudi Bhuiyan

The Paudi Bhuiyan community, like many other tribal groups in India, traditionally relied on a dormitory system to facilitate socialisation, cultural education, and the transmission of community values. The *Darbar* or *Mandaghara* served as a central space for the youth, where boys and girls were brought together to undergo rites of passage, learn social roles, and engage in communal living. This system was instrumental in fostering a sense of solidarity and cultural identity among the younger members of the tribe. However, over time, the traditional function of the dormitory system among the Paudi Bhuiyan has vastly diminished. Today, the *Darbar* or *Mandaghara* no longer serves as a space for youth socialisation or the initiation of young individuals into the tribe's customs and practices. Instead, it has been repurposed as a village meeting hall, a multifunctional space for community gatherings and discussions. This transformation reflects broader societal changes, including shifts in family structures, economic pressures, and the increasing influence of external cultural norms. Despite the loss of its traditional role, the continued use of the *Darbar* as a communal meeting place underscores the resilience of the Paudi Bhuiyan's social organisation and the ongoing importance of collective decision-making and community unity. Adapting these spaces to modern needs, while preserving their symbolic significance, illustrates the community's ability to maintain a connection to its cultural heritage, even as it adjusts to new realities. The *Darbar* thus stands as both a relic of the past and a dynamic part of the present, reflecting the evolving nature of indigenous social structures.

3.1.14.6. Dongria Kandha

Among the Dongria Kandha, the traditional dormitory system, known as *Da-she-hada* or *Dhangernga Duki*, played a significant role in the social and cultural development of the youth within the community. The dormitory served as a space for boys, referred to as *Sai*, and girls, known as *Ade*, to engage in communal living and undergo socialisation, education, and initiation into adulthood. This system was integral to preserving the tribe's cultural values, as it allowed the younger generation to learn from elders and peers in a controlled environment that fostered discipline, respect for traditions, and solidarity. The dormitories were not only spaces of socialisation but also crucial venues for transmitting oral traditions, rituals, and community-based knowledge. However, with the passage of time and the pressures of modernisation, the traditional functions of the dormitory system have evolved. Similar to the practices of the Juang and Paudi Bhuiyan, the Dongria Kandha have adapted their *Da-she-hada* and *Dhangernga Duki* into guest houses for visiting relatives, thus maintaining their structural utility, albeit without fulfilling the original role of youth socialisation and cultural education. This adaptation demonstrates the resilience and flexibility of the Dongria Kandha in responding to changing social and economic contexts while preserving the physical infrastructure that once played a central role in their community life. While the cultural essence of these dormitories has diminished, their transformation into guest houses highlights the ongoing importance of communal spaces within the tribe, reflecting a shift from an intimate educational setting to a broader, more inclusive communal function. This evolution not only symbolises the tribe's ability to preserve aspects of their heritage but also marks their capacity to integrate these elements into modern social structures.

3.1.14.7. Kutia Kandha

The Kutia Kandha, like many other tribal communities in Odisha, once relied on the dormitory system known as *Dhangar Dhangribasa* for the socialisation and cultural education of their youth. The system consisted of separate spaces for boys (*Dhangar*) and girls (*Dhangri*), where they would

reside during their formative years, away from their immediate families, and engage in activities designed to teach them about their roles within the community. These dormitories served as centres for socialisation and cultural pedagogy, where the youth learned important customs, rituals, and values that defined the Kutia Kandha's way of life. The boys and girls were taught by elders and more experienced tribe members, which ensured the transmission of knowledge related to agricultural practices, religious rituals, and social responsibilities. However, as with other tribal groups such as the Juang, Paudi Bhuiyan, and Dongria Kandha, the traditional function of the dormitory system has gradually changed over time due to modernisation and shifts in social structure. The *Dhangar Dhangribasa* have been repurposed as guest houses for village visitors, marking a significant shift from their original role in cultural education to their new function as spaces for hospitality. This transformation reflects broader social changes within the Kutia Kandha community, where practical needs, such as accommodating guests, have become more prominent in the face of evolving social dynamics. While the dormitories' cultural and educational role has diminished, preserving these structures as guest houses illustrates the tribe's continued dependence on communal spaces to maintain social cohesion, even as their original purpose fades. This adaptation underscores the flexibility of indigenous practices and the ability of tribal communities to preserve their physical infrastructure while adjusting to new realities. The shift from a pedagogical function to hospitality marks a poignant moment in the community's history, where the physical remnants of tradition continue to serve a communal purpose, albeit in a different context.

It is important to note that the Hill Kharia, Lodha, and Lanjia Soura tribes currently do not appear to have structured dormitory systems in practice or documented. This absence may be attributed to early cultural loss or a lack of systematic study on such institutions within these communities.

3.1.15. TRADITIONAL POLITICAL ORGANISATION

3.1.15.1. Birhor/Mankidia

Among the Birhor, also known as the Mankidia in Odisha, the traditional political organisation is closely integrated with their socio-religious life and subsistence-based forest economy. The Birhor are a nomadic or semi-nomadic, Particularly Vulnerable Tribal Group (PVTG), and their political structure is embodied in the *Tanda*, a small, mobile community or settlement comprising a few families. The *Tanda* functions as the basic political and social unit, wherein leadership is exercised through a decentralised and participatory framework. The head of the *Tanda* is known as the *Mukhiya* (headman), who is entrusted with the responsibility of maintaining social order, managing internal disputes, and ensuring the equitable distribution of forest-based resources, which are crucial to the Birhor's subsistence, including forest produce, food, and materials for hut construction. The *Mukhiya* works closely with the *Dehuri*, the ritual and spiritual head, overseeing religious functions, leading community rituals, and mediating between the community and the spirit world. The *Dehuri* plays a vital role in maintaining the moral and cosmological balance within the community, especially during life-cycle events, agricultural or hunting ceremonies, and festivals.

The Naya, or assistant headman, supports them, who may take on administrative tasks and help implement the decisions made by the *Mukhiya* and *Dehuri*. Additionally, the *Digwar*, or village messenger, relays information, summons people for meetings, and assists in logistical arrangements for communal gatherings. This multi-tiered leadership structure ensures that administrative governance and ritual duties are distributed and managed effectively within the *Tanda*. Decisions in Birhor society are typically made through consensus, with the *Mukhiya* consulting elders and other

respected members during informal councils. The traditional political system is profoundly democratic, emphasising negotiation, reconciliation, and collective responsibility over punitive measures.

However, the traditional political institutions of the Birhor face increasing challenges due to the encroachment of mainstream political and administrative systems, loss of forest habitats, and assimilation pressures. Governmental rehabilitation schemes, forest conservation laws, and land acquisition have disrupted the mobility and autonomy of the *Tanda*, often compelling Birhor families to settle in fixed locations and engage with formal Panchayati Raj Institutions (PRIs). This shift has diluted the authority of traditional leaders. However, in some communities, the roles of the *Mukhiya* and *Dehuri* continue to hold social and spiritual relevance, particularly in matters of ritual and kinship. In light of these changes, anthropologists and policymakers stress the need to recognise and integrate traditional political institutions into formal governance frameworks to preserve indigenous autonomy and facilitate culturally sensitive development. The Birhor example illustrates how tribal political systems serve as governance mechanisms and foundational structures that sustain cultural identity, environmental stewardship, and communal harmony.

3.1.15.2. Bonda

Among the Bonda tribe, the traditional political organisation is centred around a system known as *Chalan*. This indigenous form of governance reflects the Bonda people's egalitarian and community-oriented social structure, which has historically operated autonomously from external state mechanisms. The village chief's *Naik* holds administrative and judicial authority at the core of the *Chalan* system. The *Naik* is not a hereditary monarch but is typically selected through consensus among the village's senior, respected male members. His role involves presiding over village meetings, settling internal disputes, managing inter-family conflicts, and maintaining social norms and customary laws. The decisions made by the *Naik* are communicated to the community through the *Barik*, who acts as the village messenger and helps organise communal activities, gatherings, and rituals. This division of responsibilities allows for a streamlined, participatory decision-making process that reinforces collective accountability and minimises centralised coercion.

The *Chalan* serves as a governing institution and a platform for preserving the Bonda people's cultural values and oral traditions. During village councils, issues ranging from land disputes and marriage negotiations to the observance of rituals and festivals are discussed, often culminating in decisions rooted in traditional wisdom and ancestral norms. The *Naik*, while vested with authority, is expected to act impartially and uphold communal welfare over individual interest, underscoring the moral dimension of tribal leadership. Significantly, the *Chalan* is deeply intertwined with the socio-religious fabric of Bonda life. Rituals, sacrifices, and ceremonies, especially those related to agriculture, fertility, and ancestor worship, are often conducted under the guidance of the *Naik*, with communal participation.

Despite the resilience of this system, the Bonda political structure has been increasingly strained under the pressures of modernisation, state intervention, and integration into the Panchayati Raj framework. Government schemes aimed at “mainstreaming” tribal groups have introduced external governance models that often overlook the value of traditional institutions like the *Chalan*. As a result, the authority of the *Naik* has been partially eroded in some villages, and decisions once made within the community are now influenced or superseded by state-appointed officials or local bureaucracies. Nevertheless, many Bonda communities continue to uphold the *Chalan* as a parallel governance structure, especially in areas that remain geographically and culturally insulated from

mainstream society. As scholars and tribal rights advocates argue, recognising and integrating such indigenous political systems into broader governance frameworks is essential for effective administration and preserving cultural identity and self-determination among tribal populations. Therefore, the Chalan system is a testament to the Bonda people's resilience and commitment to sustaining their ancestral governance practices in the face of rapid socio-political change.

3.1.15.3. Didayi

Among the Didayi, the traditional political system, locally known as *Hinhi*, represents a unique model of community-based governance rooted in customary laws, kinship ties, and ritual obligations. At the apex of this indigenous political structure is the *Lepar*, the village headman, who is the primary authority figure in civil and ritual matters. The *Lepar* is not an autocratic ruler but rather a consensus-based leader chosen from among the senior male members of the village, typically one with demonstrated wisdom, oratorical skills, and moral integrity. The *Lepar* is supported in governance by two key advisors: the *Chalan*, who assists in decision-making and dispute mediation, and the *Barik*, who serves as a custodian of oral tradition and ritual practices. Together, they ensure that the village's customary laws, known as *samaaj*, are upheld and that justice is delivered in accordance with Didayi's ethical frameworks.

Assisting these senior leaders is the *Naik*, who acts as the village messenger. The *Naik's* duties include disseminating decisions taken during village councils, organising community meetings, and summoning individuals involved in disputes or rituals. This hierarchical yet consultative structure allows the Didayi to manage intra-community affairs effectively while maintaining social harmony and continuity of traditional norms. Decision-making under the *Hinhi* system typically occurs in village councils, which are convened under the sacred tree or at the village courtyard. Here, disputes related to marriage, land, theft, and social transgressions are deliberated openly, often with the involvement of elders and affected parties. The emphasis is on consensus, restitution, and reconciliation rather than punitive justice, reinforcing communal cohesion and shared accountability.

Importantly, the *Hinhi* political system is deeply interwoven with the religious and ecological worldview of the Didayi. Ritual specialists such as the *Barik* often collaborate with the *Lepar* during agricultural festivals, healing ceremonies, and ancestor worship, thereby legitimising political authority through spiritual channels. For example, decisions about community hunting or forest resource use are made only after ritual consultation, underscoring the Didayi's respect for nature and their sacred geography. However, like other tribal political systems in India, the *Hinhi* has not remained immune to the pressures of modernisation and state-driven governance. The expansion of the Panchayati Raj system and integration with state bureaucracies has altered traditional roles, sometimes marginalising the authority of the *Lepar* and his council. Younger generations, influenced by formal education and external employment, are increasingly disengaged from customary institutions, gradually eroding indigenous governance practices.

Nevertheless, in more isolated or culturally cohesive Didayi villages, the *Hinhi* system is a vital mechanism for self-regulation, conflict resolution, and cultural preservation. Scholars and tribal rights activists emphasise the importance of safeguarding indigenous political institutions, recognising their potential to advance decentralised, participatory governance and sustainable development. Integrating these systems into broader state frameworks with adequate cultural sensitivity and legal safeguards could not only empower tribal communities like the Didayi but also reinforce India's commitment to pluralistic democracy and indigenous autonomy.

3.1.15.4. Juang

The traditional political system of the Juang community is organised into a territorial unit known as the Juang Pirh. This institution serves as the apex of local governance and embodies the community's integrated approach to political, social, and spiritual life. At the head of the *Juang Pirh* is the *Pradhan*, the secular leader who oversees the administration of justice, coordination of communal labour, land distribution, and conflict resolution. The *Pradhan* is typically chosen from among the village elders and is expected to uphold customary laws, known as *samaaj*, while ensuring the community's general welfare. His authority is moral and consensual rather than coercive, relying on age-old traditions, personal reputation, and community support. The *Pradhan* chairs village meetings and makes decisions in consultation with a council of elders, reinforcing the collective ethos of Juang political life.

Complementing the role of the *Pradhan* is the *Dehuri*, the spiritual head and ritual specialist who holds equal significance in the socio-political structure. The *Dehuri* performs all major religious ceremonies, including agricultural rites, ancestral worship, and festivals such as *Chaiti Parab* and *Amba Nua Khai* (the first mango-eating ceremony), during which youth are formally initiated into community life. The *Dehuri's* guidance is sought for spiritual matters and decisions concerning natural resource use, health crises, and omens, indicating the deep spiritual integration of governance in Juang culture. His role reinforces the belief that governance is not merely administrative but also a sacred responsibility aligned with ancestral and environmental harmony.

The *Juang Pirh* is also the custodian of inter-village unity and acts as a higher appellate body when disputes transcend individual villages. It is key in maintaining social solidarity and cultural continuity across the Juang settlements. Within this framework, informal justice is dispensed through dialogue and reconciliation, emphasising the restoration of balance rather than punitive action. Such customary institutions are pivotal in fostering accountability, social inclusion, and sustainable living practices aligned with tribal values.

However, with the advent of formal governance structures such as the Panchayati Raj system and increased exposure to external political processes, the authority of the *Juang Pirh* and its functionaries has gradually declined. Modern education, migration, and developmental interventions have distanced younger generations from traditional institutions, often leading them to perceive these institutions as outdated. Despite this, the *Juang Pirh* serves as a vital cultural and administrative organ in many villages, especially during festivals, rituals, and communal decision-making events. Efforts by state and non-governmental agencies to promote tribal self-governance and cultural preservation have recognised the value of institutions like the *Juang Pirh*, advocating for their integration into contemporary governance frameworks while respecting their autonomy and indigenous ethos.

3.1.15.5. Paudi Bhuiyan

Among the Paudi Bhuiyan, traditional governance is structured through an institution of the *Bhuiyan Pirh* or *Pitha Panchayat*. This indigenous political system functions as a secular and sacred council, embodying collective leadership and ancestral authority that guides the community's social, judicial, and religious life. At the helm of this system is the *Pradhan*, who serves as the highest secular authority and presides over village-level decisions, conflict resolutions, land disputes, and inter-family negotiations. The *Pradhan* is selected by consensus from among the elders, often for his wisdom, integrity, and experience in upholding customary norms. His role is crucial in maintaining

law and order, ensuring adherence to traditional codes of conduct, and guiding communal decisions related to marriage, resource distribution, and festival observances.

The *Bhuiyan Pirh* is not solely administrative; it is deeply interwoven with religious and ritualistic life, symbolised by the role of the *Dehuri*, the sacred head or village priest. The *Dehuri* is entrusted with conducting important religious rituals, ancestral worship, agricultural rites, and village-level ceremonies that sustain the community's spiritual well-being. His involvement in decision-making imbues the council's judgments with a sacred legitimacy, reflecting the tribe's belief in the inseparability of spiritual authority and social governance. Assisting both the *Pradhan* and the *Dehuri* is the *Dakua* (or *Dangua*), who functions as the communicator or messenger. The *Dakua* plays an important operational role by conveying council decisions, summoning individuals to meetings, and ensuring that communal instructions are followed. This three-tiered structure ensures a balance among executive, ritual, and communicative functions, enabling a practical, culturally grounded system of governance.

Meetings of the *Bhuiyan Pirh* are typically held in an open space within the village, often under a sacred tree or at the community dormitory (*Mandaghara*), and decisions are reached through consensus among elders and council members. This participatory approach fosters a sense of collective responsibility and social cohesion. The council also serves as a mediator during times of crisis, such as crop failure, natural disasters, or internal conflicts, demonstrating its role as a stabilising institution within the tribal landscape. However, the advent of modern governance through the Panchayati Raj system and increasing exposure to external socio-economic influences have led to the partial decline of traditional institutions like the *Bhuiyan Pirh*. Younger generations, particularly those attending school or migrating for work, show diminishing interest in customary practices, weakening the link between elders and youth. Nevertheless, in more culturally cohesive villages, the *Pitha Panchayat* continues to function actively, preserving tribal identity, promoting customary law, and offering an alternative to state-imposed bureaucratic mechanisms.

Scholars and indigenous rights advocates emphasise the importance of recognising and integrating these traditional governance systems into formal state structures, not to replace them, but to foster culturally sensitive administration and empower tribal communities from within. The *Bhuiyan Pirh* exemplifies a sophisticated, community-centric governance model that harmonises secular and spiritual authority, participatory decision-making, and customary justice, key elements in sustaining the socio-cultural fabric of the Paudi Bhuiyan society.

3.1.15.6. Dongria Kandha

Among the Dongria Kandha, the traditional political system is structured around the *Mutha* or *Sabha* system, a deeply rooted institution that governs the village's social, legal, and ritual life. At the helm of this system is the *Sadar*, the chief or headman, who functions as the principal authority in village administration. The *Sadar* is typically selected by consensus among elders based on his leadership qualities, knowledge of customary norms, and social standing within the community. He plays a pivotal role in overseeing all community affairs, including dispute resolution, land and resource management, and collective labour organisation. His decisions are generally grounded in traditional wisdom and are expected to reflect fairness, communal consensus, and alignment with ancestral customs.

The *Mutha* or village council is a participatory body composed of senior male members and functionaries such as the *Barik* (messenger), *Bejuni* (priestess), and *Disari* (village priest or oracle),

who assist the *Sadar* in managing the affairs of the village. Meetings are typically held in a communal space or under the sacred *siju* tree, where matters concerning marriage alliances, disputes, transgressions, rituals, and agricultural cycles are deliberated. Justice is dispensed through dialogic methods to restore social harmony rather than enforcing punitive measures, emphasising reconciliation and compensation. The decisions of the *Mutha* are binding and carry moral authority, reinforced by collective memory and community respect.

A unique feature of the Dongria Kandha political system is its inseparability from their ecological worldview and religious beliefs. The sacred hills of Niyamgiri are not only the source of their livelihood but are also revered as the abode of their supreme deity, *Niyam Raja*. Governance in the *Mutha* system thus inherently includes the stewardship of sacred landscapes and natural resources. The *Sadar* and the Disari are significant in organising rituals to appease deities and ensure ecological balance, particularly before key agricultural or hunting activities. This integration of spiritual leadership into political structures highlights the Dongria Kandha's holistic view of governance, in which the community's welfare is intertwined with reverence for nature and ancestral spirits.

Despite pressures from external systems, including the Panchayati Raj and modern state institutions, the Dongria Kandha have retained mainly their traditional political organisation. Their successful resistance to bauxite mining in Niyamgiri, led collectively through village councils and public *Sabhas*, is a contemporary example of how indigenous political institutions can effectively mobilise collective action and assert community rights. The Dongria Kandha governance model continues to offer vital insights into participatory, sustainable, and culturally embedded political systems. Recognising and respecting such traditional structures is crucial not only for empowering tribal communities but also for preserving India's diverse indigenous heritage.

3.1.15.7. Hill Kharia

Among the Hill Kharia, the traditional political structure is embodied in the *Bhira*, the indigenous village council that integrates political, judicial, and religious responsibilities. This council is the primary institution for governance and dispute resolution, closely reflecting the tribe's holistic worldview in which socio-political authority and ritual life are inseparable. At the core of this system is the *Dehuri*, the sacred head of the village, who serves as both spiritual leader and political figure. Far from being a mere religious functionary, the *Dehuri* presides over village affairs, adjudicates local disputes, oversees land-use practices, and leads community rituals associated with agriculture, health, and ancestral worship. His authority is rooted not in coercion but in his ritual purity, moral standing, and deep knowledge of Kharia customs and cosmology.

Supporting the *Dehuri* in administrative matters is the *Dakua*, an assistant who acts as a counsellor and helps organise village meetings and communal work. The *Dakua* also serves as a mediator in resolving interpersonal and intra-family conflicts, providing advice before the *Dehuri* pronounces a decision. Communication between the *Dehuri* and the larger community is facilitated by the *Naik*, the messenger or herald responsible for announcing decisions, conveying summons, and organising communal events. This triadic leadership structure ensures that the temporal and sacred aspects of village life are attended to in a balanced and inclusive manner. It reflects a governance model where decisions are made through consensus and collective memory, and justice is centred on restoration rather than retribution.

The *Bhira* operates through regular and emergency meetings, usually held in open spaces near sacred groves or community halls. Issues such as marriage disputes, theft, agricultural planning, resource

conflicts, and violations of customary norms are addressed in these gatherings. Importantly, the decisions are not made unilaterally but through participatory deliberation among elders and respected villagers, with the *Dehuri* serving as the final arbiter. The council also plays a pivotal role during festivals and seasonal rituals such as *Sohrai*, *Karam*, and *Sarhul*, during which the entire village engages in communal worship and feasting—events that reaffirm spiritual bonds and reinforce social solidarity and shared identity.

In recent decades, the Hill Kharia's traditional governance has come under pressure due to formal state administration, economic displacement, and cultural assimilation. Implementing the Panchayati Raj system has often sidelined indigenous institutions like the *Bhira*, relegating them to symbolic status. However, in many remote or culturally cohesive Hill Kharia settlements, the *Bhira* remains functional and respected, especially in contexts where government mechanisms are absent or ineffective. Increasing awareness of tribal rights and constitutional safeguards has led to a renewed appreciation of these traditional political systems, not only for their cultural value but also for their potential to offer more contextually appropriate and democratic forms of governance.

3.1.15.8. Kutia Kandha

Among the Kutia Kandha, the traditional political organisation is structured around the *Mutha* system. This localised, community-based administrative framework governs both secular and sacred aspects of village life. The central authority within this system is the *Muthadar* or *Mutha Majhi*, the village chief, who plays a pivotal role in maintaining order, resolving disputes, managing land and forest resources, and upholding customary laws. The *Muthadar* is generally selected through consensus among elders and senior clan members, based on his wisdom, moral integrity, and deep knowledge of the community's customs and rituals. His leadership is consultative and rooted in tradition, ensuring that decisions reflect the community's collective will rather than unilateral authority.

Supporting the *Muthadar* are two crucial functionaries: the *Challni*, who serves as the assistant head or advisor, and the *Ghahantia*, who acts as the messenger or herald of the village. The *Challni* assists in administrative matters, provides counsel to resolve disputes, and helps coordinate village meetings and communal labour, particularly during agricultural seasons or festivals. Meanwhile, the *Ghahantia* plays a critical communicative role by disseminating the council's decisions, summoning villagers to meetings, and organising public gatherings and ceremonies. Together, this trio forms the nucleus of the *Mutha* council, ensuring the smooth functioning of the socio-political structure and the integration of traditional norms with everyday governance.

The *Mutha* system also plays a vital role in mediating social conflicts, regulating inter-family relations, and preserving cultural norms. For instance, marriage disputes, theft, land encroachment, and breaches of ritual taboos are brought before the *Muthadar* and his council for deliberation. Justice is restorative rather than punitive, focusing on compensation and reconciliation to restore communal harmony. Additionally, the council oversees the organisation of important festivals like *Meriah* and *Chaitra Parab*, during which sacrifices and ancestral worship are performed to appease deities and spirits—highlighting the integration of spiritual responsibilities within the political framework.

Despite the growing influence of the Panchayati Raj system and external governance mechanisms, the *Mutha* system continues to operate in many Kutia Kandha villages, especially in interior regions where formal administrative reach is limited. However, modernisation, migration, and formal

education have gradually eroded the younger generation's engagement with traditional structures. In response, some communities and cultural preservation initiatives have sought to revive and document the practices of the *Mutha*, recognising its role not only as a governance mechanism but also as a custodian of tribal identity and collective memory. As such, the Kutia Kandha's political system exemplifies the dynamic coexistence of tradition and adaptation, demonstrating the resilience and relevance of indigenous governance amid socio-political change.

3.1.15.9. Lodha

Among the Lodha tribe, the traditional political system operates under a structure known as the *Desh*, the administrative and territorial unit responsible for governance within a village or group of villages. At the helm of the *Desh* is the *Pradhan*, who serves as the chief or headman and plays a central role in overseeing the village's affairs, including conflict resolution, resource management, and communal activities. The *Pradhan* is traditionally chosen from among the elder and respected community members, with authority granted based on his wisdom, knowledge of customs, and ability to lead with fairness and integrity. His role goes beyond administration; he is responsible for upholding the tribe's customary laws and norms and ensuring that the village remains in harmony with the natural and spiritual worlds.

The *Pradhan* is supported in his duties by two key functionaries: the *Chattia* or *Dhakua*, who act as assistant heads. These leaders help the *Pradhan* manage various village functions, such as organising agricultural activities, coordinating labour for community projects, and assisting in decision-making processes during disputes or village matters. The *Chattia* or *Dhakua* also play a significant role in facilitating communication between the *Pradhan* and the villagers, ensuring that the community's needs and concerns are addressed promptly.

Additionally, the *Desh* system relies on messengers, known as the *Dakua* or *Athgharia*, who convey the decisions of the village council and summon villagers to important meetings or ceremonies. The role of the *Dakua* is vital in maintaining communication and ensuring the smooth functioning of the community. In some cases, the *Dakua* also serves as a mediator in minor disputes, ensuring that issues are resolved at the village level before they escalate.

The governance system within the *Desh* is deeply rooted in the tribe's social fabric and is characterised by collective decision-making and participatory governance. Disputes related to family matters, land, or social relations are brought before the *Pradhan* and his council for discussion and resolution. The emphasis is on reconciliation and mutual respect, with decisions aimed at restoring balance within the community rather than seeking punitive measures. The village council also plays a key role during ritual and cultural ceremonies, such as agricultural rites, festivals, and ancestral worship, reinforcing the link between governance and spirituality. The tribe's deep connection to the land and its traditional lifestyle mirror its governance system, emphasising sustainability, resource sharing, and social solidarity.

Despite the pressures of modernity and state intervention, the *Desh* system continues to function in many Lodha villages, with the *Pradhan* and his council providing leadership during important events and maintaining social cohesion. However, the younger generation's increasing exposure to formal education and migration to urban areas has led to declining participation in traditional governance structures. Still, the Lodha tribe, through various cultural preservation efforts, continues to uphold its indigenous governance practices, seeking to maintain its cultural identity in a rapidly changing world.

3.1.15.10. Lanjia Saora

Among the Lanjia Soura, the traditional political system is marked by a highly complex, hierarchical structure that combines governance and spiritual authority. The political unit of the Lanjia Soura is governed by the *Gomango* or *Naiko*, who serves as the chief or headman of the village or territorial unit. The *Gomango* is responsible for overseeing the administration of justice, settling disputes, managing land and resources, and ensuring the smooth functioning of community life. His leadership is grounded in his deep knowledge of the tribe's customs, rituals, and social dynamics, and he is expected to maintain harmony within the community through diplomatic and authoritarian means.

Key functionaries such as the *Buyya*, *Karji*, and *Jani* assist the *Gomango* and serve as advisors or assistant leaders. These individuals assist the *Gomango* in managing various aspects of village life, including organising communal labour, agricultural work, and dispute resolution. Their roles are crucial in ensuring that the *Gomango* can focus on broader decision-making while relying on their expertise for day-to-day village operations. Additionally, the *Mandal* or *Dalbehera* plays a significant role in maintaining law and order by ensuring that the village's rules are adhered to and that any social transgressions are swiftly addressed.

The *Barik*, the village messenger, facilitates communication within the community by relaying decisions made by the *Gomango* and his council. The *Barik* calls meetings, informs villagers about new developments, and ensures the community remains connected to its leadership. This communication system is essential for maintaining the cohesion and unity of the tribe, especially in remote, geographically isolated areas.

An important and unique aspect of the Lanjia Soura political system is the role of the *Disari*, the astrologer or spiritual advisor, whose influence is deeply embedded in governance and social practices. The *Disari* predicts auspicious times for important events, including agricultural activities such as planting and harvesting, social gatherings, and religious ceremonies. Their role blends spiritual leadership with political decision-making, as the timing of events is often seen as critical to the community's endeavours. This integration of spiritual authority into the political framework highlights Lanjia Soura's worldview, in which governance is not solely about managing temporal affairs but also about maintaining harmony with the spiritual and natural realms.

This complex political system, in which leadership is distributed among various figures based on their expertise, ensures that the Lanjia Soura's governance remains responsive to both material and spiritual needs. While modernisation and external political structures have influenced these systems, the traditional governance system of the Lanjia Soura remains a cornerstone of their social fabric, preserving their cultural identity and communal solidarity.

3.1.16. MAJOR ECONOMIC ACTIVITIES

3.1.16.1. Birhor / Mankidia



Photo 3.1.16.1: Siali Creepers: Vital Economic and Livelihood Resource of the Birhor/Mankidia Tribe (Source: CoE-STMC, UU)

Photo 3.1.16.1.a: Mankidia Man Crafting Siali Rope (Source: CoE-STMC, UU)

The Birhor and Mankidia tribes are primarily forest-dwelling communities whose traditional economy is rooted in hunting, gathering, and forest-based crafts. The wandering Birhors, known as *Uthlus*, continue to rely on mobility and forest resources, whereas the settled *Janghis* engage more in craft-based livelihoods. Their primary income comes from making utilitarian items using siali creepers and sabai grass (Photo 3.1.16.1). They produce goods such as *lama bayer* (ropes), *sika* (slings), *pagha* (halters for cattle), and *tupa* (small baskets). These eco-friendly, hand-made products are often sold in local markets, forming an important part of their subsistence economy (Photo 3.1.16.1.a). Plastic rope-making has also emerged as an economic supplement in recent years, though traditional techniques dominate due to cultural preservation and resource availability.

3.1.16.2. Bonda

The staple crops grown include rice paddy (*kheram*), maize (*jahna*), finger millet (*same*), sorghum, and various pulses such as black gram (*ruma*) and red gram (*kulthi*). Oilseeds like mustard and til, as well as spices like ginger (*ada*), are also important. Bonda households retain extensive traditional ecological knowledge, guiding their cultivation strategies and forest-based seasonal foraging. Their dependence on shifting and permanent fields highlights a complex adaptive strategy suited to hilly terrains and variable climate conditions. (Photo 3.1.16.2 & Photo 3.1.16.2.a)



Photo 3.1.16.2: Hill Bonda Tribe Engaging in Jhola Chas Cultivation at Bondaghati Area (Source: CoE-STMC, UU)

Photo 3.1.16.2.a: Klunda/Dongar Chas: An Ancestral Cultivation Practice Sustained by the Bonda Tribe (Source: CoE-STMC, UU)

3.1.16.3. Didayi



Photo 3.1.16.3: Cultivation Foxtail Millet by Didayi Tribe in Kudumulgumma Block, Malkangiri District (Source: CoE-STMC, UU)

The Didayi tribe relies heavily on shifting cultivation (*Biri*) and settled agriculture. On their hill slopes, they grow red gram, black gram (*romig*), finger millet (*ragi*), diamond millet (*suan*), and seasonal vegetables such as brinjal (*koraihai*) (Photo 3.1.16.3).

In the settled lands of valley floors or riverbanks, they cultivate a more diverse crop, including paddy, tomato, beans, and chillies. This dual strategy allows the Didayi to manage risk and ensure food security throughout the year. They also collect minor forest produce, especially during lean periods, further stabilising their household economy (Photo 3.1.16.3.a). Their farming is characterised by organic practices and indigenous knowledge,



Photo 3.1.16.3.a: Didayi Women Tending Kitchen Gardens Behind Their Residential Dwellings (Source: CoE-STMC, UU)

especially in soil fertility management and seed preservation.

3.1.16.4. Juang

Juang communities practice *Toila* (a traditional form of shifting cultivation) alongside settled agriculture. Their principal crops include niger, black gram, paddy, rice, maize, mustard, and native varieties such as *ruma* (pulses), *gangei* (cereals), and *mandia* (ragi). They have developed extensive knowledge of soil, water, and seed types, which allows them to rotate crops and maintain yields efficiently. Although they are slowly transitioning to more settled forms of agriculture, the Juangs retain strong cultural associations with *Toila*, which is not merely an economic activity but a social and spiritual institution.

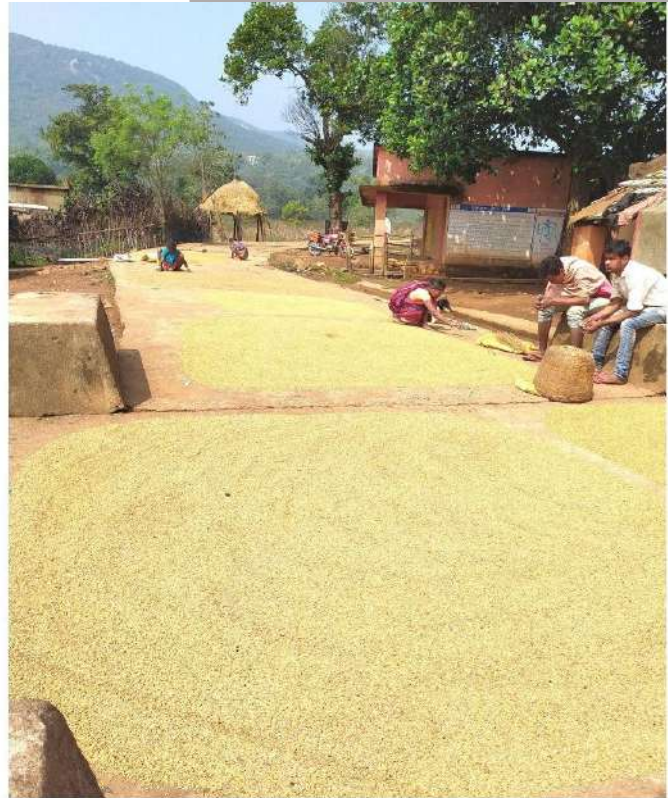


Photo 3.1.16.4: Juang Tribe Processing Sun-Dried Paddy for Rice Preparation
(Source: CoE-STMC, UU)

3.1.16.5. Paudi Bhuiyan

The Paudi Bhuiyan practice a three-phase shifting cultivation cycle such as *Biringa*, *Kamana*, and *Guda*, over three years. In the first year, they cultivate black gram, niger, and various gourds (Photo 3.1.16.5). In the second year, ragi, maize, and *ruma* (a pulse) dominate (Photo 3.1.16.5.a). By the third year, only niger is grown, after which the land is left fallow. On plain lands, they also cultivate rice as a staple. This cycle ensures soil regeneration and crop diversity. Their seasonal agricultural calendar is closely tied to traditional festivals and ancestral rituals. The Paudi Bhuiyan also collects forest produce, and many families are now combining traditional practices with wage labour and government schemes to diversify income.



Photo 3.1.16.5: Master Seed Cultivation by the Paudi Bhuiya Tribe in Deogarh District (Source: CoE-STMC, UU)

Photo 3.1.16.5.a: Sedentary Cultivation Fields of the Paudi Bhuiya Tribe (Source: CoE-STMC, UU)

3.1.16.6. Dongria Kandha



Photo 3.1.16.6: Pineapple Cultivation by Dongria Kandha Tribe on the Slopes of Niyamgiri Hills (Source: CoE-STMC, UU)

The Dongria Kandha are notable for their sophisticated horticultural practices alongside shifting cultivation (*dongar*). They grow high-value crops like turmeric, ginger, and arrowroot on hill slopes, which is ideal for tuber and spice cultivation. Additionally, they engage in extensive fruit gathering, i.e. pineapples, jackfruits, bananas, citrus, mangoes, and lemons, which are either cultivated or collected from the wild (Photo 3.1.16.6). Their intimate ecological knowledge allows them to preserve genetic diversity and manage agroforestry systems sustainably (Photo 3.1.16.6.a). Dongria women play a central role in horticulture, especially in selecting and propagating indigenous varieties. Their agricultural practices are often cited as models of community-based conservation.



Photo 3.1.16.6.a: Cereal Cultivation by Dongria Kandha Tribe on Foot-Hill Settled Agricultural Lands (Source: CoE-STMC, UU)

3.1.16.7. Hill Kharia

The Hill Kharia maintain a subsistence economy centred on food gathering and the collection of forest produce. They gather firewood, edible tubers such as pita-alu, boinga, and *cheranga*, mushrooms, honey, gums, and seasonal fruits and flowers (Photo 3.1.16.7). The summer collection includes seeds of kendu, kusum, jamun, karanj, and sal, sold or bartered in local markets (Photo 3.1.16.7.a). Building materials, grasses, and leaves are critical for constructing homes and household items. The Hill Kharia are among the few tribal groups that still depend significantly on forest ecosystems for daily subsistence. Their traditional ecological knowledge about flora and fauna supports nutrition and household economics.



Photo 3.1.16.7: 'Pita Alu' Collected by Hill Kharia Women Through Traditional Forest Foraging (Source: CoE-STMC, UU)
Photo 3.1.16.7.a: Elder Hill Kharia Woman Crafting Plates from Kendu Leaves (Source: CoE-STMC, UU)

3.1.16.8. Kutia Kandha



Photo 3.1.16.8: Pulses Cultivation Fields of the Kutia Kandha Tribe in Kandhamal District (Source: CoE-STMC, UU)
Photo 3.1.16.8.a: Kitchen Gardens: Vital Contributors to Alleviating Household Food Insecurity (Source: CoE-STMC, UU)

The Kutia Kandha tribe engages in shifting and settled cultivation, growing turmeric, ginger, arrowroot, and various cereals, pulses, and spices (Photo 3.1.16.8). Key crops include *kandula*, *kalka*, *kangu* (millet), *koiri*, green gram, maize, mustard, and castor. Their terraced fields on hill slopes help retain water and reduce erosion. The tribe also uses kitchen gardening and minor forest produce to

supplement nutrition (Photo 3.1.16.8.a). Their integrated agro-ecological model, combining farming, horticulture, and foraging, represents a resilient livelihood strategy in a climate-sensitive region.

3.1.16.9. Lodha



Photo 3.1.16.9: Lodha Women Engaged in Crafting Durable Ropes from *Sabai* Grass (Source: SCSTRTI)

The Lodhas primarily depend on wage labour, stock-raising, and agriculture. Supplementary income comes from rope-making, mat-weaving, and small-scale trade. They also engage in extensive forest foraging, collecting *kendu* leaves for bidi-rolling, *sal* and *siali* leaves for making cups and plates, *sabai* grass for rope-making, and forest products like *tussar cocoons*, lac, honey, and resin. Their summer foraging yields include a wide array of fruits, mango (*aam*), jackfruit (*panas*), blackberry (*jam kuli*), and custard apple (*mandaar*). Though their traditional hunting practices have declined, their ability to market forest produce is vital in sustaining livelihoods, particularly during agricultural off-seasons.



Photo 3.1.16.9.a: Lodha women are busy collecting *Siali* leaves from the forest (Source: SCSTRTI)

3.1.16.10. Lanjia Soura



Photo 3.1.16.10: Lanjia Soura Practicing Terrace Hill Cultivation for Essential Cereal Production (Source: CoE-STMC, UU)

The Lanjia Soura tribe practices *Bagada* (shifting cultivation) and terraced agriculture on hill slopes (Photo 3.1.16.10). While plains-dwelling Saoras engage in wet cultivation and wage labour, the hill-dwelling communities focus on minor millets (*ragi*, *kulthi*, *kangu*), black gram (*biri*), maize (*jana*), and horse gram (*kandula*). They also grow oilseeds like sunflower, and an assortment of vegetables, pumpkins, lady's finger, brinjal, beans, and gourds (Photo 3.1.16.10.a). Horticultural produce includes bananas, mangoes, pineapples, and cashew nuts, which are often marketed. The tribe's agricultural cycle is synchronised with festivals and spiritual observances, and they retain strong cultural beliefs around land, ancestors, and ecological stewardship.



Photo 3.1.16.10.a: Lanjia Soura of Gajapati District Cultivating Cabbage and Onion on Settled Agricultural Lands (Source: CoE-STMC, UU)

3.1.17. MAJOR FOOD ITEMS

3.1.17.1. Birhor/Mankidia

The traditional food practices of the Mankidia, a nomadic subgroup of the Birhor tribe residing predominantly in Odisha, reflect a deep ecological knowledge and a profound dependence on their forest environment. Their diet primarily comprises rice as a staple grain, either cultivated through subsistence farming or acquired through barter or forest labour. However, the extensive incorporation of wild, foraged, and seasonal



Photo 3.1.17.1: Birhor Tribe Cultivating Agricultural Produce on Vacant Lands Surrounding Their Dwellings (Source: CoE-STMC, UU)

resources distinguishes their food system from mainstream dietary patterns. The Mankidia people depend significantly on a diverse range of forest-sourced foods, including roots, tubers, wild fruits, leafy greens, mushrooms, flowers, and arrowroot (*Maranta arundinacea*), which not only provide dietary diversity but also help sustain them during lean agricultural periods. Particularly during the monsoon season, the diet shifts toward wild yams (*Dioscorea* spp.), maize, and other available tubers, reflecting the adaptive strategies developed over generations to cope with environmental fluctuations. Additionally, apiculture and forest honey collection are essential seasonal activities that contribute to their nutrition and livelihoods (Table 3.1.17).

The Mankidia are also skilled hunters and continue to hunt small game for animal protein, though this practice has declined due to forest regulations and habitat restrictions.

They consume sacrificial meat during community rituals and festivals, primarily from goats and poultry, reinforcing the role of food in sociocultural cohesion. Alcoholic beverages such as *handia* (a fermented rice beer) and *mahuli* (distilled from mahua flowers, *Madhuca longifolia*) are integral to their ritual and celebratory practices. They are also believed to have medicinal properties within their traditional health systems. Such fermented and distilled beverages are a marker of tribal ethno-food systems that combine nourishment with cultural expression. Notably, the Mankidia's diet is highly seasonal and adapted to the forest's ecological rhythms, which allows them to maintain a relatively balanced intake of nutrients despite economic marginalisation and limited access to market-based food sources. However, increasing deforestation, restrictions on forest access, and socio-economic transitions pose substantial threats to the continuity of their food practices. Efforts to document, preserve, and support traditional food systems ensure food security, cultural survival, and sustainable development among PVTGs like the Mankidia.

3.1.17.2. Bonda

The traditional food system of the Bonda tribe is a compelling example of an ecologically integrated subsistence lifestyle rooted in foraging, shifting cultivation, and ethno-entomological practices. The

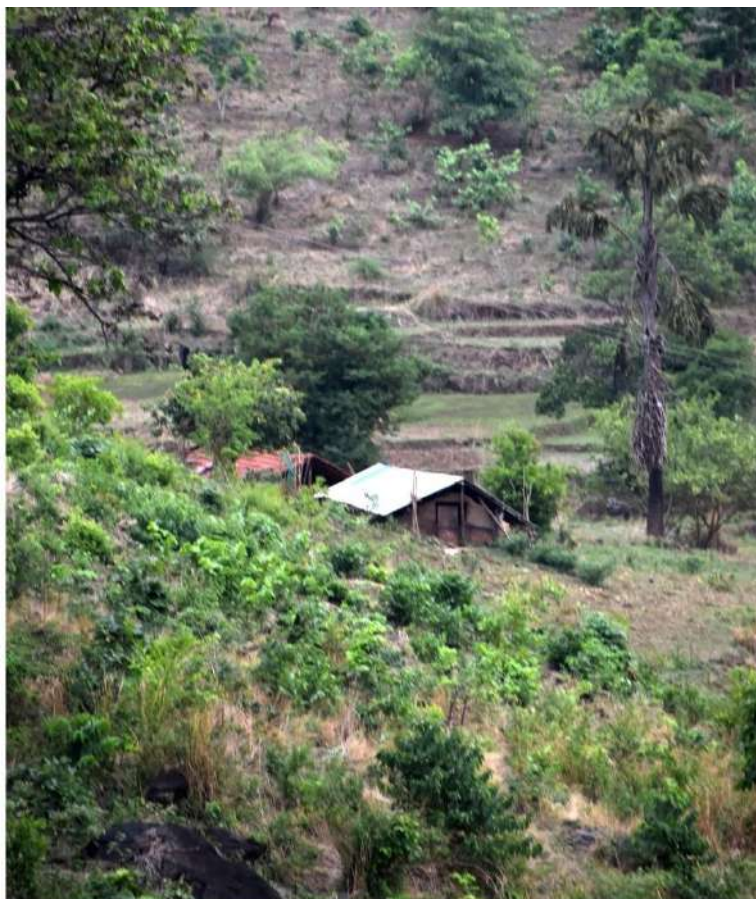


Photo 3.1.17.2: Bonda Tribe Engaged in Shifting Hill Cultivation and Forest Product Collection from Temporary 'Donger' Dwellings (Source: CoE-STMC, UTJ)

Bonda diet is highly diversified and deeply intertwined with their surrounding forested ecosystem, known locally as *donger*, which serves as both a larder and a pharmacy (Photo 3.1.17.2). Central to their subsistence strategy is the practice of shifting cultivation (*klundachas*), where they cultivate a mixture of cereals, pulses, and oilseeds such as *kangu* (foxtail millet, *Setaria italica*), *suan* (little millet, *Panicum sumatrense*), *jana* (sorghum), oats, maize, black gram (*Vigna mungo*), and *niger* (*Guizotia abyssinica*), often on steep hill slopes. This method, though labour-intensive, promotes agrobiodiversity and sustains their nutritional needs. Complementing agricultural production is an extensive dependence on wild-gathered foods, including edible tubers, roots, mushrooms, flowers, leafy greens, fruits, seeds, and bamboo shoots, often seasonally foraged and used in various culinary and medicinal contexts.

One of the unique features of the Bonda food culture is its use of insects and grubs as food and medicine, which showcases its rich ethno-entomological knowledge. Species such as red ants (*Oecophylla maragdina*), date-palm grubs, dung beetles, and silkworms are consumed for their nutritive and therapeutic properties.

Red weaver ant *chutney*, in particular, is prized for its high protein content and believed to have medicinal benefits, such as alleviating respiratory issues. Including silkworm pupae and other grubs underscores the tribe's sustainable approach to protein procurement in a region where animal husbandry is limited. In addition to subsistence activities, Bonda women play a significant role in local economies by participating in weekly markets (*haats*), where they barter or sell surplus produce, forest goods, and handcrafted items in exchange for salt, oil, spices, or cloth. These market exchanges are economic and social spaces that reinforce community cohesion and gendered agency.

Traditional alcoholic beverages, such as fermented rice beer and mahua (*Madhuca longifolia*) flower drinks, are integral to Bonda rituals, festivities, and daily life. Often home-brewed by women, these beverages are consumed communally and are believed to possess both sociocultural and medicinal value. The Bonda's dietary system is highly seasonal, adaptive, and resilient, with their food knowledge passed down orally from generation to generation. Despite the richness of this indigenous food system, it faces threats from deforestation, restricted access to forests, and the pressures of modernisation and state policies that often undervalue traditional knowledge. Preserving and integrating this holistic, ecologically sustainable food culture into broader food security and nutrition frameworks is essential, particularly in PVTG welfare and tribal health.

3.1.17.3. Didayi

The Didayi tribe inhabits the forested, hilly regions of the Malkangiri district and sustains a highly localised, biodiverse food system intricately intertwined with its surrounding ecology. Their traditional food practices are centred on the cultivation of staple crops such as rice (*Oryza sativa*) and millets, particularly finger millet (*Eleusine coracana*, locally known as *ragi*), which are not only nutritionally rich but also environmentally resilient and suitable for upland rainfed conditions. These staples are often complemented by maize and seasonal vegetables cultivated through subsistence farming. Tubers and roots such as wild yam species and bamboo shoot (*Bambusa spp.*, locally referred to as *basta*) play an important role in their daily sustenance, particularly during the monsoon season when forest access is more challenging and productivity declines. Summer fruits like jackfruit (*Artocarpus heterophyllus*) and mango (*Mangifera indica*) are consumed in abundance and are often preserved or processed for later use.

In addition to cultivation, the Didayi people engage in foraging for a wide range of wild edibles, including green leafy vegetables, mushrooms, fruits, seeds, and kernels, often used alongside cultivated foods to enhance flavour and nutrition. Their intimate knowledge of seasonal availability and safe preparation methods for wild species, many of which may be toxic if improperly processed, demonstrates a refined understanding of forest ecology. Protein is primarily sourced from hunting small game, fishing in nearby rivers and streams, and rearing goats, poultry, and cattle. These activities provide meat and milk and play a role in rituals and social exchanges. Traditional dishes are typically simple, yet nutritious, consisting of boiled curries prepared with minimal spices—mainly chilli and salt—often incorporating foraged greens or meat. They also prepare *pakhala* (fermented rice water), gruel made from *ragi* or rice, and chutneys derived from herbs, chillies, or insects.

A notable feature of Didayi food culture is the preparation and consumption of *handia*, a traditional fermented rice beverage that serves both ceremonial and everyday purposes. *Handia* is often consumed during festivals, marriages, or after labour-intensive activities, and is believed to have cooling properties and aid in digestion. Furthermore, the Didayi people use a range of medicinal plants in their food and healing systems, relying on indigenous knowledge systems that have been orally transmitted through generations. These include herbal concoctions for fever, digestive issues, and respiratory conditions, integrating food and medicine into a unified cultural practice. However, increasing pressure from deforestation, infrastructure development, and changing climatic patterns poses serious challenges to preserving the Didayi food heritage. It is crucial to recognise and document these traditional food systems as part of larger biodiversity conservation and tribal welfare programs, as they reflect sustainable living and offer important insights into climate-resilient agriculture and nutrition-sensitive development.

3.1.17.4. Juang

The traditional food system of the Juang tribe is a remarkable reflection of ecological adaptation, subsistence economy, and cultural continuity. The Juangs primarily depend on a mixed subsistence pattern involving shifting cultivation, settled farming, foraging of forest produce, and small-scale hunting and gathering. Their staple diet is centred around rice (*Oryza sativa*) and millets, especially *ragi* (*Eleusine coracana*), *suan* (*Panicum sumatrense*), *guludi*, and *kangu* (*Setaria italica*), all of which are traditionally cultivated on rainfed uplands using indigenous farming methods. These cereals provide the essential caloric base of their diet and are often supplemented by forest-based foods that significantly enhance the nutritional diversity of their meals.

Foraged forest produce forms a cornerstone of the Juang food culture, especially during the lean agricultural months and the monsoon season. Wild roots, tubers, mushrooms, leafy greens, and seasonal fruits like jackfruit (*Artocarpus heterophyllus*) and mango (*Mangifera indica*) are consumed extensively. During the summer, when cultivated food stocks are scarce, these fruits can constitute the majority of their daily intake. The monsoon season brings an abundance of mushrooms, crabs, and fish from paddy fields and forest streams, which the Juangs skillfully harvest using traditional techniques. Meat is obtained through animal husbandry, rearing goats, pigs, fowls, and sheep, and through hunting wild game, reinforcing the tribe's protein intake. A particularly unique aspect of their food practice is the consumption of red ants (*Oecophylla smaragdina*), considered a delicacy when mixed with chilli and consumed alongside rice or traditional fermented beverages like *handia* (rice beer). These ants are not only relished for their taste but are also believed to have medicinal properties.

The Juangs also engage in localised barter systems to supplement their food reserves. Crops such as black gram, niger (*Guizotia abyssinica*), and mustard are often exchanged for rice or other necessities in neighbouring villages or at weekly markets, enabling economic adaptation during periods of food insecurity. This exchange mechanism, along with the preparation and sale of *handia*, often made and traded by Juang women, enhances their socio-economic resilience and underscores the gendered dimensions of food production and trade within the community. Food preparation among the Juangs is typically minimalistic, focusing on boiling or steaming vegetables, meats, and tubers with salt and chilli, reflecting both their resource limitations and the culinary utility of natural ingredients. Their dietary practices align closely with seasonal cycles and ecological rhythms, demonstrating deep knowledge of local biodiversity and sustainable resource use.

Despite their isolation from mainstream development, the Juangs exhibit an environmentally sustainable, culturally rich, and nutritionally diverse food system. However, this system is increasingly threatened by deforestation, mining activities in the region, and the disruption of traditional agricultural practices due to displacement and developmental pressures. Preserving the Juangs' food heritage and integrating their traditional ecological knowledge into broader food security and tribal welfare policies is vital for sustaining biodiversity and cultural identity.

3.1.17.5. Paudi Bhuiyan

The traditional dietary practices of the Paudi Bhuiya tribe, an indigenous community predominantly residing in the hilly and forested tracts of Keonjhar and Sundargarh districts in Odisha, exemplify a sustainable and ecologically integrated food system rooted in centuries of traditional ecological knowledge. Their subsistence is primarily based on shifting cultivation (locally known as *poduchasa*), animal husbandry, forest foraging, and the seasonal collection of non-timber forest products (NTFPs). Through shifting cultivation, they grow hardy, drought-resistant crops such as *ragi* (finger millet, *Eleusine coracana*), minor millets (*Panicum sumatrense*, *Setaria italica*), pulses, and oilseeds like niger (*Guizotia abyssinica*) and mustard (*Brassica juncea*), which form the staple base of their diet. Rice and locally available pulses such as black gram and pigeon pea are standard dietary components, often supplemented with forest produce to ensure year-round food security.

The Paudi Bhuiya are adept forest foragers and rely extensively on wild edibles to enrich their diets. They gather seasonal roots, tubers, leafy greens, wild fruits (notably mangoes and jackfruit), mushrooms, bamboo shoots, berries, and edible flowers, demonstrating extensive knowledge of their local agro-ecological niches. These wild foods enhance dietary diversity and provide essential micronutrients that may be absent in their cultivated crops. These forest products are critical for food

security during food scarcity, especially during the pre-harvest season. The tribe also consumes animal proteins derived from domesticated animals, goats, poultry, and cattle, and from hunting small game and birds. Meat and fish are often preserved using traditional smoking and sun-drying techniques, ensuring availability during lean seasons.

An important aspect of Paudi Bhuiya food culture is their indigenous food preservation practices and medicinal dietary knowledge. For instance, maize and mango juice are preserved through drying and fermentation, while mango pulp is sometimes sun-dried into sheets for off-season use. Their use of fermented beverages such as *handia* (rice beer) reflects cultural practices and nutritional adaptations, as it is believed to restore energy and relieve fatigue, especially among labouring adults. Additionally, the Paudi Bhuiya possess a wealth of ethnomedicinal knowledge related to food, using specific herbs, leaves, and roots to manage conditions such as postpartum recovery, pregnancy support, and fever. Many medicinal foods are collected from the forest and prepared according to orally transmitted community traditions.

Furthermore, their engagement with local markets through the collection and sale of NTFPs, such as *mahua* flowers (*Madhuca indica*), tamarind, honey, and medicinal plants, also influences their food availability and choices, as they barter or purchase supplementary items like salt, oil, or spices. This semi-commercial orientation has not entirely eroded their traditional foodways but has instead coexisted alongside them, reflecting their adaptive resilience. However, the sustainability of these food practices is under pressure due to habitat degradation, deforestation, mining, and socio-economic marginalisation. Preserving the Paudi Bhuiya's food heritage is crucial for cultural continuity and nutritional security, especially amid rapid ecological and economic changes in tribal Odisha.

3.1.17.6. Dongria Kandha

The Dongria Kondh exemplify a deeply interwoven food system that harmonises shifting agriculture, forest foraging, and traditional ecological knowledge. Their diet is nutritionally diverse and reflective of sustainable environmental practices passed down through generations. The staple of their diet is parboiled rice, often consumed with simple vegetable curries, pulses, and gruels made from finger millet (*Eleusine coracana*, locally known as *mandia*). Alongside rice, they prepare *mandiapej*, a gruel made from ragi and rice, which is consumed both for its cooling properties and nutritional value. Seasonal gruels and porridges made with millets and wild tubers serve as energy-rich meals that sustain the tribe through labour-intensive agricultural work.

The Dongria Kondh rely heavily on the forest, collecting a wide array of non-timber forest products (NTFPs) and wild edibles, which contribute significantly to their daily nutrition and seasonal food security. Wild mushrooms, edible roots, tubers, leafy greens (including forest spinach), jackfruit, custard apple, and wild berries form an essential part of their diet, often cooked in traditional ways using locally extracted oils from *Shorea robusta* (sal) and *Madhuca longifolia* (mahua) seeds. Honey collected from wild bees serves as food and a traditional medicine. Unique delicacies such as tender bamboo shoots—rich in fibre and protein—are valued seasonally and consumed fresh and fermented. Their cultivation practices are deeply biodiverse; they grow native landraces of aromatic and colored rice, minor millets, pulses, and oilseeds in their podu (shifting cultivation) fields. Fruit-bearing plants such as banana, guava, and pineapple are often cultivated in homestead gardens or jhum fields, contributing to dietary diversity and economic resilience.

Animal husbandry is another integral component of the Dongria Kondh's subsistence economy. They rear goats, pigs, buffaloes, and poultry, using the meat and by-products for food, rituals, and barter. Meat is consumed on festive occasions or in small amounts during routine meals, often smoked or sun-dried to preserve it during non-productive seasons. Hunting and trapping wild animals, birds, and small game continue to be practised using traditional tools, adding seasonal animal protein to their diet. Fermented beverages such as *handia* (rice beer) and *mahuli* (flower-based country liquor) are central to their cultural life and are consumed during festivals, social gatherings, and community rituals. These drinks, often made from fermented rice or mahua flowers, are rich in probiotics and locally regarded as energising and medicinal.

The Dongria Kondh food system is a vivid example of food sovereignty and indigenous knowledge systems operating within a biodiverse ecosystem. Their sustainable harvesting, seed conservation, and cultivation of heirloom varieties support their nutritional needs and the conservation of agrobiodiversity in the ecologically sensitive Eastern Ghats. Their intimate knowledge of forest flora and fauna enables them to forage without depleting resources, thereby balancing human needs with ecological sustainability. However, recent threats from mining, deforestation, and loss of customary land rights pose risks to their traditional foodways. Therefore, efforts to preserve Dongria Kondh dietary practices must be interlinked with securing their rights to land, forest access, and cultural autonomy.

3.1.17.7. Hill Kharia

The Hill Kharia maintain a traditional subsistence food system that reflects their close dependence on the forest ecosystem and seasonal cycles. Rice is the central staple in the Hill Kharia diet, usually boiled and eaten with vegetables, wild greens, or meat-based accompaniments. However, due to land and rainfall constraints, rice is often supplemented with forest-sourced foods, particularly during lean agricultural months. These include wild edibles such as arrowroot, tubers (e.g., *Dioscorea* species), roots, leafy greens, mushrooms, and wild fruits such as mangoes, jackfruit, and berries. The collection and consumption of forest produce, such as nuts, seeds, edible flowers, and honey, not only enhances the nutritional profile of their diet but also reflects a deep reservoir of ethnobotanical knowledge passed down through generations.

Animal protein plays a notable role in their dietary habits, with meat sourced through hunting, domestic rearing, and ritual sacrifice. Wild game, including small mammals, birds, and reptiles, is hunted with traditional tools, while sacrificial goats, fowls, and, occasionally, pigs are consumed during religious and cultural ceremonies. Additionally, fish caught from nearby streams and water bodies form a regular source of protein, especially during the monsoon season when aquatic life is abundant. In times of scarcity, particularly during the rainy season when rice may be limited, the Hill Kharia shift their dependence toward alternative staples such as maize, various types of yams, and starchy tubers, showcasing their adaptive dietary strategies rooted in ecological knowledge.

Vegetable cultivation complements their forest collection and includes seasonal produce like pumpkins, gourds, brinjals, and chillies. These vegetables are typically grown in small kitchen gardens or terraced fields near their hamlets. Traditional food preparations are simple and focus on boiling or roasting, which conserves nutrients and fuel. For special occasions, you can see the preparation of unique dishes such as steamed or baked rice cakes and spicy meat curries. These food preparations are not just culinary expressions but are imbued with ritual and communal significance, often accompanied by offerings of food and liquor to deities, spirits, and ancestors.

Alcoholic beverages also occupy a central role in their food culture. The Hill Kharia brew *handia*, a rice-based fermented drink, and *mohuli mad*, a liquor distilled from *Madhuca longifolia* flowers, are consumed during social gatherings, festivals, and rituals. These beverages are considered energising and are symbolic offerings in worship and ancestor veneration. Notably, their food choices and resource use patterns vary seasonally, highlighting a strong correlation between ecological rhythms and nutritional behaviour. The Hill Kharia's food system is thus a dynamic interface of subsistence agriculture, forest gathering, and cultural expression that ensures their survival and sustains their cultural identity and knowledge systems amid modernising pressures and environmental uncertainties.

3.1.17.8. Kutia Kandha

The Kutia Kondh maintain a deeply rooted food culture with a symbiotic relationship with their natural environment and traditional agro-ecological knowledge. Their diet primarily consists of rice (*Oryza sativa*), finger millet (*Eleusine coracana*), and a range of pulses, including black gram and pigeon pea, which are cultivated through both shifting (*podu*) and settled forms of agriculture. However, forest foraging is a critical supplementary and seasonal component of their nutrition, providing essential micro- and macronutrients that are often unavailable from cultivated crops. The Kutia Kondh extensively gather wild edibles such as mango kernels, wild beans (*Phaseolus* spp.), tamarind (*Tamarindus indica*), young bamboo shoots, and a variety of wild mushrooms - especially during the monsoon season when these foods are in abundance.

Seasonality plays a significant role in shaping their dietary patterns. In the summer, they consume jackfruits, mangoes, and starchy tubers for sustenance. During the early monsoon, their diet includes freshly sprouted leaves, mushroom species, and mango kernel gruels, which serve as staple substitutes when grain stocks are low. This adaptive strategy ensures food security in lean periods and reflects an intricate understanding of ecological cycles. In addition to plant-based foods, the Kutia Kondh engage in small-scale hunting and domestication of goats, buffaloes, and poultry, providing them with meat, milk, and eggs. The hunted meat and fish caught from nearby streams are roasted, smoked, or curried, depending on availability and occasion. Preservation methods, such as drying and smoking, store fish and meat for off-season consumption.

A unique aspect of their food system is the fermentation and consumption of traditional liquors. Palm sap and *Mahua* flower (*Madhuca longifolia*) brew, known locally as *mahua daru*, hold nutritional, social, and ritualistic significance. These beverages are consumed for energy and relaxation, and as offerings during festivals and religious ceremonies. In particular, the Kutia Kondh believe that *mahua* liquor provides warmth, alleviates fatigue, and serves as a remedy for specific ailments. Their traditional food culture is closely tied to indigenous medicinal practices, where specific wild leaves, tubers, and herbal mixtures treat illness and support maternal and child health.

The traditional diet of the Kutia Kondh underscores a remarkable dependence on local biodiversity and traditional ecological knowledge. Their sustainable food procurement strategies, spanning cultivation, foraging, and livestock rearing, exemplify resilience in the face of marginalisation, land insecurity, and ecological challenges. These practices reflect the community's cultural identity and contribute to agrobiodiversity conservation and food sovereignty, offering valuable lessons for sustainable living.

3.1.17.9. Lodha

The Lodha tribe of Odisha maintains a diverse, intricately intertwined traditional food culture closely tied to their forested environment and subsistence-based lifestyle. Their staple food is rice (*Oryza sativa*), consumed daily, either boiled or parched (*chaura*), and is often accompanied by seasonal vegetables and non-vegetarian items. The Lodhas cultivate various vegetables, including potatoes, tomatoes, drumstick leaves (*Moringa oleifera*), chillies, and cauliflower, which supplement their carbohydrate-rich diet with essential micronutrients and dietary fibre. The community continues to engage in food-gathering practices rooted in their historical hunter-gatherer identity, collecting wild edible tubers, roots, and green leafy vegetables from the forest—vital resources during lean agricultural seasons or monsoonal scarcity.

Their protein intake is derived from a variety of animal sources. The Lodhas regularly consume meat (such as chicken and mutton), fresh fish from local streams, and sun-dried fish, which is consumed during non-fishing seasons. Due to limited livestock ownership, they also consume smaller quantities of dairy products like milk and curd. Fermented food and beverages hold a culturally significant place in their diet. *Handia*, a traditional rice beer fermented with herbal starters, is a dietary supplement and plays a central role in their social and ritual life. It is consumed during festivals, agricultural rites, and community gatherings, serving nutritional and recreational functions.

Cooking methods among the Lodhas vary and often reflect an inclination toward minimal processing, which conserves nutritional value. Foods may be consumed raw, semi-cooked, roasted, or fermented. This practice is believed to preserve bioactive compounds in leafy greens and roots, and aligns with ethnographic reports on the broader tribal preference for nutritionally dense, lightly cooked foods. Mustard oil is commonly used for cooking due to its availability and strong flavour profile. The community's dietary habits also show some integration of more mainstream or pan-Indian dishes, such as tandoori chicken or biryani, especially among those who have interacted with non-tribal populations or have temporarily migrated for labour. However, these foods are more occasional than routine and do not overshadow their dependence on traditional preparations.

The seasonal variation in food availability plays a vital role in shaping the Lodha diet. During the summer and early monsoon, there is increased dependence on forest produce such as tubers and leafy greens, which grow abundantly in the wild. These seasonal dietary shifts highlight their ecological knowledge and adaptive strategies developed to cope with food insecurity and agricultural limitations. The Lodha's food system comprises cultivated staples, forest foraging, and limited animal husbandry. It reflects their resilience and deep environmental knowledge in sustaining a nutritionally adequate and culturally rich diet under marginal conditions.

3.1.17.10. Lanjia Saora

The Lanjia Saora maintain a traditional food system that reflects their deep ecological knowledge and adaptation to a challenging terrain. Their subsistence pattern integrates settled agriculture, shifting cultivation (swidden farming), foraging, animal husbandry, and seasonal dietary adaptation. Rice (*Oryza sativa*) remains their primary staple, cultivated predominantly in terraced fields carved into hill slopes. Complementing rice are various millets, such as finger millet (*Eleusine coracana*) and little millet (*Panicum sumatrense*), and pulses, such as pigeon pea (*Cajanus cajan*), green gram (*Vigna radiata*), and black gram (*Vigna mungo*), which are often grown in swiddens cleared through traditional slash-and-burn methods. These traditional farming practices ensure dietary diversity and resilience to climatic variability.

Foraged food resources play an equally vital role in the Lanjia Saora diet. The community regularly gathers wild fruits (such as jackfruit, wild berries, and mangoes), leafy greens, roots, tubers, and mushrooms from the surrounding forests, particularly during the monsoon and post-monsoon periods. Mushrooms (*Termitomyces* spp. and others) are a popular seasonal food, collected during the rainy season and consumed fresh or dried for later use. The tribe also depends on underground storage organs like yams (*Dioscorea* spp.) and boiled potatoes, staple winter foods due to their high caloric value and storability.

Animal husbandry forms another critical component of their food system. Lanjia Saoras rear cows, buffaloes, goats, and sheep not only for meat and milk but also for use in ritual and ceremonial offerings, particularly during harvest festivals and life-cycle events. They supplement their protein intake by hunting wild game such as wild boar and deer and by fishing in local streams and ponds, which becomes more prevalent during the monsoon and early winter. These practices illustrate the integration of domesticated and wild food sources, contributing to a more balanced nutritional intake.

Seasonal variation is a defining feature of the Lanjia Saora food pattern. The diet is rich in cereals, fresh forest produce, and mushrooms in the summer. When fresh produce is scarce in winter, their diet shifts toward storable, energy-dense foods like boiled potatoes, yams, and preserved tubers. This cyclical dietary adjustment demonstrates a sophisticated understanding of ecological cycles and food preservation methods. Furthermore, the increasing adoption of horticultural practices, such as cultivating cashew, mango, banana, and papaya, represents an evolving adaptation to market integration and land-use change, enhancing income and nutritional diversity.

The community also practices traditional fermentation techniques, although not as prominently as other tribal groups. However, beverages such as *Handia* (rice beer) and fermented tuber preparations are consumed during festivals and social events, reflecting cultural continuity and social cohesion. Cooking techniques are typically simple: boiling, roasting, and fermenting, preserving nutrients in foods, especially leafy greens and roots. Overall, the Lanjia Saora's food system reflects a highly localised, sustainable, and culturally embedded approach to nutrition, grounded in agroecological wisdom, utilisation of biodiversity, and socio-cultural practices.

3.1.18. INDIGENOUS ALCOHOLIC BEVERAGES

3.1.18.1. Birhor / Mankidia (*Arakhi*)

The Birhor and Mankidia tribes maintain a deeply rooted ethnocultural tradition of preparing and consuming indigenous alcoholic beverages, collectively referred to in some contexts as *Arakhi*. Their principal traditional drinks include *Handia*, a mildly alcoholic beverage fermented from rice; Mahuli, a potent spirit distilled or fermented from the flowers of the *Madhuca longifolia* (*mahua*) tree; and Khajuritadi, the sap extracted and fermented from the date palm (*Phoenix sylvestris*). These beverages are intricately woven into the sociocultural fabric of their communities, serving both quotidian and ceremonial purposes. They are essential to rituals such as marriages, festivals, funerary rites, and propitiatory offerings to deities and ancestral spirits.

The production of these beverages relies on time-tested artisanal fermentation techniques that utilise wild or domesticated yeast and bacteria. These methods are transmitted orally across generations and reflect a complex understanding of microbial activity, temperature control, and ingredient ratios, even without formal biochemical knowledge. The fermentation of rice to produce *Handia*, for

example, involves the use of a traditional inoculum known as *ranu* or *bakhar*, a mixture of powdered rice, forest herbs, and roots that catalyses the conversion of starches into sugars and eventually into alcohol. The resultant beverage is low in alcohol content but rich in B-complex vitamins and trace elements, making it a significant source of hydration and nutrition for these forest-dwelling communities.

Moreover, the mahua flower is valued for its sugar-rich content, which facilitates fermentation, and for its sacred symbolism. *Mahuli* is not merely consumed recreationally but is also integral to religious observance, serving as a divine offering in tribal worship practices. Similarly, *Khajuri tadi* is typically consumed fresh or fermented and is seasonally harvested, often playing an important role in the tribal economy, particularly during lean agricultural periods. The dependence on these natural beverages also reflects limited access to commercially manufactured alcohol and highlights their function as cultural artefacts and survival strategies.

3.1.18.2. Bonda (*Sagur*)



Photo 3.1.18.2: Bonda Tribe Producing ‘*Sapung Sagur*’ from the Sap of the Sago Palm Tree (Source: CoE-STMC, UU)
Photo 3.1.18.2.a: Hill Bondas Engage in Fermentation Processes for Traditional Alcohol Production in Malkangiri District (Source: CoE-STMC, UU)

The Bonda tribe manifests a deeply ingrained tradition of fermenting and consuming indigenous alcoholic beverages known collectively as *Sagur*. These drinks, produced from diverse plant and fruit substrates, reflect the tribe's deep-rooted ethnobotanical acumen and its symbiotic relationship with its forested habitat. The range of *Sagur* beverages includes *Sapung Sagur* (extracted from the sap or pith of *Metroxylon sagu*, or sago palm), *Landa* (brewed from finger millet or *Eleusine coracana*), and *Bawh Sagur*, a fermented extract of *Madhuca longifolia* flowers (mahua), which is a culturally revered and ritualistically significant plant among the Bondas.

Beyond these, the Bonda repertoire includes a wide variety of fruit-fermented alcoholic beverages such as *Unkusui Sagur* (jackfruit), *Baliasagur* (cashew apple), *Ulin Sagur* (mango), *Titim Sagur* (tamarind), *Unsugdak Sagur* (ripe banana), *Bulura Sagur* (date palm), *Siager Sagur* (amla or Indian gooseberry), *Beja Sagur* (tomato), and *Gurh Sagur* (sugarcane). Each variant of *Sagur* is seasonally produced, aligning with the natural fruiting cycles, and reflects both the ecological richness of their environment and their adeptness in food preservation through fermentation. These beverages are

typically prepared through traditional, non-industrial methods involving spontaneous fermentation with wild yeasts and natural containers such as earthen pots or bamboo tubes, which enhance microbial diversity and confer distinctive flavours.

Culturally, *Sagur* is far more than a consumable; it is deeply woven into the socio-religious fabric of Bonda life. It is integral to significant passage rites, harvest festivals, marriage ceremonies, and death rituals. Offerings of *Sagur* to deities and ancestors are standard during religious observances, and its communal consumption promotes social cohesion, reciprocity, and reaffirmation of tribal identity. Moreover, the preparation and serving of these drinks are often linked to gender-specific roles, with women frequently taking the lead in brewing, thereby reinforcing both cultural continuity and the transmission of indigenous knowledge systems. While modernity and external interventions have influenced some aspects of tribal foodways, traditional alcoholic beverages like *Sagur* remain a resilient and vital element of Bonda subsistence, nutrition, and cultural expression.

3.1.18.3. Didayi

The Didayi tribe, particularly in Malkangiri, practices a well-developed tradition of fermenting alcoholic beverages deeply embedded in their ecological knowledge, subsistence practices, and cultural life. Their traditional alcoholic drinks include *Sagur*, a fermented beer made from various wild forest fruits; *Gosapung*, the sap or juice of the sago palm; and *Pendum*, a beer made from fermented cereals such as rice, millets, and maize. These beverages exemplify Didayi's deep familiarity with seasonal flora and their ability to convert perishable forest and cultivated produce into storable and consumable forms through natural fermentation. The indigenous techniques typically involve spontaneous fermentation, facilitated by wild yeast and lactic acid bacteria, and use traditional utensils such as earthen pots and bamboo vessels, which allow for consistent alcohol levels and distinctive flavour profiles.

These beverages serve multifaceted roles in Didayi society. Nutritionally, they provide supplemental calories, micronutrients, and probiotics in a subsistence-level diet that may otherwise be lacking in diversity during lean agricultural periods. Culturally and spiritually, fermented drinks are indispensable in rituals and festivities. For instance, *Sagur* and *Pendum* are routinely offered to tribal deities and ancestors during religious ceremonies. At the same time, *Gosapung* is often consumed communally during festivals such as the annual hunting celebrations, harvest rituals, and marriage events, where sharing liquor strengthens kinship bonds and collective identity. Gender roles are also clearly defined within the brewing process, with women typically managing cereal fermentation and men procuring forest fruits, reflecting a gendered division of labour that helps preserve traditional knowledge systems across generations.

Despite exposure to modernity and occasional interventions through government nutrition programs, the Didayi have continued to preserve their traditional drinking practices, mainly because these beverages are culturally embedded and readily available from local resources. However, concerns have been raised in recent ethnographic literature regarding over-consumption, particularly among young males, as well as the possible adulteration of traditional drinks when traded with non-tribal populations. Nonetheless, traditional alcohol in Didayi life remains a potent symbol of continuity, cultural identity, and adaptive sustenance in changing socio-economic landscapes.

3.1.18.4. Juang

The Juang tribe has a longstanding tradition of preparing and consuming indigenous fermented alcoholic beverages. The principal drinks among the Juang include Handia, a mildly alcoholic rice beer produced through the fermentation of parboiled rice using *ranu* (an herbal fermenting agent made of powdered herbs and wild roots), Mahuli, an alcoholic beverage extracted from the fermented flowers of the *Madhuca longifolia* (*mahua*) tree, and *Khajuritadi*, the sap collected and fermented from the date palm (*Phoenix sylvestris*). These traditional liquors are brewed using time-tested artisanal methods that emphasise the retention of natural nutrients and phytochemicals from the plant-based raw materials, often contributing to their medicinal, caloric, and probiotic value.

In the Juang society, these beverages are not merely recreational but deeply woven into the fabric of cultural and ritual life. Alcoholic drinks are essential during social gatherings, *Chaitra Parva* (the tribal new year festival), harvest celebrations, marriages, and death rituals, and are commonly offered to local deities and ancestral spirits as sacred libations. The community-based nature of brewing and sharing alcohol among the Juang reinforces social cohesion, kinship bonds, and intergenerational transmission of knowledge. Women often play a pivotal role in fermentation, while men collect raw materials, showcasing a gendered but cooperative production system.

The Juang tribe's sustainable approach to producing alcohol reflects their broader ecological philosophy. By relying on locally available cereals, forest flowers, and sap-producing trees, they maintain a relatively low-impact and closed-loop system of resource use. This traditional ecological knowledge (TEK) ensures the minimal exploitation of biodiversity while preserving cultural integrity. However, modernisation and increased interaction with the outside world have influenced Juang's drinking patterns. There are concerns about increased consumption frequency, particularly among younger males, and the potential substitution of indigenous brews with commercially available liquors, which may lead to socio-health challenges.



Photo 3.1.18.3: Juang Women Preparing Purified Handia: A Traditional Fermented Beverage (Source: CoE-STMC, UU)

Photo 3.1.18.3.a: Juang Tribe Engaged in Beverage Fermentation for Traditional Alcohol Production in Kendujhar District (Source: CoE-STMC, UU)

3.1.18.5. Paudi Bhuiyan

Their traditional brews include Handia, a rice-based fermented beer; Mahuli, extracted from fermented *Madhuca longifolia* (*mahua*) flowers; *Rasi*, the fresh sap or its fermented form tapped from *Phoenix sylvestris* (date palm); *Panasarasi*, a fermented juice derived from ripe jackfruit (*Artocarpus heterophyllus*); and *Chauli*, a mildly alcoholic preparation from rice. In addition, consumption of *Khajuritadi*, the sweet, fermented sap of the date palm, is widespread, particularly during specific seasons when it is freshly harvested.



Photo 3.1.18.5: Paudi Bhuiya Women Vend Handia at the Local Market in Deogarh District (Source: Coll-STMC, UI)

These beverages are consumed for recreational or subsistence purposes and are integral to the tribe's ceremonial, spiritual, and communal life. They are offered during festivals such as *Chaitra Parva* and *Nuakhai*, as well as during marriage ceremonies, and play a central role in appeasing deities and ancestral spirits. The communal sharing of fermented beverages during such events reinforces social bonds and strengthens clan solidarity. These drinks also serve nutritional roles, providing hydration, calories, and trace micronutrients, particularly during food scarcity or intensive labour in agricultural cycles.

The fermentation methods practised by the Paudi Bhuiyan are based on intricate traditional ecological knowledge systems (TEK), often passed down orally from generation to generation. The preparation typically involves using ranu tablets, prepared from a combination of wild roots, herbs, and rice flour, which serve as fermentation starters by introducing beneficial microorganisms, such as yeasts and lactic acid bacteria. The tribe's ability to craft distinct brews from various substrates, cereals and flowers to fruits and tree saps, illustrates their adaptive ingenuity and sustainable use of local biodiversity.

However, exposure to external markets, government interventions, and social transitions has begun altering these indigenous practices in recent decades. There are emerging concerns about the increasing frequency and early initiation of alcohol consumption among youth, as well as the potential displacement of traditional brews by commercially available spirits, which often lack the nutritional and cultural embeddedness of their indigenous counterparts. Despite these changes, the traditional fermentation and drinking practices of the Paudi Bhuiyan continue to reflect a resilient system of indigenous knowledge and community cohesion.

3.1.18.6. Dongria Kandha (*Kalu*)

The Dongria Kandha possess an extensive and culturally significant tradition of brewing indigenous alcoholic beverages, collectively known as *Kalu*. Their drink repertoire showcases both botanical diversity and advanced traditional fermentation techniques. Among the most prominent is *Irpi Kalu*,

a distilled liquor derived from *Madhuca longifolia* (*mahua*) flowers, and *Arckhi-Kalu*, a potent variant of mahua-based spirit. These are complemented by *Mada-Kalu*, a drink made from the fermented juice of the *sago palm* (*Metroxylon sagu*), and a series of fruit-based liquors including *Amba-Kalu* (mango), *Panasa-Kalu* (jackfruit), and *Kadali-Kalu* (plantain), reflecting the Dongria Kandha's deep knowledge of local agro-forestry systems. Additional brews such as *Guda-Kalu*, prepared from sugarcane molasses, and *Duri-Kalu*, a nutritionally dense beer made from a multigrain mixture of rice, ragi (*Eleusine coracana*), arka (*Amaranthus spp.*), and kangu (*Setaria italica*), underscore their capacity for innovation in fermentation using both cultivated and wild resources.

These beverages are not merely consumed for pleasure but are essential to the Dongria Kandha social, ceremonial, and spiritual life. Alcoholic drinks are indispensable during rituals related to Niyam Raja worship, their supreme deity, and community festivals, marriage ceremonies, and agricultural rites. The sharing of Kalu during such events symbolises collective identity, reinforcing kinship ties and village solidarity. Preparation processes are often governed by strict customs, with specific roles assigned by gender and age, and fermentation is typically carried out in earthen pots using *ranu* or wild-herb-based inoculants that harbour yeast and lactic acid bacteria essential for controlled fermentation. These microbial consortia contribute to the sensory quality and preservation of the brews, as well as to their probiotic and nutritional value.

The ecological sustainability of Dongria Kandha alcohol production is notable. Ingredients are sourced in harmony with forest rhythms, and nothing is wasted; brewing residues are repurposed as livestock feed or compost. Despite the threats posed by modernisation, displacement, and regulatory pressures, the Dongria Kandha have preserved their fermentation knowledge, which functions as both a cultural archive and a resilient subsistence strategy. Ethnographic documentation suggests that, far from being mere intoxicants, these beverages are a vital aspect of their holistic lifeworld, linking land, labour, and ritual. As such, the Dongria Kandha's alcohol practices represent a sophisticated indigenous technology rooted in biodiversity stewardship and spiritual cosmology.

3.1.18.7. Hill Kharia

The Hill Kharia tribe maintains a deeply embedded tradition of preparing and consuming indigenous alcoholic beverages such as *Handia* (rice beer), *Mahuli* (fermented liquor from *Madhuca longifolia* flowers), and *Khajuritadi* (fermented sap of *Phoenix sylvestris*, or date palm). These beverages are more than mere dietary supplements; they are integral to the Hill Kharia's socio-cultural, religious, and ecological identity. *Handia*, prepared by fermenting cooked rice with herbal inoculants known as *ranu*, serves as the centrepiece of festive and ritualistic gatherings, often symbolising communal harmony and ancestral reverence. The brewing process, typically conducted by women, relies on intricate knowledge of local flora and fermentation dynamics, passed down orally from generation to generation. Similarly, *Mahuli*, a potent spirit derived from sun-dried mahua flowers, plays a crucial role in rites of passage such as births, marriages, and funerals, and is often offered to deities and spirits believed to dwell in sacred groves and ancestral spaces.

The consumption of *Khajuritadi*, particularly during the spring and early summer months when sap collection peaks, reflects seasonal rhythms and underscores the Hill Kharia's dependency on the forest for livelihood and sustenance. Once collected in clay or leaf containers and allowed to ferment naturally, this sap becomes mildly alcoholic and is consumed fresh or aged for higher potency. These beverages are vital for their psychoactive effects and as nutritional adjuncts in a diet otherwise constrained by erratic rainfall, marginal agricultural productivity, and limited access to market foods.

Rich in fermentable sugars, amino acids, and B vitamins, they provide caloric buffering during food-scarce seasons.

Despite modern influences, the Hill Kharia continue to adhere to these practices as expressions of cultural resilience. Alcohol preparation and consumption are embedded within a broader framework of ecological knowledge, gender roles, and ritual cosmology. However, challenges such as deforestation, commercialisation of mahua and palm products, and state-imposed restrictions on indigenous brewing have increasingly threatened the sustainability of these traditional practices. Nevertheless, for the Hill Kharia, fermented beverages remain crucial cultural artefacts, preserving their identity and adaptive survival strategies in a rapidly changing socio-ecological landscape.

3.1.18.8. Kutia Kandha (*Mada Mara*)

The Kutia Kandha maintain a vibrant tradition of brewing and consuming indigenous alcoholic beverages. Their most commonly consumed drinks include *Madanga*, a naturally fermented beverage derived from the sweet sap of the sago palm (*Caryota urens*), *Pranga Ankinga*, a rice beer prepared by fermenting cooked rice with herbal inoculants, and *Ankinga*, a potent liquor extracted through the fermentation and distillation of *Madhuca longifolia* (*mahua*) flowers. These alcoholic drinks are not merely recreational; they serve vital socio-cultural, nutritional, and ritualistic functions. For the Kutia Kandha, fermented beverages are indispensable to ceremonial life, used as libations in ancestral worship, offered to deities during agricultural rites, and consumed communally during marriage rituals, funerals, and harvest festivals.

The *Madanga* drink, in particular, holds seasonal and spiritual importance, especially during the sap-extraction season when it is collected fresh and allowed to undergo spontaneous fermentation. This palm-based beverage is rich in natural sugars and low in alcohol when freshly tapped, but its potency increases as fermentation progresses. Similarly, *Pranga Ankinga* and *Ankinga* illustrate how traditional ecological knowledge is applied to microbiological processes. The brewing of these drinks involves precise timing, temperature control, and plant-based fermentation starters, often made from a blend of medicinal herbs that promote beneficial microbial activity while preventing spoilage. These processes illustrate a complex understanding of food preservation, fermentation science, and sustainable forest resource harvesting.

Moreover, the production and consumption of such beverages reinforce kinship ties, gender roles, and intergenerational knowledge transmission. Typically, women are responsible for the brewing, giving them a vital role in household sustenance and cultural continuity. Despite the rise of market-supplied liquors and government restrictions on indigenous brewing, the Kutia Kandha continues to uphold these practices as cultural resistance and ecological adaptation. However, the sustainability of these traditions is increasingly challenged by deforestation, declining access to forest products, and the erosion of traditional knowledge due to modernisation and marginalisation. Nevertheless, the continued use of *Madanga*, *Pranga Ankinga*, and *Ankinga* remains a testament to the Kutia Kandha's resilience and deep-rooted connection to their landscape.

3.1.18.9. Lodha

The Lodha tribe has a long-standing tradition of preparing and consuming a variety of indigenous alcoholic beverages, most notably *Handia* (rice beer), *Mahuli* (fermented mahua flower liquor), and *Khajuritadi* (fermented date palm sap). These beverages are more than mere refreshments; they are cultural artefacts embedded deeply in the tribe's social, spiritual, and ecological life. *Handia* is

brewed through a natural fermentation process that uses cooked rice and locally prepared fermentation starters (known as ranu or bakhar), composed of wild herbs and roots, which promote specific microbial communities beneficial to the fermentation. *Mahuli*, extracted from the flowers of *Madhuca longifolia*, is revered for its intoxicating potency and is traditionally distilled in earthen or metallic apparatuses using artisanal methods preserved across generations.

Khajuri tadi, derived from the date palm sap (*Phoenix sylvestris*), is collected fresh and left to ferment naturally. It is often consumed in its early stages for a mildly intoxicating effect, or allowed to ferment longer for a stronger alcoholic content. These drinks are closely intertwined with the Lodha's cultural rituals, including agricultural festivals, marriages, and funerals. They are frequently used in libations to deities and ancestral spirits, symbolising a connection between the living and the spiritual world. Consumption during these events strengthens communal identity and fosters collective memory through shared traditions and practices. The Lodha's fermentation knowledge reflects deep ecological intelligence, as it involves the sustainable use of local plant species and microbial ecosystems. Women in the Lodha community often take the lead in brewing and managing fermentation, holding an essential role in preserving culinary and ritual traditions.

Moreover, these traditional beverages provide nutritional supplementation, particularly calories and trace minerals, in a diet that may otherwise be lacking due to poverty and limited access to market foods. In the face of external pressures such as forest degradation, state restrictions on homemade liquor, and the growing penetration of commercially bottled alcohol, the continuation of traditional brewing remains an act of cultural resistance and ecological adaptation. Through the preparation and consumption of *Handia*, *Mahuli*, and *Khajuritadi*, the Lodha tribe upholds not only their physical sustenance but also their ethnic identity, intergenerational continuity, and spiritual cosmology.

3.1.18.10. Lanjia Saora

The Lanjia Saora possess a rich tradition of indigenous alcoholic beverages that reflect their deep connection to the forest ecosystem and subsistence lifestyle. Among their favoured drinks are *Sapalam*, a fermented juice derived from the *sago palm* (*Caryota urens*), *Abasal*, a distilled liquor made from the flowers of the *mahua* tree (*Madhuca longifolia*), and *Alli*, a rice beer prepared through natural fermentation using locally sourced rice and traditional starter cultures. These fermentation practices are intricately linked to the tribe's shifting cultivation (slash-and-burn) and foraging strategies, ensuring the seasonal availability of diverse fermentable substrates and supporting ecological balance.

The brewing and consumption of these beverages transcend mere dietary functions; they are pivotal in social cohesion, spiritual observances, and cultural identity. Alcoholic drinks are integral to community festivals, rituals honouring ancestors and deities, and rites of passage, thus reinforcing collective values and continuity of traditional knowledge. The fermentation methods utilised by the Lanjia Saora involve indigenous microbial management, in which starter cultures passed down through generations optimise flavour, alcohol content, and safety, showcasing a sophisticated biotechnological understanding embedded in tribal wisdom.

Nutritionally, these beverages provide essential calories and micronutrients that supplement the tribe's largely subsistence-based diet, which can be limited in energy density and diversity due to ecological constraints and seasonal variability. The Lanjia Saora's traditional alcoholic drinks thus symbolise a harmonious integration of cultural tradition and environmental stewardship, sustaining

both their physical well-being and sociocultural fabric amidst ongoing challenges posed by modernisation and resource pressures.

3.1.19. DRESS AND ORNAMENTS

3.1.19.1. Birhor/Mankidia

Their traditional Birhor and Mankidia attire reflects their ecological adaptation and cultural values. Birhor men typically wear a *dhoti*, locally called *Khichiri*, or *lungi*, often paired with a *ganji* (vest) or a shirt, especially during social events, formal interactions, or marketplace visits. Women adorn a saree, often shorter in length and tied above the knee for ease of movement in forest terrain, accompanied by a cloth napkin called *Bandal Bhagua*, which serves both decorative and functional purposes. A notable component of women's dress is the *Putul*, a small cloth wrapped around the lower body, often worn in place of a petticoat.

Their ornamentation is equally expressive of their cultural identity and is often handmade from locally sourced materials such as brass, aluminium, and forest-derived fibres. Typical ornaments include *Askum*, a general term for their traditional jewellery; *Churla*, which are bangles typically made of glass or metal; and *Kundali*, earrings that are either hoop-shaped or stud-like, depending on age and marital status. *Nuput*, or nose rings, are also widely worn by women, along with *Khanasa*, necklaces crafted from beads or metal strings. Anklets, known as *Painri*, are popular among women and are often worn in pairs. Hair decoration is an important aspect of female adornment, with hairpins made of polished wood, bone, or metal used to secure and decorate elaborate hair buns. These items are not merely ornamental but often have social and ritual significance, representing age, marital status, and clan affiliations. Among the Mankidia, who are culturally and socially closely allied with the Birhor, similar dress and ornaments are observed, though slight regional variations occur due to differences in their forest-habitation zones and interactions with non-tribal communities.

3.1.19.2. Bonda

The Bonda, known for preserving their age-old customs despite increasing contact with mainstream society, particularly the *Remo* subgroup, maintain a unique material culture most vividly expressed through their traditional dress and ornamentation. Bonda women are instantly recognisable by their minimal yet striking attire: a handwoven cloth called *Ringa*, wrapped tightly around the waist and covering the lower body. The upper body remains bare but is adorned with a dense array of beaded necklaces covering the *torso*, offering decorative and symbolic significance. These beads are often handcrafted from colored glass, seeds, and metals and are meticulously layered in symmetrical patterns, a tradition passed down matrilineally (Photo 3.1.19.2). Elder Bonda women also shave their heads and wear distinctive headbands such as *Runanjbok Lubujdak* (headbands) and *Gujanbok* (hair garlands), emphasising their identity and social status.



Photo 3.1.19.2: Hill Bonda Woman Embodying Cultural Identity Through Distinctive Attire and Ornaments

(Source: CoE-STMC, UU)

Photo 3.1.19.2.a: Elder Bonda Woman Adorning 'Runanjbok Lubujdak' Headband and 'Limbinnsanjuk' Neckband

(Source: CoE-STMC, UU)

Men traditionally wear a *ghasi* or *gamcha* (a narrow loincloth) and, in some instances, they don a half-sari known as *Mpo*, especially during ceremonial occasions. Ornamentation plays a crucial role in Bonda identity across genders. Women wear a wide variety of jewellery, including *Tininjsuk Lubujdak* (beaded garlands), *Jhung Jungulu* (upper ear earrings), *Nsurlu* (earrings), *Limbilu* (ear studs), and *Sunukmi* (nose rings), many of which are crafted from aluminium, brass, or other locally available materials. Neck adornments include *Limbinnsanjuk* (aluminium neckbands) and *Pitolna Nsonjuk* (brass necklaces), while *Butei* (a string necklace with cowrie shells) often symbolises marital status and wealth (Photo 3.1.19.2.a). A unique waist ornament called *Lobojdak* is worn with *Sudi* bangles made of glass, clay, or metal, enhancing their aesthetic appeal and cultural identity. Hairpins like *Sipna* and *Sunuklanj* are used to secure buns, and men also wear *Sire* (decorative armlets) made of metal. These adornments serve decorative purposes and are deeply embedded in social structure, marking age, gender, status, and rites of passage. Despite ongoing developmental interventions, the Bonda community continues to resist cultural assimilation, using their distinctive dress and ornaments as an emblem of resilience and identity.

3.1.19.3. Didayi

The Didayi are closely related to the Bonda tribe both ethnographically and linguistically. Like the Bonda, they belong to the Munda ethnic group and speak a language from the South Munda branch of the Austroasiatic language family. The Didayi are classified as a Particularly Vulnerable Tribal

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Group (PVTG) due to their small population, geographical isolation, and dependence on shifting cultivation and forest-based livelihoods. Despite increased exposure to external influences, they retain distinctive cultural practices, especially attire and ornamentation, which serve as markers of identity, status, and social belonging (Photo 3.1.19.3).



Photo 3.1.19.3: Elder Didayi Man Donning Traditional Attire (Source: CoE-STMC, UU)

Photo 3.1.19.3.a: Elder Didayi Couple Adorned in Traditional Attire, Embodying Cultural Distinctiveness (Source: CoE-STMC, UU)

The traditional dress of Didayi men consists of a simple *Gassi*, a locally woven loincloth made from coarse cotton fabric wrapped around the waist and tied firmly to allow free movement in their hilly terrain. Didayi women, on the other hand, wear sarees, often in a distinctive draping style that distinguishes them from other tribal groups in Odisha. The saree is generally worn without a blouse, and the pallu is brought over the shoulder and tucked at the waist, facilitating modesty and mobility (Photo 3.1.19.3.a). The cloth, often dyed in bright colours or patterned with stripes, is homemade or bartered in local markets and symbolises community affiliation and feminine aesthetics.

Ornamentation among the Didayi is deeply embedded in their socio-cultural fabric. Women traditionally adorn themselves with *Kisalu* - anklets typically made of aluminium, valued for their affordability and shiny appearance. *Pohari bangles*, made from glass and aluminium, are worn in multiples on both arms and are often selected for their colour symbolism and aesthetic appeal. *Tandrimu*, the nose ring worn by Didayi women, is a key element of female adornment and is associated with marital status, fertility, and womanhood. These ornaments are typically acquired during puberty or marriage and are passed down through generations, symbolising familial lineage and continuity. Jewellery is often handmade or sourced through local artisans and markets, and its materials, ranging from metal alloys to glass, reflect economic status and ritual significance. During festivals and rituals such as *Bandna* and *Nua Khai*, women enhance their appearance with additional decorative elements, including beads, coloured threads, and temporary body tattoos.

Despite the slow pace of modernisation reaching their region, the Didayi community continues to resist cultural erosion through the everyday assertion of their traditional dress and ornaments, which serve aesthetic purposes and encode vital cultural knowledge, values, and identities.

3.1.19.4. Juang

The Juang tribe, known for its rich oral traditions and vibrant cultural expressions, is linguistically affiliated with the Munda language group. It is historically recognised for its resistance to assimilation into mainstream society. Their subsistence primarily revolves around shifting cultivation, forest gathering, and small-scale agriculture, profoundly shaping their social organisation and material culture, including dress and ornamentation. The traditional attire of Juang men includes the dhoti or lungi, a cotton garment tied around the waist that offers comfort and functionality in rugged environments. On certain occasions or when interacting with outsiders, men may wear a *banian* (vest) or shirt, reflecting limited yet selective adoption of modern clothing (Photo 3.1.19.4). Women wear sarees, typically draped in a simple manner without elaborate pleating, along with blouses or, in some cases, breast bands, especially in remote areas where traditional customs are still dominant.

The ornamentation of the Juang community is deeply symbolic and plays a crucial role in defining gender, age, marital status, and spiritual well-being. One of the most distinctive pieces is the *Kunti*, a necklace made from earthen beads or terracotta, signifying aesthetic preference and a connection to the earth, a motif prevalent in Juang cosmology. Women also wear *Thada*, thick brass bangles on the upper arms, and *Kharu*, metal bangles adorning the wrists. These are typically handmade by local artisans or acquired through barter in weekly markets. Using brass and other metals reflects the

community's metallurgical traditions, as the Juang are historically associated with iron smelting and blacksmithing. Facial adornments such as the *Guna* (nose ring) and *Phirphira* (earrings) are worn by women and girls, often inserted during adolescence as rites of passage. These ornaments enhance beauty and are believed to protect against malevolent spirits, and are sometimes blessed during village festivals or healing rituals.

The use of ornamentation among the Juang is more than decorative; it is intertwined with rituals, seasonal festivals such as *Pusha Parab* and *Magha Parab*, and expressions of social belonging. Despite modern pressures, the Juang continue to preserve their cultural heritage through their clothing and ornaments, serving as visual markers of their ethnic identity and resilience amid socio-economic change.



Photo 3.1.19.4: Elder Juang Couple Attired in Simple Contemporary Garments (Source: CoS-STAC, UJ)

3.1.19.5. Paudi Bhuiyan

"Paudi" means "hill," indicating their primary settlement in rugged upland terrain, which influences their clothing styles and materials. Men wear *dhoti*, *banian* (a sleeveless vest), and occasionally shirts, especially during social gatherings or formal occasions. These garments are generally coarse cotton and suited for Odisha's highlands' warm, humid climate. Paudi Bhuiyan women traditionally wear sarees and blouses, though in more remote areas, younger women may still prefer draping the saree without a blouse, in keeping with older customs. The sarees are often colourful and simple, frequently sourced through barter in local markets or woven locally, reflecting both utilitarian needs and modest aesthetic sensibilities (Photo 3.1.19.5).

Ornamentation is a significant aspect of the Paudi Bhuiyan material culture and social identity. While simple in design, their jewellery is deeply symbolic and closely tied to personal adornment, spiritual beliefs, and social customs. *Pahula*, or anklets, made of metal or thick silver-like alloys, are worn by women to signify marital status and femininity. The ears are adorned with *Nuli* and *Madhujhara* earrings, often crafted from brass, silver, or occasionally glass. These earrings are not merely decorative but are believed to ward off evil spirits and protect the wearer during transitions such as puberty or childbirth. *Guna*, or nose rings, are common among married women and are inserted during adolescence, often marking rites of passage.



Photo 3.1.19.5: Paudi Bhuiyan Woman in Daily Work Activities (Source: CoE-STMC, UU)

Bangles known as *Mullu*, typically made of lac, glass, or metal, are worn on both wrists and may be exchanged or gifted at significant life events, such as weddings or festivals. The *Rupafulak*, a decorative metallic hairpin, is often inserted into well-oiled hair buns. Apart from its decorative function, this ornament holds ritualistic significance, particularly during ceremonies such as *Karam* and *Sarhul*, when women symbolically align their appearance with ancestral norms and community aesthetics.

These traditional dress and ornament practices among the Paudi Bhuiyan reflect an intricate blend of functionality, ritual symbolism, and aesthetic expression. Despite modern interventions and the spread of mainstream culture, primarily through development programs and schooling, many Paudi Bhuiyan communities preserve their traditional attire and adornment practices as expressions of ethnic identity and cultural resilience.

3.1.19.6. Dongria Kandha

Revered as the traditional custodians of the Niyam Raja (the deity of the Niyamgiri mountain), the Dongria Kandha are well known for their resistance to industrial mining projects, particularly against bauxite extraction, which they perceive as a threat to both their sacred landscape and cultural identity. This deep ecological worldview is also reflected in their distinctive dress and ornamentation, which serve practical purposes and are integral to their expressions of identity, spirituality, and social structure.



Photo 3.1.19.6: Dongria Kandha Men and Women Embodying Their Rich Cultural Heritage Through Traditional Attire (Source: CoE-STMC, UU)

The Dongria Kandha traditionally wear a two-piece garment. Women dress in the *Kapda-Ganda* (upper garment) and *Uchahendra* (lower garment), both usually made of coarse, handwoven cotton (Photo 3.1.19.6). These cloths are often dyed in bright colours like red, green, and yellow and wrapped around the body, leaving the shoulders and midriff exposed, facilitating movement through their mountainous terrain. Conversely, men wear a single lower cloth or loincloth, with an occasional upper wrap during winter or ceremonial events. Clothing is typically minimal but is offset by rich, elaborate ornamentation, especially among women, whose jewellery serves as a marker of age, marital status, and clan affiliation.

Dongria Kandha women adorn themselves with numerous ornaments made from various materials, each with social and symbolic meaning. The *Kaguri*, a silver necklace, is prominently worn around the neck and symbolises prosperity and feminine beauty. The *Mahani*, a head necklace, is another elaborate adornment worn during rituals, dances, and festivals, often intricately designed with silver or beads. Their arms are encircled with *Pitla Paza*, thick brass bangles, and *Ragi Paza*, lightweight aluminium bangles, worn in multiples to create a rhythmic clinking sound as they move. *Pazu*, or plastic bangles, has become more common in recent decades, particularly among younger women, as

lighter, more affordable alternatives to metal. Despite this shift, traditional metal ornaments hold greater ritual and symbolic significance, especially during life-cycle events such as puberty, marriage, and childbirth. Many of these ornaments are crafted by local artisans or bartered in weekly tribal *haats* (local weekly markets), ensuring the continuation of indigenous metallurgical knowledge.

Among the Dongria men, ornamentation is less elaborate but still culturally important. Armlets and simple neck chains are worn during festivals or rituals to assert masculinity and clan identity. These adornments are also expressions of community pride and are often linked to ancestral valour and kinship narratives. In this way, the dress and ornamentation of the Dongria Kandha go beyond aesthetics; they form a living archive of memory, ecology, and resistance, actively sustained through rituals, storytelling, and everyday life.

3.1.19.7. Hill Kharia

Unlike their Plains and *Dhelki Kharia* counterparts, who have adopted mainly settled agriculture and more assimilated ways of life, the Hill Kharia retain many elements of their indigenous forest-based subsistence, including foraging and shifting cultivation. This relative isolation and continued dependence on forest resources have helped preserve unique cultural traits, although modern influences are gradually seeping in through increased mobility and government outreach programs (Photo 3.1.19.7). The attire of the Hill Kharia reflects a blend of traditional simplicity and evolving modernity. Men wear *lungis*, *banians* (vests), and increasingly, jeans, pants, or formal shirts, especially during market visits, formal gatherings, or government interactions (Photo 3.1.19.7.a). This integration of mainstream dress results from economic interaction and exposure to the dominant culture, although traditional clothing persists in village interiors and ceremonial contexts.

The Hill Kharia community's women continue to wear coarse sarees, often handwoven or locally procured, paired with blouses and *saya* (petticoats). These sarees are usually modest in design and texture but are styled to prioritise comfort and mobility in rugged, forested terrain. Wearing such clothing is closely linked to their daily chores, such as fuelwood collection, farming, and domestic labour. Despite the increasing accessibility to modern textiles, Hill Kharia women strongly associate their attire with cultural identity and modesty.

Ornamentation remains a vital expression of Hill Kharia women's identity and socio-cultural aesthetics. Their jewellery includes the *Khadu*, a bracelet often made of brass or aluminium, worn in pairs on the wrists. The *Haar*, or necklace, is generally made of glass beads or metal and is decorative and a marker of womanhood, often gifted during puberty or marriage. The *Paaunji*, or anklets, are worn by married women and occasionally adolescent girls, symbolising femininity and traditional roles. *Jhutia*, or toe rings, along with *Moodi* (finger rings), add to the personal adornment set and often carry symbolic meanings of fertility and marital commitment. Earrings come in different forms, such as *Kaanfula* (loop-type earrings) and *Balia* (studs or round earrings). At the same time, *Naak Fuli*, the nose ring, remains a widely worn ornament, often made of silver and considered a sign of maturity and marital status.



Photo 3.1.19.7: Hill Kharia Women During Forest Foraging Activities (Source: CoE-STMC, UU)

Photo 3.1.19.7.a: Elder Hill Kharia Man Attired in Full Shirt and Dhuti for Local Market Visit (Source: CoE-STMC, UU)

These ornaments are often crafted locally or purchased from travelling artisans during village markets or fairs. More importantly, they are markers of aesthetic sensibility and ethnic identity, often worn during festivals, dances, and life-cycle rituals. Although the Hill Kharia have embraced several aspects of modernity in their dress, their continued use of traditional ornaments underscores deep cultural flexibility and a conscious effort to maintain their tribal distinctiveness amid socio-economic transformation.

3.1.19.8. Kutia Kandha

The Kutia Kandha, known for their unique cultural practices, including elaborate rituals centred around meriah (human sacrifice in ancient times) and eco-centric beliefs, have traditionally maintained a distinct socio-cultural identity rooted in their forest environment and oral traditions. Their minimalist clothing style reflects the region's tropical climate and resource-conservative lifestyle. Men typically wear a '*limta*', a loincloth made from coarse cotton or locally sourced textile, wrapped around the waist and tied. This attire allows freedom of movement during agricultural or foraging activities and is often paired with a shoulder cloth in colder seasons.

Women wear an '*urmali*', a narrow upper-cloth, and sarees called '*zira*', which are draped in a distinctive style that facilitates labour in the hilly terrain (Photo 3.1.19.8). These sarees are usually short in length, often leaving the midriff and lower legs exposed, aligning with the practical demands of a mountainous habitat and agricultural work. The Kutia Kandha women usually go barefoot and

wear limited clothing accessories, although ornamentation plays a significant role in their cultural identity and ritual life.



Photo 3.1.19.8: Kutia Kandha Women Embodying Their Rich Cultural Heritage Through Traditional Dress and Ornaments (Source: CoE-STMC, UU)

Among the most symbolic and visually striking elements of Kutia Kandha adornment is the *Rupangasaka*, a traditional necklace made from old coins, often including pre-independence rupee and half-rupee coins. These ornaments are not merely decorative but are imbued with ritual and ancestral significance, commonly worn during festivals, marriage ceremonies, and community dances. The *Kagada*, a necklace made of aluminium or silver, is another prominent ornament worn by both men and women. It typically consists of a thick metallic band and signifies social status and protection against evil forces, as believed in tribal cosmology. Women wear *Dadanga* (earrings) and *Pajang* (metal bangles), which are mostly made from lightweight aluminium or sometimes glass. These are usually given during adolescence and form a part of a woman's marital dowry, symbolising womanhood and belonging within the clan.

Another important ornament is the *Kalumudi*, or toe rings, which married women primarily wear. These are often simple rings made from metal and are believed to signify fertility and marital fidelity. In certain rituals, especially those associated with harvest and ancestral worship, these ornaments are considered essential components of ritual dress. Interestingly, while the Kutia Kandha are gradually coming into contact with external influences through developmental interventions, NGOs, and local governance, they have remained resilient in preserving their sartorial identity and traditional forms of self-expression through attire and jewellery.

3.1.19.9. Lodha

In Odisha, they are primarily concentrated in the Mayurbhanj district, where they coexist with other tribal communities like the Santhal and Ho. Despite increasing integration into settled agriculture and government welfare systems, the Lodhas have retained their distinctive ethnic identity, which is evident in their modes of dress and personal adornment.

Lodha men typically wear a dhoti or lungi, a rectangular cotton cloth wrapped around the waist, often paired with a *banian* (vest) or shirt, especially in public settings or during community events. The fabric choice is usually coarse and inexpensive, reflecting their modest means. Lodha men may wear additional layers such as a *gamchha* (towel) or shawl in cooler seasons or when travelling to local markets. Lodha women traditionally wear sarees and blouses, generally unembellished and made of cotton or synthetic blends. The saree is often draped in a simplified way, allowing ease of movement, particularly for those engaged in farming, firewood collection, or wage labour. The colours are usually muted, though brighter sarees may be worn during festivals or marriage ceremonies to reflect joyous occasions.

Ornamentation among the Lodha is relatively minimalistic but symbolically rich. Women commonly wear *Jhurjhuri*, a type of earring, usually fashioned from locally available metals such as brass, aluminium, or occasionally silver. These earrings are simple in design but essential for female adornment and are often gifted during puberty or marriage. *Mala*, or necklaces, worn by Lodha women, are usually single or multi-strand bead or metal chains, sometimes strung with seeds, glass beads, or cowries. These necklaces serve as decorative items and markers of age, marital status, and occasionally clan identity. The *Khadu* or *Sakam*, traditional bangles, are worn by women on both wrists and are typically made of lac, brass, or aluminium. These bangles are culturally significant, often associated with protection against evil spirits and as symbols of femininity and fertility.

Although the Lodha community has been subject to socioeconomic marginalisation and historical criminal stigmatisation during the colonial period, especially in neighbouring West Bengal, their material culture, such as attire and ornamentation, remains a site of resilience and identity assertion. Government efforts and civil society interventions have helped provide Lodha communities with educational and livelihood opportunities. However, many still rely on forest-based resources, including the crafting or bartering traditional jewellery with other tribal artisans.

3.1.19.10. Lanjia Saora

“Lanjia” refers to the male garment, a long loincloth that hangs at the back in a tail-like fashion, signifying both ethnic identity and masculinity. It is tied around the waist and often extends well below the knees. Women wear the *Gautam Kap*, a rectangular piece of cloth that serves as the lower garment, skillfully wrapped and tucked around the waist. The upper body is covered with the *Ranautar*, a locally stitched blouse. At the same time, a white cloth called *Arbikap* is draped across the shoulders or chest, especially during formal occasions, rituals, or market visits. The layering of garments is both functional, protecting against the cool hill climate, and symbolic, often demarcating phases of life or ritual status.



Photo 3.1.19.10: Linjia' and 'Gautum Kap': Two Traditional Dress Patterns Reflecting Cultural Distinctiveness

(Source: CoE-STMC, UU)

The ornamentation practices of Lanjia Soura women are elaborate and highly symbolic, often linked to spiritual beliefs and social customs. *Jaatang*, a type of silver chain, and *Jayetang*, composed of red beads, are worn around the neck, often layered with metallic or beaded strands. These necklaces serve as both protective amulets and status symbols. *Pagaada*, another form of silver ornament, is sometimes worn on ceremonial occasions. Ear ornaments are particularly distinctive: *Enaengud* refers to the lower lobe earrings, often made of silver or brass, while *Dadalure* are upper ear adornments, sometimes pierced high on the cartilage, reflecting clan or family-specific styles.

The bangles worn by Lanjia Soura women, known as *Kadu*, are typically made of brass or aluminium, although glass bangles have also entered usage through market exchange. *Patti*, or anklets, often produce a jingling sound that is culturally appreciated during dances and festivals. Nose adornments include *Kadumi*, a gold nose ring traditionally worn on the left nostril, and *Sunakup*, a central nose ring, an important marker of marital and ritual status. The complexity and layering of these ornaments reflect a deep aesthetic and spiritual tradition, often passed down through generations of Soura women.

Though the Lanjia Soura are increasingly exposed to modern influences and state-led development interventions, they have retained mainly their indigenous dress and ornamentation practices, which function not only as cultural markers but also as a form of resistance against cultural homogenization. These traditional practices continue to play a central role in their life-cycle rituals, festivals, and community identity, underscoring the elasticity and continuity of Soura cultural heritage.

3.1.20. FESTIVALS

3.1.20.1. Birhor/Mankidia (*Parab*)

Their festivals are deeply rooted in ecological rhythms and community sustenance practices. One of their most important religious festivals is Makar Parab, observed during the sun's transition into Capricorn (*Makar Sankranti*), which marks the end of the winter solstice. This festival involves rituals to honour the deities for blessings and good fortune, reflecting their cosmological understanding of seasonal cycles. Another vital observance is *Parab Bonga*, celebrated after the harvesting season and just before the community embarks on collective hunting expeditions. This unique festival represents a symbolic and functional bridge between agriculture and subsistence hunting, illustrating the community's dependence on cultivated and wild resources. Both festivals are characterised by offerings of forest produce and domestic food items to their ancestral and nature spirits, communal feasting, singing, and traditional dance performances. These celebrations are spiritual observances that reinforce group identity, transmit indigenous knowledge, and maintain social cohesion within their tight-knit forest-based societies. Notably, the Birhor and Mankidia do not sharply differentiate between religious and economic activities, where their spiritual life is intimately interwoven with ecological processes and survival. Thus, celebrating such festivals is an essential expression of their indigenous worldview, where culture, livelihood, and nature form an inseparable triad.

3.1.20.2. Bonda (*Gige*)

Known for their distinct language (*Remo*), matriarchal social traits, and continued adherence to pre-modern subsistence practices, the Bondas maintain a rich tapestry of annual festivals rooted in their agrarian and foraging economy. Their festival cycle, locally termed *Gige*, is a vital expression of seasonal rhythms, environmental stewardship, and ancestral veneration. Among the most prominent is *Sume Gelirak*, a post-harvest celebration associated with the reaping and threshing of rice, marking the end of the agricultural season and serving as a thanksgiving ritual to nature deities. Similarly, *Giag-gige* involves communal labour rituals associated with shifting cultivation (locally known as *podu*), emphasising cooperation and the sacredness of land preparation.

Other rituals, such as *Khureb Gearei* (or *Geyara*), celebrate the cultivation of land. At the same time, *Gersum-gige*, observed during the maize harvest, underscores the spiritual significance of the "first fruits" and reaffirms the tribe's connection to nature's regenerative cycles. *Khumbaguda* involves offerings to ancestral spirits and ensures harmony between the living and the dead, reaffirming the tribe's animistic worldview. The *Dassera* festival is localised to mark the reaping of millet. At the same time, *Gewursung* honours the arrival of a seasonal forest herb (a type of wild coriander), which plays a role in traditional medicine and ritual cuisine. Lastly, *Pusak* offers *Simba* (broad beans) to ancestors, symbolising gratitude and seeking their blessings for future prosperity. Each festival reinforces the Bonda's cultural identity, ensuring intergenerational transmission of indigenous ecological knowledge. The *Gige* cycle, thus, is not merely a series of rituals but a cultural framework that integrates agriculture, ecology, and spirituality in the Bonda way of life.

3.1.20.3. Didayi (*Parab*)

Linguistically and culturally related to the Bonda tribe, the Didayi uphold a deep-seated reverence for nature, which finds full expression in their annual festivals, collectively termed *Parab*. These

celebrations are not merely ritual observances but are integral to their ecological knowledge system, agricultural calendar, and social organisation. The *Pus Parab* is one of their most significant festivals, centred on the worship of forest deities to seek protection for domestic animals, which are critical to the tribe's livelihood and spiritual security. During this festival, sacred groves are visited, and traditional offerings such as rice beer, fruits, and fowl are made to forest spirits, underscoring their animistic worldview.

Another key observance is *Chaiti Parab*, during which the community seeks the blessings of village deities before consuming newly sprouted plant leaves. This festival is closely tied to their foraging practices and symbolises gratitude and ritual purification, marking the renewal of edible flora in their environment. The *Thaku Parab* involves collective rituals to honour the Mother Goddess and other village deities, inaugurating the agricultural season. It signifies Didayi's deep acknowledgement of divine intervention in human labour and cultivation. Following this is *Osa Parab*, which is celebrated after sowing paddy. The villagers offer prayers and animal sacrifices to both forest and agrarian deities, reinforcing the interdependence of human effort and natural forces.

Finally, *Paddy Parab* takes place after the harvest and includes the veneration of cows, which are considered sacred due to their utility in ploughing fields and providing manure. This post-harvest ritual expresses thanksgiving and reflects the Didayi's holistic view of agriculture, where livestock, land, and labour are spiritually interconnected. These Parab festivals embody a cyclical cosmology, promoting sustainable interaction with the environment and anchoring the tribe's cultural identity in seasonal transitions and ecological rituals.

3.1.20.4. Juang (*Aba*)

The Juang follow a rhythm of life that is deeply intertwined with agriculture, forest ecology, and ancestral worship. Their annual festivals, locally known as *Aba*, are seasonal observances and vital expressions of their spiritual ecology and community solidarity. Among the most prominent is *Pus Punie*, celebrated during the *Pousa* month (December-January), which heralds the beginning of the agricultural cycle. It is marked by rituals invoking fertility and abundance and serves as a ceremonial renewal of ties between the human and natural worlds. Closely following is the *Am NuaTirtia*, or the "new mango tasting" festival, which marks the seasonal transition from spring to summer. This ritual reflects the Juang's intimate relationship with forest produce and the social custom of sharing the first fruits communally before individuals partake, ensuring a collective thanksgiving.

Another significant festival, *Asadi*, is linked with the sowing season in *Asadha* (June-July). During this time, the tribe performs agrarian rites to sanctify the soil and invoke blessings for a fruitful harvest, thus reaffirming their dependence on the land. The *Pirha Puja*, a traditional festival of spiritual importance, involves the veneration of tribal deities and ancestral spirits believed to dwell in sacred village spaces or *Pirhas*. These rituals include music, dance, and animal sacrifices, reinforcing spiritual communion and tribal identity. The *Dhan-Nua* festival, which celebrates the first consumption of newly harvested rice, marks the end of the agrarian cycle. This festival is accompanied by community feasting, offerings to deities, and rituals honouring the spirits of the land, showcasing the Juang's reverence for the cyclical nature of agriculture and the divine forces believed to govern it.

Together, these festivals of the Juang reflect a coherent cosmology where agriculture, ecology, and spirituality are seamlessly integrated. The *Aba* cycle is crucial in preserving indigenous knowledge,

promoting sustainable agricultural practices, and reinforcing community cohesion, hallmarks of Juang cultural resilience in modern pressures.

3.1.20.5. Paudi Bhuiyan (*Puja*)

The Paudi Bhuiyan tribe, locally known as *Puja*, inhabits the forested highlands of Odisha and celebrates a vibrant array of festivals deeply intertwined with their ecological surroundings, subsistence practices, and ancestral beliefs. Their cultural calendar is closely aligned with the forest, hunting, and agricultural cycles, reflecting a worldview rooted in the rhythms of nature. One of the key festivals, Maghapudi, heralds the ceremonial beginning of the agricultural season and is marked by rituals that invoke blessings for a fruitful harvest. Similarly, *Gaisri Puja* is performed to initiate cutting trees for shifting cultivation, which remains a central element of their traditional farming system. These festivals not only guide agricultural timings but also serve as symbolic acts of negotiation with the spirits of the land, ensuring spiritual sanction for human activity. Another significant observance is *Bisri Osa*, during which the tribe worships the Mother Goddess *Bisri Thakurani*, a forest deity revered for her protective and nurturing attributes. This festival underscores the gendered dimensions of tribal spirituality, with female deities often associated with fertility, health, and the prosperity of both crops and people. *Dholo Jatra* or *Othei Jatra*, on the other hand, is devoted to ancestral worship and constitutes a form of spiritual communion with departed elders, reaffirming clan identity and lineage ties through ritual offerings and community gatherings. The *Akhriparudhi*, an annual hunting festival, encapsulates the tribe's historical and symbiotic relationship with the forest ecosystem. During this event, the community collectively engages in hunting expeditions, which are practical in securing food resources and laden with ritualistic and communal significance. This festival serves as a form of cultural reenactment, reinforcing traditional skills, group solidarity, and the tribe's intrinsic connection to the wilderness. Together, these festivals play multiple roles; they serve as religious rites, seasonal markers, and mechanisms of social cohesion, thus preserving the Paudi Bhuiyan's cultural identity amid shifting socio-economic landscapes and environmental changes.

3.1.20.6. Dongria Kandha

The Dongria Kandha are widely recognised for their deep ecological consciousness, sustainable subsistence practices, and intricate ritual calendar that reflects their profound spiritual connection to the land. Their festivals align closely with the agricultural cycle, forest-based livelihood, and animistic belief systems that venerate natural and supernatural forces. One of the most significant rituals is *Jatrukudi*, a communal ceremony that involves garlanding a buffalo and its ritual sacrifice. This act is deeply symbolic, serving as a means of spiritual appeasement and a mechanism for reinforcing village cohesion and collective identity. The buffalo, seen as a potent sacrificial animal, is offered to ensure protection, fertility, and prosperity for the village. Another major festival is *Bicha Hapam*, a hunting celebration emphasising communal cooperation and the traditional symbiosis between the Dongria Kandha and their forest environment. The festival reaffirms tribal masculinity and ancestral skills while functioning as a seasonal ritual to harmonise human activity with ecological cycles.

Bhima, regarded as a rain-controlling deity, is worshipped to secure timely and sufficient rainfall, which is critical for the cultivation of hill millets and other subsistence crops. *Pidika Jatra* is a pragmatic and spiritual event to protect crops from pests and to celebrate the first fruits of the harvest. It represents both a gratitude offering and a plea for continued agricultural abundance. Another prominent festival is *Mandia Rani*, a rite that celebrates the consumption of newly harvested

mandia (finger millet), a staple crop in their diet. Like many others, this festival integrates social feasting, song, and dance with offerings to the spirits of the land. Among the most elaborate ceremonies is *Kodru Parba*, also known as *Meriah*, a large-scale sacrificial ritual honouring the Earth Goddess. This ceremony historically involved human sacrifice, though it has long since evolved into symbolic animal sacrifice, typically a buffalo, to maintain cosmological balance and ensure the community's fertility and well-being. These festivals are not merely religious observances but are central to the Dongria Kandha's worldview, serving as conduits for ecological stewardship, social unity, and cultural continuity. In their rituals, one finds a complex interplay of ecological wisdom, ancestral reverence, and ritual performance, underscoring the tribe's intimate and enduring relationship with the sacred landscape of Niyamgiri.

3.1.20.7. Hill Kharia (*Puja*)

The Hill Kharia, locally known as *Puja*, are one of the most culturally resilient tribal communities of Odisha, inhabiting forested and hilly regions where their traditional lifestyle remains closely intertwined with nature, subsistence agriculture, and animistic spirituality. Their festivals form a vibrant tapestry of seasonal observances, ancestral veneration, and religious worship, functioning as both sacred rites and expressions of communal solidarity. Among the most widely celebrated is *Phagu*, a colourful springtime festival *akin* to *Holi*, marked by joyous music, dance, and the playful application of colours. Beyond its festive surface, this festival symbolises the renewal of life, social harmony, and the cyclical rhythm of nature. *Paridhi*, a ceremonial hunting festival, is another important event highlighting Hill Kharia's traditional knowledge systems, particularly its intimate relationship with the forest. Through this ritual, the community practices ancestral hunting techniques and reaffirms their identity as forest dwellers and custodians of indigenous ecological knowledge.

Agricultural festivals hold particular significance in the Hill Kharia ritual calendar. *Am Nuakhia* and *Jeth Nuakhia* are vital ceremonies that mark the first consumption of seasonal fruits such as mangoes and other newly harvested produce. These are deeply symbolic acts of gratitude to nature and the deities for providing sustenance and serve as socio-religious benchmarks for seasonal transitions. In addition, festivals like *Karma Puja Chait*, which involves worshipping the sacred *Karma* tree, express moral and ecological values through songs and rituals, emphasising fertility, social justice, and harmony with nature. Other essential observances include *Kalipuja*, dedicated to the fierce goddess *Kali*; *Pus Parab*, a winter festival of harvest and renewal; *Makar*, which celebrates the sun's transition and agricultural prosperity; and *Simadeota Puja*, an ancestral festival invoking family spirits for protection and well-being. The festival of *Raja*, primarily associated with fertility and womanhood, and *Dassara*, which symbolises the victory of good over evil, further illustrate the Hill Kharia's rich ritual diversity and dynamic spiritual worldview.

Each festival serves multiple roles, where religious devotion, social bonding, seasonal tracking, and cultural transmission. They encapsulate the Hill Kharia's deep reverence for nature, ancestors, and the divine, while reinforcing traditional norms and collective identity amidst changing socio-economic landscapes. Their festival calendar reveals a sophisticated system of ecological adaptation and cultural expression that continues to shape their community life today.

3.1.20.8. Kutia Kandha (*Dakina*)

The Kutia Kandha, locally known as *Dakina*, has a unique ritual system that intricately weaves agricultural practices, ecological stewardship, ancestral worship, and spiritual healing. Central to

their cultural and religious identity is a sophisticated series of ceremonies collectively referred to as *Dakina*, each representing a critical stage in their agrarian and cosmological calendar. These rituals underscore a holistic worldview in which the health of the land, the body, and the community are interdependent and spiritually governed. One of the foundational ceremonies is *Punikalu Dakina*, which follows *Pus Punei*, a winter solstice observance, and involves the worship of *Dharani Penu*, the Earth Goddess. This ritual symbolises gratitude for fertility and abundance and reaffirms the Kutia Kandha's spiritual allegiance to the land. Another central ritual, *Korubiha Dakina*, also known as *Meriah Puja*, is performed every five years and involves elaborate offerings, including animal sacrifice, to appease ancestral and nature spirits. Historically associated with human sacrifice, the ritual has evolved into symbolic forms while retaining its essential purpose, restoring social harmony, ensuring agricultural prosperity, and averting misfortune.

Further enriching this ritual schema is *Burangkalu Dakina*, observed once every five to ten years, which is both a thanksgiving ceremony and a communal act of spiritual renewal. It involves complex rites to harmonise the community's relationship with the supernatural world and reaffirm moral order. Equally important is *Bangosina Dakina*, performed at the start of *Podu* (shifting cultivation), symbolising the tribe's traditional knowledge of forest-based agriculture and sustainable land use. This ritual includes purification rites and offerings to the forest spirits, signifying ecological ethics and spiritual diplomacy with the landscape. Other significant rites include *Bicha Dakina*, a sowing ritual that marks the commencement of the crop cycle; *Takukalu Dakina*, intended to protect growing crops from pests and misfortune; and *Badabiha Dakina*, a curative ritual that combines herbal knowledge and spiritual invocation to heal physical and mental ailments. These ceremonies reflect the Kutia Kandha's integrated system of knowledge, wherein agriculture, health, and spirituality are not separate domains but are interwoven through ritual praxis.

In essence, the *Dakina* rituals of the Kutia Kandha articulate a complex cultural logic grounded in reciprocity with nature, reverence for ancestral forces, and a commitment to communal wellbeing. Their ceremonial life illustrates an indigenous environmental philosophy and a living system of cultural resilience in the face of ecological and developmental challenges.

3.1.20.9. Lodha (*Puja*)

The Lodha tribe, locally known as *Puja*, primarily inhabits parts of northern Odisha and neighbouring West Bengal and upholds a ritual calendar deeply rooted in their syncretic blend of animistic beliefs, folk Hinduism, and agricultural rhythms. Their festivals strongly emphasise divine propitiation and ancestral veneration, functioning as temporal markers within the lunar and agrarian cycles. Among the most significant of these is *Sitala Puja*, observed in the month of *Baisakh*, which seeks the blessings of Goddess *Sitala*, traditionally invoked to protect against epidemics, especially smallpox and other infectious diseases. Alongside this is *Chandi Puja*, also held in *Baisakh*, which venerates Goddess *Chandi*, a fierce form of *Shakti*, for general protection, strength, and the removal of calamities, a reflection of the Lodha's historical vulnerability to socio-economic hardship and marginalisation. In *Jaistha*, the tribe observes *Mansa Puja*, dedicated to the Snake Goddess *Mansa* and widely worshipped in eastern India for fertility, rain, and protection against snakebite. This ritual highlights the Lodha's dependence on agrarian fertility and on proximity to forests, where snakes are both feared and revered.

The month of *Sraban* brings *Jathel*, a localised ritual likely linked to agricultural fertility and community unity, followed by *Asthani Puja* in *Aswin*, devoted to a village tutelary deity believed to guard against evil spirits and misfortune. *Bandana*, observed in *Kartik*, is a vibrant occasion marked

by offerings, music, and communal feasting, underscoring the tribe's collective religious expression and gratitude for post-monsoon agricultural abundance. In *Agrahayan*, *Laxmi Puja* is conducted to invoke Goddess Laxmi, the deity of wealth and prosperity, aligning the Lodha with broader Hindu practices while preserving their distinct tribal interpretations. One of the most spiritually significant events in the Lodha ritual calendar is *Natun Hanri*, the annual *Shraddha* or ancestral offering ceremony performed during *Chaitra*. This ritual involves offering new earthen pots and food to deceased ancestors, reaffirming familial lineage, social bonds, and spiritual continuity across generations. Each festival reflects religious devotion and serves as a tool for cultural resilience, fostering unity, moral reinforcement, and adaptive continuity within the Lodha community amid changing socio-political landscapes.

3.1.20.10. Lanjia Soura (*Lajab*)

The Lanjia Soura, locally referred to as *Lajab*, are an ancient tribal group of southern Odisha renowned for their distinctive cultural identity, marked by *idial* mural art, pictographic script, and a deeply animistic spiritual worldview. Their ritual system, collectively known as *Lajab*, encompasses various festivals and ceremonies integrally tied to their subsistence economy, ecological environment, and ancestral reverence. Among the most prominent is *Kambur Raje Lajab*, observed during the rice harvest, which celebrates agricultural abundance and honours the spirits believed to govern crop success. It is both a thanksgiving and a communal reaffirmation of their agrarian ethos. Similarly, *Binta*, the traditional hunting festival, reinforces kinship ties and collective identity while invoking forest spirits for protection and continued coexistence with wildlife. Hunting is not merely functional but ritualistic, involving chants, offerings, and sacred observances that underscore their sustainable relationship with the forest.

Another critical ritual is *Karja*, performed to ensure the deceased's peaceful transition into the ancestral realm. This ceremony involves symbolic offerings and, sometimes, ideographic pictograms to communicate with ancestral spirits, thereby maintaining a continuum between the living and the dead. Such practices indicate Lanjia Soura's belief in the interdependence of the human and spiritual worlds. *RowlingiLajab*, celebrated with the first consumption of seasonal forest fruits, reflects their gratitude toward the forest, which remains a vital source of sustenance. Equally significant are *Lalo Abdur Gubla*, *Sala Tambur*, and *JunguLajab*, which correspond to various stages of the cultivation cycle, sowing, land purification, and cattle and the cowshed protection. These festivals are imbued with complex rituals designed to secure the fertility of the land and safeguard livestock, which are considered essential to household well-being and agricultural success.

Additional festivals such as *Gangasum*, *Tisar Gadapal*, *Sero Lajab*, and *Tenilpur* further represent the tribe's enduring concern with ecological harmony, soil fertility, and the appeasement of natural and ancestral forces. These rituals are highly localised yet deeply symbolic, often involving intricate sacrificial offerings, music, trance-like dances, and sacred invocations to supernatural beings. The Lanjia Soura's festival system thus reflects a richly layered cosmology where land, spirits, and survival are intricately connected. Their ceremonial life offers an enduring expression of indigenous environmental knowledge, social cohesion, and resistance against cultural erosion in the face of modern pressures.

3.1.21. Women's Participation in the Socio-Economic Domain

3.1.21.1. Birhor/Mankidi



Photo 3.1.21.1: Mankidia Women Equally Contribute to the Craft of *Siali* Rope Making (Source: CoE-STMC, UU)

Photo 3.1.21.1.a: Birhor Women Engaging in Plate-Making as an economic Activity during Leisure (Source: CoE-STMC, UU)

Birhor and Mankidia women play a pivotal role in sustaining their communities' subsistence economies through a combination of traditional craftsmanship and labour participation. Their expertise in rope-making using natural fibres such as *Siali* and *Sawai* represents a culturally embedded artisanal skill and an adaptive economic strategy, particularly incorporating plastic materials to meet changing market demands (Photo 3.1.21.1). This diversification of materials underscores their resilience in navigating the pressures of modernisation and market integration. The sale of these handmade ropes in weekly local markets is crucial for supplementing household incomes and maintaining economic self-dependence, especially given these communities' limited access to formal employment opportunities. Moreover, Birhor and Mankidia women contribute labour beyond artisanal production, engaging as casual workers in both agricultural and non-agricultural sectors (Photo 3.1.21.1.a). This dual economic engagement reflects a gendered division of labour that requires balancing productive and reproductive responsibilities, often without commensurate recognition or empowerment. The persistence of traditional gender norms alongside evolving economic roles creates a complex dynamic in which women's labour is indispensable yet undervalued, underscoring the need for targeted interventions that enhance their skills, market access, and leadership capabilities. Overall, Birhor and Mankidia women embody a form of socio-economic resilience shaped by cultural heritage and adaptive strategies, yet their full empowerment remains constrained by broader systemic inequalities. (Table 3.1.21)

3.1.21.2. Bonda



Photo 3.1.21.2: Bonda Woman Crushing Mahua Seeds for Traditional Oil Extraction (Source: CoE-STMC, UU)

Photo 3.1.21.2.a: Bonda Women Travelling to the Local Market to Vend Agricultural and Forest Produce (Source: CoE-STMC, UU)

Bonda women occupy a crucial position within their community's socio-cultural fabric, primarily through their active participation in shifting cultivation, which is central to the tribe's subsistence and cultural identity. Their involvement in agricultural activities, including land preparation, sowing, weeding, and harvesting, reflects a deep-rooted engagement with the environment and traditional ecological knowledge that sustains their livelihood. Beyond agriculture, Bonda women contribute significantly to household management and transmitting cultural values through rituals, oral traditions, and caregiving roles, underscoring their multifaceted contributions to community well-being (Photo 3.1.21.2). However, despite these vital roles, their decision-making power remains considerably constrained by entrenched patriarchal norms that prioritise male authority in both domestic and community spheres. This gendered power imbalance limits women's ability to influence decisions related to resource allocation, community governance, and social practices, reinforcing their subordinate status in public and political domains (Photo 3.1.21.2.a). The persistence of such structures reflects a broader pattern of gender inequity prevalent in many tribal societies, where women's labour is valued but their voices are marginalised. Contemporary interventions aimed at gender empowerment within the Bonda community must therefore address these systemic barriers by fostering inclusive governance, promoting women's leadership, and facilitating access to education and economic resources. Only through such comprehensive approaches can the dual realities of Bonda women's indispensable contributions and limited agency be reconciled, enabling genuine socio-political transformation.

3.1.21.3. Didayi



Photo 3.1.21.3: Didayi Women Harvesting Millet Crops Using Traditional Techniques (Source: CoE-STMC, UU)

Photo 3.1.21.3.a: Didayi Woman Showcasing Diverse Vegetable Plants in Her Kitchen Garden (Source: CoE-STMC, UU)

Didayi women demonstrate a dynamic, multifaceted engagement within their community, marked by robust participation in both traditional and economic spheres. Their active roles in agriculture, from land preparation to harvesting, and their extensive involvement in collecting forest products reflect an intimate knowledge of and sustainable interaction with their natural environment (Photo 3.1.21.3). These activities are complemented by their central responsibility for household management, which further anchors them as key agents in the social and economic continuity of the tribe (Photo 3.1.21.3.a). Their traditional skills and knowledge are vital for subsistence, preserving cultural identity, and maintaining ecological balance. However, the socio-cultural landscape of the Didayi community is undergoing significant transformation due to increasing exposure to modernisation and targeted government programs aimed at tribal development. Such interventions, including education, health, and women's self-help groups, have catalysed a gradual shift toward more outward-looking attitudes among Didayi women, empowering them to engage beyond their immediate community and partake in broader socio-economic networks. While expanding opportunities, this evolving paradigm also presents challenges related to cultural preservation and gender roles, requiring a nuanced approach that balances modernisation with respect for indigenous traditions. Thus, the experiences of Didayi women encapsulate the complex interplay between resilience, adaptation, and empowerment within tribal societies confronting rapid social change.

3.1.21.4. Juang

Juang women are integral contributors to their community's socio-economic fabric, actively participating in various livelihood activities, including agriculture, forest product collection, and household management. Their involvement in cultivation and gathering supports the subsistence economy and sustains traditional ecological knowledge essential to the tribe's way of life. Despite the cultural emphasis on women's roles within the family and community, Juang women frequently experience restricted decision-making authority within their households and at the village governance level. This limited agency stems from entrenched patriarchal norms that prioritise male leadership and control over resources, thereby marginalising women's voices in critical social and

economic matters. Moreover, restricted access to formal education and limited exposure to external development initiatives exacerbate gender disparities, hindering women's capacity to negotiate greater participation in community decision-making processes. The tension between women's substantial economic contributions and their constrained social power reflects a broader pattern of gender inequality pervasive in many tribal societies, where cultural values simultaneously affirm and circumscribe women's roles. Addressing these structural challenges requires a multifaceted approach, including enhanced educational opportunities, gender-sensitive policy interventions, and the promotion of women's leadership at all levels of the community. Such measures are critical to empowering Juang women to translate their economic labour into meaningful influence over their social and cultural environment.



Photo 3.1.21.4: Elder Juang Woman Drying Crops to Support Community Food-Gathering Activities (Source: CoE-STMC, UU)

3.1.21.5. Paudi Bhuiyan

Paudi Bhuiyan women occupy a central role in their community's domestic and socio-economic spheres, actively contributing to agricultural labour and forest-based livelihoods (Photos 3.1.21.5 and 3.1.21.5.a). Their engagement spans the entire agricultural cycle, including land preparation, shifting cultivation, sowing, weeding, and harvesting, underscoring their indispensable contribution to food security and household sustenance. Additionally, these women are significantly involved in collecting and processing non-timber forest products, which they sell in local markets, supplementing family incomes and enhancing economic resilience. While traditionally assigned domestic responsibilities such as child-rearing and household management, Paudi Bhuiyan women exhibit a notable degree of autonomy in making decisions related to shopping, marketing, and the welfare of family members, indicating a nuanced gender dynamic within their households. However, despite these participatory roles, their broader decision-making power at community or institutional levels remains constrained by patriarchal norms that limit women's influence beyond the domestic domain. This juxtaposition reflects a complex socio-cultural reality in which women's labour is vital, and their autonomy is acknowledged in private spheres, yet systemic barriers restrict their public agency.



Photo 3.1.21.5: Paudi Bhuiyan Woman Crafting Handicrafts for Market Sale (Source: CoE-STMC, UU)

Photo 3.1.21.5.a: Paudi Bhuiyan Women Crafting Plates from Leaves (Source: CoE-STMC, UU)

3.1.21.6. Dongria Kandha

Dongria Kandha women occupy a uniquely esteemed position within their community, enjoying considerable social status and autonomy that distinguishes them from many other tribal groups. Their elevated status is closely tied to culturally embedded institutions such as marriage and family, which not only confer respect but also empower women with the freedom to choose their partners, an important indicator of personal agency rarely observed in traditional tribal settings. Economically, Dongria Kandha women play a central role in sustaining the community's livelihood by actively engaging in agriculture, including the cultivation of millets and other staple crops, as well as in the sustainable management and conservation of surrounding forests, which are vital to their subsistence and cultural identity (Photo 3.1.21.6). This participation underscores their integral contribution to ecological stewardship and food security, reinforcing their importance beyond domestic spheres. Socially, women are custodians of indigenous knowledge systems related to medicinal plants, ritual practices, and resource management, further amplifying their influence within the community's cultural matrix. Despite pressures from modernisation and external interventions, Dongria Kandha women have maintained their traditional roles and status as pillars of community cohesion and resilience. Nonetheless, ongoing socio-economic changes present challenges that necessitate balanced approaches to preserve these gender dynamics while fostering equitable development and empowerment. Overall, the Dongria Kandha exemplify a tribal society where women's social and economic roles are deeply interwoven, reflecting a progressive model of gender relations grounded in cultural values and ecological harmony (Photo 3.1.21.6.a).



Photo 3.1.21.6: Dongria Kandha Women Engaged in Crafting Plates from Leaves (Source: CoE-STMC, UU)



Photo 3.1.21.6.a: Dongria Kandha Woman Showcasing Her Agricultural Produce (Source: CoE-STMC, UU)

3.1.21.7. Hill Kharia



Photo 3.1.21.7: Hill Kharia Women of Mayurbhanj District Engaged in Crafting Plates from Leaves (Source: CoE-STMC, UU)

Hill Kharia women have traditionally occupied a subordinate position within their community's patriarchal social structure, where male dominance pervades various aspects of societal roles and decision-making processes. This gender hierarchy restricts women's autonomy and limits their influence both within the household and in broader community affairs, reinforcing systemic inequalities. Women's roles have historically been confined mainly to domestic chores and subsistence activities, with limited access to education, economic resources, and leadership opportunities. However, recent interventions, most notably the introduction of Self-Help Groups (SHGs), have begun to catalyse a gradual yet significant transformation in the socio-economic status

of Hill Kharia women. Participation in SHGs has provided platforms for collective action, skill development, and access to microfinance, empowering women to enhance their livelihoods and assert greater agency. These groups have also facilitated increased engagement with government programs and external agencies, fostering exposure to new ideas and resources that challenge traditional norms. Despite these positive shifts, the transition remains incomplete, as deeply ingrained patriarchal attitudes continue to pose barriers to full gender equality. Nonetheless, the ongoing empowerment efforts highlight the potential of community-based initiatives to restructure power relations, promote economic independence, and enable Hill Kharia women to negotiate enhanced participation in social, economic, and political domains.

3.1.21.8. Kutia Kandha



Photo 3.1.21.8: Kutia Kandha Woman at Dangara Participating in Agricultural Activities Alongside Her Male Partner (Source: CoE-STMC, UU)

Photo 3.1.21.8.a: Kutia Kandha Women Engaged in Daily Household Work Activities (Source: CoE-STMC, UU)

Kutia Kandha women occupy a prominent and respected position within their community's socio-religious framework, where they are traditionally regarded as healers and counsellors, roles that confer significant social authority and responsibility. This elevated status enables them to act as mediators and protectors, providing a trusted space for expressing personal and communal concerns, often more comfortably addressed in women's circles than in male-dominated forums. Their active participation in agricultural activities, especially in shifting cultivation practices, complements their ritual functions, as women engage deeply in sowing, weeding, harvesting, and managing forest resources, sustaining the tribe's subsistence economy (Photo 3.1.21.8). Moreover, Kutia Kandha women play a vital role in performing and preserving community rituals and ceremonies, reinforcing social cohesion and cultural identity, emphasising the interconnectedness of spirituality, ecology, and social organisation (Photo 3.1.21.8.a). Their dual role as custodians of traditional knowledge and active economic contributors uniquely positions them as pillars of cultural continuity and community well-being. Nevertheless, while their status is comparatively high, ongoing socio-economic changes and external influences pose challenges that require adaptive strategies to preserve and enhance their roles in the contemporary context. Strengthening educational and livelihood opportunities tailored to Kutia Kandha women can further empower them to navigate these transformations without compromising their crucial cultural functions.

3.1.21.9. Lodha

Lodha women have historically endured marginalisation and an inferior social status, shaped mainly by the community's stigmatised past as a designated “criminal tribe” under colonial rule. This label severely restricted their social mobility and access to resources. Within this context, men were predominantly involved in illicit activities such as pickpocketing. At the same time, women's roles were confined mainly to domestic responsibilities, reinforcing gendered divisions of labour and limiting their public engagement. Over time, as the community sought to transition away from this historical burden, Lodha women increasingly participated in forest-based livelihoods, notably the collection of broomsticks, which has become a critical source of supplementary income. Additionally, wage labour opportunities, albeit sporadic and low-paying, have offered women some economic agency beyond household confines. Despite these gradual shifts, their involvement in broader socio-economic and political arenas remains minimal, constrained by patriarchal norms and limited access to education and institutional support. This persistent marginalisation highlights the complex intersection of caste stigma, gender inequality, and economic deprivation that Lodha women continue to navigate. Addressing these challenges requires targeted interventions to enhance educational opportunities, legal protections, and economic empowerment, thereby facilitating their fuller participation in community decision-making and leadership roles.

3.1.21.10. Lanjia Soura

Lanjia Soura women occupy a position of considerable respect and authority within their tribal society, characterised by cultural and economic significance. They enjoy complete autonomy in religious practices, particularly in the worship of community deities, reflecting deep-seated spiritual agency and empowerment uncommon in many other indigenous groups. Their pivotal role extends to the maternal household, where they assume central responsibilities, especially during death and ancestor veneration rituals. This underscores their function as custodians of cultural continuity and social cohesion. Economically, Lanjia Soura women are integral to subsistence and livelihood strategies, actively engaging in agricultural labour, including shifting cultivation—a demanding process that requires considerable skill and labour input. Additionally, they participate extensively in collecting forest products, contributing to household sustenance and the local economy through trade and barter systems. This multifaceted involvement exemplifies the intertwined nature of gender roles, economy, and culture in sustaining the community's identity and resilience. Despite pressures from modernisation and external influences, the sustained prominence of women in both spiritual and economic spheres suggests a robust socio-cultural framework that values and upholds women's contributions. Strengthening educational and economic opportunities for Lanjia Soura women can further enhance their agency, ensuring the preservation and evolution of their vital roles in changing socio-economic dynamics.

3.1.22. DANCE AND MUSIC

3.1.22.1. Birhor/Mankidia



Photo 3.1.22.1: Birhor Women Performing Traditional Dance Accompanied by Nagara and Madala Music (Source: CoE-STMC, UU)

The Birhor and Mankidia tribes of Odisha are distinguished by their forest-dwelling, semi-nomadic lifestyle and historical association with rope-making, honey collection, and monkey-catching. This practice profoundly influences their cultural expressions. Among their most notable artistic traditions is the *Mankada Nacha* (Monkey Dance), a vibrant and dynamic performance that embodies the agility, mimicry, and survival skills essential to their forest-based existence. This dance is typically performed at festive occasions, social gatherings, and rituals, symbolising the community's close ties to nature and its ancestral knowledge of forest creatures. *Mankada Nacha* is deeply performative, with participants enacting the movements and behaviours of monkeys in a playful yet coordinated manner, often evoking laughter, admiration, and cultural pride within the community. The accompanying music is equally significant, drawing on a distinctive indigenous instrument ensemble that reflects the tribe's close relationship with their natural environment. The *nagra*, a large kettledrum, provides a resonant base rhythm, while the *madala*, a single-membrane hand drum, adds texture and pace (Photo 3.1.22.1). The *bainsi*, a bamboo flute, introduces a melodic layer that mimics bird calls and forest sounds, creating a soundscape that resonates with the tribe's ecological surroundings. These instruments, typically handmade from locally sourced materials such as animal hide, bamboo, and wood, are not merely musical tools but also extensions of the tribe's environmental knowledge and craftsmanship. Moreover, the performative nature of the *Mankada Nacha* serves educational, spiritual, and recreational purposes, transmitting cultural values and survival skills to younger generations. Despite modern pressures and marginalisation, the Birhor and Mankidia continue to uphold these traditions, though their continuity increasingly depends on cultural preservation programs and tribal welfare initiatives. Recognising and documenting such expressive forms is crucial for safeguarding intangible heritage and understanding the interplay

between environment, livelihood, and cultural identity among Odisha's tribal populations. (Table 3.1.22)

3.1.22.2. Bonda

The Bonda tribe is known for their distinct language, *Remo*, which belongs to the Austroasiatic family, and its matriarchal social structure. Their vibrant cultural tradition is deeply intertwined with their agrarian lifestyle and indigenous belief systems. A key aspect of their cultural expression is the *Dhemsā* dance, a collective performance that serves as a vital marker of identity, unity, and social continuity.

Typically performed in a circular or serpentine formation, *Dhemsā* features a chain of dancers who link arms or hold each other by the waist as they move rhythmically to the beat of traditional instruments. The dance plays an integral role in various communal events, such as weddings, harvest celebrations, and ritual festivals, acting as a medium through which emotions, oral histories, and collective experiences are conveyed.

The musical foundation of *Dhemsā* is built on indigenous percussion instruments, most notably the *changu*, a frame drum struck with the hands, and the *dhumsā*, a large bass-producing drum played with sticks. These instruments, often crafted from animal hide and carved wood, provide a pulsating rhythm that energises the dancers and enhances the performance's spiritual and celebratory atmosphere.



Photo 3.1.22.2: Lower Bonda Girls and Boys Participating in *Raja Utsav*: Integrating Tribal Traditions with Mainstream Cultural Practices in Odisha (Source: CoE-STMC, UJU)

For the Bondas, music is not merely decorative; it serves essential functions in ritual purification, ancestor worship, and community bonding. Bonda culture's oral and performative nature ensures that traditions are passed down through generations without dependence on written texts, preserving knowledge about their cosmology, agricultural practices, and social values.

The participatory aspect of *Dhemsā*, which invites both men and women of all ages to join, reflects the Bonda ethos of communal living and egalitarian values. Despite their geographical isolation, modernisation and external influences present challenges to the continuity of these cultural practices (Photo 3.1.22.2). However, efforts by local cultural organisations and anthropological researchers have contributed to documenting and promoting Bonda dance and music as critical components of Odisha's intangible heritage.

Thus, the *Dhemsā* dance and its accompanying musical traditions remain potent symbols of Bonda identity, resilience, and enduring connection to land and community.

3.1.22.3. Didayi

The Didayi tribe, closely related to the Bonda tribe in both geography and cultural heritage, resides in the forested, hilly regions of Malkangiri district in southern Odisha. The Didayi people speak a variant of the Remo-Austroasiatic language and share many socio-cultural practices with the Bondas while maintaining a distinct tribal identity, particularly in their musical and dance traditions.

Like their Bonda neighbours, the Didayis perform the *Dhemsā* dance, a ritual and a social group dance characterised by circular formations, graceful footwork, and rhythmic synchronisation. What sets the Didayi version of *Dhemsā* apart is its rich, layered musical accompaniment, which showcases a wider variety of indigenous instruments. The percussion section includes instruments such as the *tmak*, *khinding*, and *kusang*, each a type of drum that differs in size, pitch, and material composition. These drums create a rhythmic dialogue that is both hypnotic and energising, forming the foundation for the communal choreography.

Accompanying the percussion are the *bainsi*, a bamboo flute that adds melodic fluidity and mimics natural sounds such as bird calls and rustling leaves, reinforcing the Didayis' spiritual connection to their forest habitat. A notable feature of their musical tradition is the *gunungu*, a unique percussion instrument typically played by women. This instrument adds auditory texture and signifies gender-inclusive participation in ritual arts.

Dance and music are deeply significant among the Didayi people, central to seasonal rituals, agricultural festivals, marriage ceremonies, and practices of ancestor veneration. These performances are not merely forms of entertainment; they serve as mechanisms for intergenerational learning, oral storytelling, and spiritual communication. Crafting musical instruments from local resources such as bamboo, animal hide, and wood reflects the Didayis' ecological knowledge and sustainable practices.

Moreover, the communal nature of these performances enhances social solidarity, reinforces tribal identity, and upholds the values of cooperation and harmony with nature. Despite the increasing

encroachment of modern influences, the Didayis have demonstrated remarkable resilience in preserving their performative heritage. Documentation efforts by ethnographers and state cultural bodies highlight the urgency of safeguarding these traditions, which face risks due to socio-economic marginalisation, habitat displacement, and the decline of oral transmission practices. Therefore, the musical and dance traditions of the Didayi tribe not only serve as artistic expressions and represent critical repositories of cultural



Photo 3.1.22.3: Didayi Women Performing Traditional Dance Accompanied by Devotional Songs. (Source: CoE-STAC, UJ)

memory and indigenous worldviews.

3.1.22.4. Juang



Photo 3.1.22.4: Juang Men Performing the *Changu* Dance Accompanied by *Changu* Drums (Source: CoE-STMC, UU)

The Juang tribe represents one of the oldest Austroasiatic tribal communities in eastern India. Their cultural practices are deeply rooted in their animistic worldview, forest-based subsistence economy, and collective identity, with dance and music forming the nucleus of their social and ceremonial life. Among their most significant artistic expressions is the *Changu dance*, an eponymous performance named after the *changu*, a traditional single-membrane drum central to their musical ensemble. This dance, typically performed by both men and women in festive or ritual contexts, is characterised by rhythmic footwork, repetitive circular or serpentine formations, and synchronised movements that align with the hypnotic beat of the *changu*. The dance is not merely an aesthetic performance but a spiritual invocation and communal reaffirmation, especially during major festivals like *Pusha Parab* (a harvest celebration) and *Maghe Parab*, which marks the tribal New Year and agricultural renewal.

The *changu* drum, made from hollowed wood and animal hide, is considered sacred and often played with tribal chants and occasional wind instruments. Its deep, resonant beat provides both tempo and emotional cadence to the dance, creating a trance-like atmosphere where participants symbolically communicate with ancestral spirits, deities of nature, and one another. Music and dance among the Juangs serve multifunctional roles: storytelling tools, spiritual mediums, stress relievers, and expressions of solidarity. During important life-cycle events such as births, marriages, and post-harvest rituals, the *Changu dance* is performed to seek blessings, express gratitude, or maintain harmony with natural and supernatural forces. The inclusive nature of the performance, in which all community members, regardless of gender or age, are encouraged to participate, also reflects the Juangs' egalitarian ethos and collective social fabric. Despite the encroachment of modernity and socioeconomic changes threatening to dilute indigenous traditions, the Juangs have shown considerable resilience in safeguarding their performative heritage. Government cultural preservation

schemes and anthropological efforts have further emphasised the significance of the *Changu dance* as a living tradition and an intangible cultural asset of Odisha's tribal communities.

3.1.22.5. Paudi Bhuiyan

The Paudi Bhuiyan tribe, traditionally forest-dwellers and subsistence agriculturists, possesses a rich cultural tapestry woven through oral traditions, nature worship, and performative arts. Central to their cultural identity are the vibrant folk dances *Chhera Nacha* and *Pondi Nacha*, performed during major communal festivals, agricultural rituals, and life-cycle ceremonies such as weddings and harvest celebrations. These dances are group-oriented and marked by rhythmic movements, often performed synchronously to the beat of the *Changu*, a hand-held, single-membrane drum made from wood and animal hide. The *Changu* provides the rhythmic backbone of these performances and is deeply symbolic, believed to carry spiritual energy that can invoke deities, ancestors, and protective forest spirits. The dancers typically form circular formations, moving in coordinated steps, swaying to the beat while singing lyrical couplets about fertility, community values, nature, and social harmony.

The music and dance of the Paudi Bhuiyan are not purely celebratory; they function as mechanisms of cultural transmission, encapsulating stories of origin, traditional ecological knowledge, and moral teachings. For example, *Pondi Nacha* often reflects themes of agricultural cycles, forest rituals, or mythological tales, reinforcing the community's relationship with land and nature. Women actively participate in these performances, highlighting the tribe's inclusive cultural ethos. The instruments used, particularly the *Changu*, are handcrafted from local resources, reflecting the Paudi Bhuiyan's intimate knowledge of forest biodiversity and traditional craftsmanship. In recent years, their expressive traditions have come under strain due to deforestation, displacement, and exposure to mainstream cultural influences. Nevertheless, efforts by anthropologists and local cultural preservation initiatives have begun to document and revitalise these indigenous art forms, recognising them as critical components of Odisha's intangible tribal heritage. In this context, the *Chhera Nacha* and *Pondi Nacha*, guided by the heartbeat of the *Changu*, remain powerful emblems of identity, continuity, and resilience for the Paudi Bhuiyan community.

3.1.22.6. Dongria Kandha

The Dongria Kandha, known for their deep spiritual connection with nature and reverence for Niyam Raja, the mountain deity, have a vibrant music and dance tradition that is deeply woven into everyday life and ritual. Among their most celebrated dance forms is the *Dhangada-Dhangidi* dance, a rhythmic performance where young men (*Dhangada*) and women (*Dhangidi*) form alternating rows or circles, dancing in harmony during festivals, marriages, and social gatherings. This dance serves as entertainment and plays a vital role in youth courtship, community bonding, and seasonal celebrations. It is accompanied by an indigenous musical ensemble, which includes instruments such as the *Goani* (a single-membrane drum), *Dhapu* (a bass drum), and *Katha Gini*, a set of paired wooden clapper cymbals that produce a sharp, punctuated rhythm. These instruments are traditionally handcrafted from locally available materials like animal hide, wood, and bamboo, reflecting the community's eco-centric ethos and indigenous craftsmanship.

Music and dance among the Dongria Kandha often align with agro-ritual cycles, particularly during planting and harvest seasons and religious festivals dedicated to ancestral and nature spirits. The *Dhangada-Dhangidi* dance is marked by a joyous yet disciplined energy, with dancers swaying, stomping, and clapping in unison, sometimes singing antiphonal verses reflecting love, valour,

fertility, and the land's bounty. These performances are deeply participatory and serve as a living archive of oral tradition, enabling the transmission of collective memory, moral values, and social norms. Women's participation is especially significant, not only in dance but also in song and instrumental performance, reflecting the tribe's relatively egalitarian gender dynamics. Despite mounting pressures from mining, deforestation, and socio-economic marginalisation, the Dongria Kandha have preserved these expressive traditions as vital components of their identity and resistance. Cultural documentation efforts and advocacy by anthropologists and tribal rights organisations have emphasised the importance of Dhangada-Dhangidi as both a cultural and political expression, symbolising the community's unity, resilience, and sacred bond with their ancestral lands.

3.1.22.7. Hill Kharia

The Hill Kharia tribe is well known for its rich folk dance and music traditions, which serve as vital expressions of its cultural identity and social cohesion. Among their most prominent artistic forms is the *Jhumar* dance, a lively and graceful performance traditionally performed at festivals, during agricultural cycles, and at communal gatherings. The *Jhumar* dance typically features dancers moving in circular formations with coordinated footwork and rhythmic swaying, often accompanied by singing that narrates local legends, myths, and everyday experiences. The primary musical instrument accompanying the *Jhumar* is the *Changu*, a single-headed frame drum that provides the essential beat and tempo for the dancers. The drum's resonant, repetitive rhythms create an immersive, spirited atmosphere that energises participants and spectators alike.

In addition to the *Changu*, Hill Kharia music often includes bamboo flutes and other percussive instruments that augment the melodic and rhythmic layers of their performances. The integration of music and dance among the Hill Kharia is deeply intertwined with their agrarian lifestyle and spiritual beliefs, especially their reverence for nature and ancestral spirits. These performances are more than entertainment; they are a medium for storytelling, ritual worship, and the reinforcement of community bonds. Men and women actively participate in the *Jhumar*, highlighting the tribe's egalitarian approach to cultural expression. Despite external pressures from modernisation and socio-economic changes, the Hill Kharia have preserved their traditional dance and music forms, which are still performed during key festivals such as *Sohrai* and *Sarhul*. Efforts by cultural organisations and government agencies have focused on safeguarding these intangible heritage forms as critical components of Odisha's tribal cultural mosaic.

3.1.22.8. Kutia Kandha

The Kutia Kandha tribe is recognised for its distinct cultural practices, including a rich tradition of music and dance that plays an integral role in their social and religious life. Their dance forms, such as the *Loar-Enda*, are expressive communal performances characterised by intricate footwork and synchronised group movements that reflect both the rhythms of nature and the social dynamics of the tribe. Central to their musical accompaniment are a variety of indigenous instruments, notably the large *mada* drums, the medium-sized *pidinga*, and the smaller *bandi* drums, which provide a layered, pulsating percussive background. These are often supplemented by metal ankle bells called *jhanjianga*, bamboo flutes known as *mahura*, and unique wind instruments such as the indigenous stringed mouth organ, *gauni*, and the iron stick with bells, *muangalaud*. Together, these instruments create a rich soundscape that underscores the ritual and celebratory functions of their dance performances.

The Kutia Kandha's music and dance are deeply interwoven with their animistic beliefs and agrarian lifestyle. The performances typically occur during key festivals such as *Pus Parab* and *Chaitra Parab*, which mark agricultural cycles and community renewal. The music entertains and invokes blessings from nature spirits, expresses communal solidarity, and transmits oral histories and ethical teachings across generations. Gender roles within these performances tend to be complementary, with men primarily playing drums and wind instruments. At the same time, women often contribute through song and dance, highlighting the tribe's balanced social dynamics. Despite pressures from modernisation, deforestation, and cultural assimilation, the Kutia Kandha have maintained a resilient hold on their performative traditions, which remain vital markers of their identity. Anthropological documentation and cultural preservation initiatives have underscored the importance of sustaining these practices as part of Odisha's intangible tribal heritage.

3.1.22.9. Lodha

The Lodha tribe exhibits a vibrant cultural heritage, marked by diverse dance and music forms that are essential to their social rituals and communal celebrations. Among their prominent dance styles are the *Madala* and *Changu dance*, which are intensely rhythmic and integral to various festivals and life-cycle ceremonies. The musical landscape of the Lodha is richly textured, featuring a variety of traditional instruments such as the *madala* (a double-headed drum), *baikundala* (a type of drum), *changu* (a single-membrane drum), *tin* (metal cymbals), *ghantas* (bells), *chadachadi* (clappers), *mahuari* (bamboo flute), *mridanga* (barrel drum), *nagara* (kettledrum), *jhumka* (ear-shaped cymbals), *flute*, and *jhanja* (metal cymbals). These instruments, often handcrafted from local materials, produce a dynamic range of sounds that accompany the tribe's energetic, expressive dance movements.

The Lodha's dance performances are typically collective events involving men and women, symbolising social unity, fertility, and the cyclical rhythms of nature. The *Madala dance*, named after the drum that drives its beat, is performed during harvest festivals, weddings, and religious observances, reflecting themes of gratitude, celebration, and ancestral homage. Music and dance among the Lodha serve aesthetic and entertainment purposes and are vital modes of communication and cultural continuity. The songs often contain narratives about tribal history, legends, and moral values, ensuring the transmission of indigenous knowledge and identity to younger generations. Despite the pressures of modernisation and external cultural influences, the Lodha have sustained these traditions through community efforts and government-supported cultural programs, preserving an important facet of Odisha's tribal heritage.

3.1.22.10. Lanjia Saora

The Lanjia Soura are renowned for their rich cultural heritage, particularly their traditional dances and music, which are vital expressions of their spiritual and social life. Two prominent dance forms of the Lanjia Soura are the *Kariya Dance* and the *Benta Dance*, which are performed during important community festivals, rituals, and social gatherings. The *Kariya Dance* is a dynamic and vigorous performance often accompanied by the beating of various drums, flutes, and pipes. At the same time, the *Benta Dance* is characterised by the use of distinctive musical instruments such as the *Benta* (a long wooden pipe), cymbals, *Kendera* (a type of drum), and the clarinet, which create a unique melodic and rhythmic soundscape central to the tribe's festive and ritualistic occasions.

Music and dance among the Lanjia Soura are deeply intertwined with their animistic belief systems and natural environment, acting as mediums for communication with deities, ancestors, and spirits.

The performances often symbolise the community's close relationship with the forest and the cycles of nature, reinforcing social cohesion and collective identity. Instruments like the *Kendera* and *Benta* are traditionally handcrafted, reflecting indigenous knowledge of local materials and acoustics. Both men and women actively participate in these dances, which are important occasions for social bonding and cultural transmission. Despite pressures from external cultural influences, economic marginalisation, and modernisation, the Lanjia Soura have resiliently maintained their traditional art forms. Recent efforts by cultural anthropologists and tribal welfare organisations have aimed to document and revitalise these expressive practices, emphasising their significance as an integral part of Odisha's tribal heritage and intangible cultural legacy.

3.1.23. NAME OF THE SACRED PLACE

3.1.23.1. Birhor/Mankidia

The Birhor and Mankidia tribes have a profound spiritual relationship with their natural environment, epitomised by their sacred places, *Pujak Majhi Halam*, *Shala Mari*, and *Bonga Kanchi*. These sacred sites are typically situated at the margins of their villages, often adjacent to dense forest patches. They are liminal spaces that mark the boundary between the tangible human world and the mystical forest realm. This spatial arrangement reflects the tribe's deep dependence on forests for sustenance, shelter, and spiritual connection, as their livelihoods revolve around hunting, gathering, and small-scale shifting cultivation within forest ecosystems. The *Pujak Majhi Halam* serves as a communal altar where village priests or shamans perform rituals to invoke forest deities and ancestral spirits, aiming to secure protection, bountiful harvests, and the community's well-being. The *Shala Mari* is believed to be the abode of forest spirits or *bonga*, the powerful supernatural entities believed to control the forces of nature and maintain ecological balance. Rituals performed here involve offerings of food, animals, and symbolic items, reflecting the tribe's animistic worldview, which sees nature as imbued with spiritual essence. *Bonga Kanchi*, another sacred place often linked with ritual hunting and ceremonial worship, reinforces the reciprocal relationship between the Birhor/Mankidia and the forest environment, underscoring their role as traditional custodians of biodiversity. (Table 3.1.23)

Moreover, these sacred sites act as social centres, fostering collective identity and intergenerational transmission of indigenous knowledge and customs. In a rapidly modernising world, the Birhor/Mankidia's sacred places have also become symbols of cultural resilience, anchoring their spiritual beliefs and ecological ethics against external pressures such as deforestation, displacement, and assimilation. Anthropological studies highlight how maintaining these sacred spaces is critical not only for preserving tribal religious traditions but also for sustaining the forest landscapes that support their livelihoods and cultural survival. Thus, the sacred sites of *Pujak Majhi Halam*, *Shala Mari*, and *Bonga Kanchi* epitomise a complex interweaving of spirituality, ecology, and social cohesion within the Birhor/Mankidia worldview.

3.1.23.2. Bonda

The Bonda tribe holds *Sindibur* as their most revered sacred site, centrally located within their compact hilltop villages. This sacred space, often described as the spiritual nucleus of the community, serves as the primary locus for ritual activities, social cohesion, and the expression of the Bonda's distinct cosmology. The *Sindibur* is typically a cleared area, often marked by symbolic stones, wooden posts, or ancestral effigies, where community members gather to offer sacrifices and

participate in seasonal festivals honouring their deities and ancestral spirits. These rituals, frequently involving animal sacrifices, libations, and chants, aim to maintain harmony among the human, natural, and supernatural realms, reflecting the Bonda's animistic worldview, which sees all elements of their environment as spiritually interconnected.

Located at the village centre, *Sindibur* acts as a sacred microcosm where social and religious functions converge, reinforcing community bonds and collective identity among the Bonda, who maintain a fiercely autonomous existence. The spatial centrality of *Sindibur* not only symbolises the tribe's cosmological centre but also serves practical purposes as a venue for resolving conflicts, administering justice, and organising communal labour. Anthropological research underscores how the sacredness of *Sindibur* is intricately tied to the tribe's resistance to external cultural assimilation and their efforts to preserve traditional knowledge and ritual practices amidst increasing external pressures. Furthermore, the Bonda's veneration of *Sindibur* exemplifies the tribe's enduring ecological ethic, as the rituals performed there are believed to regulate natural resources and invoke protection over their forested environment. Thus, *Sindibur* is more than a mere physical space; it embodies the Bonda community's spiritual heart, social core, and ecological conscience, making it indispensable to their cultural survival and identity.

3.1.23.3. Didayi

The Didayi tribe holds the *Hundi* as their primary sacred site, typically located at the centre of the village, symbolising its integral role in the community's spiritual and social life. The *Hundi* serves as a vital spiritual hub where important rituals, particularly ancestral worship and rites of passage, are solemnly performed. This central placement within the village spatially manifests Didayi's belief in the interconnectedness of the living community with their ancestors, who are considered active protectors and guides of the present generation. The rituals conducted at the *Hundi* often involve offerings of food, animal sacrifices, and invocations to ancestral spirits, reinforcing a cyclical relationship between the community and its forebears, which is essential for maintaining social harmony and spiritual balance.

The *Hundi* is not merely a religious site but also serves as a communal gathering place where decisions on social order, dispute resolution, and festival organisation are made, highlighting the Didayi's integrative social structure in which religion and governance are interwoven. The sacred space embodies the tribe's animistic worldview, which sees the village as a microcosm of the cosmos, with the *Hundi* as the axis mundi linking the earthly and spiritual realms. Seasonal festivals such as *Chaita Parab* and rites of initiation for youth are deeply embedded in the rituals performed at the *Hundi*, reflecting the tribe's cyclical understanding of life, death, and rebirth. Anthropological studies emphasise that the *Hundi* also plays a crucial role in preserving oral traditions, folk songs, and communal memory, thus sustaining the cultural identity of the Didayi in the face of external pressures from modernisation and forest conservation policies. The sacredness of the *Hundi* site, therefore, embodies the Didayi's holistic worldview, in which spirituality, social cohesion, and environmental symbiosis are inextricably linked.

3.1.23.4. Juang

The Juang tribe centres much of their religious and social life around the sacred site known as the *Mandaghara*, located prominently in the heart of their villages. The *Mandaghara* functions as a spiritual nucleus where key agricultural fertility rites, seasonal festivals, and communal ceremonies are performed, reflecting the tribe's profound connection to their agrarian way of life and the cycles

of nature. This sacred space symbolises the Juang's reciprocal relationship with the land, which is not merely an economic resource but a living entity imbued with spiritual significance. Rituals conducted at the *Mandaghara* often involve offerings to deities believed to govern crop fertility, rainfall, and ecological balance, underscoring the tribe's dependence on agriculture and forest resources for sustenance. The seasonal festivals celebrated here, such as *Dhan Nach* (the rice dance festival) and other harvest ceremonies, invoke divine blessings for bountiful yields and maintain harmony between humans and nature.

The spatial centrality of *Mandaghara* within Juang villages marks it as a sacred site and a social gathering place where decisions on village governance, conflict resolution, and collective action are made, highlighting the intertwined nature of spirituality and community organisation. The presence of ritual specialists and community elders during ceremonies at the *Mandaghara* further reinforces the transmission of indigenous knowledge, oral histories, and traditional ecological practices, ensuring cultural continuity amid external socio-economic changes. Anthropological research reveals that the *Mandaghara* is a living institution that embodies the Juang tribe's agrarian identity, cosmology, and resilience, providing both spiritual solace and a framework for sustainable interaction with their environment. Thus, the *Mandaghara* is a vital symbol of the Juang's enduring cultural heritage and harmonious relationship with the land that sustains them.

3.1.23.5. Paudi Bhuiyan

The Paudi Bhuiyan tribe uphold a sacred site known as the *Derbar*, typically situated at the very centre of their village. This sacred space serves as the focal point for religious assemblies, communal rituals, and important social gatherings, embodying the tribe's deeply ingrained values of social cohesion and collective decision-making. The *Derbar* is more than a mere physical location; it functions as a spiritual and socio-political institution where the community converges to worship local deities, honour ancestral spirits, and celebrate agricultural cycles and natural phenomena through festivals. Offerings and sacrifices during key festivals invoke divine blessings to ensure land fertility, protection from calamities, and general well-being, reinforcing the Paudi Bhuiyan's animistic worldview, which perceives their environment as inhabited by myriad spirits that require continuous negotiation and reverence.

Situated in the village centre, the *Derbar* also serves as the site for panchayat meetings and dispute resolution, highlighting the tribe's tradition of participatory governance rooted in spiritual legitimacy. The sacred place thus merges religious and civic functions, maintaining social order while fostering communal solidarity. The role of ritual specialists and elders in conducting ceremonies and guiding community deliberations at the *Derbar* is pivotal in preserving indigenous knowledge systems and cultural norms. Anthropological studies emphasise that the *Derbar* serves as a living symbol of Paudi Bhuiyan identity, a space where spiritual, social, and ecological dimensions converge to sustain the tribe's way of life amid external developmental pressures and cultural transformations. Therefore, the *Derbar* is a sacred locus for religious practice and a cornerstone of social integration and cultural continuity for the Paudi Bhuiyan people.

3.1.23.6. Dongria Kandha

The Dongria Kandha tribe, renowned for their unique cultural identity and steadfast guardianship of the Niyamgiri Hills in Odisha, hold the *Sadar Kudi*, a sacred site centrally located within their villages, as a pivotal locus of religious and ecological significance. The *Sadar Kudi* is not merely a physical space but an emblematic site that embodies the tribe's profound veneration for their

mountain deity, *Niyam Raja*, who is revered as the ultimate protector and sovereign of the hills. Situated strategically in the heart of the village, the *Sadar Kudi* functions as a ceremonial altar where Dongria Kandha priests conduct intricate rituals and offerings to maintain harmony between the community, the divine, and the natural environment. These rituals include sacrifices, chanting, and communal prayers that invoke Niyam Raja's blessings for the land's fertility, protection from calamities, and the well-being of the people and forest ecosystems that sustain their livelihoods.

The sacredness of the *Sadar Kudi* is deeply intertwined with the Dongria Kandha's animistic and pantheistic worldview, wherein the mountain is perceived as a living entity, and every element of nature, rivers, trees, and animals, is imbued with spiritual agency. The *Sadar Kudi* thus serves as a tangible expression of the tribe's environmental ethics, which emphasise sustainable use of natural resources, respect for biodiversity, and ritualised conservation practices that have historically helped preserve the rich ecology of the Niyamgiri Hills. This sacred site also functions as a communal space where socio-political matters are discussed and collective decisions are made, reinforcing the social fabric of the Dongria Kandha society. The centrality of the *Sadar Kudi* within the village layout symbolises the inseparability of spirituality, ecology, and governance in Dongria Kandha life, positioning the sacred site as a cornerstone of their cultural identity and resistance against external developmental pressures, such as mining threats to the Niyamgiri Hills. Consequently, the *Sadar Kudi* is a testament to the Dongria Kandha's enduring spiritual devotion and environmental stewardship.

3.1.23.7. Hill Kharia

The Hill Kharia tribe, inhabiting the forested and hilly regions of Odisha and neighbouring states, hold the *Jahira* as a central sacred place, usually situated at the periphery of their villages near the dense forest edge. This spatial positioning of the *Jahira* underscores the Hill Kharia's profound spiritual relationship with the surrounding natural environment, reflecting their animistic belief system, in which ancestral spirits and powerful deities inhabit forests and other natural elements. The *Jahira* serves as a sanctuary for ritual offerings, ancestral worship, and protective rites, believed to safeguard the village from malevolent forces and to ensure harmony between humans and the natural world. Its proximity to the forest embodies the liminal space where the human and spirit worlds intersect, highlighting the tribe's reverence for nature as both a provider and a sacred entity demanding respect and careful stewardship.

Ceremonies held at the *Jahira* often involve invoking ancestral guardians through music, dance, and sacrificial offerings, reaffirming the Hill Kharia's socio-spiritual ties to their lineage and environment. The site serves as a religious locus and a communal focal point where social cohesion is reinforced, and decisions about natural resource management and community welfare are deliberated. The ritual significance of the *Jahira* is further linked to ecological knowledge embedded in the tribe's traditional practices, which promote the sustainable use of forest resources, the preservation of biodiversity, and the conservation of sacred groves around the village. Anthropological studies emphasise that the *Jahira* is integral to the Hill Kharia's cultural identity, symbolising their ancestral heritage and ecological wisdom passed down through generations amidst increasing external challenges such as deforestation and socio-economic changes. Therefore, the *Jahira* is a vital sacred space encapsulating the Hill Kharia's spiritual, social, and environmental ethos.

3.1.23.8. Kutia Kandha

The Kutia Kandha tribe of Odisha worship the *Kuda Deity*, or Kuda Mahaprabhu, at the Dharani Gudi, a sacred shrine located centrally in their villages. This site stands as a potent symbol of the tribe's syncretic religious tradition, blending deep-rooted nature worship with elements of mainstream Hinduism, which reflects their complex cultural interactions and adaptive spirituality. The *Dharani Gudi* is not merely a physical structure but a spiritual axis where the natural and supernatural realms converge, representing the earth (dharani) as both a nurturing and divine entity. Rituals performed at this shrine typically involve offerings to *Kuda Mahaprabhu*, believed to protect the land, fertility, and community welfare, underscoring the tribe's intimate relationship with their environment and agrarian livelihood.

The central location of the Dharani Gudi within the village underscores its social and religious significance, serving as a communal space where festivals, agricultural rites, and life-cycle ceremonies are collectively observed. The syncretism at the shrine manifests in the incorporation of Hindu iconography and rituals alongside indigenous animistic practices, illustrating the dynamic processes of cultural negotiation and identity formation within the Kutia Kandha community. Scholars note that this blending of religious elements at the *Dharani Gudi* facilitates spiritual continuity and socio-cultural resilience in the face of external influences such as missionary activities and government interventions. Additionally, the shrine is a repository of oral traditions, myths, and ancestral knowledge that reinforces communal bonds and intergenerational transmission of cultural values.

Anthropological research highlights that the *Dharani Gudi* and the veneration of *Kuda Mahaprabhu* encapsulate the Kutia Kandha's worldview, wherein nature, divinity, and community life are inseparably linked in a holistic cosmology. This sacred place exemplifies their efforts to maintain cultural distinctiveness while engaging with broader religious frameworks, sustaining their unique spiritual identity amid rapid socio-economic change. Thus, the *Dharani Gudi* remains a vital cultural landmark embodying the Kutia Kandha's enduring devotion to their land, deities, and ancestral heritage.

3.1.23.9. Lodha

The Lodha tribe designates sacred sites typically located at the periphery of their villages (either at the beginning or the end) as pivotal markers that delineate both physical boundaries and spiritual realms. These sacred spaces serve as liminal zones, symbolically demarcating the transition between the inhabited village environment and the broader forest landscape, which is imbued with ancestral spirits and natural forces. Functioning as custodians of communal identity and spiritual continuity, these sites act as sanctuaries where ritual offerings, prayers, and ceremonies are performed to honour ancestors, invoke protection, and ensure the community's welfare. The positioning of these sacred places at the village margins reflects the Lodha's belief in maintaining a harmonious balance between human habitation and the spiritual vitality of the natural world, underscoring their animistic worldview in which the environment is suffused with sacredness.

Ceremonial activities at these sites often include seasonal festivals, rites of passage, and the appeasement of village guardian spirits, all of which reinforce social cohesion and transmit cultural values. These rituals are usually led by traditional priests or elders, whose roles are critical in preserving the oral histories and indigenous knowledge embedded in the sacred landscape. The sacred sites of the Lodha thus embody more than spiritual significance; they are integral to the tribe's system of social regulation, ecological stewardship, and cultural resilience amid pressures from modernisation and land-use changes. Anthropological research highlights that these boundary sacred

sites function as living institutions that continuously reaffirm the Lodha's ancestral heritage and communal integrity, ensuring the perpetuation of their unique identity across generations. Consequently, the sacred places of the Lodha tribe stand as vital symbols of the intertwined relationship between land, spirituality, and community.

3.1.23.9. Lanjia Saora

The Lanjia Soura tribe of Odisha hold the *Edital*, the house of the *Kudan* or *Kudan Bai*, in the highest sacred regard, positioning it as their village life's spiritual and administrative nucleus. This sacred space serves as the residence and ritual centre for the *Kudan*, the traditional priest or shaman who acts as the intermediary between the human and spirit worlds, wielding significant ritual authority and social influence within the community. The *Edital* is more than a mere dwelling; it is a consecrated locale where key religious ceremonies, divinations, healing rituals, and community governance take place, symbolising the intricate fusion of spiritual and socio-political hierarchies characteristic of Lanjia Soura society. The presence of the *Kudan* in the *Edital* underscores the tribe's animistic cosmology, in which the spiritual well-being of the village is maintained through ritual mediation and where the natural and supernatural coexist in dynamic balance.

Rituals conducted at the *Edital* often involve offerings to ancestral spirits, deities, and nature entities, reflecting the tribe's deep connection to their environment and their belief in the necessity of ongoing spiritual negotiation to ensure agricultural fertility, health, and protection. The *Edital* also functions as a communal space for dispute resolution, deliberations on village affairs, and transmission of oral traditions, further cementing its role as a pillar of cultural continuity and collective identity. Scholarly research highlights that the sacredness of the *Edital* encapsulates the Lanjia Soura's integrative worldview, wherein religious authority and community leadership are inextricably linked, fostering social cohesion and resilience amid external socio-economic challenges. Thus, the *Edital* stands as a vital cultural institution, embodying the tribe's enduring spiritual heritage and the lived realities of their social organisation.

3.1.24 KINSHIP SYSTEM

3.1.24.1. Birhor/Mankidia

The Mankidia tribe exemplifies a unique and adaptive kinship system that reflects their semi-nomadic lifestyle, ecological niche, and socio-economic structure. Primarily found in the districts of Mayurbhanj, Keonjhar, and Sundargarh, the Mankidias are traditionally a forest-dwelling community known for their skill in collecting forest produce and crafting items from *Siali* fibre (*Bauhinia vahlii*). While seemingly simplistic, their kinship terminology reveals a deep structure that facilitates internal cohesion and flexibility, essential for their mobility and subsistence-based way of life. In their native language, "*Aba*" is the term for father and "*Mae*" for mother, short, direct forms that suggest a linguistic economy common among nomadic or semi-nomadic groups. Such terminology reduces complexity in day-to-day communication but carries significant cultural weight.

The Mankidia kinship system is somewhat bilateral, recognising maternal and paternal ties. However, it tends to emphasise immediate and nuclear family relationships over extended kin, a feature possibly shaped by their need to maintain small, mobile family units. Unlike settled agrarian tribes that often have elaborate clan structures and extended kin obligations, the Mankidias prioritise kin relationships that support cooperative foraging, mobility, and mutual survival in forest

environments. Marital alliances are exogamous, and although they do not possess rigidly defined clan systems like many other tribes in Odisha, they observe taboos against intra-lineage marriage, indicating an implicit recognition of lineage. Elders in the community are shown respect through kinship suffixes and titles. Though many terms overlap functionally, such as referring to maternal and paternal uncles with the same term, there is still a strong sense of generational hierarchy and relational distance.

Importantly, kinship in Mankidia society is closely tied to their spiritual beliefs and rituals. Ancestral spirits and deities are often invoked during rites of passage such as birth, marriage, and death, and the performance of these rituals is the responsibility of specific kin members, usually the male head of the family or a senior maternal uncle. With increasing sedentarisation under state-led rehabilitation programs and exposure to mainstream society, the traditional kinship patterns of the Mankidias are undergoing gradual change. For instance, government schemes promoting settled agriculture and housing foster more nuclear and stationary family units, sometimes eroding traditional norms and relational roles. However, even as the structure becomes more simplified, the cultural ethos of kinship, defined by reciprocity, mutual support, and survivalist interdependence, remains integral to Mankidia identity.

3.1.24.2. Bonda

The kinship system of the Bonda tribe presents a rich tapestry of linguistic uniqueness, social structure, and cultural symbolism. Residing in the rugged terrains of the Khairput block in Malkangiri district, the Bonda people have maintained a distinct socio-cultural identity shaped by geographical isolation and strong ancestral traditions. Their kinship terminology, expressed in the Remo language (a member of the Munda branch of the Austroasiatic language family), is structurally complex and phonetically marked by features such as nasalisation and glottal stops. For instance, “*baʔ*” (father) and “*ʔyɔŋ*” (mother) are succinct terms that encapsulate both familial bonds and respect, and terms like “*tata*” for grandfather and “*ya*” or “*ʔya*” for grandmother reflect generational reverence.

Bonda society is strictly organised along totemic and exogamous clan lines, heavily influencing marriage, social interaction, and ritual practices. Each clan (referred to as *pinda*) is associated with a particular natural totem, such as a bird, animal, or tree, and members of the same clan are forbidden to marry each other, a rule rigidly observed to avoid incest and ensure clan purity. These exogamous rules extend to second cousins and are embedded within the kinship terminology, as classificatory terms often substitute for specific relational markers to maintain social distance. The term “*maŋ*,” for example, denotes the eldest brother, while terms like “*deŋ*” for younger brother and “*baŋ*” for sister help delineate age and gender hierarchy within the household.

The Bonda also possess bilateral kin recognition but emphasise patrilineal descent for inheritance and ritual succession. Despite their predominantly patrilocal residence pattern, maternal uncles (*maiyaŋ*) play a significant ceremonial role, particularly in birth, initiation, and marriage rituals. Marriage alliances are carefully arranged through clan negotiations, and kinship terms extend beyond blood relations to include affinal (by marriage) ties, which are linguistically marked and socially significant. These kinship roles are not static but performative; they are actively maintained through exchange systems, such as bride price (*gining*) and ritual obligations during life-cycle ceremonies.

In recent years, however, modernisations, forced displacement due to development projects and acculturation have gradually begun to affect the traditional kinship structure. Government policies on education, welfare, and women's empowerment have introduced new familial roles, particularly

among younger generations. Still, among the elder Bondas, the traditional kinship terms and roles remain vital for maintaining group identity and social order, serving as a linguistic and cultural bulwark against assimilation.

3.1.24.3. Didayi

The kinship system of the Didayi tribe is deeply entrenched in their socio-cultural identity and worldview. The Didayi, closely related to the Bonda (*Remo*) tribe both linguistically and culturally, speak a language belonging to the South Munda branch of the Austroasiatic family, which is rich in nasal phonemes and gendered distinctions in kinship terms. In the Didayi language, the term for father is "*Aabaa*" and for mother, "*Eeyang*." These words reflect familiarity and reverence, embodying the essential parental roles within the family unit. The children are referred to as "*Oong*" for a son and "*Shelagode*" for a daughter; these terms denote biological relationships and reinforce the importance of age, sex, and familial duty within their community.

The Didayi kinship system is patrilineal and exogamous, and kinship is a primary organising principle in their social life. Each clan (*gotra*) is totemic and represents descent from a mythical ancestor, often associated with elements of nature such as animals, plants, or natural forces. Marriage within the same clan is strictly prohibited, reinforcing exogamy and ensuring genetic diversity and social alliances between different groups. The Didayi practice patrilocal residence, in which a woman joins her husband's family upon marriage. The bride price (*dan bini*), a significant socio-cultural institution, is exchanged between families as a symbol of alliance and respect. This transaction is mediated through extended kin, underscoring the collective nature of Didayi kinship and marriage systems.

Age and gender hierarchies are clearly embedded in the family's terminology and roles. Elder brothers and sisters hold positions of authority and responsibility, and elder brothers are often addressed with honorifics that distinguish them from younger siblings. Similarly, maternal and paternal uncles and aunts are accorded distinct roles; maternal uncles, for example, play a ceremonial role in naming rituals and other life-cycle ceremonies. Grandparents, known as "*Daadi*" (grandfather) and "*Nja*" (grandmother), are deeply respected and often serve as the custodians of oral traditions and moral values. These intergenerational relationships transmit cultural knowledge, myths, and ritual practices.

In recent decades, exposure to modern education, administrative restructuring, and developmental interventions has influenced the kinship dynamics among the Didayi. Nuclear family structures are becoming more prominent, and there is an observable decline in the centrality of extended kin in day-to-day decision-making. However, among traditional Didayi communities in the more remote hilly tracts, kinship still serves as a robust framework for identity, reciprocity, and collective existence. Their kinship terminology, emphasising age, gender, and social roles, remains a living testament to their complex social fabric and adaptive resilience.

3.1.24.4. Juang

The Juang exhibit a kinship system deeply embedded in their Austroasiatic linguistic heritage and egalitarian social structure. The Juang language, which belongs to the Munda subgroup of the Austroasiatic family, possesses a rich inventory of kinship terms that are both descriptive and classificatory, shaped by age, sex, lineage, and affinal relations. In everyday use, a father is addressed as "*ba*" and a mother as "*bui*," reflecting a foundational binary of parental authority and

nurturing. Sons are referred to as "kanan," a term that signifies not only male offspring but also the generational placement and continuity of the patrilineal line.

One of the most distinctive features of Juang kinship is its reciprocal terminology and the frequent use of affixes and suffixes to denote respect, age order, and relational proximity. For instance, elder siblings and uncles/aunts are often addressed with honorifics or extensions that convey respect, while younger kin may be addressed with diminutives. This system fosters a sense of balance and reciprocity within familial relations, with younger members expected to show deference to elders, and elders, in turn, obliged to offer protection and guidance. Clan-based exogamy, where individuals must marry outside their gotra, is strictly enforced, and kinship terminology plays a key role in recognising and maintaining these social boundaries. These clans are totemic, often named after animals, plants, or celestial objects, and form the primary units of identity and alliance.

The Juang society is patrilineal and patrilocal, and inheritance of land or ritual roles is passed through the male line. However, affinal relations are also highly structured and acknowledged in kinship terms, wives' sisters, brothers, and in-laws each have specific appellations that identify them and indicate the behavioural codes attached to these relationships. For example, joking relationships with some in-laws coexist with avoidance rules for others, such as a son-in-law and mother-in-law. These kinship norms are upheld during crucial ceremonies such as birth rituals, marriage negotiations, funerals, and clan feasts, where the presence and participation of extended kin groups are essential.

While modernisation and government interventions have introduced changes in Juang society, including access to schooling and employment beyond the forest economy, kinship continues to structure many aspects of daily life. The Juang Panchayat system, a traditional village council, also operates along kinship and clan lines, reflecting how deeply these social structures are embedded in its governance and conflict-resolution processes.

3.1.24.5. Paudi Bhuiyan

The Paudi Bhuiya possess a kinship system that intricately weaves linguistic, cultural, and social dimensions of tribal life. The community speaks a dialect that blends Odia and Munda linguistic influences, and their kinship terminology reflects this synthesis. The terms "*Bapaa*" for father and "*Maa*" for mother form the core of nuclear family identification. Children are affectionately called "*Pua*" for sons and "*Jhia*" for daughters; these terms are not only identifiers of gender but also embedded in the symbolic structure of inheritance, lineage, and familial responsibility. These basic kinship markers are extended through a complex web of classificatory terms that distinguish elder and younger siblings, uncles, aunts, grandparents, and in-laws, each associated with distinct roles in familial and ritual contexts.

Kinship in Paudi Bhuiya society is patrilineal and exogamous at the clan (gotra) level, ensuring that marriages are arranged outside one's own kin group to avoid incestuous unions and to build social alliances between different lineages. Clan names are often derived from nature (trees, animals, or natural features) and serve as crucial identity markers within the community. The enforcement of clan exogamy is facilitated by the clarity and rigidity of kinship terms, which define direct familial bonds and the boundaries of permissible marital relationships. For instance, the same kinship term may be applied to biological and classificatory relatives to signal avoidance or alliance relationships.

Extended family members such as paternal uncles ("*Badu*" or "*Kaka*"), maternal uncles ("*Mamu*"), and aunts ("*Apaa*", "*Badei*", "*Mausi*") are not only linguistic categories but also bearers of specific cultural roles. A maternal uncle often plays a central part in naming, birth, and marriage rituals, reflecting the matrilineal influence in otherwise patrilineal descent. In contrast, the paternal aunt (*Apaa*) is typically involved in bride-searching and wedding negotiations, indicating the social embeddedness of kin roles beyond biological ties.

In the broader social fabric, kinship terminology governs behaviour; some relationships require respect and avoidance, such as between a son-in-law and mother-in-law. In contrast, others permit joking and informality, like with cross-cousins. These behavioural norms are tightly linked to kinship expressions, making the language of kinship a key tool for regulating everyday social interaction. For example, younger members are taught to use honorifics when addressing elders, while reciprocal terms affirm bonds of equality among peers.

Despite socio-economic changes, including migration for wage labour and exposure to mainstream education, the Paudi Bhuiya continue to uphold kinship rules in marriage arrangements, ritual performance, and dispute resolution. Tribal councils or panchayats, often kinship-based, still play a significant role in mediating conflicts, particularly those involving marriage and inheritance, thereby preserving traditional social structures amid modern transformations.

3.1.24.6. Dongria Kandha

The kinship system of the Dongria Kondha is a cornerstone of their social organisation, influencing everything from marriage alliances to ritual responsibilities. Residing predominantly in the Niyamgiri hills of Rayagada and Kalahandi districts, the Dongria Kondha speak a variant of the *Kui* language and belong to the Dravidian family. Their kinship terminology is linguistically rich and socially nuanced, emphasising biological relationships, social roles, generational hierarchy, and clan affiliations. The Dongria use "*Aaba*" to refer to the father and "*Aaya*" for the mother; these terms reflect affection and hierarchical respect within the family. Children are addressed as "*Mila*" (son) and "*Bui*" (daughter), and such gender-specific terms reflect a balanced acknowledgement of both male and female offspring, who have defined roles within the household and the wider clan.

Their kinship system is patrilineal and clan-based, with each individual belonging to a specific "*kutumba*" or clan, identified by totemic names often derived from animals, trees, or natural elements. The Dongria strictly observe exogamy, prohibiting marriage within the same clan to prevent incestuous relationships and to maintain social harmony. Marriages are generally arranged with significant involvement from extended kin, and bride price (a symbolic exchange of goods) is mediated through these networks, highlighting the collective aspect of marital alliances.

Ancestral reverence is a crucial component of Dongria kinship. Elders, such as grandparents, are honoured with "*Taada*" for a grandfather and "*Aaji*" for a grandmother. These figures are central in transmitting cultural knowledge, conducting household rituals, and resolving intra-family disputes. The reverence for ancestors is also embedded in their Niyam Raja tradition (worship of the sacred Niyamgiri hills), where ancestors and clan spirits are believed to reside. Clan elders often serve as custodians of these sacred traditions, and kinship terms like "*Jesta*" (elder) reflect age and status.

Roles within the extended family are carefully articulated through kinship terms. For instance, father's brothers (paternal uncles) and mother's brothers (maternal uncles) are recognised with distinct titles and have specific roles in ceremonies such as birth naming, initiation rites, and

weddings. A woman's brother (maternal uncle) holds a privileged position during her child's lifecycle rituals. These kinship distinctions maintain intergenerational continuity and structure moral obligations, hospitality norms, and inheritance practices.

Despite increasing interaction with non-tribal society, development projects, and state-run welfare schemes, the Dongria Kondha uphold their traditional kinship systems, especially in interior villages. However, there are emerging shifts, nuclear families are on the rise, and modern education is changing gender and generational dynamics. However, for many Dongria, kinship remains an enduring framework through which identity, duty, and spiritual belonging are understood.

3.1.24.7. Hill Kharia

The Hill Kharia kinship terminology vividly reflects cultural persistence and linguistic transition. Traditionally, speakers of the Kharia language, a South Munda (Austroasiatic) language, the Hill Kharia, have undergone a significant language shift in recent decades due to increased contact with neighbouring Indo-Aryan-speaking populations, particularly through migration, education, and governmental interaction. As a result, their kinship terms show a hybrid structure, retaining core Munda elements while incorporating Indo-Aryan lexical influences.

In their current usage, the Hill Kharia use *"Bapa"* to denote 'father' and *"Maaya"* for 'mother'. These terms reflect the common Indic influence, likely adopted through language contact, schooling in Odia or Hindi, and administrative integration. Nevertheless, many traditional kinship terms are preserved, especially in intra-community interactions and rituals. For example, *"Dada"* and *"Baba"* are used for grandfather, while terms like *"Bhai"* for brother and *"Didi"* or *"Nani"* for sister remain prevalent. These terms blend Munda and borrowed Indo-Aryan forms, suggesting a syncretic evolution of kinship language that serves communicative and identity-preserving functions.

The Hill Kharia kinship system remains patrilineal and exogamous, emphasising clan (*killi*) affiliation. Clans are important social units governing marriage alliances, taboo observance, and ritual obligations. Marriage within one's clan is strictly forbidden, and kinship terms are vital in defining permissible social distances for matrimonial arrangements. Furthermore, the natal and affinal kin relations are carefully distinguished, often using affixes or separate terms to signal one's obligations and entitlements. For example, the terms used for a wife's brother (*"Sala"*) or sister's husband (*"Sadhu"*) are not only linguistic markers but also imply specific ritual and social expectations, such as the offering of gifts or services during life-cycle ceremonies.

Despite linguistic changes, the functional integrity of the kinship system remains intact, especially in ceremonies such as birth rituals, weddings, and funerals. For instance, maternal uncles play a crucial role during naming ceremonies and ear-piercing rituals. Kinship-based labour exchanges (locally known as 'mutual help systems') persist for agricultural and house-building tasks. The kinship network is also vital for resource sharing, child-rearing, dispute resolution, and elder care, thereby anchoring the community's cohesion in both cultural and economic spheres.

The Hill Kharia kinship system offers a compelling example of cultural resilience amid linguistic adaptation. While many of their original Munda kinship terms have been gradually supplanted or hybridised due to external influences, their social logic, clan organisation, and kinship roles reflect indigenous worldviews. This synthesis of traditional structure and adaptive vocabulary underscores the dynamic nature of tribal identity in the face of modernisation and language shift.

3.1.24.8. Kutia Kondha

The Kutia Kondha exhibit a kinship system deeply rooted in their clan-based (gotra) exogamous and patrilineal social structure. Their language belongs to the Dravidian family, and this linguistic framework shapes the terminology they use to define familial roles. In everyday usage, the Kutia Kondha refer to father as "*Aabaa*" and mother as "*Eeaa*", terms that carry biological meanings and denote respect and authority within the family. Sons are referred to as "*Aapu*" and daughters as "*Aapi*", indicating gender roles and generational identity within the household. These terms are part of a broader system in which every kinship role (siblings, grandparents, uncles, aunts, or in-laws) has a defined term, function, and social expectations attached to it.

Kinship for the Kutia Kondha is about naming relationships, prescribing social conduct, and regulating marital alliances. The community is divided into exogamous clans, or "gottis", each named after a totemic ancestor or a natural symbol, such as an animal, tree, or hill. Marriage within one's clan is strictly prohibited, and individuals must seek partners from other clans, a practice essential for maintaining genetic diversity and forging inter-group alliances. The awareness of kin terms and clan affiliations begins early in life and is reinforced through rituals, oral traditions, and community gatherings. For instance, the maternal uncle (often called "*Mamaa*") plays a significant ceremonial role when naming a child or the bride's farewell, highlighting the importance of matrilineal kin in ritual contexts despite the dominant patrilineal system.

The Kutia Kondha observe a generation-based classificatory kinship system, in which parallel cousins (children of a father's brother or a mother's sister) are considered siblings and thus unmarriageable. In contrast, some subgroups may consider cross-cousins (children of the father's sister or the mother's brother) as preferred marriage partners. Terms like "*Pemba*" (father's brother) and "*Kujar*" (mother's brother) not only distinguish the side of descent but also define authority, nurturance, and ritual responsibility within the household and beyond (Elwin, 1950). Female kin are identified by terms such as "*Taangi*" for sister and "*Aaji*" for grandmother, and often play active roles in transmitting cultural knowledge and domestic training.

In addition to its social function, the Kutia Kondha kinship system has a sacral dimension, especially in the way ancestors are revered. The male lineage is symbolically connected to ancestral spirits believed to protect the household. Thus, kinship terms extend into the spiritual realm, where deceased elders are remembered in rituals using their kin titles, reinforcing their continuing role in the community's well-being.

The kinship structure remains resilient despite external influences like state welfare schemes, migration, and formal education. While certain formalities such as clan meetings or betrothal negotiations may now involve bureaucratic documentation, the narratives, responsibilities, and reciprocal obligations encoded in kinship terms remain vital in regulating domestic and communal life among the Kutia Kondha.

3.1.24.9. Lodha

The Lodha tribe displays a kinship system that reflects its indigenous socio-cultural roots and the influence of prolonged interaction with neighbouring non-tribal communities. Traditionally forest dwellers and subsistence-based cultivators or hunter-gatherers, the Lodhas have undergone increasing acculturation and social change, particularly since the colonial and post-independence

periods of socio-economic marginalisation. Within this changing landscape, the Lodha kinship system remains a critical axis of social identity, reciprocity, and lineage organisation.

In the Lodha language and oral tradition, "*Bapaa*" is the term used for 'father', while "*Maaya*" signifies 'mother'. These terms are part of a broader kinship lexicon that includes "*Mudha*" for "son" and "*Jhia*" for "daughter," also commonly used among neighbouring Odia-speaking communities. This reflects the linguistic assimilation that has occurred over time due to cultural contact, especially among Lodhas who live in mixed villages or depend on non-tribal patrons and landlords for employment and economic support. However, in intimate community settings and rituals, the Lodha maintain distinct kinship distinctions and clan affiliations that guide their social interactions, marriage alliances, and ritual obligations.

The Lodha kinship system is patrilineal and patrilocal, with clans serving as exogamous units. A person may not marry within their clan (gotra), and kinship surveillance strictly enforces marriage rules. These clans are often totemic, and the names and symbolic associations of totems (such as animals, trees, or celestial bodies) are passed down through male lines, shaping identity and ritual behaviour. Kinship relations also structure economic cooperation and moral responsibilities. For instance, the maternal uncle (locally known as "*Mama*") plays an important role during marriage and naming ceremonies, indicating a bilateral recognition of kinship obligations, even within a patrilineal system.

Furthermore, Lodha kinship terminology distinguishes between older and younger siblings, and between relatives by blood and marriage. Terms like "*Bada Bhai*" (elder brother), "*Sana Bhai*" (younger brother), and affinal terms such as "*Jyuain*" (son-in-law) or "*Sasu Ma*" (mother-in-law) highlight the hierarchical and age-based nuances in kin relations. The specificity of these terms is not merely linguistic but tied to social expectations and ritual roles. For instance, elder brothers often serve as guardians of younger siblings, and in-laws have distinct obligations during festivals, funerals, and rites of passage.

Over time, economic migration, state welfare interventions, and exposure to modern schooling have altered how the Lodha use kinship terms. While the younger generation may increasingly adopt Odia or even Hindi equivalents for ease in public or formal settings, in private, the older kinship terminology persists as a marker of tribal identity and belonging. This bilingual and bicultural fluency allows Lodhas to navigate their traditional social world and the external, often bureaucratic, world of state systems and modern society.

In conclusion, the Lodha kinship system is a dynamic blend of traditional Munda-affiliated structures and adopted Indo-Aryan influences, serving as a key foundation for social organisation, cultural transmission, and identity maintenance. Even as their language and economy adapt to changing circumstances, kinship remains a resilient and adaptive institution, structuring everyday life, ritual practices, and intergenerational continuity.

3.1.24.10. Lanjia Saora

The LanjiaSaora exhibit a distinctive kinship system that underscores their matrilineal social organisation and the pivotal role of maternal relatives, particularly the maternal uncle. In their language, the terms "*Waang*" for father and "*Yangan*" for mother form the core parental vocabulary, while children are referred to as "*Anenyen*" for son and "*Yaayi*" for daughter. This nomenclature reflects biological relationships and culturally embedded social roles, especially emphasising the

maternal lineage. Unlike strictly patrilineal systems prevalent in many tribal and non-tribal societies of India, the LanjiaSaora's kinship terminology and associated social practices highlight the significance of the mother's clan and kin group, indicating a matrilineal or matrilineal orientation in aspects of inheritance, residence, and ritual responsibility.

Central to their kinship system is the maternal uncle (often called "*Mama*"), who assumes an authoritative and nurturing role in his sister's children's lives, sometimes more influential than the biological father. This prominence of maternal kin resonates with the Saora's cultural emphasis on clan exogamy and avoidance of intra-clan marriages, reinforcing the importance of cross-cutting kin ties through the mother's lineage. The maternal uncle is often responsible for important rites of passage such as initiation ceremonies, marriage arrangements, and dispute mediation within the family. This reflects a broader social structure where kinship is not solely a matter of descent but also of alliance and reciprocal obligations.

Moreover, LanjiaSaora kinship terms distinguish between the age and gender of siblings and cousins, further delineating social hierarchies and roles within the extended family network. Using specific terms for elder and younger siblings, and classifications for cross- and parallel-cousins, exemplifies a sophisticated kin classification system that governs social interaction, inheritance rights, and marital rules. For example, parallel cousins may be classified similarly to siblings, thus prohibiting marriage, while cross cousins might be considered preferred marriage partners, consistent with many Dravidian and Austroasiatic kinship patterns.

The persistence of these kinship terms and the social practices they signify are integral to the Lanjia Saora's identity and social cohesion, serving as a buffer against the external influences of modernisation and state-led development programs. Despite increasing pressures of acculturation and economic change, the kinship system remains a living institution that shapes social relationships, ensures the transmission of traditional knowledge, and anchors the community in its ancestral land and customs.

In conclusion, the kinship terminology and system of the LanjiaSaora illustrate a matrilineally inclined social order in which maternal relatives, especially the maternal uncle, play a central role in familial authority, lineage continuity, and social regulation. This system not only preserves traditional values but also adapts to contemporary challenges, reflecting the dynamic interplay between kinship, culture, and identity among tribal groups in Odisha.

3.2. TRIBAL LANGUAGE

Tribal languages play a crucial role in the development and preservation of indigenous cultures, as well as in promoting community well-being and education. The importance of tribal languages in development studies is multifaceted and extends beyond mere communication. Indigenous languages are essential for constructing ethnic identity and maintaining cultural continuity (Chakraborty, 2023; Akinwalere, 2023; Obligar & Obligar, 2024). They serve as a means of resistance to linguistic oppression and an affirmation of self-determination (Wang & Bai, 2024; Munda, 2025; Marotta, 2025). Moreover, tribal languages are intrinsically linked to traditional ecological knowledge and connections to the land, which are vital for sustainable development and environmental stewardship (Priyadarshini & Abhilash, 2019; Tynsong et al., 2020; Ekka, 2024; Mengal, 2025). Interestingly, even when younger generations have limited access to their heritage languages, English can still play a significant role in identity construction. Research has shown that certain prosodic features in English are shared across diverse Native American communities,

indicating a creative adaptation of a "foreign" language to express shared ethnic identity (Breen, 2008; Shan, 2025; Matalon et al., 2025). This demonstrates the resilience and adaptability of indigenous communities in preserving their cultural identity. In conclusion, tribal languages are crucial for communication and preserving indigenous knowledge systems, promoting cultural continuity, and fostering community empowerment. Development studies should recognise the importance of tribal languages in the design of culturally appropriate interventions and policies. This includes supporting language revitalisation efforts, incorporating indigenous languages in education systems, and recognising the role of language in community-based participatory research approaches (Herrera, 2022; Wiltshire et al., 2025).

India is home to many tribal communities with unique linguistic heritage, contributing to the country's immense linguistic diversity. Tribal languages in India belong to several language families, including Austroasiatic (e.g., Santali, Mundari), Dravidian (e.g., Gondi, Kui), Tibeto-Burman (e.g., Bodo, Karbi), and Indo-Aryan (e.g., Bhili, Halbi) (Verma, 2016; Grierson, 1927; Kachare & Sarode, 2024). India's tribal languages exhibit immense diversity across states, belonging to prominent language families such as Indo-Aryan, Dravidian, Austroasiatic, and Tibeto-Burman. In North India, Jammu & Kashmir and Ladakh feature languages such as Balti, Bhotia, Gaddi, and Gujari (ExploreAnthro.com, 2024; Vasudeva, 2025), while Himachal Pradesh and Uttarakhand feature Kinnauri, Lahuli, Jaunsari, and Tharu (Sharma, 2001; Negi, 2018). In the North-East, Arunachal Pradesh is home to Nyishi, Adi, Apatani, and Nocte (Das, 2020; Negi, 2021; Das, 2023), Assam has Bodo, Karbi, and Mishing (Devi, 2018; Deo & Sharma, 2020; Acharya, 2020), and states like Manipur, Meghalaya, Mizoram, Nagaland, and Tripura preserve languages such as Meitei, Khasi, Mizo, Angami, and Kokborok (Mallikarjun, 2020; Aribam, 2023; Mandal et al., 2024). Eastern India sees Santali, Ho, and Mundari spoken in Bihar and Jharkhand (Paterson, 2014; Bailey et al., 2015; Bailey & Maggard, 2017; Paudyal & Peterson, 2021; Office of the Registrar General & Census Commissioner, India (ORGI), 2023; Paterson et al., 2024; Central Institute of Indian Languages [CIIL], nd; Goswami, 2025), with Odisha and West Bengal hosting Kui, Khond, Saora, and Toto (Dash, 2019; Ota & Patel, 2021; Behera, 2021; Behera & Dash, 2024; Majumder, 2025). Central India features Gondi, Halbi, Korku, and Bhili in Chhattisgarh and Madhya Pradesh (Beine, 2013; Sikarwar, 2017; Kumar, 2019; Boruah, 2020; Boehm, 2022), while Western India includes Bhili, Wagdi, Gamit, and Rathwi in Rajasthan, Gujarat, and Maharashtra (Naik, 1956; Patil, 2019; Office of the Registrar General & Census Commissioner, India, 2018; Kumar, 2019; Devappa, 2019; Pradhan & Tripathi, 2022). In Southern India, Andhra Pradesh, Telangana, Karnataka, Kerala, and Tamil Nadu sustain tribal languages like Gondi, Koya, Kodava, Kurumba, and Irula (Sreedhar, 1980; Zvelebil, 1990; Krishnamurti, 2003; Sharma, 2014). The Andaman & Nicobar Islands host endangered languages, including Great Andamanese, Onge, Jarawa, and Sentinelese (Abbi, 2006). These tribal languages serve as repositories of indigenous knowledge, folklore, and oral traditions but are endangered due to socio-political marginalisation, declining intergenerational transmission, and a lack of institutional support (Moseley, 2010). Efforts to preserve them through educational inclusion, digital documentation, and policy interventions are crucial for sustaining India's linguistic diversity (Mohanty, 2019).

According to the 2011 Census of India, there are over 700 officially recognised tribal groups, and many of their languages are endangered due to declining numbers of speakers, sociopolitical marginalisation, and the dominance of major languages such as Hindi and English (Moseley, 2010). Scholars argue that tribal languages are critical carriers of indigenous knowledge, oral traditions, and cultural identity. However, rapid urbanisation, displacement, and lack of formal education in these languages have led to their gradual erosion (Pattanayak, 1981). Government initiatives such as the Eighth Schedule of the Indian Constitution, which recognises Santali, Bodo,

and other tribal languages, as well as educational programs promoting mother-tongue-based multilingual education (MTB-MLE), aim to preserve and revitalise these languages (Mohanty, 2019). However, challenges remain, including inadequate resources for linguistic documentation, limited governmental support, and resistance to the use of tribal languages in mainstream education (Hale et al., 1992). Several academic and non-governmental organisations have taken initiatives to document and revitalise endangered tribal languages through digital archives, literacy programs, and community-led projects (Benedikter, 2009). While modernisation threatens the survival of many tribal languages, there is a growing recognition of their significance in maintaining cultural diversity, fostering social cohesion, and enriching India's linguistic landscape (Annamalai, 2001). Efforts toward linguistic preservation require a multidimensional approach that integrates policy interventions, community participation, and technological advancements to ensure these languages thrive for future generations.

The International Phonetic Alphabet (IPA) has been utilised in various studies of tribal languages in India, though the available context provides limited direct information on this topic. Ray (2025) notes that India has 22 major languages with over 720 dialects, written in 13 different scripts, highlighting the linguistic diversity, including tribal languages. While it does not explicitly mention the use of IPA for tribal languages, it suggests the potential need for a standardised phonetic system like IPA in studying these diverse languages. Interestingly, Chakravarthi et al. (2019) discuss using IPA transliteration for under-resourced languages, potentially including tribal languages in India. The study compares coarse-grained transliteration to Latin script with fine-grained IPA transliteration for machine translation tasks involving South Indian languages (Tamil, Telugu, and Kannada). Although these are not specifically tribal languages, this approach could also apply to tribal language studies. The use of IPA in machine translation and linguistic diversity studies indicates its potential applicability to tribal language research in India. However, more targeted studies would be needed to fully explore this area (Chakravarthi et al., 2019; Singh & Siddique, 2021).

The provided context lacks specific examples of IPA studies of tribal languages in Odisha (Devappa, 2018; Mohanty & Tripathy, 2023). However, the information can be used to discuss IPA's potential applications and importance in studying various languages, including tribal languages. The International Phonetic Alphabet is a universally agreed system of notation for the sounds of languages, widely used for over a century. It provides a standardised method for representing speech sounds across different languages, which could be particularly useful for studying and documenting tribal languages in India. Interestingly, while IPA offers a fine-grained representation of speech sounds, research has shown that in some cases, coarse-grained transliteration to the Latin script can be more effective for specific language processing tasks. For instance, the IPA's universal nature makes it an essential tool for analysing and documenting the sound systems of various languages, which could be particularly beneficial for preserving and studying India's diverse tribal languages. However, researchers should also consider the specific needs of their study and the potential benefits of alternative transcription methods when working with these languages.

3.2.1. Linguistic classification

The linguistic landscape of Odisha's PVTGs showcases a complex mix of indigenous languages, linguistic families, and dialectal influences. These groups mainly belong to three language families: Austro-Asiatic, Dravidian, and Indo-Aryan. While many PVTGs still speak their native languages, increased interaction with non-tribal populations and socio-economic changes have caused a gradual

shift towards regional languages such as Odia, Telugu, Hindi, and Bengali. This paper examines the linguistic classification of Odisha's 10 PVTGs, analysing their traditional languages, linguistic backgrounds, and dialectal influences that shape their current linguistic identities.

3.2.1.1. Birhor/Mankidia: The Endangered Birhor Language

The Birhor language, spoken by the Birhor and Mankidia tribal communities of Odisha, Jharkhand, Chhattisgarh, and West Bengal, is a highly endangered Munda language of the Austroasiatic family. The term "Birhor" derives from "*bir*" (forest) and "*hor*" (man), meaning "forest people," reflecting their traditional nomadic lifestyle centred on hunting, gathering, and rope-making. Linguistically, Birhor shares close affinities with Santali and Ho, but due to sociocultural marginalisation and language shift, it is increasingly being replaced by regional languages such as Odia, Hindi, and Santali.

3.2.1.2. Bonda: Remo and Its Gradual Decline

The Bonda language, locally known as Remo (ᱫᱟᱞᱟ), is a highly endangered South Munda language of the Austroasiatic family, spoken by the Bonda tribe of Odisha, India. The Bondas, primarily residing in the hilly and forested Malkangiri district, are classified as one of the PVTGs due to their socio-economic backwardness and relative isolation. Despite their rich linguistic heritage, the Remo language is rapidly declining, primarily due to language contact, sociocultural marginalisation, and the dominance of Odia as a lingua franca. This phenomenon has led to a shift toward bilingualism and, increasingly, language loss among younger generations.

3.2.1.3. Didayi: The Declining Use of Gata

Spoken predominantly in the Malkangiri district of Odisha, Gata has long served as a crucial marker of Didayi identity. However, due to rapid sociocultural and economic changes, the language is in steep decline, with a growing shift toward Odia and Desia, the dominant regional languages. Classified as "definitely endangered" by UNESCO, Gata is at risk of extinction unless proactive revitalisation efforts are undertaken.

3.2.1.4. Juang: A Language at Risk

The Juang language, spoken by the Juang tribe of Odisha, is a highly endangered Munda language belonging to the Austroasiatic family. The Juangs, primarily residing in Keonjhar, Angul, and Dhenkanal districts, are recognised as a PVTG due to their declining population, economic hardships, and diminishing linguistic identity. While Juang has historically been a robust oral language, increasing contact with dominant languages such as Odia, Hindi, and Desia has led to a rapid language shift among younger generations. UNESCO classifies Juang as "definitely endangered", meaning that while older members still speak it, younger people are shifting to other languages. If this trend continues, Juang risks becoming a moribund language, used only by the elderly in isolated communities.

3.2.1.5. Paudi Bhuiyan: Transition from Tribal Language to Indo-Aryan Influence

The Paudi Bhuiyan, a subgroup of the Bhuiyan (*Bhuyan*) tribe, are an indigenous community primarily residing in the forested hills of Odisha's Keonjhar, Sundargarh, and Angul districts. Their traditional language, Bhuiyan, exhibits linguistic features influenced by Munda and Dravidian

elements, yet over time, it has undergone significant Indo-Aryan influence, particularly from Odia, Sambalpuri, and Hindi. This linguistic transition is emblematic of the broader socioeconomic, political, and cultural assimilation faced by many PVTGs in India.

3.2.1.6. Dongria Kandha: Kui or Kuvi and the Dravidian Legacy

The Dongria Kandha, an indigenous PVTG of Odisha, primarily inhabit the Niyamgiri hills of Rayagada and Kalahandi districts. They are a subgroup of the larger Kandha (Kondh) tribal community, and their native language, *Kuvi* (*Kuwinga*), belongs to the Dravidian language family. *Kuvi* is closely related to *Kui*, another Dravidian language of the Plains Kandha of Odisha. While *Kui* has a written script and more widespread speakers, *Kuvi* remains an oral language with no standardised writing system, making it highly vulnerable to linguistic erosion. Despite its deep Dravidian linguistic roots, *Kuvi* has been influenced by *Odia*, contributing to its gradual decline in use, especially among younger generations.

3.2.1.7. Hill Kharia: Linguistic Shift from *Gaaunli* to Odia

The Hill Kharia traditionally spoke *Gaaunli* (also called Kharia or Kharia Thar), an Austroasiatic language belonging to the Munda language family. However, due to extensive socio-political changes, economic integration, and increasing interaction with dominant regional groups, there has been a rapid linguistic shift from *Gaaunli* to Odia. Today, most Hill Kharia youth are monolingual in Odia, while only older generations retain fluency in *Gaaunli*, placing the language at serious risk of extinction.

3.2.1.8. Kutia Kandha: Kui and Its Dravidian Roots

The Kutia Kandhas speak *Kui*, a South Dravidian language closely related to *Kuvi*, which the Dongria Kandha speaks. *Kui* holds significant linguistic importance as one of the few Dravidian languages spoken in Eastern India, setting the Kandha apart from neighbouring tribes who primarily speak Austroasiatic (Munda) or Indo-Aryan languages. Despite its ancient Dravidian lineage, *Kui* has been heavily influenced by Odia, leading to lexical borrowing and structural modifications. The growing dominance of Odia in education, governance, and socio-economic interactions has led to a gradual shift away from *Kui*, particularly among younger generations.

3.2.1.9. Lodha: Multilingualism and Linguistic Adaptation

The Lodha linguistic identity is complex, shaped by a history of migration, socio-economic marginalisation, and cultural interaction with dominant linguistic communities. The traditional language of the Lodha people, known as Lodha (also called *Lodhi*), belongs to the Austroasiatic (Munda) language family and is closely related to Santali, Ho, and Mundari. However, due to sustained contact with Indo-Aryan and Dravidian languages, the Lodha community exhibits a high degree of multilingualism and linguistic adaptation, often shifting between Lodha, Odia, Bengali, and Hindi, depending on the social and economic context.

3.2.1.10. Lanjia Soura: Sora and Its Linguistic Resilience

The Lanjia Soura, a subgroup of the Soura (Saura, Savara) tribe, are one of Odisha's most culturally and linguistically distinctive indigenous communities. Primarily residing in the districts of Rayagada, Gajapati, Koraput, and Ganjam, they speak Sora (also spelt Saura or Savara), a South Munda

language of the Austroasiatic language family, closely related to Santali, Mundari, and Ho. Unlike many other tribal languages facing rapid decline, Sora has demonstrated remarkable linguistic resilience, with many speakers maintaining its use despite pressure from dominant languages such as Odia, Telugu, and Kui. The strength of Sora lies in its deep cultural integration, its oral storytelling traditions, religious significance, and its unique writing system, which has contributed to its relative stability compared to other endangered tribal languages.

The local names of various ethnographic parameters across the ten PVTGs of Odisha exhibit distinctive phonetic features when transcribed in the IPA, reflecting the linguistic diversity and unique phonological systems of each tribe.

3.2.2. Linguistic reference to house types

The local names of houses among the ten PVTGs of Odisha display distinctive phonetic features when transcribed in IPA, reflecting the linguistic diversity and unique phonological systems of each tribe. The Birhor or Mankidia house, locally known as *Kumbha* /'kumbʰa:/, typically consists of clusters of conical huts made of leaves and branches, reflecting a semi-nomadic lifestyle historically associated with hunting and gathering. The temporary and lightweight structure symbolises mobility, ecological adaptation, and minimal dependence on permanent resources. The Bonda house name "Remosan" is transcribed as /re'mo.san/, with the alveolar tap /ɾ/ and the nasal consonant /n/ at the end, mirroring the tribe's Dravidian language influences and its rhythmic tonal qualities. (Table 3.1.4)

For the Didayi, the dual terms "Dabpiri" and "Hini" are transcribed as /dab'piri/ and /'hini/ respectively. The alveolar stop /d/, bilabial stop /b/, and tap /ɾ/ in "Dabpiri" reflect a complex consonantal structure. At the same time, "Hini" shows a simpler syllable structure with the glottal fricative /h/ and close front unrounded vowel /i/, emphasising the tribe's phonetic economy. The Juang house name "Inji" is transcribed as /'in. dʒi/, where the affricate /dʒ/ highlights the influence of Austroasiatic phonetics, capturing the language's characteristic palatal sounds.

The Paudi Bhuiyan term "Ghara" is rendered /'gʱara/, featuring the voiced aspirated velar plosive /gʱ/, common in Indo-Aryan languages, and the alveolar tap /ɾ/, signifying their linguistic blending of tribal and regional influences. Similarly, the Dongria Kondha house called "Ija" transcribes to /'i.dʒa/, demonstrating a clear vowel-consonant-vowel pattern with a voiced palato-alveolar affricate /dʒ/, aligning with their Dravidian linguistic roots.

The Hill Kharia "Amar ghara" is phonetically /'a. mər 'gʱara/, a compound where both words feature the voiced aspirated velar plosive /gʱ/ and alveolar tap /ɾ/, reflecting the transition of their language under Indo-Aryan influence. The Kutia Kondha use "Aja" or "Ilu," transcribed as /'a.dʒa/ and /'i.lu/, respectively, contrasting affricate and lateral approximant sounds typical of their dialect.

The Lodha also refer to their houses as "Ghara" (/ 'gʱara/), like the Paudi Bhuiyan, indicating similar phonological patterns due to geographic and cultural proximity. Lastly, the LanjiaSaora terms "Seing" and "Nyalsing" are transcribed as /'seɲ/ and /'ɲal. sɲ/, where /ɲ/ represents the palatal nasal, and /ŋ/ the velar nasal consonants, showing the tribe's phonemic richness and their Austroasiatic linguistic heritage.

3.2.3. Linguistic reference/ ethnonym of different types of tribal families

The local terms for family types among the ten PVTGs of Odisha, when transcribed into the International Phonetic Alphabet (IPA), reveal the linguistic diversity and phonetic characteristics inherent to each community's language. For the Birhor/Mankidia, "Wasa" is pronounced as /'wa.sa/, featuring a voiced labiovelar approximant /w/ and an open back unrounded vowel /a/, indicating a simple two-syllable word that aligns with their Austroasiatic language family. The Bonda expression "Dio rem" transcribes as /di.o'rem/, where the diphthong /io/ and the alveolar tap /ɾ/ stand out, reflecting the phonological features of their Dravidian language, and the two-word structure emphasises familial concepts. (Table 3.1.6)

In the Didayi tribe, although no specific local name is documented, the prevalence of nuclear-family structures suggests simpler phonetic structures in kinship terms, typical of their language family. The Juang word "Paribar" is pronounced /pəri'bar/, characterised by the schwa /ə/, alveolar tap /ɾ/, and a trochaic stress pattern, indicating Indo-Aryan linguistic influences.

For the Paudi Bhuiyan, "Kutumb" transcribes as /ku'tumb/, where the velar stop /k/, alveolar nasal /n/ (in some pronunciations) and bilabial nasal /m/ create a concise yet phonetically rich term, again rooted in Indo-Aryan language structures. The Dongria Kondha term "Mahaliku" is /mə'ha:li.ku/, with a long open back unrounded vowel /a:/ and a syllabic structure that reflects its Dravidian linguistic origin.

The Hill Kharia use "Ghar" and "Paribar," pronounced /gʱar/ and /pəri'bar/ respectively; the voiced aspirated velar plosive /gʱ/ in "Ghar" indicates Indo-Aryan influence, while "Paribar" matches the Juang term, signifying linguistic overlap in the region. The Kutia Kondha "Kutum" is pronounced /'ku.tum/, a short, phonetically straightforward term that again showcases Dravidian roots.

In the Lodha community, "Paribar" (/pəri'bar/) mirrors the Juang and Hill Kharia terms, reflecting the widespread use of this word in tribal and regional Indo-Aryan dialects. Finally, the LanjiaSaora distinguish between nuclear family "Abakukud" /'a.ba.ku.kud/ with a rhythmic four-syllable structure featuring open vowels and voiceless velar stops, and the extended family "Birindas" /'bi.rin.das/, where the alveolar tap /ɾ/ and the nasal /n/ combined with a final unvoiced alveolar fricative /s/ emphasise its complexity.

This phonetic overview not only highlights the rich diversity of familial terminology among Odisha's PVTGs but also illustrates how phonological features correspond to broader linguistic affiliations (Austroasiatic, Dravidian, and Indo-Aryan), reflecting the region's complex cultural and linguistic tapestry.

3.2.4. Linguistic reference to types of marriages

The diverse matrimonial customs of Odisha's PVTGs are reflected in their unique marriage types and the phonetic richness of the local terms describing these practices. Using the IPA to transcribe these local names offers a precise insight into their linguistic nuances and cultural identities. Among the Birhor/Mankidia, the term "Bapla" (/ˈbap.la/) denotes marriage generally, with several specific forms such as "Nam-Napam Bapla" (/nəmnaˈpam ˈbap.la/) for marriage by negotiation, and "Udra-Udri Bapla" (/ˈud.rəˈud.ri ˈbap.la/) representing temporary marriage. The terms "Kala-Kuli Bapla" (/kəˈlakuˈli ˈbap.la/) for arranged marriage and "Kushi-Kusha Babla" (/ˈku.ʃiˈku.ʃa ˈbap.la/) for love marriage further demonstrate the complexity of their lexicon. (Table 3.1.7)

In the Bonda community, "Sebung" (/ˈse.buŋ/) signifies marriage by mutual consent, while "Guboi" (/guˈboi/) represents marriage by capture, a practice involving ritualistic and symbolic acts of "capturing" the bride. The Didayi words "Bihay" (/biˈhɑj/) and "Gube" (/guˈbe/) refer to negotiated marriages, with "Paisa Mudhi" (/ˈpaɪ.səˈmu.dʱi/) indicating marriage by intrusion, each highlighting the social dynamics within the tribe.

For the Juang, marriage types are described by terms such as "Kania" (/kəˈni.ə/), "Phulkusi Kania" (/pʰulˈku.si kəˈni.ə/) for love marriage with arrangement, and "Am Lesare Kania" (/əmleˈsɑːrekəˈni.ə/) referring to courtship rituals involving symbolic gestures like throwing mangoes. The Paudi Bhuiyan use "Bibha" (/ˈbi.bʱɑ/) for arranged marriage, while terms like "Ghicha Ghichi" (/ɡɪˈtʃɑɡɪˈtʃɪ/) and "Dhuki Pasiba" (/ˈdʱu.ki pɑˈsi.bɑ/) describe marriage by capture and intrusion, respectively.

Among the Dongria Kondha, "Haidi" (/ˈhɑɪ.di/) represents marriage by negotiation, with occasional practices of capture marriages reflecting more complex social relations. The Hill Kharia term "vivah" (/ˈvi.vɑːɦ/) denotes marriage broadly, with specific forms like "DhukuBahagar" (/ˈdʱu.kubɑˈɦɑɡər/) for love marriage or elopement, and "GhichaBahagar" (/ɡɪˈtʃɑbɑˈɦɑɡər/) for ceremonial capture.

In the Kutia Kondha group, "Sedi" (/ˈse.di/) refers to arranged marriage, while "Reja Nona" (/ˈre.dʒɑˈno.nɑ/) and "Guisat Sedi" (/ˈɡwi.satˈse.di/) signify marriage by capture and elopement, respectively. The Lodha community uses "Beha" (/ˈbe.hɑ/) to describe both arranged and love marriages, with unique practices such as sister exchange. Finally, the LanjiaSaora terms like "Sirong" (/ˈsi.ɾoŋ/) for arranged marriage ("Daisai/Pura Serung" /ˈdɑɪ.sɑɪ/ or /ˈpu.rɑˈse.ruŋ/), "Ding Dong Boi" (/dɪŋdɔŋboi/) for marriage by capture, and "Alishim/BauliSerung" (/ˈɑɪ.ʃɪm/ or /ˈbɑʊ.liˈse.ruŋ/) for love marriage illustrate the interplay of linguistic and social elements within matrimony.

3.2.5. Linguistic reference to bride price

The bride-price customs among the PVTGs of Odisha are both culturally significant and linguistically rich, with local terminology that reveals the social and economic dimensions of matrimonial exchanges. Using the IPA transcription of these terms provides a deeper understanding of their phonological structure and cultural context. For the Birhor/Mankidia, the bride price is locally termed "Ganang" /ˈɡɑ.nɑŋ/, typically paid by the bride's parents. The payment includes four annas (equivalent to Rs 7/-), four hens, two goats, and 50 kilograms of rice, reflecting a combination of cash and kind. (Table 3.1.8)

Among the Bonda, the bride price, called "Ginning" /ˈɡɪn.nɪŋ/, is also borne by the bride's parents and involves livestock such as a cow and a bullock, along with 20 to 30 kilograms of cereals, emphasising the agrarian and pastoral economy. The Didayi use the term "Gineng" /ɡɪˈneŋ/ or "Jhola Dabu" /ˈdʒho.lɑˈdɑ.bu/, where the bride's parents pay 10 kilograms of rice, money, a goat, and 5 gallons of sago palm drink, highlighting ritualistic beverages as part of the exchange.

For the Juang, the bride price, known as "Kania Mula" /ˈkɑ.ni.əˈmu.lɑ/, is paid by a collective group that includes the bride's father, paternal uncle, maternal uncle, and community intermediaries (khandarias). The compensation comprises Rs 3, approximately 25 kilograms each of raw and parboiled rice, a chicken, 2 gallons of rice beer, and a saree for the bride's mother, combining monetary and ceremonial gifts.

In the Paudi Bhuiyan community, "Kania Mula" /'kɑ.ni.ə'mu.lɑ/ similarly involves payments by the bride's father, paternal uncle, maternal uncle, and village headman, including a minimum of 25 kilograms of rice, three goats, three bullocks, and a dhoti for the maternal uncle, underscoring the role of kinship in marital transactions. The Dongria Kandha bride price, termed "Modar" /'mo.dɑr/, is distinctive as the bride's paternal grandmother demands a sari (Pinga-hendra) /'piŋ.ga'hɛn.dra/, and the bride's villagers claim a collective share (Kutum Kadu) /'ku.tum'kɑ.du/. Payments include 50 kilograms of rice, two buffaloes, 15 litres of liquor, sarees, utensils, and brass plates, reflecting elaborate community involvement.

The Hill Kharia call the bride price "Pana" /'pa.nɑ/, paid by the bride's parents, usually consisting of Rs 2.50, 10 kilograms of rice, and cloth for the bride's mother and relatives, representing modest but meaningful contributions. The Kutia Kandha use the terms "Jala" /'dʒɑ.lɑ/ or "Kalu Tapineru" /'kɑ.lu 'tɑ.pi.nɛru/, with payments made by the maternal uncle and parents involving 20 kilograms of rice, buffalo, food grains, and dress and ornaments, reinforcing kinship bonds.

Among the Lodha, the bride price is known as "Kanya Pana" /'kɑ.njɑ'pa.nɑ/, paid by the bride's parents, currently amounting to Rs 50 or more, along with cloth, a goat or chicken, and brass utensils, illustrating adaptation to economic changes. Lastly, the Lanjia Soura practice "Panshal" /'pan.fɑl/, where the bride price includes both cash and kind, encapsulates the blend of traditional and contemporary modalities in bride price exchanges.

3.2.6. Linguistic reference to clan name

The clan and lineage systems among the PVTGs of Odisha are deeply embedded in their social organisation and cultural identity, with distinct clan names and terminologies that can be accurately represented using the IPA. The Birhor/Mankidia recognise clans such as Tanda /'tɑn.dɑ/ or Khili /'kʰɪ.li/, with clan names derived from natural elements like Bonga /'bɔŋ.ga/ (a wild grass), Anduali /'æn.du.ɑ.li/ (wild cat), Luthuma /lu'tʰu.mɑ/ (flower), Keonduar /kɛɔn'du.ɑr/ (a plant), Taga /'tɑ.ga/ (wild big cat), Gidhi /'gi.ɖʱi/ (vulture), and Sunari /su'na.ri/ (a bird), all reflecting their close relationship with the forest ecosystem. Their lineage system is identified as Khunt /kʰunt/ or Aleya Orha /ɑ'le.jɑ'ɔr.hɑ/. (Table 3.1.9)

The Bonda organise themselves into Kudas /'ku.das/ clans, including Badnaik /'bad.naik/, Challan /'tʃæl.lan/, Dhangere-Majhi /'dʱɑŋ.gere'madʒ.i/, Kirsani /'kɪr.sa.ni/, Muduli /'mu.ɖu.li/, Sisa /'sɪ.sa/, Dora /'ɖɔrɑ/, Jigiri /'dʒɪ.gɪ.ri/, and Mandra /'mɑn.dra/, highlighting a multiplicity of social groupings.

For the Didayi, the clans known as Gta /gta/ or Bongo /'bɔŋ.go/ include animal and natural symbols such as Nkhoo /ŋku:/ (tiger), Mala /'ma.lɑ/ (cobra), Gbe /gbe/ (deer), Mosali /mo'sɑ.li/ (crocodile), and Goi /gɔi/ (tortoise), reinforcing the symbolic link to fauna.

The Juang tribe's clan system comprises Bok /bɔk/ or Khilli /'kʰɪ.li/, with broader social units named Bandhu /'bɑn.dʱu/ and Kutumb /ku'tum/, alongside gender-specific clans such as Saman Bok /'sa.manbɔk/ (male) and Saman Roy /'sa.manrɔi/ (female), reflecting a nuanced kinship structure.

Among the Paudi Bhuiyan, clans fall under Khilir /kʰɪ'ɪr/ or Khilli /'kʰɪ.li/ categories, encompassing groups like Saraikali /sɑ:'rɑ:kɪli/, Kakrani /kɑk'rɑ:ni/, Darsahi /dar'sahi/, Sasual /sɑ:'suəl/, Bankada /bɑŋ'kɑ:dɑ/, Pana Saing /'panɑ 'saɪŋ/, Terlokuli /tɛr'loʊku:li/, Kodakodi

/'koudə koudi/, Rana */'rana/*, Balbahansa */'balbə hānsə/*, and Rantadi */'rāntadi/*, indicating a rich diversity within their clan network.

The Dongria Kandha recognise Padar */'padar/* or Kuda */'ku:da/* clans such as Wadeka */wə:'deikə/*, Kadraka */kə'draka/*, Kundika */kūn'dika/*, Sikoka */si'kouka/*, Pusica */pu'si:ka/*, Prasca */pra'ska/*, Bengaska */ben'gaska/*, Melaka */mə'laka/*, and Kurunjlika */kūrən'dʒa:lika/*, with their lineage system described as Kutum */'ku:təm/*.

The Hill Kharia maintain clans such as Sal */sɑ:l/* (Ranisia), Ashoka */ə'ʃouka/* (Katulipania), Saru */'sa:ru/* (Paniodia), Balia */'balia/* (Duarbandhia), Saluk */'sa:luk/* (Talapania), and Nag */nɑ:g/* (Siala), collectively termed Bansa */'bānsa/*.

The Kutia Kandha are organised into Barga */'barga/* or Gochhi */'go.tʃi/* or Bansa */'bānsa/* clans such as Nundruka */nūn'dru:ka/*, Saraka */sə'raka/*, Timaka */'tɪmaka/*, Sukbicha */suk'bi:tʃa/*, Adanga */ə'dʌŋgə/*, Rodamaka */roudə'maka/*, Urlaka */'ɜ:rləka/*, and Kadraka */kə'draka/*. They also have Kudas */'ku.das/* or Klambu */'klambu/*.

The Lodha clans, or Gotras */'goutrɑ:z/*, include names like Bugta */'bugta/*, Bhukta */'bʱukta/*, Bhakta */'bʱʌkta/*, Chirka */'tʃɪr.ka/*, Alu */'ɑ:lu/* (a kind of yarn), Mallik Makar */'mælik 'makar/* (mythical sea monster), Kotal Moon */'koutəlmun/* (grasshopper), Laik */laɪk/*, Layak */'ləɪək/*, Nayak */'nɑ:jək/* (sal fish), Digar */'dɪgər/* (tortoise), Parmanik */par'manik/* (a bird called manic), Dandapat or Bag Bagh */'dandapat/* or */bagbag/* (tiger), Ari */'ari/*, Ahari */ə'hari/* (chanda fish), Bhuiya */'bʱɔja/*, and Bhunia */'bʱu.nia/* (sal fish), with the lineage system also described as Bansa */'bānsa/*.

3.2.7. Linguistic reference to birth rituals

The birth rituals among the PVTGs of Odisha are rich in cultural symbolism and vary in their ceremonial practices, with distinct local names accurately represented using the IPA. Among the Birhor/Mankidia, the birth purification ceremony is called Uthiari */u:tʰi'ɑ:ri/* or Hapan Hoi */'hapanhɔi/*, conducted on the 12th day after birth, with the naming ceremony traditionally performed by the maternal grandfather. The Bonda observe the ritual known as Gupasing */'gu:pɑ:sɪŋ/*, with purification on the 21st day and the name given by a deceased ancestor, reflecting ancestral reverence. The Didayi call their birth ritual Uparataye */ʊpɑrɑ'taje/*, held on the 21st day, where the Polasi */pə'lasi/* of the village plays a central role in the name-giving ceremony. (Table 3.1.10)

Among the Juang, the ceremony is called Uthiari */u:tʰi'ɑ:ri/* or Nimincha */'nimɪntʃa/*, performed on the seventh day, with the maternal uncle responsible for naming the child. The Paudi Bhuiyan have the ritual Akosia */ɑ:'kousiə/* or Namatula */nɑ:mə'tu:la/*, celebrated on the 21st day, during which grandparents name the newborn. The Dongria Kandha observe Mila-Daru */'mɪlada:ru/* on the 21st day, and the maternal uncle traditionally gives the name.

The Hill Kharia perform Nalta */'nʌltɑ/* or Naam Karan */nɑ:mkə'rɑ:n/* on the 21st day, with the father naming the child. The Kutia Kandha use the terms Daru Itina */'dɑ:ru'iti:nɑ/* or Siali */'si:ali/* for the ritual on the third day, during which both the paternal and maternal sides participate in naming. The Lodha celebrate Ekusia */e'ku:sia/* on the 21st day, with the maternal uncle responsible for naming. Lastly, the Lanjia Soura perform the Kudetin */'ku:dɛtɪn/* ceremony on the seventh day, with the father's side conducting the naming ritual.

3.2.8. Linguistic reference to death rituals

The death rituals among the PVTGs of Odisha display a rich tapestry of cultural expressions, each with unique local names and varying pollution and purification practices. Using the International Phonetic Alphabet (IPA), the Birhor/Mankidia observe the ritual called Ghelutum /g^he:lu'tom/, with a pollution period of seven days, culminating in burial at a special ground known as Gochinai /go:tʃi'naɪ/. The Bonda refer to their death rites as Sairem /'saɪrɐm/, with the pollution period lasting until the 10th day, followed by a purification ceremony known as Gaitang /gar'taŋ/. (Table 3.1.11)

Among the Didayi, the rituals are called Pitakasa /pɪta:'kasa/ or Likasing /li'kasɪŋ/, with pollution extending to the 10th day, accompanied by the Gighayesha /gɪgha:'jeʃa/ ceremony, an offering to ancestral spirits or ghosts. The Juang perform the Gaja /ga:'dʒa/ ritual, with no fixed pollution period, typically carried out between two and five days after death. The Paudi Bhuiyan observes Dasa /'da:sa/ on the 10th day, marking the pollution period.

The Dongria Kandha's death ritual, Hateyas /hɑ:'teɪjəs/, spans two days, followed by a purification rite called Mahania /ma:'hɑ:nɪə/. The Hill Kharia observe Antyeshti kriya /antje:ʃti: 'kɾɪja:/ or Das karma /da:s 'kərmɑ:/, with the pollution period lasting 10 days and purification rites termed Karama /ka:'rɑ:mə/. For the Kutia Kandha, the ritual named Dasah /'da:sah/ extends from the third to the eighth day, culminating in Haladi /'haldi/ - the purification day involving turmeric powder, mango bark, and other traditional substances.

Among the Lodha, the death rite called Dasa /'da:sa/ lasts ten days, followed by the Sudhi kriya /'su:ɖi 'kɾɪja:/ purification ceremony. Lastly, the Lanjia Soura have a two-stage ritual: the first funeral rite, named Guar /gu:'ɑ:r/, occurring over 12–15 days, and the second rite, Karjya /kar'dʒja:/, which may be observed one or two years later. These diverse death rituals, as reflected in their phonetic transcription, highlight the profound cultural importance of rites of passage and community purification within Odisha's PVTGs.

3.2.9. Linguistic reference to magico- religious practices

The religious practices and ancestral worship among the PVTGs of Odisha exhibit rich polytheistic traditions deeply rooted in nature, ancestral reverence, and local deities, each reflected by their unique local names transcribed here using the IPA. Among the Birhor/Mankidia, worship centres on Sing Bonga /sɪŋ 'bɔŋga:/ (the Sun God) and Hapram /'hɑ:prəm/ (ancestral spirits). Female ancestral deities like Logo Bir /'lo:go: bɪr/ and Budhi Mai /'bʊɖ^{hi}i 'mai/ are venerated daily and during special occasions, alongside Bandar Bir /'bɔŋɖɑ:rɪr/ (baboon god) and Hanuman Bir /hɑ:'nu:mɑ:nɪr/ (monkey god). The male ancestral deity Ajadaeren /ə'dɑ:ɖe:rən/ plays a significant role, especially in newborn rituals. Their clan deity is known as Bonga /'bɔŋga:/. (Table 3.1.12)

The Bonda worship PatkhandaMaaparabu /pəɖ^h'kʰəŋɖɑ: 'ma:pa:rabu:/, considered the Creator of the universe, alongside Hundi /'hondi/ or Bursung /'bɔrsʊŋ/, the Mother Earth, with Hundi also revered as the village deity. The Didayi honour Budha Bhairav /'bʊɖ^hɑ: b^hə'ra:v/ as the main deity and Hundi /'hondi/ as the village guardian. Among the Juang, Dharma Devta /'d^hərmə 'ɖe:vɖɑ:/ and Basukimata /basuki'ma:ɖɑ:/, the Mother Goddess is central, with the ancestral clan deity called Sala /'sa:la:/.

The Paudi Bhuiyan venerate Bodam Budha /'bɔd̪əm 'bɔd̪ʱa:/ and Badam Bhudhi /'bɑ:d̪əm 'bɔd̪ʱi/ as the primal human pair, and the supreme deity KarangaBudhi /kə'rɑ:ŋgə 'bɔd̪ʱi/. They also worship the Rahanivaunisatabhauni /rɑ:'ɦɑ:nivɔ:'nisətɑ: b̪ʱɔ:'ni/, or Seven Sisters. The Dongria Kandha revere Dharani Penu /d̪ʱə'rɑ:ni 'pe:nu:/, the Mother Goddess, and Jatrakudi Penu/dʒəʈrə'kɔdi 'pe:nu:/, the village deity.

For the Hill Kharia, the Earth Goddess known as Thakurani /t̪ʰɑ:ku'rɑ:ni/ or Dharani Devata /d̪ʱə'rɑ:nide:'v̪t̪ɑ:/, alongside the Sun God Dharam Devata /d̪ʱərəmde:'v̪t̪ɑ:/, is central, with the clan deity called Estadebta /'estə,debt̪ɑ:/. The Kutia Kandha worship Dharani Penu /d̪ʱə'rɑ:ni 'pe:nu:/, the mother god; Sorupenu /sɔru'pe:nu:/, the hill god; and Orgadapenu /ɔ:rgə'd̪ɑ:pe:nu:/ or Gopalapenu /go:pɑ:'lɑ:pe:nu:/, the god of wildlife, with their clan deity called Takarani /t̪ɑ:kə'rɑ:ni/.

The Lodha worship Dharm Devta /d̪ʱər̪mde:v̪t̪ɑ:/, the god of righteousness; Basumata /bɑ:su:'mɑ:t̪ɑ:/, the mother earth; Sitala /'sit̪ɑ:lɑ:/, the village deity and goddess of epidemics; and Baram or Garam /bɑ:rəm/ or /gɑ:rəm/, the jungle deity. Their ancestral village deity is Sitala maa /'sit̪ɑ:lɑ: mɑ:/. Lastly, the Lanjia Soura worship Labosum /lɑ:bɔ:'sɔm/ (mother god), Rudesum /'rɔde:sɔm/ (god), Mandua sum /mɑn'd̪uɑ: sɔm/ (village deity), and Jodisum /'dʒo:ɖi:sɔm/, the deities of village entrances, with Mandua sum /mɑn'd̪uɑ: sɔm/ serving as their principal village deity.

3.2.10. Linguistic reference to magico- religious heads

Among the PVTGs of Odisha, the religious hierarchy and shamanistic practices play crucial roles in the spiritual and social life of communities. The religious heads, priests, and shamans, often referred to by specific local names transcribed here using the IPA, are entrusted with performing rituals, healing, and mediating between the human and spiritual realms. (Table 3.1.13)

In the Birhor/Mankidia community, the Dehuri /'de:huri/ or Dhiri /'d̪ʱiri/ serves as the religious head responsible for officiating rituals related to birth, death, and annual festivals, while the Dakua /d̪ə'kuɑ:/ acts as the village messenger. The Mati /'mɑt̪i/, a witch doctor, performs healing and protective ceremonies. Among the Bonda, the Sisa /'sisa/ or Pujari /pu:'dʒɑ:ri/ is the village priest, while the Gurumai /gɔru'mɑ:i/ functions as the shaman, and the Disari /di'sɑ:ri/ serves as both witch doctor and astrologer, proficient in diagnosing spiritual ailments and diseases.

The Didayi have the Polasi /po'la:si/ as the priest, the Disari /di'sɑ:ri/ as the shaman, and the Gunia /'gɔniɑ:/ as the medicine man, alongside the female priest Gurumai /gɔru'mɑ:i/. The Juang community recognises the Dehuri /'de:huri/ as the sacerdotal head, supported by the Raulia /rɑʊ'liɑ:/, who serves as shaman, astrologer, and medicine man.

Among the Paudi Bhuiyan, the Dehuri /'de:huri/ performs rituals of ancestral worship and deity veneration, while the Raulia /rɑʊ'liɑ:/ plays a critical role in healing and appeasing malevolent spirits. The Pangnia /'pɑŋniɑ:/ is known as a sorcerer. In the Dongria Kandha community, the Jani /'dʒɑ:nɪ/ is the ritual head who conducts village-wide ceremonies and serves as a magico-religious specialist, assisted by the Chan Jani /tʃɑn 'dʒɑ:nɪ/, who sacrifices animals and assists with pujas. The shamanistic role is further fulfilled by the male Beju /'be:dʒu/ and female Bejuni /be:'dʒu:ni/, while the Pejeni /'pe:dʒəni/ is the medicine man and the Gurumai /gɔru'mɑ:i/ serves as astrologer.

The Hill Kharia have the Dehuri /'de:həri/ as a priest and the Gunia /'gʊniɑ:/ as a witch doctor. The Kutia Kandha recognise the Jani /'dʒɑ:ni/ as priest, the Kutaka /ku'tɑ:kɑ:/ as medicine man, and the Beju /'be:dʒu/ and Bejuni /be:'dʒu:ni/ as practitioners of magic and witchcraft. Among the Lodha, the religious system includes the Dehuri /'de:həri/ as village priest, the assistant priest Talia or Chharidar /'tɑ:liɑ:/ or /'tʃʰɑ:ɽɖɑ:/, the ritual sacrificer Hantakar /'hɑntəkɑ:/, the medicine man Gunni /'gʊnni/, and the shaman Byakra /bɪɑ:'krɑ:/.

Finally, the Lanjia Soura have the Kudan /'kʊɖɑn/ as priest and medicine man, and the Kudan Bai /'kʊɖɑnbɑ:/ (female), who perform shamanistic roles as intermediaries between humans and supernatural beings. A distinctive feature of their religious practice includes wall paintings that appease and keep the gods and spirits benevolent.

3.2.11. Linguistic reference to the dormitory system

Among the PVTGs of Odisha, youth dormitories once played a vital role in socialising adolescents, facilitating courtship, and transmitting cultural knowledge. These dormitories, often gender-segregated and bearing distinct local names, reflect deep-rooted tribal customs. A phonetic transcription of these names uses the IPA and their contemporary functions. (Table 3.1.14)

In the Birhor/Mankidia community, the boys' dormitory is known as Dhingla /'dʱɪŋɡlɑ:/, while the girls' dormitory is referred to as Kudi Ada /'ku:ɖi 'ɑ:ɖɑ:/. These dormitories are no longer in active use for their original purposes. The Bonda tribe maintains a vibrant dormitory culture, with the boys' dormitory called Ingersing /'ɪŋɡərsɪŋ/ and the girls' dormitory called Selaniding /'sɛlɑ:nɪɖɪŋ/. Collectively, the dormitory institution is known as Selanidingo /'sɛlɑ:nɪɖɪŋɡo/ and continues to function as a matrimonial agency for village girls.

Among the Didayi, the dormitory is known as Dhangadabasa or Dhangidi Basa /'dʱɑŋɡəɖɑ:'bɑ:sɑ:/ or /'dʱɑŋɡɪɖi 'bɑ:sɑ:/, where the boys are referred to as Ingire /'ɪŋɡɪrɛ/ and the girls as Shelia /'ʃe:liɑ:/. However, this institution is currently non-functional. The Juang dormitory system is still somewhat active, with dormitories known as Majang /'mɑ:ɖʒɑŋ/ or Mandaghar /'mɑŋɖəɡʱər/, housing Kangerki /'kɑ:ŋɡərki/ for boys and Selanki /'sɛlɑ:ŋki/ for girls. These spaces now serve as guest houses or village meeting halls.

In the Paudi Bhuiyan community, dormitories are called Darbar /'dərɒɑ:r/ or Mandaghara /'mɑŋɖəɡʱərə:/, used today primarily as village meeting halls. The Dongria Kandha refer to their dormitory as Da-she-hada or Da-she-hala /dɑ:-ʃe:-'ɦɑ:ɖɑ:/ or /dɑ:-ʃe:-'ɦɑ:lɑ:/, also known as Dhangernga Duki /dʱɑŋɡəŋɡɑ: 'ɖʊki/, with boys termed Sai /sɑ:/ and girls Ade /ɑ:ɖe/. These serve today as guest houses for relatives visiting from nearby villages.

Among the Kutia Kandha, the dormitories are referred to as Dhangar Dhangri Basa /'dʱɑŋɡɑr 'dʱɑŋɡri 'bɑ:sɑ:/, with Dhangri /'dʱɑŋɡri/ for girls and Dhangar /'dʱɑŋɡɑ:r/ for boys. These dormitories now function as guest accommodations for village relatives.

Conversely, some PVTGs, such as the Hill Kharia, Lodha, and Lanjia Soura, no longer maintain a functional dormitory system, and no local names have been documented or retained for such institutions in contemporary usage.

3.2.12. Linguistic reference to traditional political organisation

The traditional political organisations of the PVTGs in Odisha are foundational to their community governance, decision-making, and conflict resolution systems. Often informal and clan-based, these systems function with structured roles such as heads, assistants, and messengers. Below is a descriptive paragraph incorporating the IPA transcriptions of the local terminologies for these institutions and titles. (Table 3.1.15)

Among the Birhor/Mankidia, the political organisation is known as Tanda /'tʌn.dɑ:/, headed by a Mukhiya /'mʊ.kʰi.jɑ:/ or Dehuri /'d̪eː.ɦu.ri/, assisted by a Naya /'nɑː.jɑ:/, while the village messenger is called Digwar /'d̪iɡ.vɑːr/. The Bonda community has a system led by the Chalan /'tʃɑː.lən/, with Naik /'nɑː.ɪk/ as the head and Barik /'bɑː.ɪk/ as the messenger. In the Didayi society, the local political unit is called Hinhi /'ɦɪn.ɦi/, led by a Lepar /'leː.pɑːr/, assisted by Chalan /'tʃɑː.lən/ and Barik /'bɑː.ɪk/, with Naik /'nɑː.ɪk/ acting as the messenger.

The Juang people refer to their federation of villages as Juang Pirh /'dʒʊ.ɑːŋ 'pɪrʰ/, where the Pradhan /'prə.d̪ʱɑːn/ leads and is supported by a Dehuri /'d̪eː.ɦu.ri/. Similarly, the Paudi Bhuiyan operates under the Bhuiyan Pirh or Pitha Panchayat /'b̪ɦu.jɪ.jən 'pɪrʰ/ or /'pɪ.t̪ʱɑː'pən.tʃɑː.jət/, where the Pradhan /'prə.d̪ʱɑːn/ holds the highest position, the Dehuri /'d̪eː.ɦu.ri/ is the sacred head, and the Dakua or Dangua /'d̪ə.ku.ɑː/ or /'d̪ɑŋ.gu.ɑː/ serves as messenger.

Among the Dongria Kandha, the traditional body is known as Mutha or Sabha /'mʊ.t̪ʱɑː/ or /'sɑ.b̪ʱɑː/, led by the Sadar /'sɑ.d̪ɑːr/. The Hill Kharia govern through the institution called Bhira /'b̪ɦi.rɑː/, headed by the Dehuri /'d̪eː.ɦu.ri/, with assistance from the Dakua /'d̪ə.ku.ɑː/ and Naik /'nɑː.ɪk/. In the Kutia Kandha society, the governing unit is Mutha /'mʊ.t̪ʱɑː/, headed by the Muthadar or Mutha Majhi or Mukhia /'mʊ.t̪ʱə.d̪ɑːr/, /'mʊ.t̪ʱɑː'mɑː.d̪ʒʰi/, or /'mʊ.kʰi.jɑ:/, assisted by Challni /'tʃʌl.ni/, and with Ghahantia /'g̪hɑː.t̪i.ɑː/ as the messenger.

The Lodha maintains a territorial organisation called Desh /'d̪eːʃ/, led by a Pradhan /'prə.d̪ʱɑːn/, supported by Chattia or Dhakua /'tʃʌ.t̪i.ɑː/ or /'d̪ʱə.ku.ɑː/, and a Dakua or Athgharia /'d̪ə.ku.ɑː/ or /'ʌ.t̪ʱ.g̪hɑː.ri.ɑː/ as the messenger. Finally, the Lanjia Soura system includes multiple offices: the Gomango or Naiko /go'mɑŋ.go/ or /'nɑː.ɪ.ko/ as the head, assisted by Buyya, Karji, or Jani /'bu.jɑː/, /'kɑr.d̪ʒi/, /'d̪ʒɑː.ni/, and others such as Mandal /'mɑn.d̪ɑːl/ and Dalbehera /d̪ʌl.be'ɦeː.rɑː/. The Barik /'bɑː.ɪk/ serves as the messenger, and the Disari /'d̪ɪ.sɑː.ri/ acts as an astrologer and ritual specialist.

3.2.13. Linguistic reference to major economic activities

The PVTGs of Odisha engage in diverse traditional economies, primarily rooted in shifting cultivation, forest-based livelihoods, and minor horticulture, with extensive seasonal collections. Below is a comprehensive ethnographic description, using the IPA, of all local economic terms and crops. (Table 3.1.16)

The Birhor and Mankidia, categorised as either Uthlus /'uː.t̪ʱ.luːs/ (wandering) or Janghis /'d̪ʒɑŋ.g̪ɦiːs/ (settled), depend on hunting, gathering, and crafting items from siali creeper, producing items like Lama Bayer /'lɑ.mɑː 'bɑː.jər/ (rope), Sika /'si.kɑː/ (sling), Pagha /'pɑ.g̪ɦɑː/ (halter for cattle), Panda Chhati /'pɑn.d̪ɑː 't̪ʰʌ.t̪i/ (halter for buffalo), ChheliPagha /'t̪ʰe.li 'pɑ.g̪ɦɑː/ (halter for goat), Tupa /'t̪uː.pɑː/ (basket), and also work with Sabai grass /sə'bɑːi/ and plastic ropes.

The Bonda practice Klunda/Dongar Chas /'kluːn.d̪ɑː 'd̪oŋ.gərt̪ʱɑːs/ (shifting cultivation) and Jhola Chas /'d̪ʒʰo.lɑː t̪ʰɑːs/ (settled cultivation), cultivating Kheram /'k̪ʰe.rɑm/ (paddy), Jahna

/dʒɑː.nɑː/ (maize), Jawar */dʒʌ.vɑːr/*, Same */sɑː.me/* (finger millet), Sua-Rigdar */su.ɑː ˈrɪɡ.dɑːr/* (millet), Ruma */ruː.mɑː/* (black gram), Kulthi */ku.l̪t̪hi/* (red gram), Muga */mu.gɑː/* (green gram), Til */t̪ɪl/*, Ada */ʌ.d̪ɑː/* (ginger), Badam */bɑː.d̪ɑm/* (groundnut), and Sarsun */sər.sʊn/* (mustard).

The Didayi conduct Biri */bi.ri/* (shifting cultivation), producing Romig */ro.mɪɡ/* (black gram), Dahua */d̪ɑː.v̪h̪ɑː/* (millet), Koraihai */ko.rɑː.i.fɑː.i/* (brinjal), Olsi */ol.si/* (niger), Ragi */rɑː.gi/* (finger millet), and Suan */su.ɑːn/* (diamond millet). Settled cultivators grow paddy, jowar, and vegetables such as tomato, onion, pumpkin, and chillies.

Among the Juang, the practice of Toila */t̪oi.lɑː/* (shifting cultivation) supports the cultivation of Ruma */ruː.mɑː/* (pulses), Gangei */gʌn.gei/* (a cereal), Mandia */mʌn.d̪i.ɑː/* (ragi), bean, cucumber, and mustard.

The Paudi Bhuiyan engages in PoduChasa or Kamana */po.d̪ut̪ʃɑː.sɑː/*, */kʌ.mʌ.nɑː/* (shifting cultivation), with multi-year crop cycles: Biringa */bi.rɪŋ.gɑː/* (black gram), Suturi */su.t̪u.ri/*, Kolatha */ko.lɑː.t̪hɑː/* (horse gram), Ruma, Gangai, Ragi, and Maize */mɛːz/*.

The Dongria Kandha practice Dongar */d̪oŋ.gər/* (shifting cultivation) and horticulture, cultivating Turmeric, Ginger, Arrowroot, and collecting pineapple, citrus fruits, banana, jackfruit, mango, orange, and lemon.

The Hill Kharia, whose economy is described by Bila */bi.lɑː/* (forest), depend on collection of firewood, Pita Alu */piː.t̪ɑː.ʌ.luː/*, Boinga */boɪŋ.gɑː/*, Cheranga */t̪ʃe.rʌŋ.gɑː/* (edible roots), mushrooms, char, Dahu, Kendu */ke.ŋd̪uː/*, Kusum */ku.sʊm/*, Sal, Neem, Jamun, Karanj.

The Kutia Kandha also practice shifting cultivation and settled agriculture, cultivating Turmeric, Ginger, Arrowroot, and Kandula */kʌn.d̪uː.lɑː/*, Kalka, Kangu */kʌn.guː/* (millet), Koiri */ko.i.ri/*, Rasi */rɑː.si/* (niger), Green gram, Castor, Beans, and Mustard.

Like the Hill Kharia, the Lodha identify with Bila */bi.lɑː/* and engage in wage labour, stock raising, and small trades such as rope-making, mat-weaving, and leaf-cup production. They collect kendu leaves, sal leaves, siali leaves, sabai grass, tussar cocoons, lac, resin, sal seeds, mahua, and firewood. Summer collections include Aam */ɑːm/* (mango), Panas */pʌ.nɑːs/* (jackfruit), Jam Kuli */dʒɑːm ˈku.li/* (blackberry), Saiteema */sɑː.tiː.mɑː/* (guava), Char, Kendu, Kusum, Mandar */mʌn.d̪ɑːr/* (custard apple), Joda */d̪o.t̪ɑː/* (papaya).

The Lanjia Soura engage in Bagada */bʌ.gʌ.d̪ɑː/* (shifting cultivation). The hill Saoras use terraced fields and grow Biri (black gram), Ragi, Kulthi */ku.l̪t̪hi/* (horse gram), Kangu (foxtail millet), Jana */dʒɑː.nɑː/* (maize), Kandula, Tobacco, Sunflower, Chilly, and a wide range of vegetables including Gourd, Climber beans, Brinjal, Asparagus, Marrow, Pumpkin, and Lady's finger.

3.2.14. Linguistic reference to major food items

The PVTGs of Odisha have diverse traditional food cultures shaped by local agro-climatic conditions, subsistence patterns, and social customs. The names of their staple foods, expressed here in IPA, reflect each group's unique linguistic diversity and dietary practices. (Table 3.1.17)

Among the Birhor and Mankidia, rice is the staple food, typically consumed as Mandikudu */mʌn.d̪i.ku.d̪u/*, a local preparation of cooked or fermented rice. The Bonda community, who

cultivate both rice and millets, commonly eat a dish called Sunasag /'su.nə.sə:g/, which incorporates ragi and other grains.

The Didayi people consume rice, ragi gruel, and millet, with local food names such as Bole /'bo.le/ and Ama /'ʌ.mə:/, both referring to traditional gruels or porridge-like dishes. In the Juang community, staples include rice, millet, ragi, maize, and pulses, typically prepared as Bhata /'bʰɑ:.tɑ:/ (cooked rice), Jau /dʒəʊ/ (gruel), and Makka /'mʌ.k.kɑ:/ (maize).

The Paudi Bhuiyan eat various cereals, rice, ragi, kangu, kathia, jowar, jali, maize, and suan, alongside arhar, kulthi, and black gram. Their staple preparation is also called Bhata /'bʰɑ:.tɑ:/. The Dongria Kandha, who primarily rely on ragi gruel and minor millets, refer to their staple as Mandia /'mʌn.d̪i.ɑ:/ (ragi) or Suan /'su.ɑ:n/ (little millet).

The Hill Kharia consume rice and arrowroot, with their traditional food known as Kudumandi /'ku.d̪u:.mʌn.d̪i:/, a preparation likely derived from seasonal tubers and cereals. For the Kutia Kandha, gruels made from minor millets and mixed vegetables form the core diet, with their staple called Paga /'pʌ.gɑ:/.

Among the Lodha, who supplement their rice-based meals with pulses, seasonal forest produce, and non-vegetarian items like fish and meat (when affordable), the primary dish is called Bhat /bʰɑ:t̪/, a standard term for boiled rice. The Lanjia Soura consume Uaabukul /'ʊ.ɑ:.bu.kul/, a dish of rice water and leafy greens, and Jau /dʒəʊ/, a gruel made from ragi or other cereals, reflecting both nutritional value and cultural preferences.

3.2.15. Linguistic reference to indigenous alcoholic beverages

The traditional drinking habits of Odisha's PVTGs reflect a deep cultural connection with locally available resources, especially fermented beverages made from grains, fruits, and flowers. The following paragraph presents IPA renderings of the local names of their indigenous alcoholic and non-alcoholic drinks. (Table 3.1.18)

Among the Birhor and Mankidia, popular drinks include Handia /'hʌn.d̪i.ɑ:/ (rice beer), Mahuli /'mʌ.hu.li:/ (a fermented drink from *mahua* flowers), and Khajuritadi /'kʰʌ.dʒu.ri't̪ʌ.d̪i/ (juice of the date palm).

The Bonda community, also known as Sagur /'sɑ:.gʊr/, consumes a variety of fruit- and cereal-based beverages. These include SapungSagur /'sʌ.pʊŋ 'sɑ:.gʊr/ (sago palm liquor), Landa /'lʌn.d̪ɑ:/ (fermented finger millet), BawhSagur /'bɑ:v 'sɑ:.gʊr/ (from *mahua*), Fendum /'fɛn.d̪ɒm/ (rice beer), UnkusuiSagur /'ʊŋ.kʊ.su.i 'sɑ:.gʊr/ (jackfruit liquor), Baliasagur /'bʌ.li.ɑ: 'sɑ:.gʊr/ (cashew apple), UlinSagur /'ʊ.lin 'sɑ:.gʊr/ (ripe mango), Beja Sagur /'bɛ.dʒɑ: 'sɑ:.gʊr/ (tomato), TitimSagur /'t̪i.t̪ɪm 'sɑ:.gʊr/ (tamarind), UnsugdakSagur /ʊn.sʊg.d̪ʌk 'sɑ:.gʊr/ (ripe banana), BuluraSagur /'bʊ.lu.rɑ: 'sɑ:.gʊr/ (date palm), SiagerSagur /'si.ɑ:.gɛr 'sɑ:.gʊr/ (Indian gooseberry), and GurhSagur /'gʊrʰ 'sɑ:.gʊr/ (sugarcane liquor).

The Didayi refer to their fruit-based beers as Sagur /'sɑ:.gʊr/, and Gosapung /'go.sʌ.pʊŋ/ for sago palm juice. They also consume Pendum /'pɛn.d̪ɒm/, a cereal-based beer.

In the Juang group, Handia /'hʌn.d̪i.ɑ:/, Mahuli /'mʌ.hu.li:/, and Khajuritadi /'kʰʌ.dʒu.ri't̪ʌ.d̪i/ are the primary fermented drinks.

The Paudi Bhuiyan community enjoys Handia /^hʌn.ɖi.ɑ:/, Mahuli /^mʌ.hu.li:/, Rasi /^rʌ.si:/ (date palm sap), Chauli /^{tʃ}ʌʊ.li/ (rice liquor), Panasarasi /^pʌ.nʌ.sʌ^rʌ.si:/ (jackfruit juice), and Khajuritadi /^{kʰ}ʌ.ɖʒu.ri^tʌ.ɖi:/.

Among the Dongria Kandha, collectively known as Kalu /^kʌ.lu:/ for liquor, various drinks include Irpi Kalu /ⁱr.pi^kʌ.lu:/ (mahua liquor), Mada-kalu /^mʌ.ɖɑ:^kʌ.lu:/ (sago palm), Arckhi-Kalu /^ʌr.kʰi^kʌ.lu:/ (mahua), Amba-Kalu /^ʌm.bɑ:^kʌ.lu:/ (mango), Panasa-Kalu /^pʌ.nʌ.sʌ:^kʌ.lu:/ (jackfruit), Kadali-Kalu /^kʌ.dʌ.li^kʌ.lu:/ (plantain), Guda-Kalu /^gu.dɑ:^kʌ.lu:/ (molasses liquor), and Duri Kalu /^ɖu.ri^kʌ.lu:/ (beer from mixed cereals).

The Hill Kharia prefer Handia /^hʌn.ɖi.ɑ:/, Mahuli /^mʌ.hu.li:/, and Khajuritadi /^{kʰ}ʌ.ɖʒu.ri^tʌ.ɖi:/.

The Kutia Kandha, known for Mada Mara /^mʌ.ɖɑ:^mʌ.rɑ:/ (drinkers), consume Madanga /^mʌ.ɖʌn.gɑ:/ (sago palm sap), PrangaAnkinga /^prʌŋ.gɑ^ʌn.kiŋ.gɑ:/ (rice beer), and Ankinga /^ʌn.kiŋ.gɑ:/ (mahua).

The Lodha people consume Handia /^hʌn.ɖi.ɑ:/, Mahuli /^mʌ.hu.li:/, and Khajuritadi /^{kʰ}ʌ.ɖʒu.ri^tʌ.ɖi:/, typically during community events or seasonal rituals.

Finally, the Lanjia Soura prepare Sapalam /^sʌ.pʌ.lʌm/ (sago palm drink), Abasal /^ʌ.bʌ.sʌl/ (mahua liquor), and Alli /^ʌ.li:/ (rice beer), sustaining cultural practices and social cohesion.

3.2.16. Linguistic reference to dress and ornaments

The Birhor and Mankidia men typically wear a dhoti /^{kʰ}i.tʃi.ri/ or lungi, while women wear a saree along with a napkin called Bandal Bhagua /^bʌn.ɖʌl^bʰʌ.gu.ɑ:/ and a lower cloth known as Putul /^pu.tʊl/. Common ornaments include Askum /^ʌs.kʊm/, Churla /^{tʃ}ʊr.lɑ:/ (bangle), Kundali /^ku.n.dʌ.li:/ (earring), Nuput /ⁿu.pʊt/ (nose ring), Khanasa /^{kʰ}ʌ.nʌ.sʌ:/ (necklace), Painri /^pʌm.ri/ (anklet), and hairpins. (Table 3.1.19)

The Bonda men wear ghasi /^gʰɑ:^{si}/ or gamcha /^gʌm.tʃʰɑ:/, and women wear ringa /^riŋ.gɑ:/ or mpo /^ɛm.po/ (a half-saree). Their rich adornments include Gujanbok /^gu.ɖʒʌn.bok/ (hair garland), TininjsukLubujdak /^ti.ni.n.ɖʒʊk^ʌbʊ.ɖʒ.dɑ:k/ (beads garland), JhungJungulu /^{ɖʒ}ʊŋ.ɖʒʊŋ.ʊ.lu/ (upper earrings), Nsurlu /ⁿʊ.sʊr.lu/ (earring), Limbilu /^li.m.bi.lu/ (ear stud), Sunukmi /^su.nʊk.mi:/ (nose ring), Limbinnsonjuk /^li.m.bi.n.sʊn.ɖʒʊk/ (aluminium neckband), PitolnaNsonjuk /^pi.tʊl.nɑ:ⁿʊn.ɖʒʊk/ (brass necklace), Butei /^bu.t̪e.i/ (cowrie necklace), RunanjbokLubujdak /^ru.nʌn.ɖʒ.bok^ʌbʊ.ɖʒ.dɑ:k/ (headband), Sipna /^si.p.nɑ:/ and Sunuklanj /^su.nʊk.lɑ:n.ɖʒ/ (hairpins), Sire /^si.re/ (men's armlet), Sudi /^su.ɖi:/ (clay/glass bangle), and Lobjdak /^lʊ.bʊ.ɖʒ.dɑ:k/ (waist chain garland).

Among the Didayi, men wear Gassi /^gʌs.si/ (loincloth), and women wear sarees. They adorn themselves with Kisalu /^ki.sʌ.lu:/ (aluminium anklets), Pohari /^po.^hɑ.ri:/ (glass & aluminium bangles), and Tandrimu /^tʌn.dri.mu:/ (nose rings).

The Juang men wear dhoti and lungi, and women wear sarees and blouses. Their ornaments include Kunti /^ku.n.t̪i:/ (earthen bead necklaces), Thada /^{tʰ}ɑ:^ɖɑ:/ (arm bangles), Kharu /^{kʰ}ʌ.rʊ/ (wrist bangles), Guna /^gu.nɑ:/ (nose rings), and Phirphira /^fi.r.f̪i.rɑ:/ (earrings).

The Paudi Bhuiyan wear common rural attire: dhoti, banian, and shirts for men, sarees and blouses for women. Ornaments include Pahula /'pʌ.hʊ.lɑ:/ (anklet), Nuli /'nʊ.li/, Madhujhara /'mʌ.ɖʱʊ.ɖʒʱɑ:.rɑ:/ (gajra), Guna /'gʊ.nɑ:/ (nose ring), Mullu /'mʊl.lu/ (pauri), and Rupafalak /'rʊ.pɑ:.fʊ.lʌk/ (hairpin).

The Dongria Kandha wear Kapda-Ganda /'kʌp.ɖɑ:'gʌn.ɖɑ:/, consisting of Punhendra /'pʊn.hʌn.ɖrɑ:/ (upper garment) and Uchahendra /'ʊ.tʃʱɑ:.fiɛn.ɖrɑ:/ (lower garment). Jewellery includes Kaguri /'kʌ.gʊ.ri:/ (silver necklace), Mahani /'mʌ.hʌ.ni:/ (head necklace), Pitla Paza /'pit.lɑ:'pʌ.zɑ:/ (brass bangles), Ragi Paza /'rɑ:.gi'pʌ.zɑ:/ (aluminium bangles), and Pazu /'pʌ.zʊ/ (plastic bangles).

Hill Kharia women wear plain sarees, saya /'sʌ.jɑ:/ (petticoat), and jakit /'dʒɑ:.kit/ (blouse). Men wear lungi, banian, jeans, and gamchha. Their ornaments include Khadu /'kʰɑ.ɖu:/ (bracelet), Haar /'hɑ:r/ (necklace), Paaunji /'pɑ:.ʊn.ɖʒi:/ (anklet), Jhutia /'dʒʱʊ.tʃi.ɑ:/ (ring), Moodi /'mu:.ɖi:/ (finger ring), Kaanfula /'kɑ:n.fʊ.lɑ:/ (earring), Naakfuli /'nɑ:k 'fʊ.li/ (nose ring), and Balia /'bʌ.li.ɑ:/ (earrings).

The Kutia Kandha men wear Limta /'lɪm.tɑ:/ (loincloth), while women wear Urmali /ʊr.mɑ:.li/ and Zira /'dʒi.rɑ:/ sarees. Adornments include Dadanga /'ɖʌ.ɖʌŋ.gɑ:/ (earring), Pajang /'pɑ:.ɖʒʌŋ/ (bangles), Kagada /'kʌ.gʌ.ɖɑ:/ (necklet), Rupangasaka /'rʊ.pʌŋ.gɑ:.sʌ.kɑ:/ (coin necklaces), and Kalumudi /'kʌ.lu:.mu.ɖi/ (toe rings).

The Lodha men wear dhoti and lungi, and women wear sarees. They wear Jhurjhuri /'dʒʱʊr.ɖʒʱʊ.ri:/ (earrings), Mala /'mɑ:.lɑ:/ (necklace), and Khadu/Sakam /'kʰɑ.ɖʊ/ 'sʌ.kʌm/ (bangles).

The Lanjia Soura men wear the Lanjia /'lʌn.ɖʒi.ɑ:/, while women wear the Gautum Kap /'gʊ:.tʊm 'kʌp/ and Ranautar /'rʌ.nʊ:.tʌr/ (blouse), with Arbikap /'ɑ:r.bi.kʌp/ (upper body cloth). Their ornaments include Jaatang /'dʒɑ:.tʌŋ/ (silver chain), Jayetang /'dʒɑ:.jɛ.tʌŋ/ (red bead chain), Pagaada /'pʌ.gɑ:.ɖɑ:/ (silver), Enaengud /'ɛ.nɑ:n.gʊɖ/ (lower ear earring), Dadalure /'ɖʌ.ɖʌ.lu.re/ (upper ear earring), Kadu /'kʌ.ɖu:/ (bangle), Patti /'pʌ.tʃi:/ (anklet), Kadumi /'kʌ.ɖu.mi:/ (gold nose ring), and Sunakup /'sʊ.nʌ.kʊp/ (middle nose ring).

3.2.17. Linguistic reference to annual festivals

Among the Birhor and Mankidia communities, the annual festivals are termed /'pɑ:.rəb/, including *Makar Parab* /'mʌ.kər'pɑ:.rəb/ and *Parab Bonga* /'pɑ:.rəb'bɔŋ.gə/, the latter celebrated post-harvest and pre-hunting. The Bonda, referring to their festivals as /'gi.ge/, observe *SumeGelirak* /'su.me gə'li.rak/, *Giag-gige* /'gi.ag'gi.ge/, *KhurebGearei* /'kʊ.rəb 'gɛ.jə.ra/, *Gersum-gige* /'ger.sʊm'gi.ge/, *Khumbaguda* /'kʊm.bə.gʊ.ɖɑ/, *Gewursung* /'gɛ.wʊr.sʊŋ/, and *Pusak* /'pu.sak/. The Didayi celebrate /'pɑ:.rəb/, with major festivals like *Pus Parab* /'pus 'pɑ:.rəb/, *Chaiti Parab* /'tʃʌi.ti'pɑ:.rəb/, *Thaku Parab* /'tʃʌ.kʊ'pɑ:.rəb/, *Osa Parab* /'o.sə'pɑ:.rəb/, and *Paddy Parab* /'pæ.di'pɑ:.rəb/. The Juang term their festivals /'ɑ:.bʌ/, including *Pus Punie* /'pus 'pu.ni.e/, *Am NuaTirtia* /'ʌm'nu.ɑ'tɪr.tʃi.jʌ/, *Asadi* /'ɑ:.sɑ.di/, *Pirha Puja* /'pɪ.rʰɑ'pu.ɖʒʌ/, and *Dhan-Nua* /'ɖʱʌn'nu.ɑ/. (Table 3.1.20)

The Paudi Bhuiyan observes various *pujas* /'pu.ɖʒʌ/, such as *Maghapudi* /'mʌ.gʰɑ'pu.ɖi/, *Gaisri Puja* /'gʌis.ri'pu.ɖʒʌ/, *Bisri Osa* /'bis.ri'o.sʌ/, *DholoJatra* /'ɖʱo.lo'ɖʒʌ.tʃrʌ/, and *Akhripurudhi* /'ʌ.kʰri.pa'ru.dʱi/. Dongria Kandha hold festivals such as *Jatrakudi* /'dʒʌ.tʃrʌ'ku.ɖi/, *Bicha Hapam*

/bi.tʃʰaˈhʌ.pʌm/, *Bhima* */bʰi.ma/*, *PidikaJatra* */pi.d̪i.kaˈd̪ʒa.t̪ra/*, *Mandia Rani* */mʌn.di.aˈra.ni/*, and *Kodru Parba* */ko.d̪ruˈpaːr.ba/* or *Meriah* */me.ri.a/*.

The Hill Kharia celebrate festivals such as *Phagu* */pʰa.gu/*, *Paridhi* */pa.ri.d̪ʰi/*, *Am Nuakhia* */amˈnu.a.kʰi.ja/*, *Karma Puja* */kar.maˈpu.d̪ʒa/*, *Kalipuja* */ka.liˈpu.d̪ʒa/*, *Pus Parab* */pusˈpaː.rəb/*, *Simadeota Puja* */si.ma.d̪e.o.taˈpu.d̪ʒa/*, *Jeth Nuakhia* */d̪ʒeʰˈnu.a.kʰi.ja/*, *Raja* */ra.d̪ʒa/*, and *Dassara* */da.sa.ra/*. Kutia Kandha call their festivals */da.ki.na/*, such as *Punikalu Dakina* */pu.ni.ka.luˈda.ki.na/*, *Korubiha Dakina* */ko.ru.bi.haˈda.ki.na/*, *Burangkalu Dakina* */bu.raŋ.ka.luˈda.ki.na/*, *Bangosina Dakina* */bʌŋ.go.si.naˈda.ki.na/*, *Bicha Dakina* */bi.tʃʰaˈda.ki.na/*, *Takukalu Dakina* */ta.ku.ka.luˈda.ki.na/*, and *Badabiha Dakina* */ba.d̪a.bi.haˈda.ki.na/*.

The Lodha community celebrates *Sitala Puja* */ʃi.ta.laˈpu.d̪ʒa/*, *Chandi Puja* */tʃʌn.d̪iˈpu.d̪ʒa/*, *Mansa Puja* */man.saˈpu.d̪ʒa/*, *Jathel* */d̪ʒa.t̪ʰe/*, *Asthani Puja* */ʌsˈtʰa.niˈpu.d̪ʒa/*, *Bandana* */bʌn.d̪a.na/*, *Laxmi Puja* */lʌkʃ.miˈpu.d̪ʒa/*, and *Natun Hanri* */na.tunˈhʌn.ri/*. Lastly, the Lanjia Soura mark *Kambur Raje Lajab* */kʌm.burˈra.d̪ʒeˈla.d̪ʒəb/*, *Binta* */bm.ta/*, *Karja* */kar.d̪ʒa/*, *RowlingiLajab* */roʊ.lɪŋ.giˈla.d̪ʒəb/*, *Lalo Abdur Gubla* */la.loˈab.durˈgub.la/*, *Sala Tambur* */sa.laˈtʌm.bur/*, *JunguLajab* */d̪ʒuŋ.guˈla.d̪ʒəb/*, *Gangasum* */gʌŋ.ga.suʌm/*, *Tisar Gadapal* */ti.sarˈga.da.pal/*, *Sero Lajab* */se.roˈla.d̪ʒəb/*, and *Tenilpur* */te.nil.pur/*.

3.2.18. Linguistic reference to dance and music

Among the Birhor and Mankidia, the *Mankada Nacha* */mʌŋ.kə.daˈna.tʃʰa/*, also known as the "Monkey Dance," is performed. Musical instruments include the *Nagra* */na.gra/*, a type of drum; the *Madala* */mʌ.d̪a.la/*, a single-membrane drum; and the *Bainsi* */beɪn.si/*, a traditional flute. The Bonda community performs the *Dhemsā* */d̪ʰe.msa/* dance, accompanied by the *Changu* */tʃʌn.gu/* or *Dhumsa* */d̪ʰuʌm.sa/* drums. The Didayi also perform *Dhemsā* */d̪ʰe.msa/*, accompanied by the *Tmak* */t̪ʌ.mak/*, *Khinding* */kʰɪn.dɪŋ/*, and *Kusang* */ku.sʌŋ/* drums. They also use the *Bainsi* */beɪn.si/* flute and *Gunungu* */gu.nuŋ.gu/*, a percussion instrument typically played by women. (Table 3.1.22)

In the Juang tribe, the *Changu dance* */tʃʌn.guˈdæns/* is central, featuring the *Changu* */tʃʌn.gu/* drum. The Paudi Bhuiyan perform *Chhera Nacha* */tʃʰe.raˈna.tʃʰa/* and *Pondi Nacha* */poːn.d̪iˈna.tʃʰa/*, both accompanied by the *Changu* */tʃʌn.gu/*. Among the Dongria Kandha, the *Dhangada-Dhangidi* */d̪ʰʌŋ.ga.d̪aˈd̪ʰʌŋ.gi.d̪i/* dance is performed. Musical instruments include the *Goani* */go.a.ni/*, a single-membrane drum; the *Dhapu* */d̪ʰa.pu/*; and *Katha Gini* */kʌ.t̪ʰaˈgi.ni/*, a pair of clapper cymbals.

The Hill Kharia perform *Jhumar* */d̪ʒu.mar/*, accompanied by the *Changu* */tʃʌn.gu/*. In the Kutia Kandha community, the dance *Loar-Enda* */lo.arˈen.da/* is accompanied by various instruments: large drums called *Mada* */ma.d̪a/*, medium-sized *Pidinga* */pi.d̪ɪŋ.ga/*, and smaller *Bandi* */bʌn.d̪i/*. Other instruments include *Jhanjianga* */d̪ʒʰʌn.d̪ʒi.aŋ.ga/* (metal ankle bells), *Mahura* */ma.hu.ra/* (a bamboo flute), *Gauni* */gaʊ.ni/* (a mouth organ made of string), and *Muangalaud* */mu.aŋ.ga.lod̪/* (an iron stick with bells).

The Lodha community performs *Madala Dance* */mʌ.d̪a.laˈdæns/* and *Changu Dance* */tʃʌn.guˈdæns/*, accompanied by an array of instruments including *Madala* */mʌ.d̪a.la/*, *Baikundala* */bai.kuŋ.d̪a.la/*, *Changu* */tʃʌn.gu/*, *Tin* */tɪn/*, *Ghantas* */gʰʌn.t̪as/*, *Chadachadi* */tʃʌ.d̪a.tʃʌ.d̪i/*, *Mahuari* */ma.hu.a.ri/*, *Mridanga* */mɪɪ.d̪ʌŋ.ga/*, *Nagara* */na.ga.ra/*, *Jhumka* */d̪ʒuʌm.ka/*, *Flute*

/flu:t/, and *Jhanja* /'dʒʰʌn.dʒʌ/. Finally, the Lanjia Soura perform *Kariya Dance* /'ka.ri.ja 'dæns/ and *Benta Dance* /'ben.ta 'dæns/, with accompaniment from drums /drʌmz/, flutes /flu:ts/, pipes /paɪps/, cymbals /'sɪm.bəlz/, *Kendera* /'ken.d̪e.ra/, and *Clarionet* /'klæ.ri.ə.net/.

3.2.19. Linguistic reference to the name of the sacred place

Among the Birhor and Mankidia, the sacred places are known as *Pujak Majhi Halam* /'pʊ.dʒʌk'ma.dʒʰi'ha.lʌm/, *Shala Mari* /'ʃa.la'mʌ.ri/, and *Bonga Kanchi* /'bɔŋ.ga'kan.tʃi/, usually located either at the starting or end point of the village, close to the forest. For the Bonda, the central sacred space is *Sindibur* /'sɪn.d̪i.bʊr/, positioned in the middle of the village. The Didayi refer to their sacred place as *Hundi* /'hʊn. d̪i/, also located in the village centre. The Juang community worships at *Mandaghara* /'mʌn. d̪a. gʰʌ. ra/, a sacred space centrally placed within the settlement. (Table 3.1.23)

The sacred site in the Paudi Bhuiyan villages is called *Derbar* /'d̪eɾ. bar/, situated in the centre of the village. The Dongria Kandha community holds rituals at *Sadar Kudi* /'sʌ. d̪aɾ'kʊ.d̪i/, found in the middle part of the village. The Hill Kharia people worship in a sacred area called *Jahira* /'dʒʌ.hi.ra/, located near the forested end of the village. The Kutia Kandha venerate *Kuda Deity* /'ku.d̪a'd̪eɪ.t̪i/, also referred to as *Kuda Mahaprabhu* /'ku.d̪a 'mʌ.hʌ.pɾʌ.bʰʊ/, and worship at *Dharani Gudi* /'d̪ʱʌ.rʌ.ni'gʊ.d̪i/, both situated in the central area of their villages.

The Lodha do not have a fixed name for their sacred place, but typically locate it at either the entrance or the end of the village. In the Lanjia Soura community, the sacred place is called *Edital* /'e.d̪i.tʌl/, which is housed in the residence of either the *Kudan* /'ku.d̪ʌn/ or the *Kudan Bai* /'ku.d̪ʌn'ba.i/—respected figures of their society.

3.2.20. Linguistic reference to body parts

The human body (ଦେହ / deho) is an intricate structure, and Odisha's tribal communities exhibit remarkable linguistic diversity in naming its various parts (Table 3.2.20). Different terminologies reflect cultural and historical influences among the Bonda, Didayi, Dongria Kondh, Juang, Kutia Kondh, Lanjia Saora, Lodha, and Paudi Bhuyan. For instance, the head (ମୁଣ୍ଡ / monḍa) is *mun da la* (/mʊndʰala/) in Bonda but *bahaa* (/ba: ha:/) in Dongria Kondh, while the face (ମୁହା / muha) varies as *mu ha me* (/mu: ha: me:/) in Bonda and *waanaa* (/wa: na:/) in LanjiaSaora. Hair (କେଶ / keʃ) also shows variation, with *baa la* (/ba: la/) in Bonda, *ug bo* (/ʊgbʊ/) in Didayi, and *ral* (/ral/) in Paudi Bhuyan. The eyes (ଆଖି / a:kh̪i) are *aa khi* (/a: kh̪i/) in Bonda, *mua* (/mu:ʌ/) in Didayi, and *kanuu* (/ka:nu:/) in Dongria Kondh, while the nose (ନାକ / na:ko) is *mun* (/mʊn/) in Didayi, *mungeri* (/mʊŋgeri/) in Juang, and *muhun* (/mʊhʊn/) in Lodha. The lips (ଓ / oṭʰə) and tongue (ଜିଭ / dʒibʰə) also have variations, such as *tun da* (/tʊnda/) (Bonda) and *siledam* (/siledam/) (Juang) for the lips and *ji bha me* (/dʒi: bʰa: me:/) (Bonda) and *ayidunri* (/a:jidʊnr̪i/) (Dongria Kondh) for the tongue. The chest (ଛାତି / tʃʰa:ti) appears as *chaati* (/tʃa: ti/) in Bonda and *sibadaki* (/sɪba:daki/) in Dongria Kondh, while the heart (ହୃଦୟ / hrud̪əjə) is *jela* (/dʒɛla/) in Juang and *dhagi* (/dʱa:gi/) in Lodha. The arms (ହାତ / ha:t̪ə) are *aa t* (/a: t/) in Bonda and *ee ti* (/i: ti/) in Kutia Kondh, while the legs (ଗୋଡ / goḍa) are *na li goda* (/na: liɡʊ:da/) in Bonda and *ncho* (/ntʃo/) in Didayi. The feet (ପାଦ / pa:da) are *pa da me* (/pa: da: me:/) in Bonda, *unchio* (/ʊntʃio/) in Didayi, and *adhalanji* (/ʌdʱʌ:landʒi/) in LanjiaSaora, with toes (ପାଦାଂଗୁଡ଼ି / pa:daa:ŋɡʊt̪ʰi) varying from *badaaangathi* (/ba:da: a:ŋɡat̪ʰi/) in Bonda to *kadawaska* (/ka:dawas:ka/) in Juang. Internal body parts also show distinctions; bones (ଅସ୍ଥି / ʌst̪ʰi) are *ha da* (/ha: da/) in Bonda and *aajang* (/a:dʒa:ŋ/) in Lodha, while flesh (ମାଂସ / maŋsə) is *maunsa* (/ma:ʊnsa:/) in Bonda and *bhan ga* (/bʰa:ŋga:/) in Kutia Kondh. These linguistic

variations highlight the profound cultural and environmental influences shaping each tribe's language, with some groups sharing similarities while others retain unique terminologies. This comparative study provides valuable insight into Odisha's rich tribal heritage, helping preserve indigenous identities passed down through generations.

3.2.21. Linguistic reference to animals & fauna

The linguistic diversity among Odisha's tribal groups is evident in their unique terminology for animals and other fauna, reflecting deep cultural and environmental connections and offering insights into their linguistic structures. Across tribal communities like Bonda, Didayi, Dongria Kondh, Juang, Kutia Kondh, Lanjia Saora, Lodha, and Paudi Bhuyan, the general term for animal (ଓଡ଼ିଆ /pɔʃu/) varies, with Juang and Lanjia Saora using *pasu* and Paudi Bhuyan and Lodha preferring *jantu*, highlighting phonetic shifts. Mammals such as bears, big cats, and livestock exhibit distinct names, with the bear (ଭାଲୁ /bʰa:lu/) called *ghimisancha* in Bonda, *gube* in Didayi, and *bhalu* in Dongria Kondh. The tiger (ବିଘ୍ନ /ba:gʰɔ/) is *kubusa* in Bonda and *unku* in Didayi, while Juang say *kdabi* and Lanjia Saora use *kdandi*. Domesticated animals also differ, as the cow (ଗାଈ /ga:i/) is *ga ee tang* in Bonda, *ore aare* in Didayi, and *ka kii* in Lanjia Saora. In contrast, the buffalo (ମଇଁଷି /mɔɪʃi/) is *bhunga de* in Bonda and *kadru* in Juang. Small mammals, including dogs and cats, also reveal phonetic adaptations; the dog (ଶୁଆ /swa:nɔ/) is *ghusa* in Bonda, *gisu* in Didayi, and *kransara* in Lanjia Saora, while *kukura* in Paudi Bhuyan closely resembles Odia. The cat (ବିଲେ /bile/) is *ghire me* in Bonda and *gring* in Didayi, whereas the mouse (ମୁଷି /mu:ʃɔ/) is *uu re ng* in Bonda, *gda/kuseda* in Didayi, and *chuchurla* in Paudi Bhuyan. Bird and reptile names further showcase linguistic variety, with bird (ପିଞ୍ଜର /tʃɔɖar/) as *piri* in Bonda and *fli* in Didayi, while the snake (ସାପ /sa:pɔ/) is *bubu* in Bonda, *bbo* in Didayi, and *sma chu* in Lanjia Saora. The lizard (ଡିଡିଡି /dʒɪɖɪɖɪ/) appears as *bi ae* in Bonda and *karlaa* in Didayi, reflecting phonetic lengthening. Insects and small creatures also vary, with the honey bee (ମାଘମାଘି /maɪmatʃi/) known as *da ra bang* in Bonda and *puki* in Dongria Kondh, while the spider (ମାକଡ଼ିଆ /mɔkɔɖia:ni/) is *man ka da* in Bonda and *kruma* in Dongria Kondh. This comparative analysis using IPA transcription reveals phonetic simplifications (*bubu* for snake in Bonda), vowel and consonant elongations (*gisu* vs. *ghusa* for dog), and traces of Dravidian and Austroasiatic influences in nasalised or retroflex phonemes. Some terms closely resemble Odia, such as *macha* for fish, while others diverge significantly, like *pataa* for bird.

3.2.22. Linguistic reference to food and cooking utensils

The linguistic diversity among Odisha's tribal groups is evident in their unique terminology for animals and other fauna, reflecting deep cultural and environmental connections and offering insights into their linguistic structures. Across tribal communities like Bonda, Didayi, Dongria Kondh, Juang, Kutia Kondh, LanjiaSaora, Lodha, and Paudi Bhuyan, the general term for animal (ଓଡ଼ିଆ /pɔʃu/) varies, with Juang and LanjiaSaora using *pasu* (/pɑ:su/) and Paudi Bhuyan and Lodha preferring *jantu* (/dʒɑ:ntu/), highlighting phonetic shifts. (Table 3.2.22)

Mammals such as bears, big cats, and livestock exhibit distinct names, with the bear (ଭାଲୁ /bʰa:lu/) called *ghimisancha* (/gʰimisantʃa/) in Bonda, *gube* (/gube/) in Didayi, and *bhalu* (/bʰa:lu/) in Dongria Kondh. The tiger (ବିଘ୍ନ /ba:gʰɔ/) is *kubusa* (/kubusa/) in Bonda and *unku* (/onku/) in Didayi, while Juang say *kdabi* (/kəda:bi/) and LanjiaSaora use *kdandi* (/kəda:ndi/).

Domesticated animals also differ, as the cow (ଗାଈ /ga:i/) is *ga ee tang* (/ga: i: tɒŋ/) in Bonda, *ore aare* (/oreɑ:re/) in Didayi, and *ka kii* (/ka: ki:/) in LanjiaSaora. In contrast, the buffalo (ମଇଁଷି /mɔɪʃi/) is *bhunga de* (/bʰu: ŋɑ: ɖe/) in Bonda and *kadru* (/ka:ɖru/) in Juang.

Small mammals, including dogs and cats, also reveal phonetic adaptations; the dog (ସ୍ୱାନ /*swa:nɔ*/) is *ghusa* (/g^husa/) in Bonda, *gisu* (/gisu/) in Didayi, and *kransara* (/kra:nsara/) in LanjiaSaora. At the same time, *kukura* (/kukura/) in Paudi Bhuyan closely resembles Odia. The cat (ବିଲେଇ /*biler*/) is *ghire me* (/g^hire me:/) in Bonda and *gring* (/grɪŋ/) in Didayi, whereas the mouse (ମୂଷା /*mu:ʃa*/) is *uu re ng* (/u: re ŋ/) in Bonda, *gda/kuseda* (/gəda:/ or /kuseda/) in Didayi, and *chuchurla* (/tʃʊtʃurla/) in Paudi Bhuyan.

Bird and reptile names further showcase linguistic variety, with bird (ଡଢ଼ା /*tʃɔɖaɪ*/) as *piri* (/piri/) in Bonda and *fli* (/fli:/) in Didayi, while the snake (ସାପ /*sa:pɔ*/) is *bubu* (/bubu/) in Bonda, *bbo* (/b:ɔ:/) in Didayi, and *sma chu* (/sma: tʃ^hu/) in LanjiaSaora.

The lizard (ଝିଝିଝି /*dʒ^hiʈpiʈi*/) appears as *bi ae* (/bi: a:e:/) in Bonda and *karlaa* (/ka:rla:/) in Didayi, reflecting phonetic lengthening.

Insects and small creatures also vary, with the honey bee (ମାଝମାଝି /*maɔmatʃi*/) known as *da ra bang* (/da: ra: bʌŋ/) in Bonda and *puki* (/puki/) in Dongria Kondh, while the spider (ମକଡ଼ିଆନୀ /*mɔkɔɖia:ni*/) is *man ka da* (/ma:nka: da:/) in Bonda and *kruma* (/kroma:/) in Dongria Kondh.

This comparative analysis using IPA transcription reveals phonetic simplifications (*bubu* for snake in Bonda), vowel and consonant elongations (*gisu* vs. *ghusa* for dog), and traces of Dravidian and Austroasiatic influences in nasalised or retroflex phonemes. Some terms closely resemble Odia, such as *macha* (/ma:tʃ^ha/) for 'fish', while others diverge significantly, such as *pataa* (/pa:ta:/) for 'bird'.

3.2.23. Linguistic reference to food and cooking

The linguistic diversity among Odisha's tribal groups is evident in their distinct terminologies for vegetables and flora, which showcase deep-rooted phonetic, morphological, and lexical variations influenced by the Dravidian, Austroasiatic, and Indo-Aryan language families (Table 3.2.23). The word for Amla (ଅଁଳା /*anlaa*/) remains consistent mainly, with Bonda and Paudi Bhuyan using *anlaa* (/aŋla:/), while Didayi diverges with *sinr* (/sinr/). Similarly, Banana (କଦାଳୀ /*kadali*/) exhibits minor phonetic shifts, with Bonda, Lodha, and Paudi Bhuyan retaining *kadali* (/kadali/), while Didayi, Dongria Kondh, and LanjiaSaora adopt *uunsa* (/u:nsa/), *dhadhi* (/d^had^hi/), and *kinte* (/kinte/), respectively. The term for Brinjal (ବାଉଁଶ /*baigana*/) shows greater variation, as Juang retains *baigana* (/baigana/), Bonda modifies it to *baragana* (/baragana/), Dongria Kondh changes it to *kadaaan* (/kada:n/), and LanjiaSaora adopts *aandarai* (/a:ndarai/). Cabbage (ବନ୍ଧା କୋବି /*bandha kobi*/) and Carrot (ଗଜାର /*gajara*/) remain broadly stable, with slight phonetic adjustments such as *pare kobi* (/parekobi/) in Bonda and *mula gai* (/mulagai/) in LanjiaSaora. Cauliflower (ଫୁଲକୋବି /*phulakobi*/) is widely retained but undergoes modification in LanjiaSaora as *tarabakobi* (/terabakobi/), incorporating an additional morpheme. Chilly (କଞ୍ଚାଳଙ୍କା /*kanchalanka*/) displays notable divergence, with *kanchamaricha* (/kəntʃamaritʃa/) in Bonda, *miring* (/mirɪŋ/) in Didayi, and *aadna* (/a:dna/) in Juang, reflecting phonetic simplifications. The term for Flower (ଫୁଲ /*phula*/) remains mostly unchanged, though Didayi's *sari* (/sari/) and Lanjia Saora's *staraba* (/teraba/) suggest independent lexical evolution. The word for Forest (ଜଙ୍ଗଲ /*jungala*/) exhibits minor variations, such as *jangala* (/dʒaŋgala/) in Bonda and *jaaadaa* (/dʒa:da:/) in Dongria Kondh, where vowel elongation is prominent. The term for Fruit (ଫଳ /*phala*/) remains stable but appears as *chude* (/tʃude/) in Didayi and *laku* (/laku/) in Juang, showing phonetic reductions. Garlic (ରସୁନା /*rasuna*/) and Aloe vera (ଘିକୁମାରି /*ghikumari*/) retain their forms with slight variations, while Ginger (ଅଡ଼ା /*adaa*/) remains essentially unchanged except for Lanjia Saora's *singera* (/singera/). The word for Grass (ଘାସ /*ghasa*/) undergoes diverse shifts, such as *jud* (/dʒʊd/) in Bonda and *randaa* (/randa:/)

in LanjiaSaora. Lime (ଲେମ୍ବୁ /lembu/) remains highly consistent, whereas Neem (ଲିମ୍ବା /limba/) sees slight modifications, such as *bimbhidali* (/bimb^hidali/) in Dongria Kondh. Onion (ପିଆଜ /piaja/) shows phonetic shifts, with Juang retaining *piaja* (/piadʒa/), while Didayi adopts *chisuleig* (/tʃisuleig/) and LanjiaSaora modifies it to *uuli* (/u:li/). The term for Pea (ମଟର /matara/) varies; Bonda uses *datar dana* (/datar dana/), a compound structure. Potato (ଆଳୁ /aalo/) remains remarkably stable, though Juang modifies it slightly to *guluaalu* (/gulua:lu/). Tomato (ବିଲତି /bilati/) exhibits lexical divergence, appearing as *dejari* (/didʒari/) in Bonda and *patal ghanta* (/pətʰalgʱanta/) in LanjiaSaora. The term for Tree (ଗଛ /gacha/) undergoes slight phonetic changes, appearing as *maaraa* (/ma:ra:/) in Dongria Kondh. The word for Tulsi (ତୁଳସୀ /tulasi/) remains stable, although Juang extends it to *tulusagacha* (/tulusagatʰa/), emphasising its plant-like nature. Finally, the term for Wood (କଠା /katha/) shows distinct tribal-specific changes, such as *dara* (/dara/) in Bonda, *bensu* (/bensu/) in Dongria Kondh, and *berka* (/berka/) in LanjiaSaora. These phonetic variations indicate a complex interplay of linguistic influences and independent lexical developments, with some terms closely resembling Odia. In contrast, others have undergone significant modifications due to unique phonetic constraints, sound simplifications, and cultural or environmental factors.

3.2.24. Linguistic reference to clothing and ornament

Odisha's tribal linguistic diversity is vividly reflected in the phonetic variations in the terminology for clothing and ornaments across different communities (Table 3.2.24). The word for anklet, ପାଉଁଟି (/pauntʃi/), transforms into ପାଁଟି (/gʌntʰi/) in Bonda, ପଞ୍ଜୁଲ୍ (/pandʒul/) in Didayi, and ପାଉଁଡି (/pʌuṇḍi/) in Paudi Bhuyan, showcasing phonetic shifts. ଟୁଡି (/tʃuḍi/) or bangles take forms like ଗଢ଼ୁଲ୍ (/gʌḍʒul/) in Bonda and ମଞ୍ଜା (/mandʒa:/) in Dongria Kondh, where the retroflex ɖ shifts to the palatal ɖʒ. ଟିକିଲି (/tikili/), meaning bindi, appears as ଟିକା (/tika:/) in Didayi, losing the medial l, while LanjiaSaora's ଟାରିଙ୍ଗା କାନ୍ଥା (/tʌriŋkʌmʌ/) takes a compound structure. The term ବ୍ଲଉଜ୍ (Blouse) undergoes vowel modifications in Bonda's କାକେଟେ (/dʒʌketɛ/) and Dongria Kondh's କାଲେଟି (/dʒʌletʃi/). କପଡ଼ା (Cloth) or କଣା (/kana/) exhibits lexical diversity with ପାଟାଲ (/paṭʌl/) in Didayi and ଗୁଲ୍ (/gulʌ/) in Juang. କନା ପୁଲ୍ (Earrings) /kanapʰulʌ/ sees transformation into ଲୁଗେନେ (/logine/) in Didayi and ମୁର୍ମା (/murma:/) in Juang. Interestingly, ସୁନା (Gold) /sunʌ/ remains unchanged across most tribal groups, except for LanjiaSaora's ଡ୍ରାନ୍ନା (/ḍʌnʌ/). ଆଇନା (Mirror) /ʔainʌ/, a Persian derivative, is largely replaced by ଦର୍ପଣ (/dʌrpʌnʌ/) in tribal languages, though LanjiaSaora's ସିସା (/sisʌ/) aligns with the Odia synonym ଶିଶା. The necklace (ହାଲ୍ /hʌlʌ/) varies as ଟାହାନ୍ (/tʌhʌn/) in Didayi and ମେକୋଡି (/mekoḍi/) in Juang. ଜୋରା (Shoes) /dʒʊʌ/ changes significantly to ପଣ୍ଡାଲ୍ (/pandʌlʌ/) in Bonda and ବୁଟ୍ (/butʊ/) in Juang. ମୁଢ଼ି (Ring) /moḍʱi/ remains largely consistent across languages. ସାଢ଼ି (Saree) /saḍʱi/ varies with ପାଟାଲ୍ (/paṭʌl/) and ଗଢ଼ି (/gʌḍʱigʌndʱʌ/) in different communities. ରୂପା (Silver) /rupʌ/ retains phonetic stability across tribes, while ଶୁଳ୍ (Thread) /sʊṭʌ/ diverges into ବୁଲ୍ (/bulʊ/) in Dongria Kondh and ମେଗିଟା (/megitʃʌ/) in LanjiaSaora. The term for ଶର୍ଟ୍ (Shirt) varies as ସକା (/saka:/) in Didayi and ଉଙ୍ଗି (/ʊŋgi/) in Juang. These phonetic variations highlight the complex linguistic evolution of Odisha's tribal languages, showcasing both independent linguistic development and lexical borrowing from Odia. Understanding these transformations through IPA analysis offers valuable insights into the phonological and morphological structures of these indigenous languages.

3.2.25. Linguistic reference to god and goddess

The interlinguistic phonetic comparison of religious terms across Odisha's tribal languages of Bonda, Dongria Kondh, Juang, Kutia Kondh, Lanjia Saora, Lodha, and Paudi Bhuyan using Odia as a reference reveals significant phonological variations (Table 3.2.25). Through the International

Phonetic Alphabet (IPA), we observe consonantal shifts, vowel modifications, and syllabic transformations that distinguish these languages. The term for "festival" (Odia: *Parba* /pɔrbɔ/) varies widely, with Bonda introducing an additional vowel (*paraba* /pɔɾɔbɔ/), Dongria Kondh opting for a lexical shift (*jatra* /dʒɔtrɔ/), and LanjiaSaora extending the syllabic structure (*krikudina* /krikudina/). The term for "demon" (*Rakhyasa* /ɾɔkʰjɔsɔ/) shows metathesis in Dongria Kondh (*gukesi* /gukesi/) and Indo-Aryan influence in Juang (*a sura* /a sɔɾɔ/). "God" (*Bhagaban* /bʱɔgɔbɔn/) transforms into monosyllabic forms like *penu* /penu/ in Dongria Kondh and Juang, while Lodha retains the Odia-like *thakura* /tʰɔkurɔ/. Similarly, "Goddess" (*Thakurani* /tʰɔkurɔni/) evolves distinctly, with Dongria Kondh using *aachapenu* /a:tʃɔpenu/, while LanjiaSaora shifts to *kintung* /kintuŋ/, incorporating a nasalised velar consonant. The term for "heaven" (*Swarga* /swɔɾgɔ/) undergoes vowel shifts in Bonda (*saraga* /sɔɾɔgɔ/) and structural changes in Kutia Kondh (*wani* /wɔni/). "Temple" (*Mandira* /mɔndirɔ/) remains largely stable, except in LanjiaSaora (*samajsingh* /sɔmɔdʒsiŋ/), suggesting cultural divergence. "Worship" (*Prarthana* /pɾɔɾtʰɔnɔ/) simplifies into *daaka* /dɔkɔ/ in Dongria Kondh and *pujaa* /pudʒa:/ in Juang. These transformations highlight common phonetic trends, including consonantal simplification (e.g., loss of /pɾ/ and /rʰ/ clusters), shifts from mid to open vowels, and morphological reductions. Austroasiatic languages like Juang and Saora exhibit greater phonetic drift, while Indo-Aryan-influenced Lodha and Paudi Bhuyan retain more Odia-like phonetics. This analysis underscores the linguistic diversity of Odisha's indigenous communities and the interplay between tribal phonetics and Indo-Aryan influence.

3.2.26. Linguistic reference to the numerical system

The numerical systems used by various tribal communities in Odisha exhibit distinct phonetic characteristics, which can be systematically analysed using the IPA (Table 3.2.26). These tribal languages, Didayi, Dongria Kondh, Juang, Kutia Kondh, LanjiaSaora, Lodha, and Paudi Bhuyan, demonstrate phonetic modifications, consonantal shifts, vowel variations, and syllabic transformations, setting them apart from the standard Odia numerical system. In many cases, the consonantal structure of numerals differs significantly from Odia, with notable changes such as nasalisation, diphthongisation, and retroflexion. For instance, the word for "one" (*eka* /e.kɔ/) varies as *muŋ* (/muŋ/) in Didayi and *raendi* (/ɾendi/) in Dongria Kondh, while "two" (*dui* /du.i/) exhibits pre-nasalisation in *mbhar* (/mbʱɔɾ/) from Didayi and morphemic extensions like *rindiaa* (/ɾindia/) in Dongria Kondh and *am ba ta* (/ɔmbɔtɔ/) in Juang. Similar phonetic shifts occur across other numerals, where affixation patterns such as *gata* (/gɔtɔ/) appear in languages like Juang and Kutia Kondh, modifying words like *tini* (three) into *tini gata*. Morphological transformations also highlight syllabic variability, as seen in "four" (*chari* /tʃɔ.ri/), which appears as *ha* (/hɔ/) in Didayi but as *gan da mi* (/gɔndɔ mi/) in Juang, showcasing polysyllabic structures. Consonantal shifts, vowel lengthening, and classifier suffixes like *gata* further illustrate the complexity of these tribal numeral systems. Some languages display phonological simplifications, such as *gu* (/gu/) for "seven" in Didayi, while others, like LanjiaSaora's *gurji* (/gɔɾ.dʒi/), alter final plosives into affricates, reflecting phonological assimilation. Additionally, the influence of Dravidian and Austroasiatic languages is evident through retroflexion, nasalised affricates, and syllabic adjustments. Such diverse phonetic structures highlight the linguistic evolution of these languages, which belong to Indo-Aryan, Dravidian, and Austroasiatic families. By mapping these variations using IPA, we can better understand the phonological processes shaping each language's unique identity. The convergence of linguistic features across these numeral systems underscores the deep historical roots of these tribal languages, emphasising the importance of their preservation for cultural and linguistic heritage.

3.2.27. Linguistic reference to kinship terminology

Kinship terminology among the PVTGs of Odisha exhibits significant linguistic and cultural diversity, reflecting their unique social structures and historical development. The kinship terms used by these groups, Bonda, Paudi Bhuiya, Kutia Kondha, Lanjia Saora, Didayi, Dongria Kondha, Lodha, Juang, Mankidia, and Hill Kharia, are deeply rooted in their respective languages and dialects, many of which belong to the Munda, Dravidian, and Indo-Aryan language families (Table 3.2.27).

For the term 'Father,' the Bonda people use "Baa" (ba:), Paudi Bhuiya say "Bapaa" (bəpa:), Kutia Kondha use "Aabaa" (a:aba:), while the LanjiaSaora term is "Waang" (wa:ŋ). The Didayi refer to their father as "Aabaa" (a:aba:), Dongria Kondha as "Aaba" (a: ba), Lodha as "Bapaa" (bəpa:), Juang as "Ba" (ba), and Hill Kharia as "Aba" (aba) or "Bapa" (bəpa). In Odia script, these are written as ବା, ବାପା, ବାପା, ବାପା, ବାପା, ବା, ବାପା, and ବାପା respectively.

The word for 'Mother' also varies widely: Bonda say "Yaang" (ja:ŋ), Paudi Bhuiya use "Maa" (ma:), Kutia Kondha say "Eeaa" (i:ɑ), LanjiaSaora use "Yangan" (ja:ŋən), Didayi say "Eeyang" (i:jəŋ), DongriaKondha refer to their mother as "Aaya" (a:jə), Lodha use "Maaya" (ma:jə), Juang say "Bui" (bui), and Mankidia use "Mae" (ma:e). The Hill Kharia use the Odia term "ମା" (ma:). In Odia script, these are written as ଯାଂ, ମା, ଇଆ, ଯାଂ, ଇୟାଂ, ଆୟା, ମାୟା, ବୁଇ, ମାଏ, and ମା.

For 'Son,' Bonda use "Guun" (gu:n), Paudi Bhuiya say "Pua/Babuu" (puɑ/bəbu:), Kutia Kondha use "Aapu" (a:pu), LanjiaSaora refer to a son as "Anenyen" (a.nɛ.njɛ.n), Didayi say "Oong" (u:ŋ), DongriaKondha use "Mila" (mi.lɑ), Lodha say "Mudha" (mudə), and Juang use "Kanan" (kənən). In Odia script, these are written as ଗୁନ, ପୁଆ/ବବୁ, ଆପୁ, ଅନେନେନ, ଓଂ, ମିଲା, ମୁଧା, and କନନ.

For 'Daughter,' the Bonda use "Boii" (boi:), Paudi Bhuiya say "Jhia/Nini" (dʒia/nini), Kutia Kondha use "Aapi" (a: pi), LanjiaSaora say "Yaayi" (ja: ji), Didayi refer to their daughter as "Shelagode" (ʃe.la.go.de), DongriaKondha use "Bui" (bui), Lodha say "Jhia" (dʒia), and Juang say "Kancelan" (kan.se.lən). These are written in Odia script as ବୋଇ, ଜିଆ/ନିନି, ଆପି, ଯାୟି, ଶେଲାଗୋଡେ, ବୁଇ, ଜିଆ, and କାନ୍ସେଲାନ.

These kinship terminologies illustrate the rich linguistic diversity among Odisha's PVTGs. Many of these terms have classificatory systems where a single term may apply to multiple relatives based on generational or social roles. Understanding these relationships is crucial for grasping the kinship structures that govern inheritance, marriage, and social obligations within these communities.

Ethnographic Tables

Table 3.1.1. Geographical distribution of the selected tribes

Sl. No	Name of the PVTG	Geographical distribution (districts)	Major C.D Blocks	Outside
1	Birhor/ Mankidia/ Mankirdia/ Mankidi	Mayurbhanj	Karanjia and Jasipur	Sambalpur, Sundargarh, Balasore, Cuttack and Ganjam Jharkhand, West Bengal, Madhya Pradesh, and Maharashtra
2	Bonda / Bondo	Malkangiri	Khairput	Andhra Pradesh and Telangana
3	Didayi	Malkangiri	Kudumul Guma and Khairput	Koraput
4	Juang	Keonjhar	Banspal, Harichandanpur and Telkoi	Dhenkanal, Sundargarh, Cuttack
5	Paudi Bhuiyan/ Bhuiyan, /Bhuinya, Bhuiyar/ Bhuihar	Keonjhar, Sundergarh, Deogarh and Dhenkanal	Banspal, Lahunipada, Pallahara, and Barkote Bonai subdivision	Bihar, West Bengal and Assam
6	Dongria Kandha	Rayagada & Koraput	Bissam-Cuttack, Kalyansingpur, Muniguda and Biswanathpur	Kalahandi district
7	Hill Kharia	Mayurbhanj	Karanjia and Jasipur	Sundargarh, Sambalpur, Deogarh, Balasore, Keonjhar, Dhenkanal districts West Bengal, Bihar, Madhya Pradesh, Maharashtra, Jharkhand
8	Kutia Kandha	Phulbani & Kalahandi	Baliguda, Tumudibandh and Lanjigarh	Andhra Pradesh, Tamil Nadu
9	Lodha	Mayurbhanj	Suliapada and Moroda	Midnapur and Hooghly of West Bengal, Singhbhum of Bihar
10	Lanjia Soura /Hill - Saora/ Lambo Lanjia	Rayagada, Gajapati and Ganjam	Gunupur, Gumma, Puttasing	Assam, West Bengal, Andhra Pradesh, Bihar, Madhya Pradesh, and Maharashtra.

Table 3.1.2. Techno-Economic stages of the selected PVTGs

Sl. No	Name of the PVTG	Traditional Economy	Present Economic Condition

1	Birhor/ Mankidia	Hunting and gathering	Forest Collection, prepared rope and leaf plate by Siali leaves and fibre, & daily / wage labourer.
2	Bonda	Shifting Cultivation	Settled Agriculture, horticulture (Cashew nut), Wage labourer
3	Didayi	Shifting Cultivation	Settled Agriculture, Wage labourer
4	Juang	Shifting Cultivation	Settled Agriculture, Horticulture (Guava and Jack fruit), Wage labourer
5	Paudi Bhuiyan	Shifting Cultivation	Settled Agriculture, Wage labourer
6	Dongria Kandha	Shifting Cultivation	Settled Agriculture, Horticulture (Pineapple and Custard Apple), Wage labourer
7	Hill Kharia	Collection of forest products and forest dwellers	Settled Agriculture, collection of honey, lac resin, Wage labourer
8	Kutia Kandha	Shifting Cultivation	Settled Agriculture, Horticulture (Pineapple and Custard Apple), Wage laborer
9	Lodha	Settled Cultivators	Settled Agriculture, rope making by Sabai grass, Wage labourer
10	Lanjia Soura	Shifting Cultivators / Terrace Cultivation	Settled Agriculture, Horticulture (Cashew nut), Wage laborer

Table 3.1.3: Settlement pattern among the selected PVTGs

Sl. No	Name of the PVTG	Settlement structure
1	Birhor/ Mankidia	The group has a temporary habitation known as the <i>Kumbha/Tanda</i> . The village structures are arranged in a linear pattern, with two rows of houses facing each other.
2	Bonda	Hill Bondas are scattered forms, and plain Bondas live linearly in the villages.
3	Didayi	Isolated homesteads fenced within enclosures scattered at random, implying individualistic housing patterns.
4	Juang	The houses are in a linear pattern in the plain areas, whereas in hilly areas, they are mostly scattered with small hamlets.
5	Paudi Bhuiyan	It is a linear pattern in the plain areas, whereas it is mostly scattered in hilly areas.
6	Dongria Kandha	The houses form a linear pattern of village settlement called <i>Basa</i> .
7	Hill Kharia	Their settlements are mostly smaller, with a linear pattern of two rows on both sides of the village.
8	Kutia Kandha	The settlement of the house on both sides of the villages is like two rows called <i>Naju</i> .
9	Lodha	The settlement pattern clusters, with houses rectangular in shape and verandas.
10	Lanjia Soura	Their settlements are in a zigzag pattern and consist of scattered houses.

Table 3.1.4: Types of Houses among the selected PVTGs

Sl. No	Name of the PVTGs	Local name	House Type
1	Birhor/ Mankidia	<i>Kumbha</i>	It consists of at least half a dozen huts of conical shape, erected with leaves and branches.

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2	Bonda	<i>Remosan</i>	Bonda live in small thatched huts. The walls are made of a bamboo frame plastered with mud and cow dung. Walls may be painted with colored earth. The roof is thatched with wild grass called ' <i>piri</i> '.
3	Didayi	<i>Dabpiri / Hini</i>	The Didayi houses consist of two rooms, a front verandah (pleda), and a small open space in front of the house. The house, called Turrah, is fenced all around.
4	Juang	<i>Inji</i>	Cluster houses are situated on both sides of the village
5	Paudi Bhuiyan	<i>Ghara</i>	Cluster pattern of Houses
6	Dongria Kandha	<i>Ija</i>	The Dongria Kondh house has a rectangular ground plan and a gable roof. They make the houses look like railway compartments.
7	Hill Kharia	<i>Amar ghara</i>	The house design is a slightly multipurpose rectangular hut with a wooden wall covered in yellow mud, with no windows.
8	Kutia Kandha	<i>Aja/Ilu</i>	Different linear designs paint the rectangular shape of the house and the walls.
9	Lodha	<i>Ghara</i>	The house is scattered in a scattered manner, with one room
10	Lanjia Soura	<i>Seing/Nyalsing</i>	The houses are rectangular, low, and stone-walled.

Table 3.1.5. Ethnic history of the selected PVTGs

Sl No	Name of the PVTG	Ethno-history
1	Birhor/ Mankidia	The meaning of the term 'Birhor' in their local language is <i>Bir</i> (forest) and <i>Hor</i> (men), i.e. the men of the forest.
2	Bonda	Verrier Elwin made them well known in the princely state records (1950) under the name 'Bonda Paraja' or Ryots. Later, some Bonda families settled in the foothills and were referred to as lower Bonda.
3	Didayi	The term Didayi, which means 'wild people', has been given to them by their Odia neighbours.
4	Juang	The ethnohistory said they referred to themselves as Patra Savars, or Pattus, or leaf wearers, by the local name. <i>Patra</i> means 'leaf', and <i>Savar</i> means one kind of tribe. The name Patra may be because their ancestors wore leaves. They believe that they emerged from the earth on the hills of Gonasika. Gonasika is the birthplace of the Juang, where the Baitarani River originates, and it is intertwined with nature.
5	Paudi Bhuiyan	The Paudi Bhuiya distinguishes itself from other sections of the Bhuiyan by adopting banghy, a wooden carrying lever, as its tribal emblem. Bhuiyan is derived from a Sanskrit word ' <i>Bhumi</i> ', meaning Earth.
6	Dongria Kandha	They use Dongria but call themselves ' <i>Dongran Kuan</i> ' or ' <i>Drilli Kuan</i> .' Niyamraja was the sole protector of the Dongria Kandha; accordingly, he was highly esteemed in the Dongria tradition.
7	Hill Kharia	Dalton (1872) said the Bhanja Kings of Mayurbhanj and the Kharia were born from a pea-fowl's egg. The king was born out of the egg yoke, the <i>Purans</i> (another community) out of the white and the Kharia out of the Kholpa or shell.
8	Kutia Kandha	The origin myth suggests that the first generation of Kutia Kandha emerged from a whole (<i>Sapangada</i>). The local term ' <i>Kuti</i> ' means a big hole in the earth; hence, the tribe that emerged from a hole is known as Kutia Kandha.

9	Lodha	According to Bhowmik, an authority on this tribe, 'the term Lodha is derived from 'Lubdhaka', meaning a trapper or flower.
10	Lanjia Soura	The "Lanjia Saora, " called the "Hill-Saora" by some noted ethnographers like Verrier Elwin, constitute an archaic section of the tribe.

Table 3.1.6. Family type of the selected PVTGs

Sl. No	Name of the PVTG	Types of Family	Local Name
1	Birhor/ Mankidia	Nuclear family	<i>Wasa</i>
2	Bonda	The nuclear family is typical, and the Joint and extended family is scarce.	<i>Dio rem</i>
3	Didayi	Nuclear family	—
4	Juang	Nuclear family	<i>Paribar</i>
5	Paudi Bhuiyan	Nuclear family	<i>Kutumb</i>
6	Dongria Kandha	Nuclear family	<i>Mahaliku</i>
7	Hill Kharia	Nuclear family	<i>Ghar/paribar</i>
8	Kutia Kandha	Nuclear families are ordinary, and polygynous families are rare	<i>Kutum</i>
9	Lodha	Nuclear family	<i>Paribar</i>
10	Lanjia Soura	The nuclear family and the Extended Family are both commonly found	<i>Abakukud (nuclear) Birindas</i>

Table 3.1.7: Types of Marriages among the selected PVTGs

Sl No	Name of the PVTG	Local Name	Forms of Marriage / Ways of Acquiring Mates	Types of Marriage
1	Birhor/ Mankidia	<i>Bapla</i>	<i>Nam-Napam Bapla</i> - Marriage by negotiation <i>Udra-Udri Bapla</i> - a purely temporary marriage <i>Bola-Anal-Bapala</i> - Marriage by intrusion <i>Jawo-Bapala</i> - Marriage by service <i>Golhat-Bpala</i> - Marriage by exchange <i>Hirum Bapla</i> - second marriage <i>Kala-Kuli Bapla</i> - Arranged marriage <i>Kushi-Kusha Babla</i> -Love Marriage <i>Or-Agu</i> - Marriage by Capture	Monogamy
2	Bonda	<i>Sebung</i>	<i>Sebung</i> - marriage by mutual consent and <i>Guboi</i> - marriage by capture - these marriage types, by chapter, are practised among the Bonda. The boy is captured from the donger (forest/shifting cultivation land) or from any ceremonial ground. However, another capture, giving his muscles to the girl's family members, and several visits to their house create a fearful atmosphere, as if they were taking their animals, breaking their house roof, and scaring their parents into agreeing to the marriage.	Monogamy is commonly practised among them.
3	Didayi	<i>Bihay</i>	<i>Bihay</i> - marriage by negotiation - It is commonly practised among	Monogamy

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			the Didayi through the mutual consent of both parents and children. <i>Gube</i> - marriage by capture – This also happens in the same region; during the weekly market or other ceremonial place, the boy captures the girl and marries them. Furthermore, '<i>Paisa Mudhi</i>' - marriage by intrusion – Is a rare type of marriage. If a girl is eager to marry a boy, she will forcibly enter the boy's house, live there as a daughter-in-law, and after a few days, the boy will accept her as his wife.	is common, and Polygamy is rare.
4	Juang	<i>Kania</i>	<i>Phulkusi Kania</i> - Love marriage with arrangement <i>Am Lesare Kania</i> - Love with arranged marriage by throwing a mango at a girl in the forest <i>Kada Lesare Kania</i> - Love with arranged marriage by throwing mud	Monogamy is commonly practised among them
5	Paudi Bhuiyan	<i>Bibha</i>	<i>Mangi Bibha</i> - marriage by negotiation (they marry together by arranged marriage) <i>Ghicha Ghichi</i> - marriage by capture (this is one type of marriage by capture, which happens during any marriage, festival or ceremonial ground, and the boy captures a girl he likes and marries) <i>Dharipala</i> - marriage by elopement (a boy escapes with a girl from their village and marries together) <i>Dhuki Pasiba</i> - marriage by intrusion (a girl forcefully enters the boy's house and is treated as their daughter-in-law without marrying the Boy, and after a few days, they all marry)	
6	Dongria Kandha	<i>Haidi</i>	marriage by negotiation marriage by capture	Marriage is generally monogamous in nature. Polygyny is also practised, but is rare among them
7	Hill Kharia	<i>vivah</i>	<i>Dhuku Bahagar</i> - Love marriage or marriage by elopement <i>Ghicha Bahagar</i> - Marriage by ceremonial capture	
8	Kutia Kandha	<i>Sedi</i>	<i>Sedi Tatam/Sadi Bengana</i> - arranged marriage <i>Reja Nona</i> - marriage by capture <i>Guisat Sedi</i> - marriage by elopement <i>Ghar-join Sachenja</i> - marriage by service	
9	Lodha	<i>Beha</i>	Arranged marriage, Love marriage and Marriage by the exchange of sisters	
10	Lanjia Soura	<i>Sirong</i>	<i>Daisai/Pura serung</i> - arranged marriage <i>Ding Dong Boi</i> - marriage by physical capture <i>Alishim /Bauli Serung</i> - love marriage	Polygynous marriage is prevalent among them.

Table 3.1.8: Bride price practices among the selected PVTGs

Sl. No	Name of the PVTG	Bride Price		
		Local name of Bride Price	Payment by Whom	By cash/ Kind
1	Birhor/ Mankidia	Ganang	Bride Parents	Four Anna (Rupees) – Rs 7 /-, four hens, two goats and Rice - 50 k.g.
2	Bonda	<i>Ginning</i>	Bride Parents	a cow, a bullock and about 20-30 Kgs of cereals
3	Didayi	<i>Gineng/ Jhola Dabu</i>	Bride Parents	10kg rice and money, Goat and Sago palm drinks- 5 gallons
4	Juang	<i>Kania Mula</i>	Bride's father, father's younger brother, mother's brother, the khandarias (Middleman).	Three rupees and about 12 pai rice (25kg rice) and Raw rice (25 kg), Chicken – 1, Rice bear -2 gallen, saree- 1 for mother
5	Paudi Bhuiyan	<i>Kania mula</i>	Bride's father, father's younger brother, mother's brother, and village headman	7 to 10 Pai (Measuring Pot) rice (min 25 kg rice) , 3 gaots, 3 bullock, one dhoti for maternal uncle,
6	Dongria Kandha	<i>Modar</i>	Bride's father's mother demands a Sari (<i>Pinga-hendra</i>). Bride's villagers demand a share of the village (<i>Kutum Kadu</i>).	Rice- 50kg, Beffalo-2, Liquor- 15 Litter (1 Gallon), saree, utensil and brass metal plates
7	Hill Kharia	<i>Pana</i>	Bride Parents	2 Rupees 50 paisa, rice- 10 kg, cloth for the bride, mother and family relatives,
8	Kutia Kandha	<i>Jala /Kalu Tapineru</i>	Maternal Uncles & Parents	Rice- 20 K.G, Buffalo, Food grains, dress and ornaments
9	Lodha	<i>Kanya pana</i>	Bride Parents	Rs 5/ 7 rupees (Presently Rs 501/-), Cloth for the Bride's parents, a Goat/ Chicken and a Brass metal Utensil.
10	Lanjia Soura	<i>Panshal</i>	Bride Parents	Both cash & Kind

Table 3.1.9: Types of clan name among the selected PVTGs

Sl. No	Name of the PVTG	Clan	Clan Name	Lineage system
1	Birhor/ Mankidia	<i>Tanda/ Khili</i>	<i>Bonga</i> (a wild grass), <i>Anduali</i> (wild cat), <i>Luthuma</i> (flower), <i>Keonduar</i> (a kind of plant), <i>Taga</i> (Wild big cat), <i>Gidhi</i> (vulture), <i>Sunari</i> (a bird),	<i>Khunt/ Aleya Orha</i>
2	Bonda	<i>Kudas</i>	<i>Badnaik</i> , <i>Challan</i> , <i>Dhangere-Majhi</i> , <i>Kirsani</i> , <i>Muduli</i> , <i>Sisa</i> , <i>Dora</i> , <i>Jigiri</i> and <i>Mandra</i>	
3	Didayi	<i>"Gta "or</i>	<i>Nkhoo</i> (tiger), <i>Mala</i> (cobra), <i>Gbe</i> (deer), <i>Mosali</i> (crocodile),	

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		<i>Bongo"</i>	<i>Goi</i> (tortoise)	
4	Juang	<i>Bok (b<k)</i> or <i>Khilli</i>	<i>Bandhu</i> clans and the <i>Kutumb</i> clan.	<i>Saman Bok</i> (Male) & <i>Saman Roy</i> (Female)
5	Paudi Bhuiyan	<i>Khilir/</i> <i>Khilli</i>	<i>Saraikali</i> clan, <i>Kakrani</i> clan, <i>Darsahi</i> clan, <i>Sasual</i> clan, <i>Bankada</i> clan, <i>Pana Saing</i> clan, <i>Terlokuli</i> clan, <i>Kodakodi</i> clan, <i>Rana</i> clan, <i>Balbahansa</i> clan, <i>Rantadi</i> clan	
6	Dongria Kandha	<i>Padar/</i> <i>Kuda</i>	<i>Wadeka</i> , <i>Kadraka</i> , <i>Kundika</i> , <i>Sikoka</i> , <i>Pusica</i> , <i>Prasca</i> , <i>Bengaska</i> , <i>Melaka</i> , and <i>Kurunjalika</i>	<i>Kutum</i>
7	Hill Kharia		<i>Sal</i> (<i>Ranisia</i>) , <i>Ashoka</i> (<i>Katulipania</i>), <i>Saru</i> (<i>Paniodia</i>), <i>Balia</i> (<i>Duarbandhia</i>), <i>Saluk</i> (<i>Talapania</i>), <i>Nag</i> (<i>Siala</i>),	<i>Bansa</i>
8	Kutia Kandha	<i>Barga /</i> <i>Gochhi 'or</i> <i>Bansa'</i>	<i>Nundruka</i> , <i>Saraka</i> , <i>Timaka</i> , <i>Sukbicha</i> , <i>Adanga</i> , <i>Rodamaka</i> , <i>Urlaka</i> and <i>Kadraka</i> .	<i>Kudas</i> <i>/Klambu</i>
9	Lodha	<i>Gotras</i>	<i>Bugta</i> , <i>Bhukta</i> , <i>Bhakta Chirka Alu</i> (a kind of yarn available in the forest), <i>Mallik Makar</i> (a kind of mythical sea monster or shark or sal fish), <i>Kotal Moon</i> or Grasshopper, <i>Laik</i> , <i>Layak</i> , <i>Nayak Sal</i> fish, <i>Digar</i> Tortoise, <i>Parmanik</i> A bird called manic, <i>Dandapat</i> or <i>Bag Bagh</i> (Tiger), <i>Ari</i> , <i>Ahari Chanda</i> fish, <i>Bhuiya</i> , <i>Bhunia</i> Sal fish.	<i>Bansa</i>
10	Lanjia Soura	No clan system	Nil	Nil

Table 3.1.10: Birth rituals among the selected PVTGs

Sl No	Name of the PVTG	Birth Rituals		
		Local name	Purification ceremony	Name-giving ceremony
1	Birhor/ Mankidia	<i>Uthiari/ Hapan Hoi</i>	12 th days	Maternal Grandfather
2	Bonda	<i>Gupasing</i>	21 st days,	Named by the dead ancestor
3	Didayi	<i>Uparataye</i>	21 st day	Polasi of the Village played a vital role in the name-giving ceremony
4	Juang	<i>Uthiari/ Nimincha</i>	7 th day	Name given by maternal uncle
5	Paudi Bhuiyan	<i>Akosia / Namatula</i>	21 st days	Grand parents
6	Dongria Kandha	<i>Mila-Daru</i>	2 1 st days	Maternal uncle
7	Hill Kharia	<i>Nalta/Naam Karan</i>	21 st days	Father
8	Kutia Kandha	<i>Daru Itina/ Siali</i>	3 rd days	Both the father's and the mother's side
9	Lodha	<i>Ekusia</i>	21 st days	Maternal uncle
10	Lanjia Soura	<i>Kudetin</i>	7 th days	Father side

Table 3.1.11: Death Rituals among the selected PVTGs

Sl. No	Name of the PVTG	Death Rituals		
		Local Name	Pollution Period	Pollution & purification

1	Birhor/ Mankidia	<i>Ghelutum</i>	7 days	<i>Gachhad</i> - burial Ground (Gochinai)
2	Bonda	<i>Sairem</i>	10 th days	<i>Gaitang</i>
3	Didayi	<i>Pitakasa/Likasing</i>	10 th days	<i>Gighayesha</i> - offering to ghost
4	Juang	<i>Gaja</i>	Not a fixed day after two or three days or five days at the maximum	
5	Paudi Bhuiyan	<i>Dasa</i>	10 th Day	
6	Dongria Kandha	<i>Hateyas</i>	2days	<i>Mahania</i>
7	Hill Kharia	<i>Antyeshthi kriya/Das karma</i>	10 th day	<i>Karama</i>
8	Kutia Kandha	<i>Dasah</i>	3 to 8 days	<i>Haladi</i> (purification day) (Chicken- 3 pic, Bark of the Mango tree and Turmeric Powder)
9	Lodha	<i>Dasa</i>	ten days	<i>Sudhi kriya</i>
10	Lanjia Soura	<i>1st funeral rite called 'Guar' & 2nd funeral rite is called 'Karjya'</i>	<i>Guar</i> - 12-15days & <i>Karjya</i> -either one year or two years	

Table 3.1.12: Magico-religious practices among the selected PVTGs

Sl. No	Name of the PVTG	Religious practices	Ancestral Worship
1	Birhor/ Mankidia (polytheists)	<i>Sing Bonga</i> (Sun God) and <i>Hapram</i> (ancestral spirits), <i>Logo Bir</i> and <i>Budhi Mai</i> (female ancestral deity and worship in daily life and special occasions), <i>Bandar Bir</i> (baboon god), and <i>Hanuman Bir</i> (monkey god). <i>Ajadaeren</i> is the male ancestral deity for a newborn baby.	<i>Bonga</i> Clan deity
2	Bonda (polytheists)	<i>Patkhanda Maaparabu</i> , called the Creator of the universe, <i>Hundi or Bursung</i> - the Mother Earth.	<i>Hundi</i> Village deity
3	Didayi	<i>Budha Bhairav</i> - main deity, <i>Hundi</i> - Village deity,	<i>Hundi</i> Village deity
4	Juang	<i>Dharma Devta</i> and <i>Basukimata</i> – Mother god	<i>Sala</i>
5	Paudi Bhuiyan	<i>Bodam Budha</i> , <i>Badam Bhudhi</i> , - first human pair <i>Karanga Budhi</i> - Supreme deity <i>Rahani vauni sata bhauni</i> - Seven Sisters	
6	Dongria Kandha	<i>Dharani Penu</i> or <i>Jhankar</i> – Mother God, <i>Jatrakudi Penu</i> , the village deity	<i>Jatrakudi</i> <i>Penu</i> Village deity
7	Hill Kharia	" <i>Thakurani</i> " or the Earth Goddess (<i>Dharani Devata</i>) and the Sun God (<i>Dharam Devata</i>)	<i>Estadebta</i>
8	Kutia Kandha	<i>Dharani Penu</i> (mother god), <i>Sorupenu</i> (hill god), <i>Orgadapenu</i> or <i>Gopalapenu</i> (God of wildlife)	Takarani
9	Lodha	<i>Dharm Devta</i> - the God of Righteousness, <i>Basumata</i> - the mother earth, <i>Sitala</i> - the village deity and Goddess of Epidemics, and <i>Baram</i> or <i>Garam</i> - the Jungle Deity.	<i>Sitala maa</i> Village deity
10	Lanjia Soura	<i>Labosum</i> - Mother God, <i>Rudesum</i> - God, <i>Mandua sum</i> - Village deity,	<i>Mandua sum</i>

	Jodisum- deities of Village entrance	Villagedeity

Table 3.1.13: Names of the magico-religious heads among the selected PVTGs

Sl. No	Name of the PVTG	Religion head/village Priest/ Shaman	
		Male / Female	Major Roles
1	Birhor/ Mankidia	<i>Dehuri / Dhiri</i> (priest) - religious head <i>Dakua</i> - village messenger <i>Mati</i> - witch Doctor	performs the ritual activities like birth, death and during annual festivals, worshipping the clan deities
2	Bonda	<i>Sisa</i> or <i>Pujari</i> - Village priest <i>Gurumai</i> - The Shaman, <i>Disari</i> -witch doctor & Astrologer	Perform rituals and worship all ancestral deities on different occasions over the year. Good knowledge to detect the spirit and cure the disease
3	Didayi	<i>Polasi</i> - Priest <i>Disari</i> –Shamaan <i>Gunia</i> - Medicine man <i>Gurumai</i> - Priest (female)	
4	Juang	<i>Dehuri</i> – Sacerdotal head <i>Raulia</i> - Shaman, astrologer & Medicine man	
5	Paudi Bhuiyan	<i>Dehuri</i> – Sacerdotal head <i>Raulia</i> - Shaman, astrologer and medicine man <i>Pangnia</i> - Sorcerer	<i>Dehuri</i> – He performs rituals like ancestral worship and worship of the god and goddess. <i>Raulia</i> – The important role, particularly in curing patients and appeasing malevolent deities
6	Dongria Kandha	<i>Beju</i> - Shaman <i>Pejeni</i> – Medicine man <i>Gurumai</i> - Astrologer <i>Jani</i> - Ritual Head <i>Chan Jani</i> - Assistant of <i>Jani</i> , sacrifices an animal and assists the Puja <i>Bejuni</i> - Shaman (female)	Jani worships the village deities, who perform all community-level rituals. He is also a magico-religious specialist in the village.
7	Hill Kharia	<i>Dehuri</i> – Priest <i>Gunia</i> - Witch Doctor	
8	Kutia Kandha	<i>Jani</i> - priest <i>Kutaka</i> -medicine man <i>Beju</i> - Shaman <i>Bejuni</i> - Shaman (female)	Beju/ Bejuni- Who practice magic and witchcraft as a witch doctor.
9	Lodha	<i>Dehuri</i> - the village priest, <i>Talia</i> or <i>Chharidar</i> - the assistant priest <i>Hantakar</i> - the ritual sacrificer, <i>Gunni</i> - the medicine man and <i>Byakra</i> - the shaman	
10	Lanjia Soura	<i>Kudan</i> - Priest/ medicine man <i>Kudan bai</i> - Priest/ medicine man (female)	<i>Kudan and Kudan Bai</i> - The role of a shaman is to play an intermediary between <i>humans and supernatural beings</i> . Wall paintings are a unique feature to keep the Gods and spirits in good spirits.

Table 3.1.14: Dormitory system among the selected PVTGs

Sl No	Name of the PVTG	Name of the Dormitory			Current status of the Dormitory
		Local Name	Name of the Boys	Name of the Girls	
1	Birhor/ Mankidia	-	<i>Dhingla</i>	<i>Kudi Ada</i>	-
2	Bonda	<i>Selanidingo</i>	<i>Ingersing</i>	<i>Selaniding</i>	Working as a matrimonial agency for village girls
3	Didayi	<i>Dhangadabasa/Dhangidi basa</i>	<i>'Ingire'</i>	<i>'Shelia'</i>	Not Functioning
4	Juang	<i>Majang / Mandaghar</i>	<i>Kangerki</i>	<i>Selanki</i>	Working as a guest house and meeting hall
5	Paudi Bhuiyan	<i>Darbar/Mandaghara</i>			Meeting hall for the village
6	Dongria Kandha	<i>Da - she-hada or da-she-hala/ "Dhangernga Duki".</i>	<i>Sai</i>	<i>Ade</i>	Guest house for village relatives
7	Hill Kharia	-	-	-	-
8	Kutia Kandha	<i>Dhangar Dhangri basa</i>	<i>Dhangri</i>	<i>Dhangar</i>	Guest house for village relatives
9	Lodha	-	-	-	-
10	Lanjia Soura	-	-	-	-

Table 3.1.15: Traditional political organisations among the selected PVTGs

Sl No	Name of the PVTG	Traditional Political Organisation			
		Local Name	Head	Assistant Head	Messenger
1	Birhor/ Mankidia	<i>Tanda</i>	<i>Mukhiya/Dehuri</i>	<i>Naya</i>	<i>Digwar</i>
2	Bonda		<i>Chalan</i>	<i>Naik</i>	<i>Barik</i>
3	Didayi	<i>Hinhi</i>	<i>Lepar</i>	<i>Chalan and Barik</i>	<i>Naik</i>
4	Juang	<i>Juang Pirh</i>	<i>Pradhan</i>	<i>Dehuri</i>	
5	Paudi Bhuiyan	<i>Bhuiyan Pirh/Pitha Panchayat</i>	<i>Pradhan - The Highest respectable person Dehuri - Sacred head</i>	<i>Dakua/Dangua</i>	
6	Dongria Kandha	<i>Mutha / Sabha (village organisation)</i>	<i>Sadar</i>		
7	Hill Kharia	<i>'Bhira'</i>	<i>'Dehuri'</i>	<i>'Dakua'</i>	<i>Naik</i>
8	Kutia Kandha	<i>Mutha</i>	<i>Muthadar or Mutha majhi/Mukhia</i>	<i>Challni</i>	<i>Ghahantia</i>
9	Lodha	<i>Desh</i>	<i>Pradhan</i>	<i>Chattia / Dhakua</i>	<i>dakua or athgharia</i>
10	Lanjia Soura		<i>Gomango/Naiko</i>	<i>Buyya/Karji/Jani Mandal/Dalbehera</i>	<i>Barik astrologer (Disari)</i>

Table 3.1.16. Major Economic Activities

Sl No	Name of the PVTG	Local Name	Major Economy	Seasonal Collection

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1	Birhor/ Mankidia	Wandering Birhors are called <i>Uthlus</i> ; the settled Birhors are called <i>Janghis</i> .	Hunting and gathering	Varieties of items made from the siali creeper include: Lama Bayer (rope), sika (sling), pagha (halter for cattle), panda chhati (halter for buffalo), chhelipagha (halter for goat), Tupa (small basket), and Sabai grass and plastic rope making.
2	Bonda	<i>Klunda/Dongar chas</i> (Shifting Cultivation) & <i>Jhola chas</i> (Settle Cultivation)	Shifting Cultivation and Settled Agriculture	Rice Paddy (<i>Kheram</i>), Maize (<i>jahna</i>), Jawar, Finger Millet (<i>Same</i>), millet (<i>Sua- Rigdar</i>) (cereals), Black gram (<i>ruma</i>), Red gram (<i>Kulthi</i>), Green Gram (<i>Muga</i>), Til, Mustard, Groundnut (<i>badam</i>), jinger (<i>ada</i>), etc
3	Didayi	<i>Biri</i> (Shifting cultivation)	Sifting cultivation	Shifting Cultivation Land- Red-gram, Jowary millet (<i>Dahua</i>), Black-gram (<i>Romig</i>), Brinjal (<i>Koraihai</i>), Millet, Niger (<i>Olsi</i>), Finger Millet (Ragi) and Diamond Millet (Suan), etc. Settle cultivator - The main crops grown are paddy, jowary millet, ragi, suan, pulses, and vegetables like brinjal, tomato, onion, chillies, beans, pumpkin, etc.
4	Juang	<i>Toila</i> (Shifting cultivation)	Shifting Cultivation and Settled Agriculture	niger, black gram, bean, paddy, rice, cucumber, maize and mustard, Ruma (a kind of pulse), gangei (a kind of cereal), mandia (ragi)
5	Paudi Bhuiyan	<i>Podu chasa/Kamana</i> (Shifting cultivation)	Shifting Cultivation and Settled Agriculture	1 st year – Biringa (Biri (black gram, <i>niger</i> , <i>suturi</i> , <i>kolatha</i> (horse gram), mung, pumpkin, goard, etc) 2 nd year Kamana- (gangai, ragi, maize, ruma) 3 rd Year Guda- Niger Plain Land- crop variety rice only
6	Dongria Kandha	<i>Dongar</i> (Shifting cultivation)	Shifting cultivation and Horticulture	Primary Production of shifting cultivation land - Turmeric, Ginger, Arrowroot and Forest collection Pineapple, citrus Plants, banana, and other crops like jackfruit, mango, pineapple, banana, orange, and lemon.
7	Hill Kharia	Bila	Food gathering and Collection of forest products	Firewood, house building materials, such as leaves, grass, honey, arrowroot, gums, resin, edible roots like Pita- Alu, Boinga, Cheranga, fruits, flowers, and different varieties of mushrooms. Summer collection - <i>lide</i> , <i>char</i> , <i>Dahu</i> . <i>Dahna bel</i> , <i>kendu</i> , <i>Kusum Sal</i> , <i>tetuli</i> , <i>Neem</i> , <i>Jamun</i> , <i>Karanj</i>
8	Kutia Kandha		Shifting Cultivation and Settled Agriculture	Turmeric, Ginger, Arrowroot and other spices are the main products of the shifting cultivation land. kandula, kalka, kangu (millet), koiri (millet), niger(Rasi), maize, green gram, mustard, turmeric, castor, beans, etc.
9	Lodha	Bila	Wage-earning, agricultural labour, stock- raising, petty trade, rope- making, matmaking, weaving, etc., supplement their earnings.	edible fruits, roots and tubers for their own consumption, and they collect kendu leaves to roll bidi, sal and siali leaves to make leaf cups and plates, sabai grass to make ropes and also tussar cocoons, honey, lac, resin, sal seeds, mohua, firewood, etc., all of which they sell in the neighbourhood to earn their livelihood Summer collection from the forest - <i>aam</i> (mango), <i>panas</i> (jackfruits), <i>jam kuli</i> (blackberry), <i>saiteema</i> (guava), <i>char</i> , <i>kendu</i> (tendu), <i>kusum</i> (tol), <i>mandaar</i>

				(custard apple), <i>joda</i> (papaya)
10	Lanjia Soura	<i>Bagada</i> (Shifting cultivation)	Saoras of the plains, depending on their wet cultivation, wage earning and selling firewood Hill Saoras practising shifting and terraced cultivation on the hill slopes	Biri (black gram), minor millets - <i>ragi</i> and <i>kulthi</i> Horse gram), <i>Kangu</i> (foxtail millet), <i>Jana</i> (maize), <i>Kandula</i> (Horse gram), tobacco, oilseeds – Sunflower chilly and vegetables, like gourd, bean, climber beans, brinjal, asparagus, beans, vegetable marrow, lady's finger, pumpkins, ash pumpkins, and Juar (Sorgum). Other fruits - Banana, cashew nut, Pineapple, Mango, & Berry.

Table 3.1.17: Major food items among the selected PVTGs

Sl No	Name of the PVTG	Major Food items	Name of Local food
1	Birhor/ Mankidia	Rice	<i>Mandikudu</i>
2	Bonda	Rice, ragi and millet	<i>Sunasag</i>
3	Didayi	Rice, ragi gruel and millet constitute the staple food	<i>Bole/ ama</i>
4	Juang	Rice, millet, Ragi, Maize, Pulses	<i>Bhata , Jau, Makka,</i>
5	Paudi Bhuiyan	Rice, Ragi, Kangu, Kathia, Jowar, Jali, Maize and Suan, three varieties of pulses (arhar, kulthi and black gram), Niger (a kind of oilseed)	<i>Bhata</i>
6	Dongria Kandha	Ragi gruel and rice of minor millets are their usual food items	Ragi (<i>Mandia or Suan</i>)
7	Hill Kharia	Rice, Arrowroots (<i>Palua</i>)	<i>Kudumandi</i>
8	Kutia Kandha	The minor millets constitute their staple food/ principal food, which is gruel with some vegetables.	<i>Paga</i>
9	Lodha	Supplemented by pulses, seasonal fruits, roots and tubers and non-vegetarian items like meat, chicken, eggs, fish, etc., depending on the family budget and availability.	<i>Bhat</i>
10	Lanjia Soura	Water rice with varieties of leafy mixed – Rice water & Ragi gruel rice, ragi, jana or gphantia	<i>Uaabukul, Jau</i>

Table 3.1.18: Indigenous alcoholic beverages among the selected PVTGs

SL No	Name of the PVTG	Drinking habits
1	Birhor/ Mankidia (<i>Arakhi</i>)	Handia (<i>Rice bear</i>), Mahuli (<i>mahua flower</i>), Date palm (<i>Khajuri tadi</i>)
2	Bonda (<i>Sagur</i>)	<i>SapungSagur</i> (Sago Palm), <i>Landa</i> (Finger Millet), <i>BawhSagur</i> (Mahua flower), <i>Fendum</i> (Ricebear), <i>Unkusui Sagur</i> (Jackfruit), <i>Baliasagur</i> (Cashew apple), <i>UlinSagur</i> (Ripemango), <i>Beja Sagur</i> (Tamato), <i>TitimSagur</i> (Tamarind), <i>UnsugdakSagur</i> (Ripe

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		Banana), <i>BuluraSagur</i> (Datepalm), <i>Siager Sagur</i> (Amla), <i>GurhSagur</i> (Sugar cane)
3	Didayi	<i>Sagur</i> (beer prepared by different fruits), <i>Gosapung</i> (Sago-palm Juice), and <i>Pendum</i> (beer prepared by different cereals)
4	Juang	<i>Handia</i> (Rice bear), <i>Mahuli</i> (mahua flower), <i>Khajuri tadi</i> (Datepalm)
5	Paudi Bhuiyan	<i>Handia</i> (Rice Bear), <i>Mahuli</i> (Mahua flower), <i>rasi</i> (Fresh juice of date palm), <i>Chauli</i> (Rice), <i>panasa rasi</i> (Jackfruit), <i>Khajuri tadi</i> (Date palm)
6	Dongria Kandha (Kalu)	<i>Irpi Kalu</i> (Mahua-liquor), <i>Mada-kalu</i> (sago palm juice), <i>Arckhi-Kalu</i> (Mahua liquor), <i>Amba-Kalu</i> (Mango liquor), <i>Panasa-Kalu</i> (Jackfruit-Liquor), <i>Kadali-Kalu</i> (Plantain liquor), <i>Guda-Kalu</i> (Molasses liquor), <i>Duri Kalu</i> (Beer- made by rice, ragi, arka and kangu)
7	Hill Kharia	<i>Handia</i> (Rice bear), <i>Mahuli</i> (mahua flower), <i>Khajuri tadi</i> (Datepalm)
8	Kutia Kandha (Mada Mara)	<i>Madanga</i> (Sago palm sap), <i>Pranga Ankinga</i> (rice bear), <i>Ankinga</i> (Mahua flower)
9	Lodha	<i>Handia</i> (Rice bear), <i>Mahuli</i> (mahua flower), <i>Khajuri tadi</i> (Date palm)
10	Lanjia Soura	<i>Sapalam</i> (Sagopalm), <i>Abasal</i> (Mahuli), <i>Alli</i> (Rice bear)

Table 3.1.19: Dress and ornaments among the selected PVTGs

Sl No	Name of the PVTG	Dress	Ornament
1	Birhor/ Mankidia	Male–Dhoti (<i>Khichiri</i>)/ Lungi and Ganji, and occasionally use a shirt, & women wearing a saree, a napkin called 'Bandal Bhagua', & women were wearing a small cloth at the lower part called 'Putul'.	<i>Askum</i> , <i>Churla</i> - Bangle, <i>Kundali</i> - Earring, <i>Nuput</i> - Nose ring, <i>Khanasa</i> - Necklace, <i>Painri</i> - Ankle, Hairpin
2	Bonda	<i>Ringa</i> for women & called <i>ghasi</i> / <i>Gamcha</i> for males, <i>MPO</i> (half cloths). This is one kind of cloth, like a half saree	<i>Gujanbok</i> – Hair garland, <i>TininjsukLubuj?</i> <i>Dak</i> (Beads garland), <i>JhungJungulu</i> (<i>Dzunjdzunli</i>) – Upper part ear rings, <i>Nsurlu</i> (ear ring), <i>Limbilu</i> (Ear stud), <i>Sunukmi</i> (Nose ring), <i>Limbinnsongjuk</i> (aluminium neckband), <i>PitolnaNsongjuk</i> (Brass necklace), <i>Butei</i> (String Necklace with cowrie), <i>Runanjbok Lubujdak</i> (head band), <i>Sipna</i> (Hairpin), <i>Sunuklanj</i> (Hairpin), <i>Sire</i> (armlet for men), <i>Sudi</i> (Bangle made by clay or glass), <i>Loboj?</i> <i>Dak</i> (garland for waist chain)
3	Didayi	Women – Saree, Man- <i>Gassi</i> (Loin Cloth)	<i>Kisalu</i> - aluminium anklets, <i>Pohari</i> - the glass and aluminium bangles <i>Tandrimu</i> -nose rings
4	Juang	Male – Dhoti, lungi, Banian and shirt, Women – saree and blouse	<i>Kunti</i> - necklaces of earthen beads, <i>Thada</i> - brass bangles on the arm, <i>Kharu</i> - brass bangles on the wrist, <i>Guna</i> - nose rings & Phirphira - ear-rings
5	Paudi Bhuiyan	Male – Dhoti, Banian and shirt Women – saree and blouse	<i>Pahula</i> - anklet, <i>Nuli</i> , <i>madhujhara</i> (<i>gajra</i>)- earring, <i>guna</i> - nose ring <i>mullu</i> – Pauri, <i>rupafalak</i> - hairpin
6	Dongria Kandha	<i>Kapda-Ganda- punhendra</i> - an upper part of a garment, and	<i>Kaguri</i> - Silver necklace, <i>Mahani</i> - head necklace

		uchahendra - a lower part of a garment	<i>Pitla paza</i> - The brass bangles and <i>Ragi paza</i> - aluminium bangles <i>Pazu</i> - plastic bangles
7	Hill Kharia	Female- a plain and coarse saree, petty coat (<i>saya</i>) and blouse (<i>jakit</i>). Male- Lungi, Baniyan, jeans, long pants, napkin (<i>gamchha</i>), shirt (formal and t-shirt)	<i>Khadu</i> - Bracelets <i>Haar</i> - necklace <i>paaunji</i> - anklets <i>Jhutia</i> - rings <i>Moodi</i> - finger ring, <i>Kaanfula</i> - earrings <i>Naak fuli</i> - nose ring <i>Balia</i> - earrings
8	Kutia Kandha	Male - loincloth - <i>limta</i> Female- <i>Urmali</i> Sarees- <i>zira</i>	<i>Dadanga</i> - Ear ring <i>Pajang</i> - bangles <i>Kagada</i> - necklet (aluminium or silver)- <i>Rupangasaka</i> - Coins of one rupee, two rupee necklaces, <i>Kalumudi</i> - toe rings
9	Lodha	Male – Dhoti, lungi, Banian and shirt, Women – saree and blouse	<i>Jhurjhuri</i> - Ear ring <i>Mala</i> - Necklace <i>Khadu / Sakam</i> - Bangle
10	Lanjia Soura	Male dress – <i>Lanjia</i> Female dress – <i>Gautum Kap</i> Blouse- <i>Ranautar</i> White cloth covers the upper part of the Body- <i>Arbikap</i>	<i>Jaatang</i> - Silver chain- <i>Jayetang</i> - Red bead Chain <i>Pagaada</i> -Silver <i>Enaengud</i> - Earring Lower part <i>Dadalure</i> - Upper part <i>Kadu</i> - Bangle <i>Patti</i> - Payal <i>Kadumi</i> - Nose ring (gold) <i>Sunakup</i> - Middle nose ring

Table 3.1.20. Festivals celebrated among the selected PVTGs

Sl. No	Name of the PVTG	Local Name	Annual Festivals
1	Birhor/ Mankidia	<i>Parab</i>	<i>Makar Parab</i> (religious festivals), <i>Parab Bonga</i> (Festival after harvesting crops and before hunting)
2	Bonda	<i>Gige</i>	<i>Sume Gelirak</i> (reaping and threshing, harvesting of the rice), <i>Giag-gige</i> (Work in the shifting cultivation land), <i>Khureb Gearei/ Geyara</i> (Agriculture field), <i>Gersum-gige</i> (First Fruits observed with Maize crops), <i>Khumbaguda</i> (ancestral deity), <i>Dassera</i> (reaping of millet), <i>Gewursung</i> (one type of forest coriander leaf), <i>Pusak</i> (New Broad beans (<i>Simba</i>) Offering to ancestral deity.
3	Didayi	<i>Parab</i>	<i>Pus Parab</i> (worshipping the Forest deities for protection of their domestic animals), <i>Chaiti Parab</i> (worshipping the Village deities before eating the new leaves), <i>Thaku Parab</i> (worshipping the Mother Goddess and Village deity starting agriculture), <i>Osa Parab</i> (village deities and forest deities after sowing the paddy), <i>Paddy Parab</i> (worshipping the Cow after harvesting).
4	Juang	<i>Aba</i>	<i>Pus Punie</i> (The beginning of the agricultural cycle), <i>Am Nua Tirtia</i> (first Mango eating ceremony), <i>Asadi</i> (sowing season), <i>Pirha Puja</i> , <i>Dhan-Nua</i> (First rice eating ceremony).
5	Paudi Bhuiyan	<i>Puja</i>	<i>Maghapudi</i> (burn the magha- start cultivation) <i>Gaisri Puja</i> (start of cutting trees for podu land) <i>Bisri Osa</i> (worshipping Mother Goddess Bisri Thakurani), <i>Dholo Jatra / Othei Jatra</i> (worshipping the God of their Pirha) <i>Akhripurudhi</i> (annual hunting festival)

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6	Dongria Kandha		<i>Jatrukudi</i> (A buffalo is garlanded with flowers and sacrificed by the villagers), <i>Bicha Hapam</i> (communal Hunting festival), <i>Bhima</i> (worshipped for rain), <i>Pidika Jatra</i> (performed to save the crops from the insects and for first fruit eating), <i>Mandia Rani</i> (celebrated to eat newly harvested millets), <i>Kodru Parba</i> or <i>Meriah</i> (worshipping the earth and sacrifice of a Buffalo).
7	Hill Kharia	<i>Puja</i>	<i>Phagu</i> , <i>Paridhi</i> (ceremonial hunting), <i>Am Nuakhia</i> (first Mango eating ceremony), <i>Karma Puja Chait</i> , <i>Kalipuja</i> , <i>Pus Parab</i> , <i>Makar</i> , <i>Simadeota Puja</i> , <i>Jeth Nuakhia</i> , <i>Raja</i> , and <i>Dassara</i> , etc.
8	Kutia Kandha	<i>Dakina</i>	<i>Punikalu Dakina</i> (after Pus Punei, on this occasion the Dharani Penu is worshipped), <i>Korubiha Dakina</i> (It is also called Meriah Puja, in every five years on the 1st Sunday which comes after Phagun Punei), <i>Burangkalu Dakina</i> (This festival is observed once in 5-10 years on a Sunday before or after Chait Punei). <i>Bangosina Dakina</i> (This festival is observed on a selected patch of a hill slope on the occasion of clearing a patch in the hill slope for the first time for shifting cultivation. It is observed on a Sunday before or after. <i>Bicha Dakina (Phagun Punei)</i> (It is observed for ceremonial sowing of seeds in the newly ploughed area of the shifting cultivation site. This festival is observed on a Sunday before or after <i>Jyesth Purnima</i> (May-June). <i>Takukalu Dakina</i> (This festival is observed to avoid diseases in the standing crops. The mango kernel is offered to Dharani Penu. It is observed on a Sunday before or after the <i>Shravan Punei</i> (July –August). <i>Badabiha Dakina</i> (It is observed to cure a severe disease of a person. It is observed on a Monday in <i>Chait</i> (March-April).
9	Lodha	<i>Puja</i>	<i>Sitala Puja</i> and <i>Chandi Puja</i> in the month of Baisakh, <i>Mansa Puja</i> in Jaistha, <i>Jathel</i> in Sraban, <i>Asthani Puja</i> in Aswin, <i>Bandana</i> in Kartik, <i>Laxmi Puja</i> in Agrahayan, <i>Natun Hanri</i> , i.e. the annual Sradha ceremony and ancestor worship in Chaitra
10	Lanjia Soura	<i>Lajab</i>	<i>Kambur Raje Lajab</i> (Harvesting festival) <i>Binta</i> (Hunting festival), <i>Karja</i> (Annual Death ritual), <i>Rowlingi Lajab</i> (New Forest fruit eating ceremony), <i>Lalo Abdur Gubla</i> (Shifting cultivation start), <i>Sala Tambur</i> (Started rice sowing ceremony), <i>Jungu lajab</i> (worshipping Cow shed), <i>Gangasum</i> (Good harvesting), <i>Tisar Gadapal</i> (Protection for their cultivation land) <i>Sero Lajab</i> (Rice harvesting from land) <i>Tenilpur</i> (Cleaning land for rice harvesting)

Table 3.1.21. Women's participation in the socio-economic domain

Sl No	Name of the PVTG	Details of participation in the Socio-Economic domain
1	Birhor/ Mankidia	Birhor women perform their regular household activities and also engage in economic activities, working as casual labour in the agricultural and nonagricultural sectors. They also made rope from <i>Siali</i> , <i>Sawai</i> , and plastic, making it a significant indoor economic

		activity. They also undertake the selling of such ropes made by them near the weekly market and other family members, which is commonly undertaken in all seasons.
2	Bonda	The socio-cultural value is high among the Bonda women who participate in shifting cultivation patches. However, they have less decision-making power.
3	Didayi	The traditional and economic roles have become more vibrant, making them highly dynamic and outward-looking.
4	Juang	Socio-economic participation in work is high among them, and cultural values are more important in their society. However, decision-making power is less at the family and village levels.
5	Paudi Bhuiyan	The women are engaged in domestic work and are more involved in their socio-economic field, including cleaning the shifting cultivation land, sowing, weeding, and harvesting; except for ploughing, females are highly involved in collecting forest products, drying, and selling on the market. Women can decide on family matters such as shopping, marketing, and raising children.
6	Dongria Kandha	Their social life, these women enjoy a high status. They have a unique position in their economic sphere. They have the freedom to select their mates. Institutions like marriage and family bestow a significant status on them.
7	Hill Kharia	The status of Hill Kharia women is inferior to that of Hill Kharia men. They are dominated by men in their society, with a clear differentiation of roles and an emphasis on status and a hierarchical social ordering. Presently, it is in a transitional stage after introducing the SHG Programs, and the women are getting little benefit through some plans and programs through SHG group interaction with outsiders.
8	Kutia Kandha	The status of women is high among the Kutia Kondha; they hold a high position in their socio-religious system, and they also believe that women are healers and counsellors to them. Because they can easily express their feelings and problems in front of women, not in front of men. The role of women is significantly protective for their society.
9	Lodha	The status of Lodha is very low because, before, Lodha was a criminal tribe, and only males engaged in pickpocketing. Afterwards, they engage in other work, such as collecting broomsticks from the forest and working as wage labourers. Except for household work, female participation is less in their socio-economic and political sphere.
10	Lanjia Soura	The status of women is high in the Lanjia Soura society. They have complete freedom, community, the community's god and goddess. The woman plays an important role in their maternal house, and after her death, the ashes are handed over to her maternal kin members. The participation of women in agricultural labour, with their shifting cultivation land, and in the collection of forest products is high among them.

Table 3.1.22: Dance and music practices among the selected PVTGs

Sl No	Name of the PVTG	Dance	Name of Musical Instrument
1	Birhor/ Mankidia	<i>Mankada Nacha</i> , (Moneky Dance)	Nagra- One type of Drum, Madala- Another type of single membrane drum, Bainsi- Flute
2	Bonda	<i>Dhemsā</i>	Changu drum / Dhumsa
3	Didayi	<i>Dhemsā</i>	Drum- Tmak, Khinding & Kusang Flute- Bainsi Gunungu- Played by a Female
4	Juang	<i>Changu dance</i>	Changu drum
5	Paudi Bhuiyan	<i>Chhera nacha</i> , <i>Pondi nacha</i>	Changu
6	Dongria Kandha	<i>Dhangada-dhangidi</i>	Goani (Single membrane drum), Dhapu, (Katha gini (clapper cymbals pair)
7	Hill Kharia	<i>Jhumar</i>	"Changu"

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8	Kutia Kandha	<i>Loar –Enda</i>	big drums 'mada' or medium drums pidinga, small drums bandi, metal ankle bells jhanjianga, bamboo flute mahura, an indigenous mouth organ made by a string called gauni and an iron stick with bells called muangalaud
9	Lodha	<i>Madala dance, Changu dance</i>	madala, baikundala, changu, tin, ghantas, chadachadi, mahuari, mridanga, nagara, jhumka, flute, jhanja
10	Lanjia Soura	<i>Kariya Dance, Benta Dance</i>	Drums, flute, pipes, cymbals, Kendera, clarinet

Table 3.1.23: Name of the sacred places among the selected PVTGs

Sl. No	Name of the PVTG	Name of the sacred place	Location
1	Birhor/ Mankidia	<i>Pujak Majhi Halam / Shala Mari / Bonga Kanchi</i>	The village's starting or ending point is near the forest.
2	Bonda	<i>Sindibur</i>	The centre part of the village
3	Didayi	<i>Hundi</i>	The middle part of the village
4	Juang	<i>Mandaghara</i>	The centre part of the village
5	Paudi Bhuiyan	<i>Derbar</i>	The centre part of the village
6	Dongria Kandha	<i>Sadar Kudi</i>	The middle part of the village
7	Hill Kharia	<i>Jahira</i>	Near the forest area, at the end of the village
8	Kutia Kandha	<i>Kuda Deity (Kuda Mahaprabhu) Dharani gudi</i>	The middle part of the village
9	Lodha		Either the starting or the ending part of the village.
10	Lanjia Soura	<i>Editai</i>	House of either the Kudan or <i>Kudan bai</i> of their community

Table 3.2.1: Linguistic classification among the selected PVTGs

Sl. No	Name of the PVTG	Local Language	Linguistic Family	Current Dialect
1	Birhor/ Mankidia	<i>Birhor</i>	Austro-Asiatic	<i>Odia / Santali/ Ho</i>
2	Bonda	<i>Remo</i>	Austroasiatic	<i>Odia / Desia</i>
3	Didayi	<i>Gata</i>	Austro-Asiatic	<i>Odia / Desia/ Telugu</i>
4	Juang	<i>Juang</i>	Austro-Asiatic	<i>Odia</i>
5	Paudi Bhuiyan	<i>Odia</i>	Indo –Aryan	<i>Odia / Hindi</i>
6	Dongria Kandha	<i>Kui or Kuvi</i>	Dravidian	<i>Odia</i>
7	Hill Kharia	<i>Gaaunli</i>	Austro-Asiatic	<i>Odia</i>
8	Kutia Kandha	<i>Kui or Kuvi</i>	Dravidian	<i>Odia</i>
9	Lodha	<i>Odia</i>	Indo –Aryan	<i>Odia/ Bengali/ Kumudi / Hindi</i>
10	Lanjia Soura	<i>Sora</i>	Austro-Asiatic	<i>Odia / Telugu</i>

Table 3.2.20: Body parts names among the selected PVTGs

Body	Meanin	Meaning in Local Language

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Parts	g in Odia	Bonda	Didayi	Dongria Kondh	Juang	Kutia Kondh	Lanjia Saora	Lodha	Paudi Bhuyan
Body	Deha		gagde	aangaa	ee ni	aangi	dong	deha	dihi
Bone	Asthi	ha da	unchia	medunu	aada	pednu	aajang	hada	
Cheek	Gaala	gaa la	gingging	gelaa	gaa la	gela	kumengatam	gala	gaala
Chest	Chati	chaati	gri	sibadaki	buku	saa la	uugara	chati	bhuka
Chin	Chibuka		dhauda	demeni		dapata	gulutam		thoki
Dead body	Mrutasarira	ma da	mod		gama e hadamunusa	mane sang je	kayin mar		saba
Ear	Kana	kaana	unlung	kiuu	lutura	ki kaa	lubh	kana	kana
Elbow	Kahuni		shankarti		ka hu ni	ka a ni	kunis		kahani
Eye	Aakhi	aa khi	mua	kanuu	a mara	ka nu	mad	gokh	aakhi
Eye lid	Aakhi pata		kikigumua		aansi mar		upar mad		aakhipata
Eye-brow	Brulata	aa khipati				kana ka buka	kandadi mathad		
Face	Muhan	mu ha me	maa mun aa	makaa	muha	waanaa	muka	muha	muha
Finger	Aanguthi	aangathi	wa re di	banjuu	aanguthi	wa cha ka	astherasi	aanguthi	aanguli
Flesh	Mansa	maunsa	remaa chili		aa e la	bhan ga	jelulen		
Foot	Pada	pa da me	uncho		paa da	maa la	adhalanji	pada	paada
Forehead	Kapala	ka paa la	kapa le	nidegi	e mang	mu kaa	eedatan	kapala	kapala
Hair	Kesa	baa la	ug bo	tala	jun ta	daa la	uun	ral	chuti
Hand	Hata	aa t	eenti		ee ti		sieen	hata	hata
Head	Munda	mun da la	bahaa	kamda	bakap	kam da	babaan	munda	munda
Heart	Hrudaya	chaati	gri	jela	hrudaya	je laa	dhagi	kalija	hrudaya
Heel	Goithi		re di cho				danukudijing	gudur	redhi
Hip	Nitambha	jangha	maa kaa		ee cha	pi teni	sambhi		picha
Jaw	Jabada		gedua		kala pati	jambadi	dana daji		
Knee	Anthu		maan di	mestha	aanthu	men dha	mandadi		aanthu
Leg	Goda	na li goda	ncho	kadaa	ee jing	ka luu	jingh	goda	guda
Lips	Otha	tun da	jiban		siledam	gudi panda	tadaan	nal	otha
Mouth	Pati	mun he	thu aa	handi	muha	guti	tadh	tunda	paati
Nail	Nakha	na kha me	chanee nti	maru	na ka	unguli	aakarasi	nakha	lakha
Neck	Beka	ga la	ka le re pi	heckri	kan ka	bhanda a	sanka	beka	beka
Nose	Naka	na ka	mun	mungeri	ma dej	mun	muhun	naka	naka

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						geli			
Palm	Hata papuli	pa da ma chi ha		malaa	a lap ee ti	mala			papuli
Shoulder	Kandha		je baa	kandhang a	daram	kandaa	kapdaa	kandha	kandha
Teeth	Danta	dan tetama	gri	maikla	danta	daa l ka	ji ee	danta	danta
Thumb	Budha aanguli	bataaang athi	di aa ti	badawans kubutu	budhaaa nguthi	tinaa		budhaaa nguthi	budhaaa nguthi
Toe	Pada aanguthi	badaaang athi	di aan cha	kadawask a	pada aanguthi	kat kanj	aabbigin g	pada aanguthi	pada aanguthi
Tongue	Jibha	ji bha me	eeng li aa	ayidunri	aai lang	wajar	aa lang	jibha	jibha
Waist	Anta	antaa	antaa	tedeli	antaa	te di	di aa	antaa	antaa
Wrist	kachati		gotiti				Kadu aa nsi		

Table 3.2.21: Animals & fauna names among the selected PVTGs

Animal s & Fauna	Meaning in Odia	Meaning in Local Language							
		Bonda	Didayi	Dongria Kondh	Juang	Kutia Kondh	Lanjia Saora	Lodha	Paudi Bhuyan
Animal	Pashu				pasu		jantun		jantu
Ant	Pimpudi	bi e	bhu ee	hara a	kamee d	pimpad a	muja	pimpid a	pimpudi
Bear	Bhalu	ghimisa ncha	gube	bhalu	baa na e	aa li	saluu	niga	gada khuda
Bird	Chadhei	piri	fli	pataa	kanter	pataa	antapa d	chadhei	chadhei
Buffalo	Maeinsi	bhunga de	bungti	kadru	ma eensi	karu	bankdh en	muga	maeinsi
Bull	Balada	goitang	glaa	shandha a	uun di aa	munde	dhanga li	sendha	sandhiaa
Butterfly	Prajapati	lalapi	ellafo	budhem blu	kung ku lang	kaplaa	kunkuj i	dhuduli	parajapat i
Calf	Bachuri	ba cha pila	unthia	katimala	kin tang		labar	damchi dha	bachuri
Cat	Bilei	ghire me	gring	bile	bilei	kemska ri	gamei	biloei	bilei
Cow	Gai	ga ee tang	ore aare	talikadi	a dej	ka kii	aayant anka	gai	gai
Crow	Kaau	ku aa	kikia	kawaa	guank	ka kaa	kakan	kaau	kaau
Deer	Harina	uura tang	slo	braaadi	me reg	sita bi	aalip	harina	miriga
Dog	Swana	ghusa	gisu	nehudi	se lak	nakundi	kransar a	kukura	kukura
Earthworm	Jia	Ken Chu aa	biming	kanaland ri	da nda k	Sali miu	lu ee bing	kenchu a	kechunaa
Elephant	Haathi	haati	hati	hati	aa ti	aa ta	raya	hathi	haati
Fish	Macha	aa da	aa aa do	minu	ka	minuu	aaya	macha	macha

		ng			rang				
Goat	Chae li	mi me	gimmi	adaa	me lam	a taa	kimedh	cheli	cheli
Honey bee	Mahu machi	da ra bang	unjum/unt he/nilli	puki	kamda rbui	pukiwes ii	an rad	mahu machi	mahu machi
Horse	Ghoda	ghoda	ghoda	badaa	ga daa	ga daa	kurdha	ghoda	ghudaa
Housefly	Machi		ndroei	wasahan	ka rang		surach angi	machi	cahtiaa
Insect	Kita Patanga		boung	thika	entej jib		anta antheek		jukaa
Lion	Sihan	sin ha		sinha	ki lag	be dha ken	khina	sin ha	sinhaan
Lizard	Jhitipiti	bi ae	karlaa	kanikila	sar be lang	sach ker	din	jal dang	jhitimil a
Monkey	Mankada	ghi ma	gise	lagda	sa ka e		aa ris	bandara	mankada
Mosquito	Masa	aa yang	kurnik	kaniwe mahan	ka tira	gadgiw esa	sama ee	masaa	gundiaa
Mouse	Musa	uu re ng	gda/kuseda	arli	ka neng	a ri re	kumbh ul	musa	chuchurl a
Nest	Chadheib asaa		ungehipai	patabana	basaa	patabas a	tarus/ ganur	chadhei basa	basaa
Peacock	Mayura	kukung a	onko	melu	ma rag	me luu	ma aa ra	mayura	mayura
Pig	Ghusuri	gubu	gubu	paji	bu da e		kumbh ut	ghusuri	ghusuri
Sheep	Mendha	menda	mendha	mendha	men dha	mendha	murku nda	redi	gadara
Snail	Genda	gu la		garu	gen da	unguli		genda	
Snake	Saapa	bubu	bbo	rachu	ba bung	sma chu	jaa aa	sapa	saapa
Spider	Budhiani	man ka da	baliko	kruma	den te rag	kurma	daindai nbu	bagatha chua	makliaa
Squirrel	Gunduchi musaa	tilumus a	sunda	heruni	ga denj	mulka	gan dii	chichu	gunduchi musa
Tail	Languda	ta lan ja	kla	lenguni	aa tar	lenguda	dha na la	nenj	lanja
Tiger	Bagha	kubusa	unku	kdabi	kilig	kdandi	kin na	bagha	bagha

Table 3.2.22: Food and cooking nomenclature among the selected PVTGs

Foods And Cooking	Meaning in Odia	Meaning in Local Language							
		Bonda	Didayi	DongriaKondha	Juang	Kutia kondha	Lanjia Saora	Lodha	Paudi Bhuyan
Beef	Go mansa	-	aa re ee chi	gadiunga	-	gadi uunga	jelu	goru	gai mansa
Black pepper	Gola maricha	maricha aa ka	golmaricha	-	golamar icha	gula ra jesi	-	-	-
Chilli	Sukhilal anka	maricha	miring	adna	dun gari	ra je ni	aayunm arisa	maricha	-

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Coconut	Nadia	nadiakaa	nadia	nadeli	la dia	nadia	pedi	nadia	nadia
Coconut scraper	Nadia kata	-	nadia cha pa	nadelimich u	la diakora a	-	-	-	korani
Cooked rice	Bhata	-	bhole	lahiwajina	ee sin dana	-	da re ee	randhab hata	randhab hata
Cooking pot	Handi	-	bholek ui	daka/ dabla	-	-	-	-	handi
Curd	Dahi	-	dayi	-	da ei	-	dahi	dahi	dahi
Curry	Tarkari	-	chiiliaa mba	kucha	senkana	-	ta nanga l	tarakari	tarakari
Dal	Daali	daliakaa	dalima	jaau	dali	-	ma ra ee na	dali	daali
Egg	Andaa	andaa aa ka	nta se eeng	tala	susu der	dha laa	aa dre sim	dimba	andaa
Fire	Niaa	ja ee	su aa	naani	la laeej	nanii	da a gi	angun	niaa
Fish	Macha	amacha aa kaa	aa aa da	minu	karang	minu	aaya	macha	macha
Flour	Gunda	a taa	a thaa	tana		ta na	ataa		ataa
Food	Khadya	khaibataa	changh aa	lahi	khaibaji nisa	wiki pinuu	gna kha	khadya	khadya
Ghee	Ghia	ghia aa ka	ghia	ghia	ghia	ghiuu	ghia	ghii	ghia
Glass	Kacha	gilasakaa	gilasa	gilasa	gilasaa	gilasaa	glassa	gilasa	glasa
Hay	Dhusa	-	che mu aa	weka muta	jiunga	-	-	-	-
Honey	Mahu	mahu aa ka	anjung	juki	mahu	puki	e ndrit	mahu	mahu
Jaggery	Guda	-	gu da	-	daggud a	-	-	-	panigud a
Kitchen	Rosei Ghara	randhagh ara	du e chang dua	raandhaeja	roseiee n ja	bajaasa lu	Daring Di Nansi	randhag hara	randhag hara
Knife	Churi	katara	churisa	katri	se mar	naree	kundi	churi	katuri
Liquor	Madhya pana	-	sugra	kaluu	ma da		aa li	mada	
Maize	Makaa	-	ja naa	jahikani	juani	pula pha	ja naa	makaa	makaa
Meat	Cheli mansa	-	-	uunga	aa e la	uun ga	je lu	cheli mansa	maunsa
Milk	Kheera	khira aa ka	turudia	dudu	khira	du du	aa dup	dudha	khira
Mustard	Sorisa	sorisa	sarsuu	hrasaniyu	surusu	sab naju	sarsuu	sorisa	sorisa
Oil	Tela	tela	eeng chu	niyu	aa ja n	neju	mi nya l	tela	tela
Pickle	Aachara	aa ma ta	aa chara	ambadi	aa cha ra	aambe di	aa cha ra	aachara	aachara
Pot	Mathia	-	da ha da ha nku char	sipaa	-	nan dii	la ba dang	-	maga
Raw rice	Chaula	chaula aa ka	orko	malagu	baran bua	batii	aa gur saar	chaula	chaula

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Roti	Ruti	roti	baal	ruti	ruti	rutii	rutii	pitha	ruti
Spice	Masala	masala	masala	masala gunda	masala	masala	suyuu	masala	raga
Sugar	Chini	chini	chini	chini	chini	chini	sinii	chini	chini
Tea	Chahaa	cha ha	chaa	kapi	chaa	cha han	sahaa	chaha	chaha
Utensils	Basana	basana	thali gina	dhalesipaa a	aa re	-	-	dela basana	basana

Table 3.2.23: Food and cooking nomenclature among the selected PVTGs

Vegetables & Flora	Meaning in Odia	Meaning in Local Language							
		Bonda	Didayi	Dongria Kondh	Juang	Kutia Kondh	Lanjia Saora	Lodha	Paudi Bhuyan
Amla	Anlaa	anlaa	sinr	-	-	-	edeng	anlaaphala	anlaa
Babool				madhi		jipanga			
Banana	Kadali	kadali	uunsa	dhadhi	kadali	tade	kinte	kadali	kadali
Beans		dinis	gube	lai tunanga	si ma	bincha	kandrum	bin	bin
Brinjal	Baigana	baragana	kadaaa n	henlen	baigana	bangaa a	aandarai	baigana	kubi
Cabbage	Bandha Kobi	pare kobi	pudakobi	bandha kobi	bandha kobi	balakabi	gubgaha kobi	kaming	mula
Carrot	Gajara	gajara	gajar		gajara	gajara	mula gai	gajar	gajara
Cauliflower	Phulakobi	phulakobi	phulko bi	phulako bi	phulako bi	phulka bi	tarabakobi	phula	kobi
Chilly	Kancha Lanka	kanchamaricha	miring	aadna	dunkara	rajeni		maricha	
Flower	Phula	phula	sari	phulako bi	raasi	puju	taraba	phula	phula
Forest	Jungala	jangala	konda	jaaadaa	banajala	jaadaa	tulab	jangala	jungala
Fruit	Phala	Phala	chude	phala	laku	pala	jaa	phala	phala
Garlic	Rasuna	rasuna	tuleya	lasuna	rasuna	nasuni	rasuna	rasuna	rasuna
Aloevera	Ghikumar i		ghikua nri				labeda	ghikum ari	
Ginger	Adaa	adaa	aadaa	adaa	a daa	adaa	singera	adaa	adaa
Grass	Ghasa	jud	chemu a	laa)taa	ga sa	randaa	aagap	ghasa	ghasa
Leaf	Patra		ulia	aa)kuu	a lag	aaloo	uuaap	patra	patra
Lime	Lembu		chun	lembu	chuna		lembu	lembu	lembu
Neem	Limba		lim	bimbhi) dali	neem	limba		limba	nem
Onion	Piaja	piaja	chisul eig	aali	piaja	uuli	aana soda	piaja	uuli
Pea	Matara	datar dana		matar sana	matara	matar		matarch uin	
Potato	Aaloo	aaloo	aaloo	aaloo	guluaalu	aaloo	aaluu gai	aloo	aaluu

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Root	Chera muli	bala	ndree	muluhiri	chera	siruu	aaranip	chera	chera
Tomato	Bilati	dejari	bhejri	pejara	bilati	patal ghanta	bilati	bilati	patalgh ata
Tree	Gacha		sla	maaraa	sumunsi	maara		gacha	gacha
Tulsi	Tulasii	tulasigach a	tulasis la	tulasi	tulusaga cha	tulasi	tulasi	tulasi	pariba
Vegetables	Pariba	saga	umaee le		panipari ba	kau kucha		pariba	
Wood	Katha	dara	suaa	bensu	sen a n	berka	aangal	katha	katha

Table 3.2.24: Clothing and ornament nomenclature among the selected PVTGs

Clothing & Ornament	Meaning in Odia	Meaning in Local Language							
		Didayi	Bond a	Dongria Kondh	Juang	Kutia Kondh	Lanjia Saora	Lodha	Paudi Bhuyan
Anklet	Paunchi	panjul	ganthi	aalu	-	-	paunji		paundi
Bangles	Chudi		gajul	manjaa	kaadu	katria	kaduu		budi
Bindi	Tikili	tikaa	yikili	siluli	tikili	-	taring kaina	tikili	sindura
Blouse		jaket	jakete	jaleti	bia ja	-	raikaangi	belauju	bilauju
Cloth	Kana	paatai	luga	gula	ka tee	jiranga	satikap	kapad	luga
Comb	Pania	gunu		kakuaa	kaa ta	sireni	sanar	paniya	pania
Crown	Mukuta	-	mukuta	-	mukuta	-	-	-	-
Diamond	Hiraa	hiraa	hira	hira		hira	hira	hira	hira
Dress	Bastra	sakaa	-	aangitu	ungi	jama	sindiri	-	dresa
Earrings	Kana phula	lugene	-	mur)maa	kana phula	kiudheninga	piul	kana phula	kana phula
Gold	Sunaa	sunaa	sunaa	sunaa	sunaa	sunaa	drana	sunaa	sunaa
Mirror	Aina	darpana	darpana	darpani	darpana	darpana	sisaa	aaina	ainaa
Necklace	Haara	tahan	maali	mekodi	chen	-	-	haara	mala
Nosepin	Naka phula	kuti/mune	desari	mumaa		mungeliniamane		nakaphula	nakaphula
Ointment	Ousadha	aaintment	-	uusa	malama	asaa	jajarre	-	-
Shoes	Jota		pandara	butu	chapala	butu	jutaa	-	bhut
Ring	Mudi	warthi	mudi	mudi	mudi	mudi	engasi	-	mudi
Saree	Saadhi	pataee	-	gadi gandha	ka de	-	sadhii	-	sadhi
Scissors	Kaeinchi	kaeinchi	-		kainchi	-	-	-	-

Shawl	-	sal	-	shaal	cha da ra	-	saal	-	-
Silver	Rupa	rupa	rupa	rupaa	rupaa	rupa	rupaa	rupaa	
Thread	Suta	sutaa		bulu	sutaa	megicha	-	-	-
Shirt		sakaa	saata	aangi	ungi	jagaa	-	-	-

Table 3.2.25: Gods and goddesses' names among the selected PVTGs

God & Goddess	Meaning in Odia	Meaning in Local Language						
		Bonda	Dongria Kondh	Juang	Kutia Kondh	Lanjia Saora	Lodha	Paudi Bhuyan
Festival	Parba Parbani	paraba	jatra	a b	dhalundi	krikudina	parab	jatra
Demon	Rakhyasa		gukesi	a sura		kurma		chorani
God	Bhagaban	mahapravu	penu		penu	mapuru	thakura	bhagabana
Goddess	Thakurani		aachapenu	kai lang	papura	kintung	devi	thakurani
Heaven	Swarga	saraga	lakaan	aa ka sa	wani		saraga	
Holy places	Pabitra Jaga	mandira ghara	tirtha tama jaga	diajagaa	dalamdibasa			
Idol				murti				pila
Temple	Mandira	mandira	mandira	mandira	mandira	samajsingh	mandira	mandira
Worship	Prarthana		daaka	pujaa	dakandi		puja	puja

Table 3.2.26: Number system among the selected PVTGs

Numerical	Meaning in Odia	Local language of tribal communities						
		Didayi	Dongria Kondh	Juang	Kutia Kondh	Lanjia Saora	Lodha	Paudi Bhuyan
One	eka	muung	raendi	muin ta	raendi	aabai	eka	eka
Two	dui	mbhar	rindiaa	am ba ta	rindaa	bagu	dui	dui
Three	tini	ngi	tini gata	e gata	tini gata	yagi	tini	tini
Four	chari	ha	chari gata	gan da mi	chari gata	uunji	chari	chaari
Five	pancha	mal	pancha gata	pancha gata	pancha gata	malacii	pancha	pancha
Six	chaa	tur	chaa gata	cha gata	chaa gata	turu	chaa	chaari
Seven	Saata	gu	sata gata	sata gata	sata gata	gurji	sata	sata
Eight	Aatha	tma	aatha gata	aa ta gata	aatha gata	tamnji	aatha	aatha
Nine	Naa	sangthing	na gata	na gata	na gata	tinnji	naa	na
Ten	Dasa	gua	dasa gata	dasa gata	dasa gata		dasa	dasa

Table 3.2.27: Kinship terminology among the selected PVTGs

Kinship	Local language of the tribal group

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Terminology	Bonda	Paudi Bhuiya	Kutia kondha	Lanjia Saora	Didayi	Dongria Kondha	Lodha	Juang	Man kidia	Hill Kharia
Father	Baa	Bapaa	Aabaa	Waang	Aabaa	Aaba	Bapaa	ba	Aba	Bapa
Mother	Yaang	Maa	Eeaa	Yangan	Eeyang	Aaya	Maaya	bui	Mae	
Son	Guun	Pua/Babuu	Aapu	Anenyen	Oong	Mila	Mudha	kanan		
Daughter	Boii	Jhia/Nini	Aapi	Yaayi	Shelagode	Bui	Jhia	kancelan		
Father's father	Daada	Dadaa	Daadi	Juju	Daadi	Taada	Jeje	Aja		Dada, baba
Father's mother	Dangribai	Aai/Baai	Aaji	Yuyu	Nja	Aaji	Jeje maya	naam		Nana, maa
Mother's mother	Dangari bai (classificatory)	Ajaa/Dadaa (Classificatory)	Aaji (classificatory)	Yuyu	Baidakri			naam		Aai
Mother's father	Daada (classificatory)	Aai/Baai (classificatory)	Aaku	JuJu	Mong			ajaj		Aaja
Brother (elder/Younger)	Baang (Dadaa/Giring)	Nanaa/Bhai	Padaa/Tambara	Kauuden/Uடன்	Mnnabho yan/Dahan Bhoyan	Taada/Budaa	Bada bhai/Sana Bhai	Ka / b) k)	Kaka	Bada bhai, dada, bhai / By name
Sister (elder/young)	Baai	Naani/Bhauni	Naana/Taangi	Sudayayi/Sanayayi	Mala/ Bai	Uuchuboi/Nana	Bhauni	Bkrae / bakarae	Bahia	Didi, nani /
Father's brother (elder/young)		Badu/Kaka	Pemba/Kakuu	Dadang/Dading			Jesta	Atir / dadi		Jetha, badu, bada bapa /Kaka
Father's Sister (elder/young)		Apaa		Kaking/Naani		Aata/Aama		sasui		Bada apa, badajhee, badapisi /Sana apa, jhee, chatapisi
Mother's brother (elder/young)		Mamu	Mamaa	Kujar	Mong (classificatory)		Mamu	mamui		Bada mamu / Sana mamu
Mother's sister's Husband	Baang (Classificatory)	Eldclassificatory), Younger-Mausa	Michu, Elder-Kakuu (Classificatory), Younger-Penga	Dading (classificatory)				Atij		mausa
Mother's Sister	Aataa	Elder- Badei (classificatory), Younger-Mausi	Kakii	Yayang	Mbo	Kaki/Aaya		atiraei		maaunsi
Mother's brother's wife	Bing	Maein	Aamaa	Naani	Aata			sasui		Bada main / sana main

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Father's brother's wife		Younger-Khudi, Elder-Badei (classificatory)		Younger-taata, Elder-yayang	Bisha		elder-Badmaa, Younger - Kaki	Elder- b) k) raei, younger-atiraei		Jheti, bada maa / Kaki, khudi, sana maa
Mother's sister's son/daughter	Babuu/ Nani	Bhai/Bhauni (classificatory)	Kajuu/kajuu (gender classificatory)	Daughter-marang	Naang/Bai					
Mother's brother's son/daughter	Son-Maam	Bhai/Bhauni (classificatory)	Maama (generation classificatory)/Nana	Marang/ Yayi						
Father-in-law	Naana	Sasura/ Bapaa (classificatory)	Patlenja	Kaniarden	Mama	Samden	sasura			
Mother-in-law	Bing (classificatory)	Maa (classificatory)	Pajaaa	Kinar	Aataa	Samdeni	Sasumaa			
Son-in-law	Baang (Classificatory)	Jyuain	Paradu/Jabe	Reyam Den	Machua	kdyuaa	Jyuain			
Daughter-in-law	Kimiya	Jaein	kdyuaa	Kaein			Bahuchua			
Husband's sister (elder/younger)		Apaa/ Nananda	Naana paja/Michuli	Aalibayi						
Husband's sister's husband		Bhaunijyuain		Rayam			Bhai			
Husband's Brother (elder/younger)		Dedhasura/Diara		Kueinyar			Dedhasura/Diara			
Husband's brother's wife		Bada Apa/ Jaa	Aabwa	Jadui			Didi/Jaa			
Wife's sister (elder/younger)		Dedhasasu/ Sali		Aaliba e			Sali			
Wife's sister's husband		Sadhuu	Elder-Pengaa, younger-kakuu	Reyam		elder-Mechu, younger-Jaame				
Wife's brother (elder/younger)		Salaa		Irisi			Bada Sala/ Sala			
Wife's brother's wife		Salaabhauja		Iiriba e			Bhauni			
Son's	Babuu/	Naati/Natuni	Naaati/Na	Uuleng/	Daughter-	Nati/Nat	Natia/N	B)k)lap		

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son/Daughter	Nani (categorisation)		aatini	Uulengan	Egaleh	uni	atuni	/bakase		
Daughter's daughter/son	Babuu/ Nani (categorisation)	Natuni/Nati (classificatory)	Aapira aa/Aarap	uuleng/ uuleng	Aaleh ung	Natuni/ Nati	Natuni/ natia	b)k)se / b)k)lap		
Daughter's son's daughter		Kaduu		uuleng	Ntha Ne ntha		Jethi			
Daughter's son's son		Baduu		Uuleng	Ntha Ne ntha		Mudha			
Father's brother's/daughter		Elder brother son/ daughter- Babu/nini, Younger brother son/daughter- called by name		Ubang/ awang	Nnang/Ba i		Bhai/ Bhauni			
Father's sister's son/daughter		Bhanija/Bhan aji		Aamansi/ Aamansil	Marasike/ Maraside	Son- Mama Mila	Bhai/Bh auni			

CHAPTER – IV

SOCIO-DEMOGRAPHIC AND SOCIO-ECONOMIC STATUSES

4.1. Introduction

Socio-economic and socio-demographic studies are essential for understanding the structural causes of inequality, especially among marginalised groups such as the PVTGs in Odisha. PVTGs are among the most disadvantaged communities, facing ongoing challenges related to poverty, poor health, and low educational levels. Demographically, they have higher mortality and undernutrition rates, particularly among women and children. Limited access to healthcare, combined with cultural practices and geographical isolation, severely impacts maternal and child health outcomes. Socio-economically, PVTGs experience significant financial exclusion; many do not have bank accounts and are not involved in self-help initiatives. Low levels of formal education, landlessness, and irregular incomes further deepen their vulnerability. In districts such as Kandhamal, Rayagada, and Malkangiri, where many PVTGs live, disparities in access to services remain prominent despite policy efforts. For example, the Juang tribe shows concerning rates of underweight and anaemia. These patterns highlight the necessity for disaggregated, data-driven, and culturally sensitive approaches to enhancing their well-being. Targeted interventions that consider the unique demographic and socio-economic realities of PVTGs are vital for inclusive development and for bridging persistent gaps in health, education, and economic opportunities.

4.1.1. Age-Sex Composition and Population Ratio

Age and sex specific population distribution

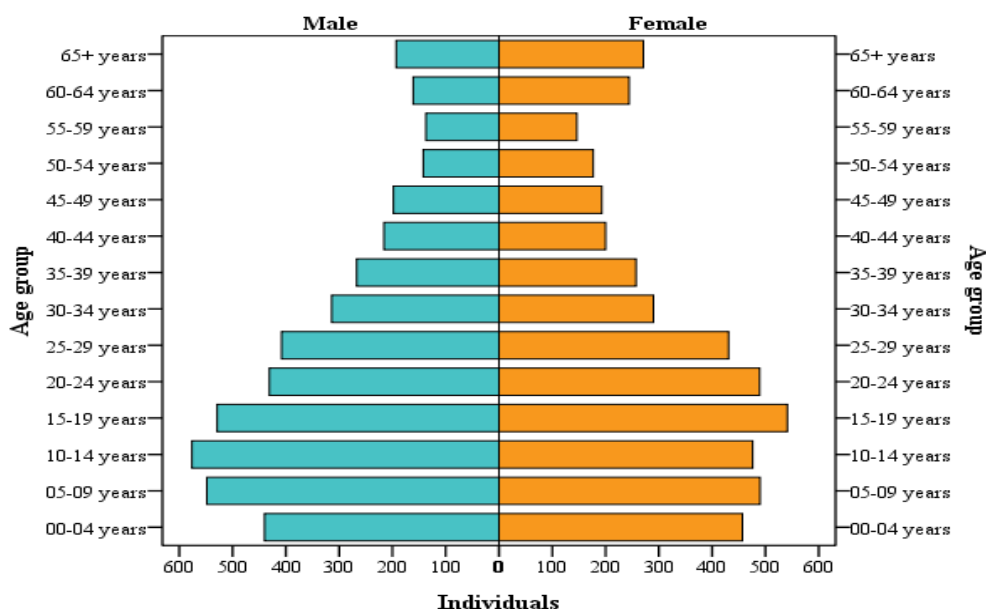


Figure 4.1.1.1: Population pyramids for the 10 PVTGs in Odisha

Figure 4.1.1.1 depicts the population pyramid, which visually presents the age-sex distribution of individuals and provides insights into demographic trends and the population's structural composition. The x-axis represents the number of individuals, with males on the left and females on the right.

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the right, while the y-axis categorises various age groups. The pyramid follows a typical, expansive structure, with a broad base that gradually narrows as it moves toward older age groups. This suggests a youthful population, with a significant proportion in the 0-29 age bracket. The largest segments are in the 10-24 age range, suggesting a high birth rate in previous decades and a substantial working-age population in the coming years.

As we move upward in the age groups, the bars become shorter, reflecting a declining population in older cohorts. The proportion of individuals in the 60+ age group is relatively lower, reinforcing that the population has a lower dependency ratio of elderly individuals. The male and female distributions show variations, particularly in 50-year-old age groups, where females outnumber males in older age brackets, a common trend indicating higher female life expectancy. However, the male population appears marginally larger in younger cohorts, potentially indicating a natural birth sex ratio skewed toward males.

This age-sex composition has socio-economic implications. A youthful population signifies a growing labour force that could contribute to economic productivity, provided employment opportunities and skill development initiatives are well-structured. The presence of fewer elderly individuals suggests a lower old-age dependency ratio but also highlights the importance of future policies regarding pension schemes and elderly healthcare.

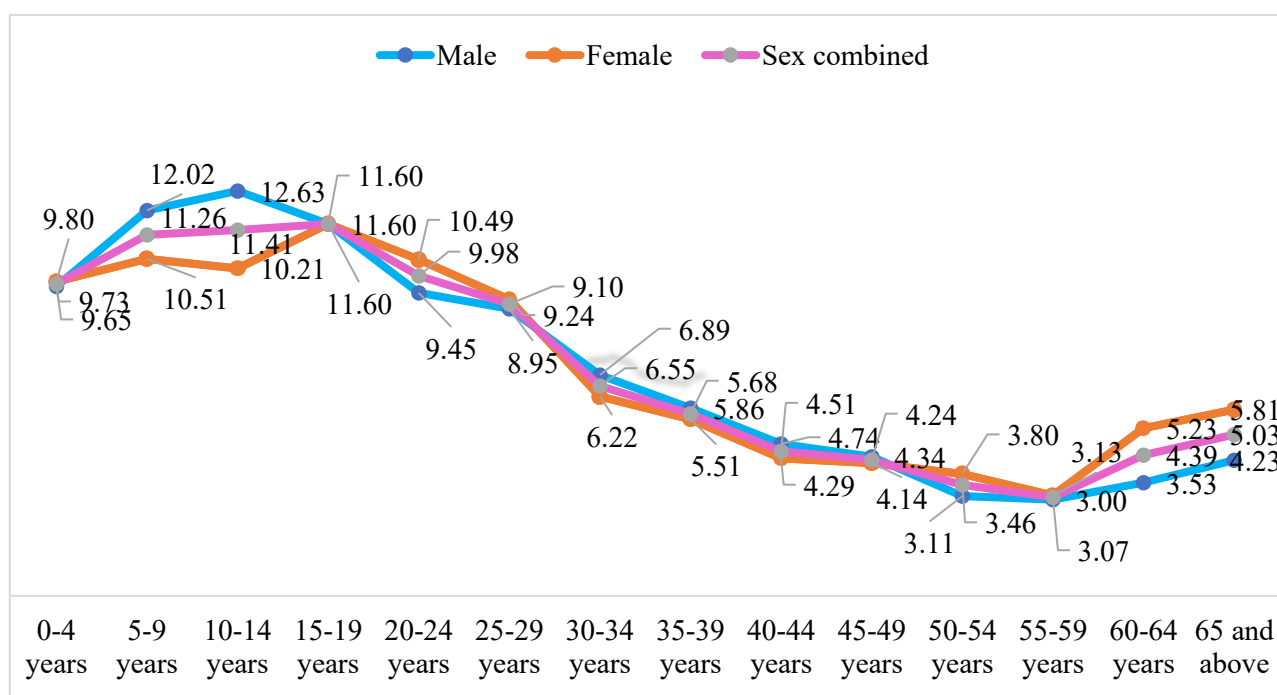


Figure 4.1.1.1.2: Age-sex-specific population distribution among 10 PVTGs

Table 4.1.1.1 and Figure 4.1.1.1.2 comprehensively show the population distribution by age groups and sex, offering crucial insights into demographic trends, gender composition, and dependency structures. The total sample population is nearly balanced, with 4,560 males (49.45%) and 4,662 females (50.55%). The overall sex ratio stands at 1,022.37 females per 1,000 males, indicating a better gender parity.

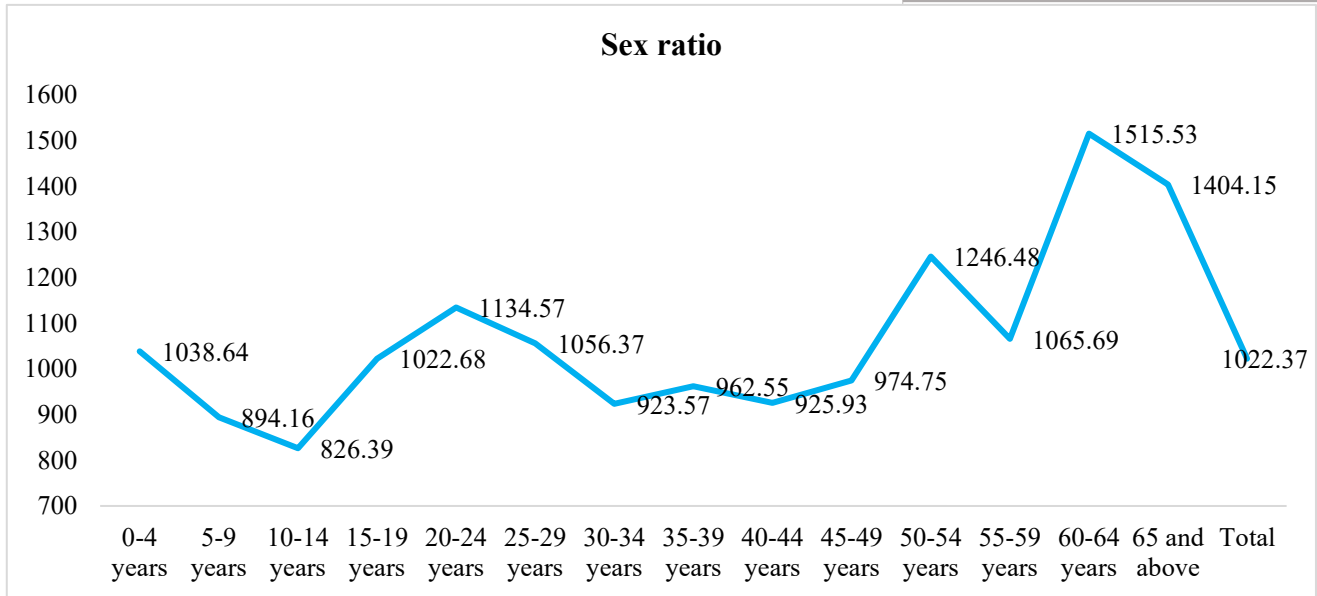


Figure 4.1.1.3: Age group-specific sex ratio among 10 PVTGs

Most of the population comprises younger individuals aged 0-19 years, totalling 4,918 people, representing 53.30% of the total population. The largest age groups within this cohort are 10-14 years (11.41%), 5-9 years (11.26%), and 15-19 years (11.60%). This distribution suggests a high birth rate in previous decades. The predominance of younger individuals indicates that the population is in the early stages of demographic transition, with a large segment still dependent on the working-age population (20-59 years).

The working-age population, aged 20-59 years, comprises 4,188 individuals, or 45.43% of the total population, and serves as the economic backbone of society. The highest percentages are found in the 20-24 (9.98%) and 25-29 (9.10%) age groups, highlighting the emergence of a strong labour force. This present population structure presents significant economic potential, provided that job opportunities and skill development programs align effectively with market demands. However, a relatively minor proportion of individuals was observed in older working-age brackets (for example, 50-54 years: 3.46% and 55-59 years: 3.07%).

The elderly comprises individuals aged 60 years and above, and 869 individuals, or 9.42% of the total. The highest concentration is within the 65+ age group (5.03%). The sex ratio in older age groups is notably higher, reaching 1,404.15 females per 1,000 males in the 65+ category. The rising proportion of elderly individuals underscores the need for robust healthcare infrastructure, comprehensive pension schemes, and effective social security policies to support an ageing population.

The sex ratio exhibits significant fluctuations across age categories, revealing underlying demographic and social trends. In early childhood (0-4 years), the sex ratio is 1,038.64 females per 1,000 males, slightly favouring females. However, this balance shifts in later childhood (5-9 years and 10-14 years), where the sex ratio drops to 894.18 and 826.39, respectively, indicating a male prevalence in these cohorts. This could be attributed to differential survival rates, cultural preferences, or childhood health disparities.

Interestingly, from adolescence (15-19 years) to early adulthood (25-29 years), the sex ratio reverses, favouring females (1,022.68 in 15-19 years and 1,134.57 in 20-24 years). The increasing female ratio

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in reproductive-age groups suggests lower male survival rates. In middle-aged cohorts (30-49 years), the sex ratio remains relatively balanced, ranging from 923.57 to 974.75.

The most striking deviations occur in older age brackets, particularly in the 60-64 years (1,515.53 females per 1,000 males) and 65+ years (1,404.15 females per 1,000 males). These extreme imbalances highlight the longer life expectancy of females and the higher mortality rates among males, potentially due to lifestyle diseases, occupational risks, or health disparities that disproportionately affect older men.

This demographic profile reflects a youthful population with strong future workforce potential and highlights the challenges of a high dependency ratio in younger cohorts. The declining male proportion in older age groups suggests the need for targeted healthcare interventions for men. Additionally, the rising proportion of elderly individuals emphasises the importance of long-term care facilities, pension schemes, and geriatric healthcare services.

4.1.1.1. Age group-specific population distribution among 10 PVTGs

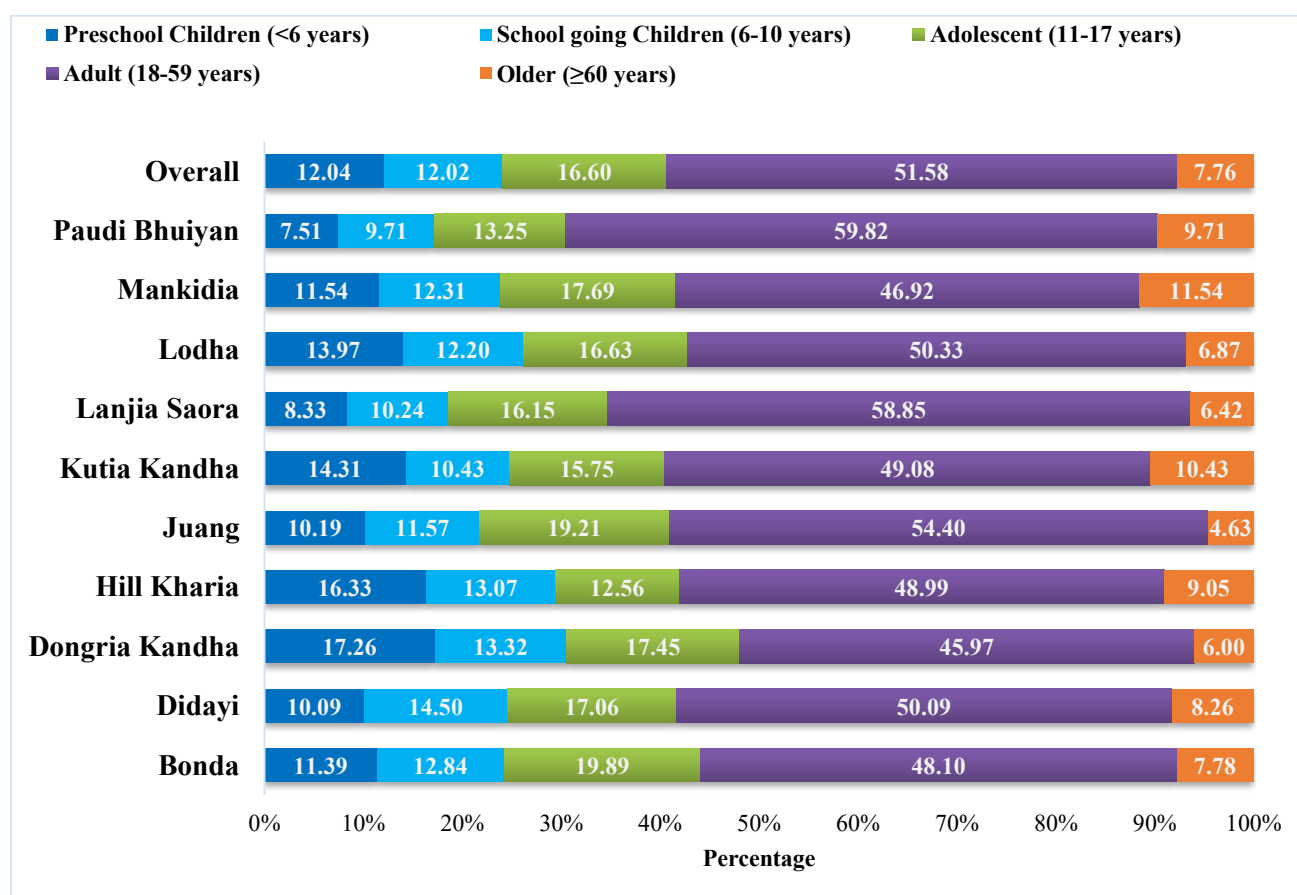


Figure 4.1.1.2.1: PVTG-specific male population distribution

Table 4.1.1.2.1 and Figure 4.1.1.2.1 present age-wise male population distribution across various tribal communities, providing critical insights into demographic structures, dependency ratios, and socio-economic implications. The total male population across the studied groups is 4,560

individuals, with notable variations in proportions across age categories. The data reveals a predominantly working-age male population (51.58% in the 18-59 years category), followed by a significant adolescent segment (18.60% in the 11-18 years category), and a smaller but notable elderly population (7.76% aged 60 and above). These variations reflect differences in fertility rates, life expectancy, and social structures across different tribal communities.

The proportion of preschool children (under 6 years) in the total male population stands at 12.04% (549 individuals), with the highest representation in Dongria Kandha (18.26%) and Hill Kharia (18.33%), indicating higher birth rates and sustained fertility in these communities. Conversely, Paudi Bhuiyan (7.51%) and Lanjia Saora (8.33%) have the lowest proportions, suggesting lower fertility rates or greater adoption of family planning.

The school-age children (6-10 years) account for 12.02% (548 individuals) of the male population, underscoring the need for primary education infrastructure. The highest proportions are in Didayi (14.50%) and Bonda (12.84%), and the lowest are in Paudi Bhuiyan (9.71%) and Kutia Kandha (10.43%).

The adolescent male population (757 individuals, 18.60%) represents a critical transitional phase from childhood to adulthood. The highest proportions are observed among the Bonda (19.89%), Juang (19.21%), and Dongria Kandha (18.45%), indicating a strong presence of the working-age population. These figures underscore the importance of secondary education, vocational training, and skill development programs. The Hill Kharia (12.56%) and Paudi Bhuiyan (13.25%) communities show comparatively lower adolescent proportions.

The largest proportion of males falls within the working-age group (51.58%, 2,352 individuals), indicating a strong potential labour force. The highest percentages are observed among the Paudi Bhuiyan (59.82%), Lanjia Saora (58.85%), and Juang (54.40%) communities, which may have high labour force participation in agriculture, forest-based livelihoods, and traditional occupations. The Dongria Kandha (45.97%) and Hill Kharia (48.99%) have comparatively lower working-age proportions, potentially due to higher shares of adolescents and the elderly, which affect workforce sustainability.

The elderly male population comprises 7.76% (354 individuals), indicating a relatively small but significant ageing demographic. The highest proportions are observed in Mankidia (11.54%), Paudi Bhuiyan (9.71%), and Hill Kharia (9.05%), which could be attributed to longer life expectancy or lower migration rates among older adults. The lowest proportions are found in Juang (4.63%) and Dongria Kandha (6.00%), suggesting higher male mortality rates in these groups. Such an elderly population structure raises concerns about access to healthcare, pension schemes, and social security measures, particularly where traditional caregiving structures may be eroding due to modernisation and migration.

The data also reflects tribal variations in population structure, with some communities exhibiting higher youth proportions (e.g., Dongria Kandha, Juang) and others displaying signs of an ageing population (e.g., Mankidia, Paudi Bhuiyan).

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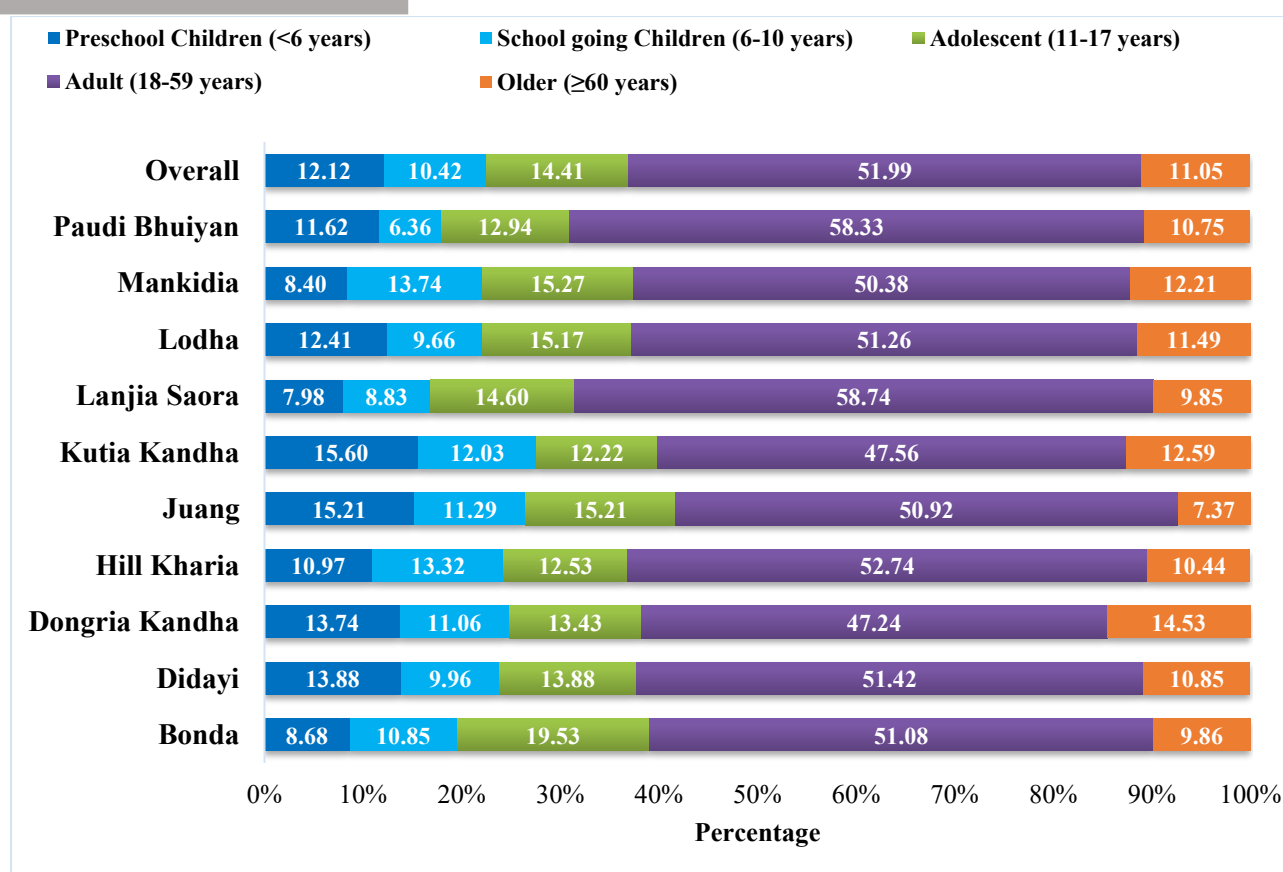


Figure 4.1.1.2.2: PVTG-specific female population distribution

Table 4.1.1.2.2 and Figure 4.1.1.2.2 present an age-wise analysis of the female population across ten PVTGs in Odisha, providing critical insights into their demographic structure, fertility patterns, and stages of demographic transition. Each age group reveals varying socio-economic and health-related implications specific to these communities.

The preschool female population constitutes 12.12% of the total, with the Kutia Kandha (15.60%) and Juang (15.21%) showing the highest percentages. On the other hand, Bonda (8.68%) and Lanjia Saora (7.98%) reflect lower proportions.

School-going children in the 6-10 age group represent 10.42% of the total female population. Mankidia (13.74%) ranks highest, suggesting a strong base of early-age education and possibly consistent fertility in the preceding decade. Paudi Bhuiyan (6.36%) shows the lowest representation.

Comprising 14.41% of the total female population, adolescent girls are a significant demographic segment. Lanjia Saora (14.60%), Lodha (15.18%), and Mankidia (15.27%) have the highest shares. In contrast, tribes such as the Hill Kharia (12.53%) and Kutia Kandha (12.22%) show lower adolescent percentages.

Adult females comprise 51.99% of the population, highlighting their vital role in community sustenance. Lanjia Saora (58.74%) and Paudi Bhuiyan (58.33%) report the highest shares, possibly reflecting greater longevity and reproductive health. The Dongria Kandha (47.24%) and Kutia

Kandha (47.56%) show the lowest, which may be influenced by higher maternal mortality, out-migration, or shorter life expectancy.

Older Adults (≥ 60 years): Older women account for 11.05% of the total female population. The Dongria Kandha (14.53%) and Mankidia (12.21%) have higher proportions of older women, possibly indicating greater female longevity or a declining male population. In contrast, Juang (7.37%) has the lowest female proportion, suggesting lower life expectancy or demographic contraction in earlier decades.

4.1.1.1 Age Group Composition for Work Engagement of the Studied PVTG

Population

4.1.1.1.1. Age-wise male population distribution

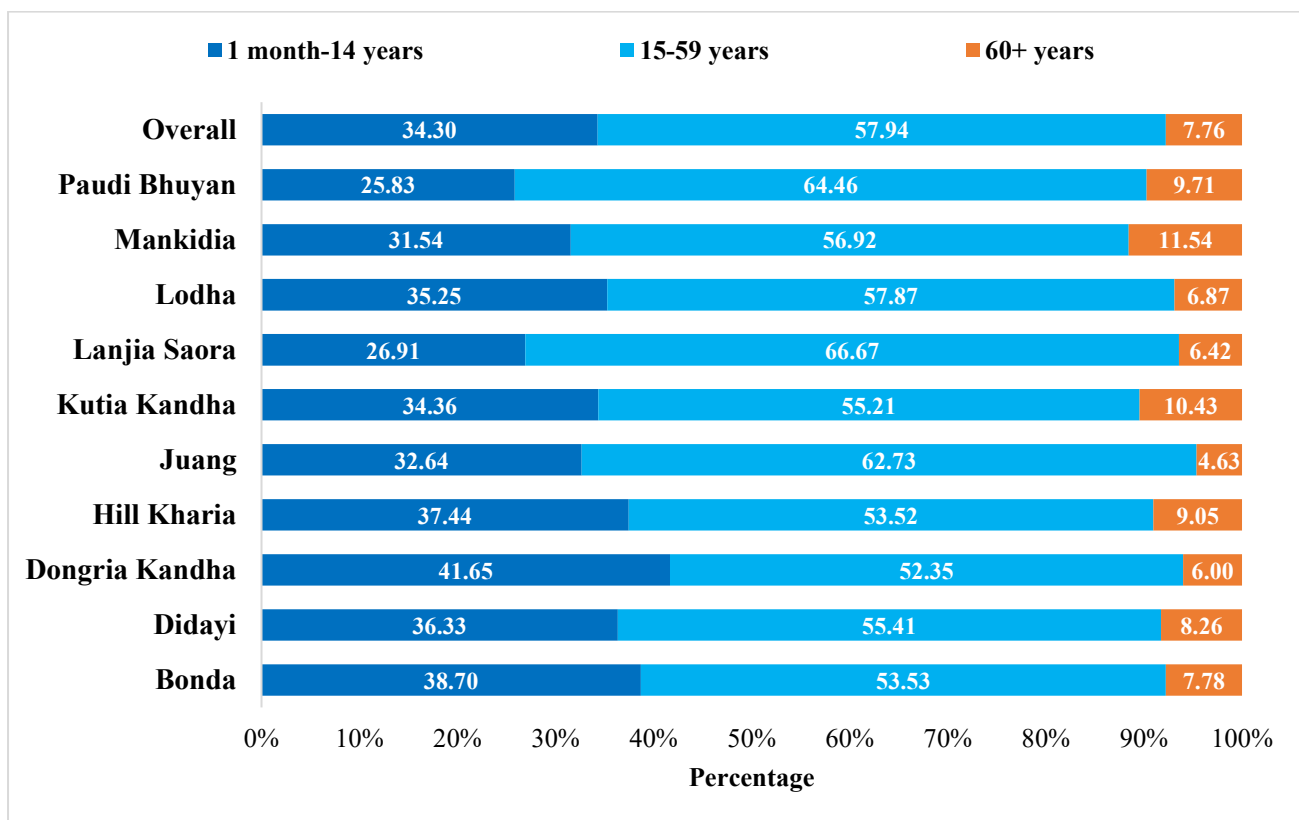


Figure 4.1.1.3.1: Age group-specific male population distribution

The age-wise male population distribution in the ten PVTG communities provides crucial insights into demographic trends, workforce potential, child dependency ratios, and elderly care requirements (Table 4.1.1.3.1 and Figure 4.1.1.3.1). The data reflects variations in the proportions of children (≤ 14 years), working-age males (15-59 years), and elderly males (≥ 60 years) across different tribes, shedding light on fertility patterns, mortality rates, and economic sustainability. The overall population of 4,560 males is predominantly concentrated in the working-age group (57.94%), followed by children (34.30%) and a relatively minor elderly population (7.76%). However, these averages mask significant inter-tribal variations, necessitating a detailed examination of the demographic implications for each age group.

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The child population (1,564 males, 34.30%) represents the future workforce and economic potential of these tribal groups. However, there is significant variation in child dependency across different tribes. The highest proportions of children are found in the Dongria Kandha (41.65%), Bonda (38.70%), and Hill Kharia (37.44%) groups, suggesting higher fertility rates and younger demographic structures in these groups. On the other hand, Paudi Bhuiyan (25.83%) and Lanjia Saora (26.91%) have relatively lower child proportions, indicating a transition towards a more ageing population or lower birth rates.

The working-age male population (2,642 males, 57.94%) forms the backbone of these communities, directly influencing economic productivity, labour participation, and household sustenance. This group exhibits high proportions in Lanjia Saora (66.67%), Juang (62.73%), and Paudi Bhuiyan (64.46%).

Conversely, communities such as Dongria Kandha (52.35%), Bonda (53.53%), and Hill Kharia (53.52%) show lower proportions of working-age males. A higher working-age population is generally advantageous, as it reduces dependency ratios and fosters economic growth, provided employment opportunities and livelihood resources are available.

The elderly male population (354 males, 7.76%) represents a small but critical segment. While the overall proportion of elderly males remains low, variations exist across communities. Mankidia (11.54%), Paudi Bhuiyan (9.71%), and Hill Kharia (9.05%) have a higher share of elderly males, suggesting better male survival rates in old age. In contrast, Juang (4.63%) and Dongria Kandha (6.00%) exhibit very low proportions of elderly males, possibly due to higher male mortality rates from occupational hazards, poor healthcare access, or lower life expectancy.

Age-wise female population distribution in work engagement

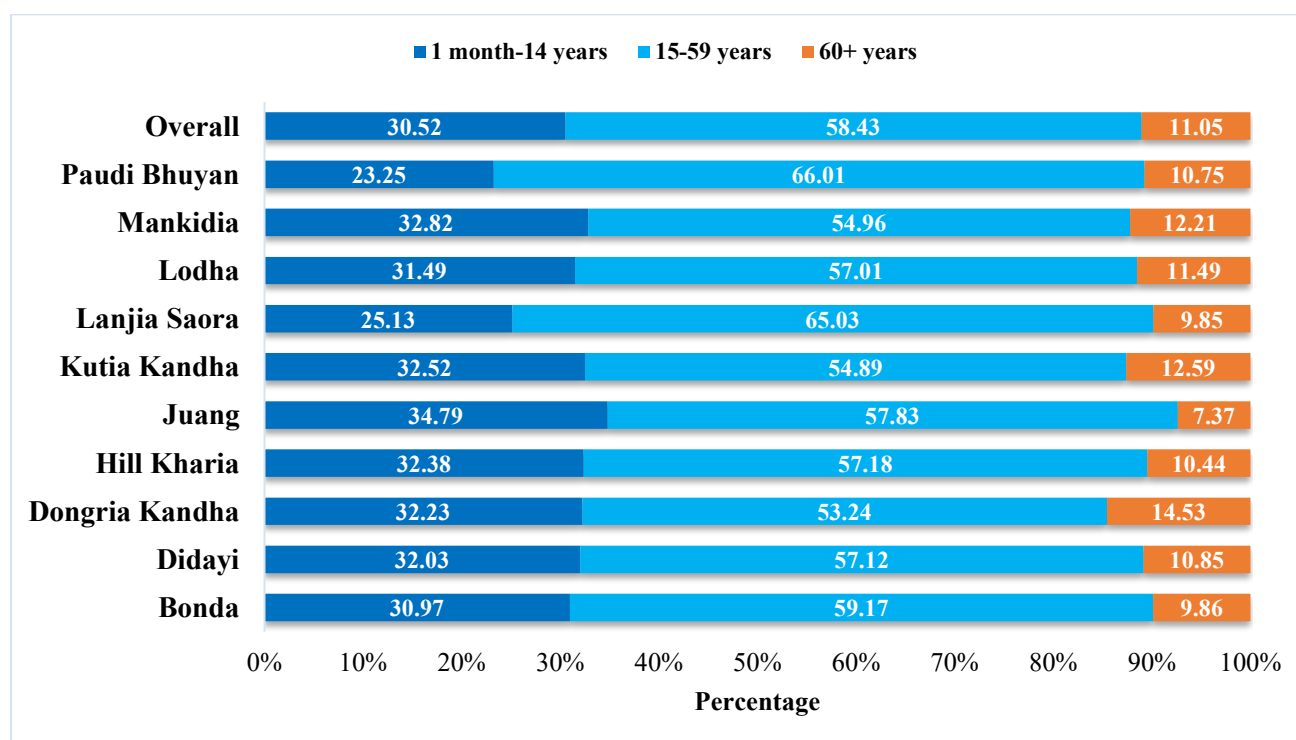


Figure 4.1.1.3.2: Age group-specific female population distribution for work engagement

The age-wise female population distribution across the ten PVTG communities provides a comprehensive demographic profile, essential for understanding fertility patterns, gender-based dependency ratios, workforce participation, and elderly care needs (Table 4.1.1.3.2 and Figure 4.1.1.3.2). The total female population of 4,662 individuals is spread across three major age groups: children (≤ 14 years), working-age females (15-59 years), and older women (≥ 60 years). The data reveals that 58.43% of the female population falls within the working-age group, followed by 30.52% in the child group and 11.05% in the elderly segment. These figures indicate a moderately ageing population with a strong presence of economically productive females. However, inter-community variations highlight differing stages of the demographic transition, necessitating a deeper analysis of community-specific age-group patterns.

The female child population (1,423 individuals, 30.52%) represents a significant proportion of the overall population, indicating active fertility rates and a strong female next generation. The highest percentage of female children is found in Juang (34.79%), Dongria Kandha (32.23%), and Hill Kharia (32.38%), suggesting higher fertility rates and a younger population structure. Conversely, Paudi Bhuyan (23.25%) and Lanjia Saora (25.13%) have relatively lower proportions of female children, indicating either lower birth rates, higher female child mortality. The likelihood of increased son preferences cannot be ruled out. So, gender-based factors such as child marriage prevalence, school dropout rates, and early motherhood must be taken care of to ensure better life outcomes for girls. The data also suggests that in some communities, male children outnumber female children, which raises concerns about sex-selective discrimination, gender-based mortality rates, or unequal survival chances for girls.

The largest segment of the female population (2,724 individuals, 58.43%) belongs to the working-age group, reflecting a strong economic and reproductive base. This group is highest in Lanjia Saora (65.03%), Paudi Bhuyan (66.01%), and Lodha (57.01%), indicating strong workforce participation and a focus on livelihood activities. Conversely, Dongria Kandha (53.24%) and Kutia Kandha (54.89%) have relatively lower proportions of working-age females, possibly due to higher adolescent pregnancy and mortality rates, or lower female workforce participation.

The elderly female population (515 individuals, 11.05%) represents a moderate but important group that requires social and healthcare support. Some communities, such as the Dongria Kandha (14.53%) and the Kutia Kandha (12.59%), have higher proportions of elderly females. In contrast, Juang (7.37%) and Mankidia (12.21%) have a lower proportion of older women, which may be due to higher female mortality rates, lower healthcare access affecting elderly care structures.

A comparison of age-wise female population distribution among tribes reveals distinct demographic trends with critical social and economic implications. Youth-dominant tribes such as Juang (34.79%), Dongria Kandha (32.23%), and Hill Kharia (32.38%) have a higher proportion of female children, necessitating greater investments in education, nutrition, and healthcare to ensure their well-being and future opportunities. In contrast, workforce-dominant tribes like Lanjia Saora (65.03%), Paudi Bhuyan (66.01%), and Lodha (57.01%) indicate strong female participation in economic activities, highlighting the need for skill development, financial inclusion, and employment support programs. Meanwhile, ageing female-dominant tribes, including Dongria Kandha (14.53%), Kutia Kandha (12.59%), and Lodha (11.49%), exhibit a growing elderly female population, requiring targeted pension schemes, elderly care initiatives, and improved geriatric

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healthcare. The age-wise distribution of females across tribal communities highlights a dynamic demographic structure. While the working-age group dominates, the significant presence of children and the early ageing and dying elderly population necessitate strategic interventions. Each community displays unique demographic characteristics, requiring tailored approaches for child welfare, economic empowerment, and elderly care.

4.1.1.1.2. Age-wise Overall Population Distribution

Tables 4.1.1.3.1 and 4.1.1.3.2 provide a detailed disaggregation of the male and female populations by age group for the 10 PVTGs under study. Building on this sex-specific analysis, Table 4.1.1.3.3 presents a comprehensive overview of the age-wise population distribution, combining male and female counts to depict the total demographic structure. This consolidated view provides a holistic understanding of the population pyramid across the PVTGs, highlighting variations in age-group composition that are critical for assessing demographic dependency ratios, planning community-specific interventions, and identifying developmental priorities for each group.

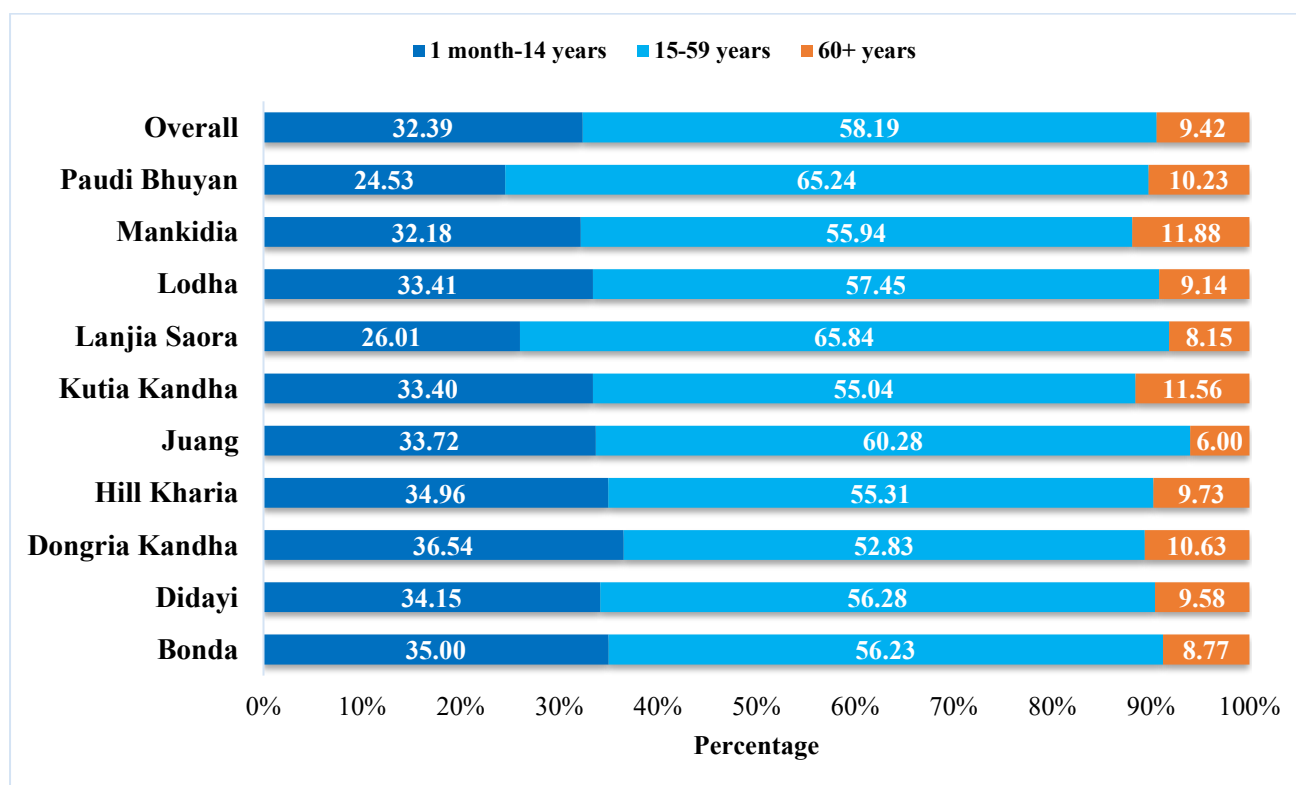


Figure 4.1.1.3.3: Age group-specific working population distribution at the overall level

Table 4.1.1.3.3 and Figure 4.1.1.3.3 present the age-group-wise distribution of the total population for the ten tribal communities, providing crucial insights into their demographic composition, workforce potential, dependency ratios, and ageing trends. The total population across all communities amounts to 9,222 individuals, distributed across three primary age groups: children (≤ 14 years), working-age individuals (15-59 years), and the elderly (≥ 60 years). The largest segment is the working-age group, constituting 58.19% of the total population, followed by children (32.39%) and elderly individuals (9.42%). These figures indicate a predominantly youthful population, with a growing elderly segment that necessitates policy attention for healthcare, economic empowerment, and social

security measures. However, significant inter-community variations exist, requiring targeted interventions based on specific demographic needs.

The child population (2,987 individuals, 32.39%) represents a significant portion, highlighting high fertility rates and a young demographic structure. The highest percentages of children are found in the Dongria Kandha (36.54%) and Hill Kharia (34.96%) communities, suggesting that these communities still have high birth rates and relatively young populations. Conversely, Paudi Bhuyan (24.53%) and Lanjia Saora (26.01%) have the lowest proportions of children. The presence of a large child population emphasises the need for improved access to education, nutrition, and healthcare services. High child dependency rates place additional economic strain on families, especially in communities where subsistence farming and informal labour are the primary livelihoods. Addressing early childhood care, gender-based disparities in education, and child health interventions is crucial to ensuring future workforce sustainability and social development.

The working-age population (5,366 individuals, 58.19%) forms the largest segment, reinforcing the economic productivity and labour force potential of these tribal groups. The highest proportions of working-age individuals are found in Lanjia Saora (65.84%), Paudi Bhuyan (65.24%), and Lodha (57.45%), suggesting that these communities have a strong labour force. In contrast, the Dongria Kandha (52.83%) has the lowest proportion.

The highest proportions of elderly individuals are found in Kutia Kandha (11.56%), Dongria Kandha (10.63%), and Paudi Bhuyan (10.23%), suggesting that these communities have a comparatively better life expectancy. On the other hand, Juang (6.00%) has the lowest elderly population, which could be due to higher early mortality rates.

4.1.1.2. Age group-wise sex ratio of the working and dependent Population at the overall level

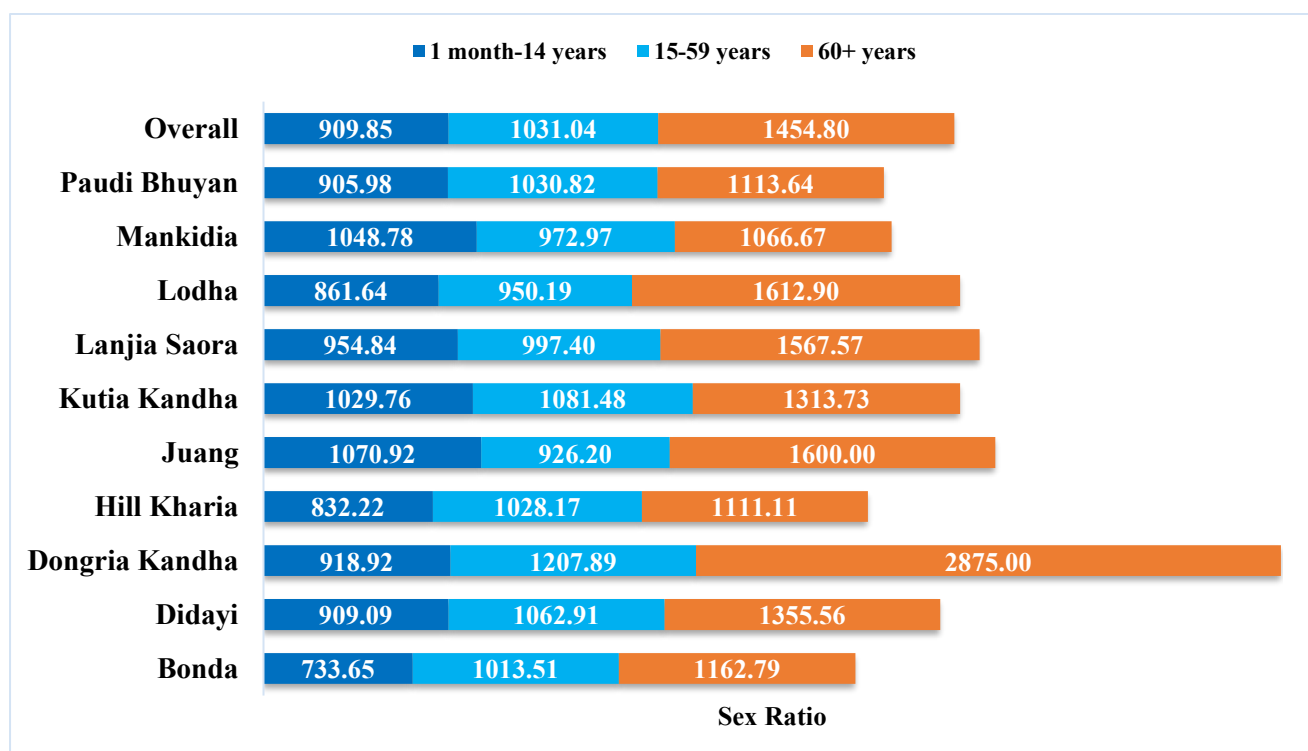


Figure 4.1.1.4: Age group-specific sex ratio of the overall working and dependent age groups

Sex ratio is a crucial demographic indicator that reflects gender balance, social structure, and population dynamics. Table 4.1.1.4 and Figure 4.1.1.4 present the sex ratio across three broad age groups, i.e., children (0-14 years), working-age individuals (15-59 years), and the elderly (60+ years), for ten PVTG communities, providing insights into fertility trends, gender disparities, and longevity patterns. The data reveal substantial variations across different age cohorts and communities, with lower sex ratios among children, a balanced sex ratio in the working-age group, and a higher female proportion among the elderly.

The child sex ratio (909.85 overall) is lower than the natural ratio (950-980 females per 1,000 males), suggesting a gender imbalance at birth or higher female child mortality rates. The lowest sex ratios are found in Bonda (733.65) and Hill Kharia (832.22). In contrast, communities such as Juang (1070.92), Mankidia (1048.78), and Kutia Kandha (1029.76) exhibit a higher proportion of female children. The low sex ratio among children in Bonda and Hill Kharia suggests an urgent need for interventions in maternal health, child nutrition, and gender sensitisation programs to ensure a balanced sex ratio and improved survival rates for female children.

The sex ratio among working-age individuals (1,031.04 overall) is relatively balanced, with most communities having ratios close to or exceeding 1,000. This suggests gender parity in the economically active population, indicating better female survival rates beyond childhood. Dongria Kandha (1,207.89) has the highest working-age sex ratio, indicating significantly more females than males in this segment. This might be attributed to higher male mortality due to occupational hazards, migration for employment, or lower life expectancy. Communities like Lodha (950.19) and Juang (926.20) have fewer working-age women compared to men, possibly indicating higher female mortality rates, cultural restrictions on female mobility, or lower female workforce participation.

Dongria Kandha, Kutia Kandha, and Paudi Bhuyan have more working-age women, potentially reflecting active female participation in agriculture and a greater role of women in sustaining tribal economies. The presence of more women in productive age groups highlights their contribution to household economies, traditional crafts, and forest-based occupations. Juang and Lodha tribes show relatively lower sex ratios, suggesting male dominance in labour markets and possible out-migration of women due to marriage, cultural norms, or lack of employment opportunities. In some cases, men may migrate for work, leaving behind a relatively higher proportion of women. Higher maternal mortality rates could contribute to a lower proportion of working-age women, indicating a need for improved reproductive healthcare.

The sex ratio among the elderly (1,454.80 overall) is significantly higher than in the younger age groups, indicating higher female life expectancy and greater male mortality rates. The most striking trend is seen in Dongria Kandha (2,875.00), where older women vastly outnumber older men. Other communities, such as Lanjia Saora (1,567.57), Lodha (1,612.90), and Juang (1,600.00), also exhibit high sex ratios among the elderly, reinforcing the pattern of greater female survival beyond reproductive years.

4.1.2. Dependency Ratio among the selected PVTGs

4.1.2.1. Young Age Dependency Ratio

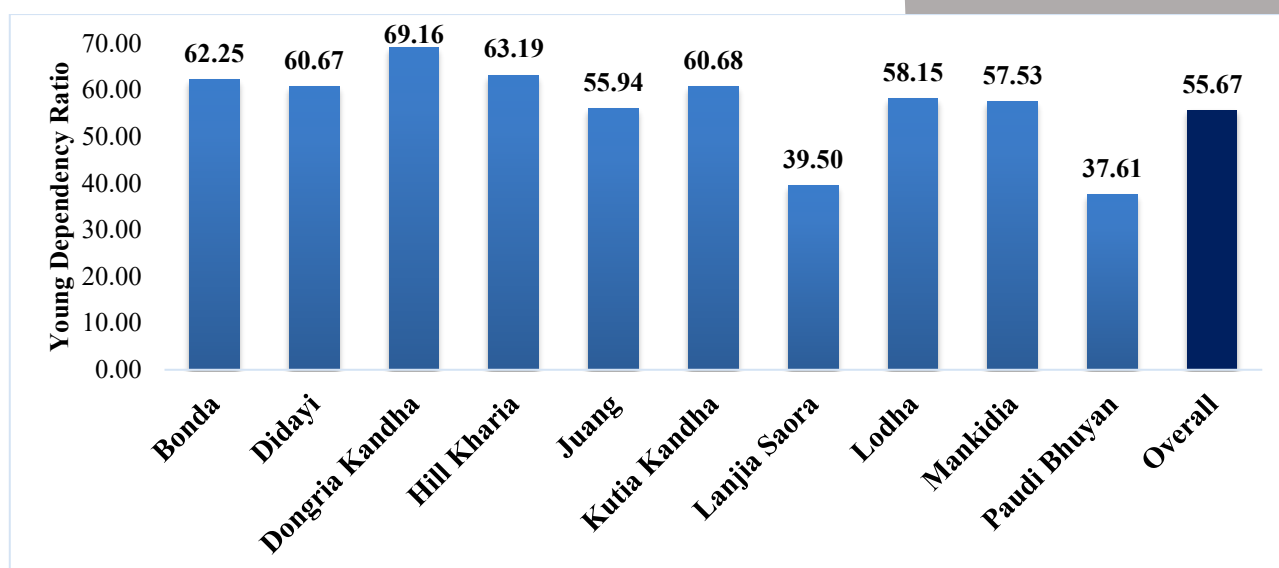


Figure 4.1.2.1: PVTG group-specific young dependence ratio

Table 4.1.2 and Figure 4.1.2.1 present the highest YDR observed in Dongria Kandha (69.18), indicating a larger child population that requires higher investments in education, nutrition, and healthcare. On the other hand, Lanjia Saora (39.50) and Paudi Bhuyan (37.61) have lower YDRs, suggesting a relatively small young-dependent population.

4.1.2.2. Working-age population dependency ratio

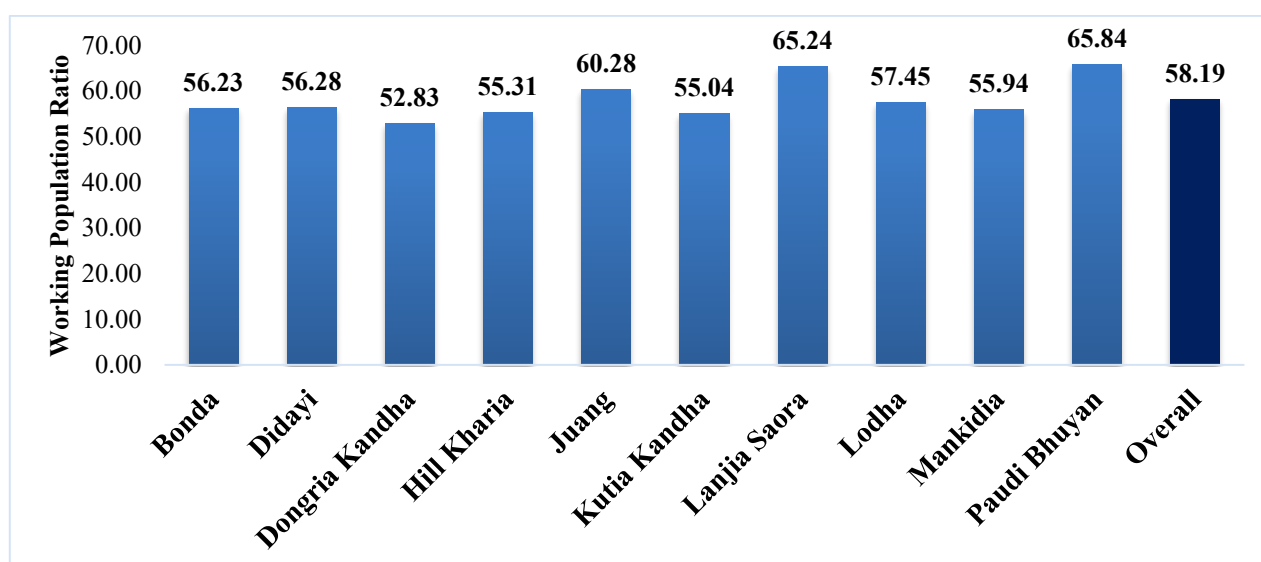


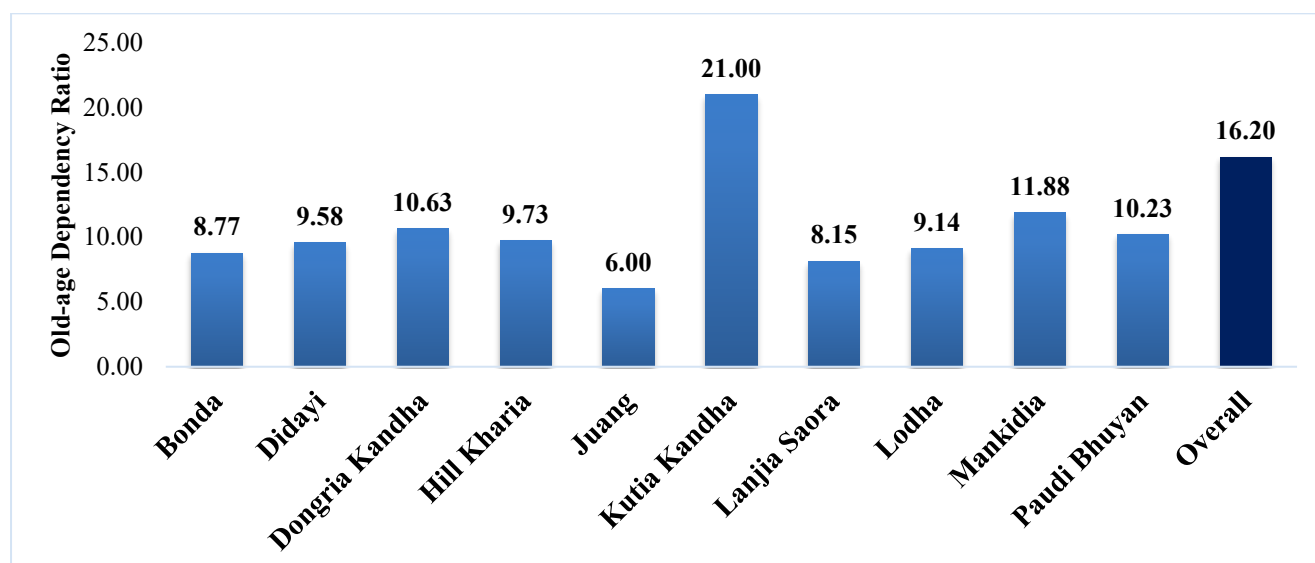
Figure 4.1.2.2: PVTG-specific working-age population

Table 4.1.2 and Figure 4.1.2.2 depict the Working Age Population (WAP) ratio, which reflects the proportion of economically active individuals. It is the highest among Paudi Bhuyan (65.84) and

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Lanjia Saora (65.24), showing a strong labour force potential. Conversely, Dongria Kandha (52.83%) has the lowest WAP, which may limit its economic productivity and increase dependency.

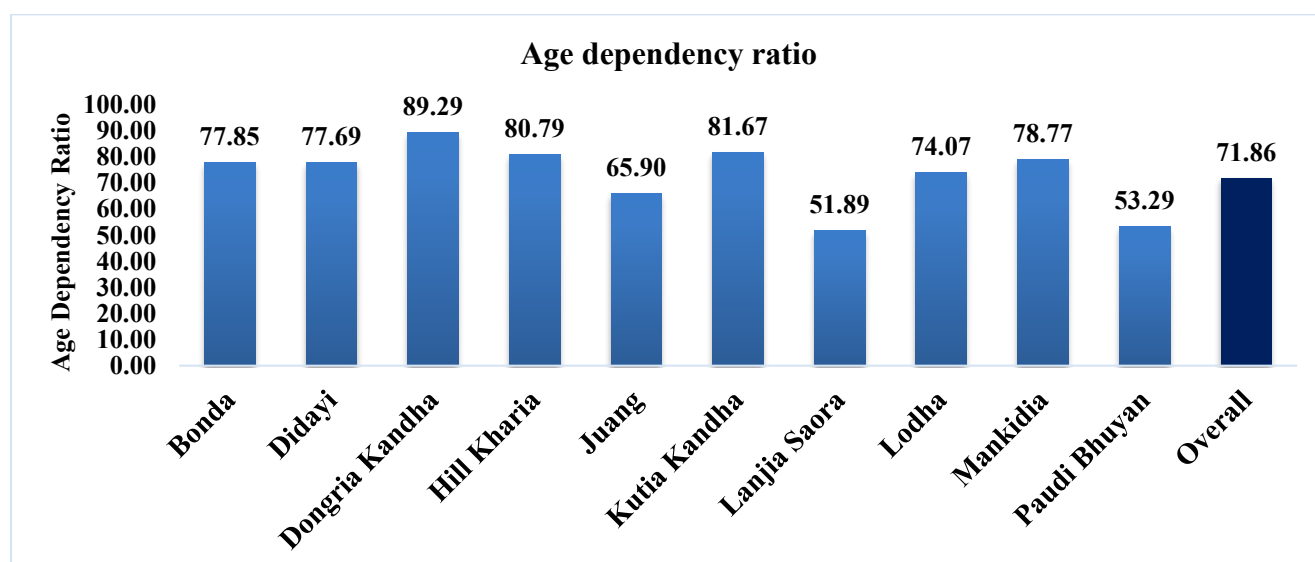
4.1.2.3. Old Age Dependency Ratio among the PVTGs



4.1.2.3: PVTG-specific old age dependency ratio

Table 4.1.2. Figure 4.1.2.3 depicts the Old Age Dependency Ratio (OADR), representing the burden of the elderly (60+ years) on the working-age group, which varies widely. The highest OADR is observed among the Kutia Kandha (21.00), indicating a demand for increased healthcare and social security. Juang (6.00), in contrast, has the lowest OADR.

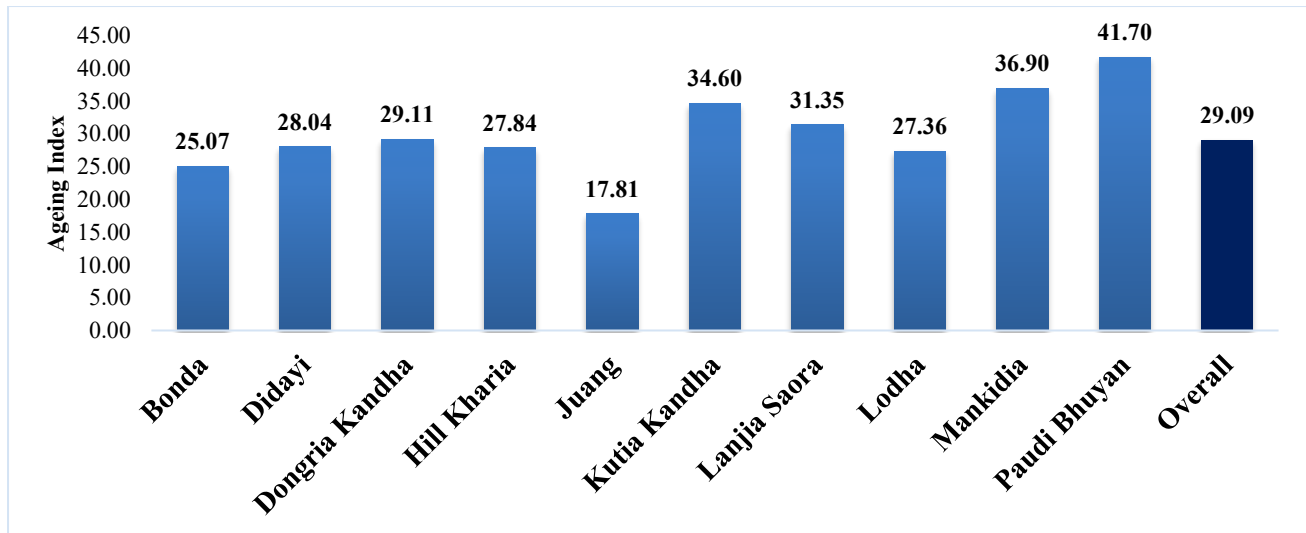
4.1.2.4. Age dependency ratio among the PVTGs



4.1.2.4: PVTG-specific age dependency ratio

The Age Dependency Ratio (ADR), which combines both young and old dependents, is highest among the Dongria Kandha (89.29), indicating a significant burden on the working-age population (Table 4.1.2 and Figure 4.1.2.4). Lanjia Saora (51.89) and Paudi Bhuyan (53.29) have lower ADRs, suggesting a more balanced demographic composition with a strong workforce.

4.1.2.5. Index of Ageing among the PVTGs



4.1.2.5: PVTG-specific index of ageing

Table 4.1.2 and Figure 4.1.2.5 present the Index of Ageing (IA), which measures the proportion of elderly individuals (aged 60 and above) relative to children (aged 0-14 years). This data highlights important trends regarding population ageing. The highest IA is recorded among the Paudi Bhuyan (41.70) and Mankidia (36.90) tribes, whereas the Juang tribe has the lowest IA at 18.81.

These ratios reveal the varied demographic patterns among Particularly Vulnerable Tribal Groups (PVTGs), influencing economic productivity, social support requirements, and policy priorities. Tribes with high Youth Dependency Ratios (YDR) and Age Dependency Ratios (ADR) need investments in child welfare and job opportunities. In contrast, those with high IA and Old Age Dependency Ratios (OADR) require improved geriatric care and pension schemes.

4.1.3. Marital Status

4.1.3.1. Marital Status among PVTGs Male

The marital status distribution among males in the PVTGs of Odisha reveals distinct socio-cultural patterns, traditional family structures, and demographic trends. A significant proportion of males remain unmarried (53.21%), with the Juang (66.67%), Dongria Kandha (58.18%), and Bonda (59.49%) tribes exhibiting the highest percentages of unmarried males. This suggests that social or economic factors may delay marriages or lower marriage rates in these communities. Financial instability, migration for livelihood, and traditional age norms for marriage could contribute to these

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variations. Additionally, a higher population of unmarried males may indicate challenges related to gender balance, mate availability, and social expectations regarding marriage within certain tribes.

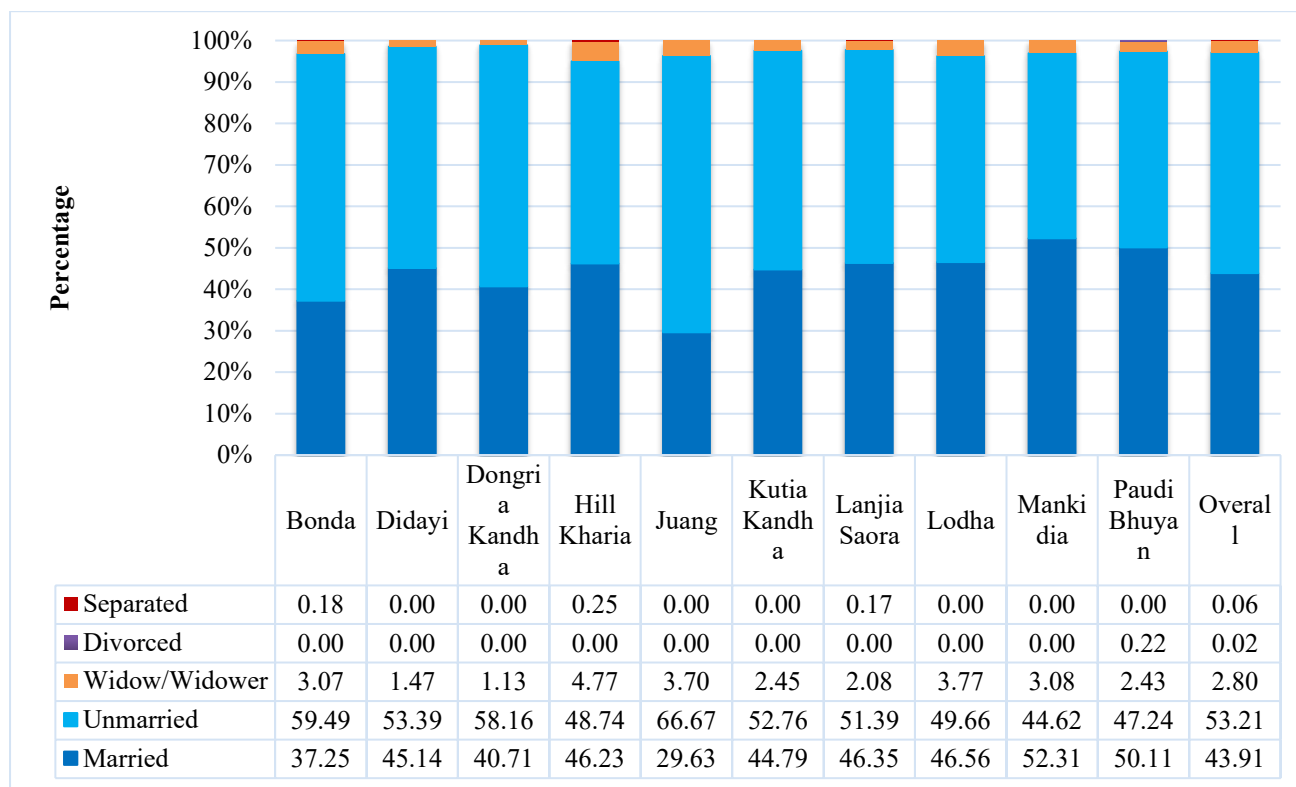


Figure 4.1.3.1: Marital status among males of the PVTGs

The percentage of married males (43.91%) varies considerably across different ethnic groups. The Mankidia (52.31%), Paudi Bhuyan (50.11%), and Lodha (46.56%) tribes report the highest proportions of married males, indicating relatively stable marriage practices. In contrast, the Juang community faces various. The Kutia Kandha (44.79%), Lanjia Saora (46.35%), and Didayi (45.14%) groups display moderate marriage rates.

The widowed population, at 2.80%, remains relatively small but provides insights into mortality rates and life expectancy disparities. The Hill Kharia (4.77%) and Juang (3.70%) have slightly higher widowhood rates, possibly linked to elevated male mortality due to health issues, occupational hazards, or harsh living conditions.

The rates of divorce (0.02%) and separation (0.06%) are nearly negligible, indicating these occurrences are rare in these tribal communities. The Paudi Bhuyan community reported only one divorce case, whereas separation cases have been noted among the Bonda, Hill Kharia, and Lanjia Saora tribes.

4.1.3.2. Marital Status among PVTGs Female

Table 4.1.3.2 and Figure 4.1.3.2, depicting the marital status distribution among females of PVTGs in Odisha, provide significant demographic insights into traditional marriage patterns, gender roles, and the socio-economic factors influencing these communities.

The data reveal that a substantial portion of females remain unmarried, accounting for 46.9%. The highest percentages of unmarried females are seen among the Juang (69.13%), Dongria Kandha (48.65%), and Didayi (47.15%). In contrast, the married female population varies across ethnic groups, ranging from 42.45% to 56.7%. The Lodha (48.97%), Paudi Bhuyan (50.44%), and Mankidia (51.91%) have the highest proportions of married females.

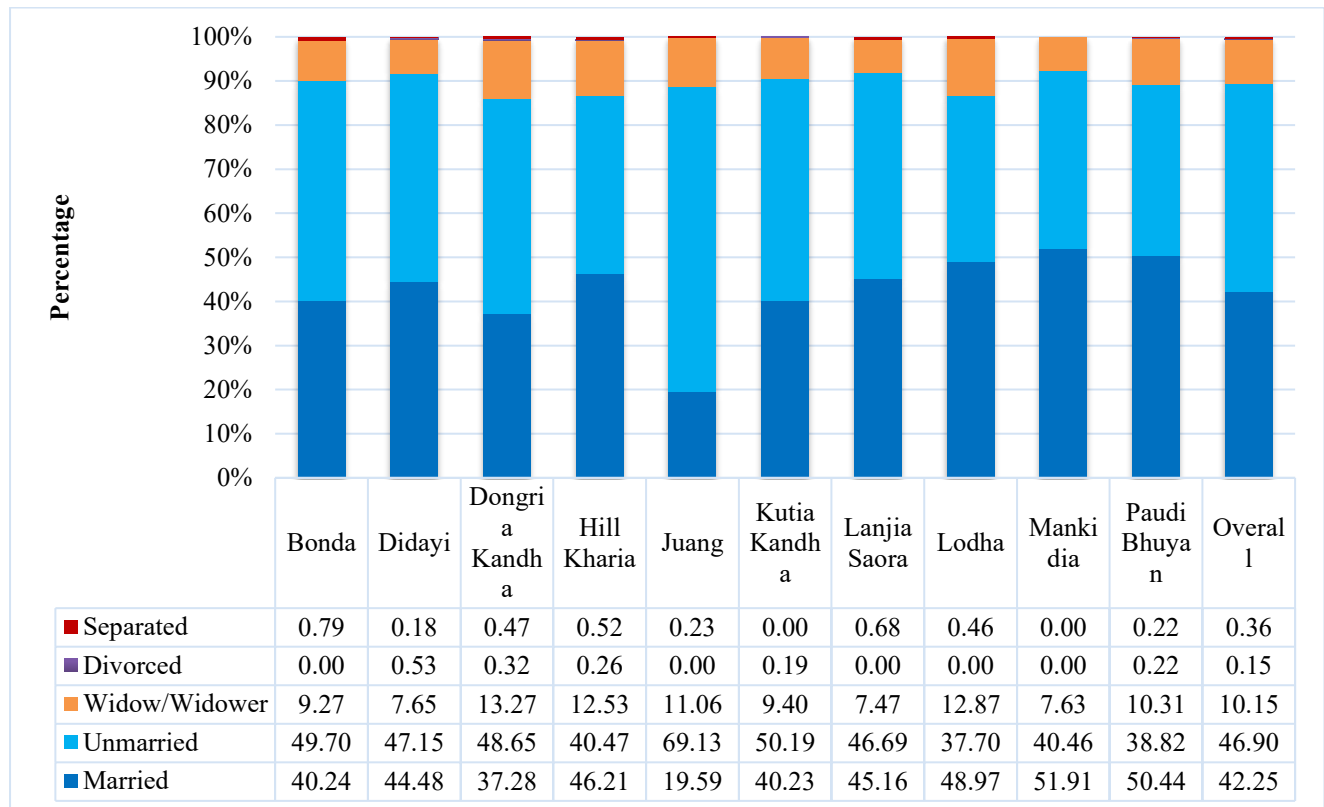


Figure 4.1.3.2: Marital status among females of the PVTGs

The data also highlights a notable widowhood rate of 10.15% among females, which is relatively high in specific communities. The Dongria Kandha (13.27%), Lodha (12.87%), and Hill Kharia (12.53%) report the highest percentages of widowed females. This trend suggests potential gender-based disparities in life expectancy, possibly due to higher male mortality rates, early marriages with significant age gaps, or socio-economic challenges affecting male survival. In contrast, the Bonda (9.27%), Didayi (7.65%), and Lanjia Saora (7.47%) exhibit lower widowhood rates, which may indicate better male survival or different cultural practices regarding remarriage for widowed women.

Divorce (0.15%) and separation (0.36%) are relatively low within the tribal communities. The highest percentage of divorced women is found among the Didayi (0.53%) and Dongria Kandha (0.32%), while separations are reported among the Bonda (0.79%), Lanjia Saora (0.68%), and Dongria Kandha (0.47%). These figures indicate that while marriage remains a strong institution within these societies, some level of marital instability exists. The near absence of divorces and low separation rates may also reflect social stigma, community mediation, and economic dependency, which can deter individuals from pursuing formal separations.

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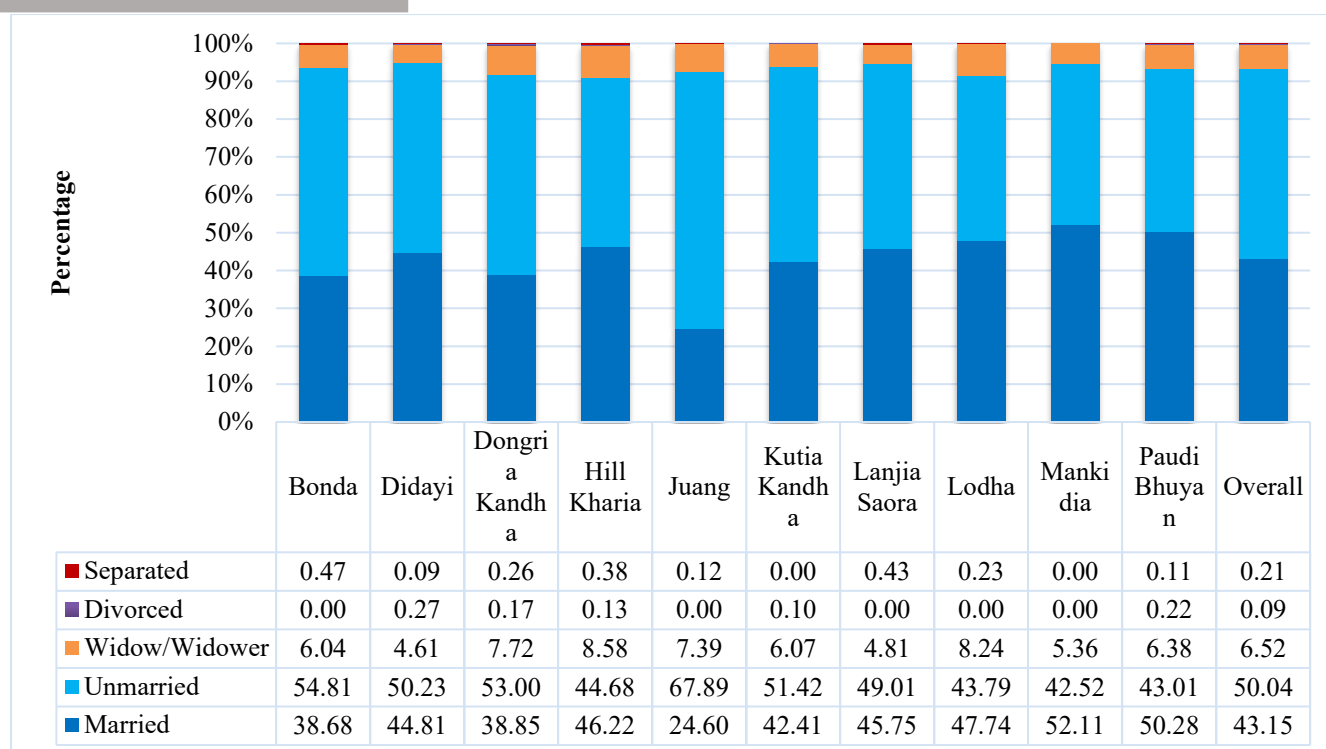


Figure 4.1.3.3: Overall marital status among the studied PVTGs

The overall marital status distribution among the PVTGs of Odisha reveals significant insights into social structure, marriage patterns, gender roles, and demographic trends within these indigenous communities (Table 4.1.3.3 and Figure 4.1.3.3). The data indicate that 43.15% of the total PVTG population is married, while a majority (50.04%) remains unmarried. The remaining 6.81% of individuals fall into categories of widowhood (6.52%), divorce (0.09%), and separation (0.21%). These variations across ethnic groups highlight cultural differences, socio-economic factors, and demographic challenges influencing marital trends.

A striking observation is the high percentage of unmarried individuals (50.04%), particularly among the Juang (67.89%), Dongria Kandha (53%), Bonda (54.81%), and Didayi (50.23%). This suggests that a significant portion of the adult population delays or forgoes marriage in many communities. However, in certain groups, such as Mankidia (42.52%), Paudi Bhuyan (43.01%), and Lodha (43.79%), the percentage of unmarried individuals is relatively lower. This indicates a more traditional marriage system, where marriage remains an essential social institution and occurs at a relatively younger age than in other groups.

The married population is 43.15%, but there are considerable variations among ethnic groups. The highest proportion of married individuals is found among Mankidia (52.11%), Paudi Bhuyan (50.28%), and Lodha (47.74%), suggesting that these communities maintain strong marriage traditions. Early family formation, customary laws favouring stable marital relationships, and lower out-migration patterns may influence marriage in these groups. On the other hand, groups like the Juang (24.6%), Dongria Kandha (38.85%), and Bonda (38.68%) report a lower proportion of married individuals.

The widowhood rate stands at 6.52%, with some communities experiencing significantly higher proportions. Dongria Kandha (7.72%), Hill Kharia (8.58%), and Lodha (8.24%) exhibit some of the

highest rates of widowhood. This may be attributed to higher male mortality rates due to health issues, difficult living conditions, or even occupational hazards in tribal regions. The low remarriage rate among widows, especially in traditional communities, can result in economic vulnerability and social isolation. Conversely, communities like Didayi (4.61%) and Lanjia Saora (4.81%) show comparatively lower widowhood rates, which may indicate better health conditions, lower age gaps between spouses, or greater acceptance of remarriage among widowed individuals.

Divorce (0.09%) and separation (0.21%) remain extremely rare among PVTGs in Odisha. While separation is slightly more common than divorce, both figures suggest that marriage remains a deeply rooted institution in these societies. The highest divorce cases are reported in Didayi (0.27%) and Dongria Kandha (0.18%), which, while still very low, indicate some degree of marital instability. Similarly, separation cases are minimal (0.21%), with the highest reported among Bonda (0.47%) and Lanjia Saora (0.43%).

4.1.4. Average Family Size among the PVTGs

4.1.4.1. Average family size

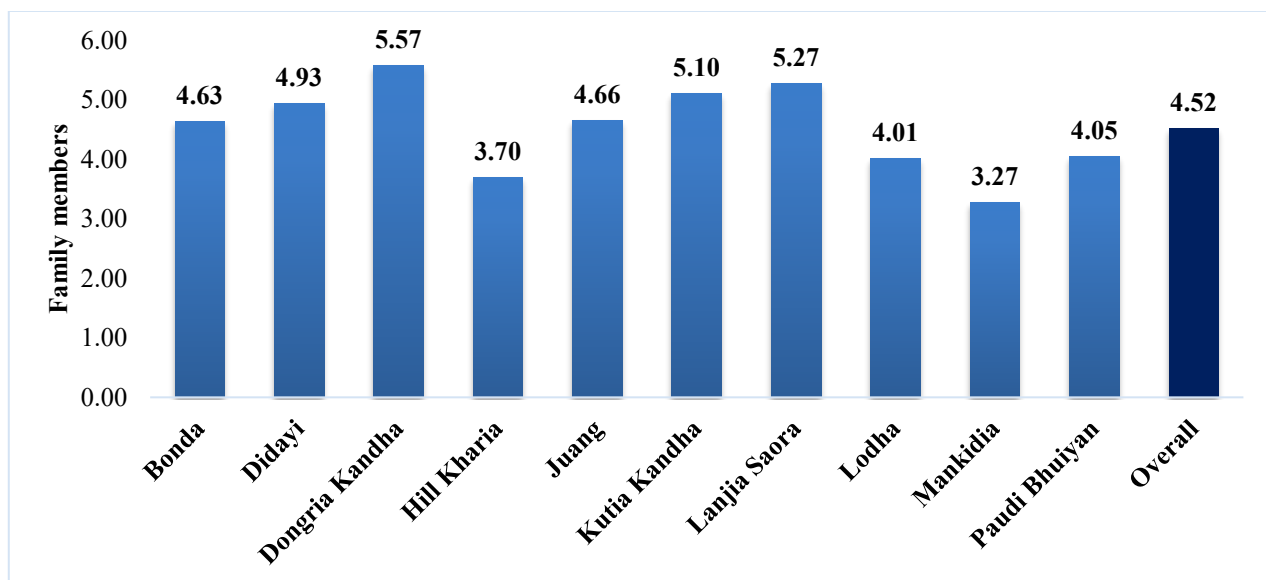


Figure 4.1.4.1: Average family size of PVTGs households

The bar graph (Figure 4.1.4.1) illustrates the average household size across ten PVTGs in Odisha and the overall average for all surveyed PVTGs. The data reveal notable inter-tribal variations in household size, with the Dongaria Kondh exhibiting the largest average at approximately 5.57 members per household, followed by the Lanjia Saora and Kutia Kandha with averages exceeding 5.0. In contrast, groups like the Hill Kharia, Mankidia, and Lodha have relatively smaller household sizes, ranging from 3.1 to 4.1. These differences may reflect underlying variations in socio-economic structure, cultural practices, and family composition among tribes. For instance, larger household sizes often indicate extended family systems, communal living, and agrarian livelihoods that benefit from pooled labour.

4.1.4.2. Patterns of Family Size among the PVTGs

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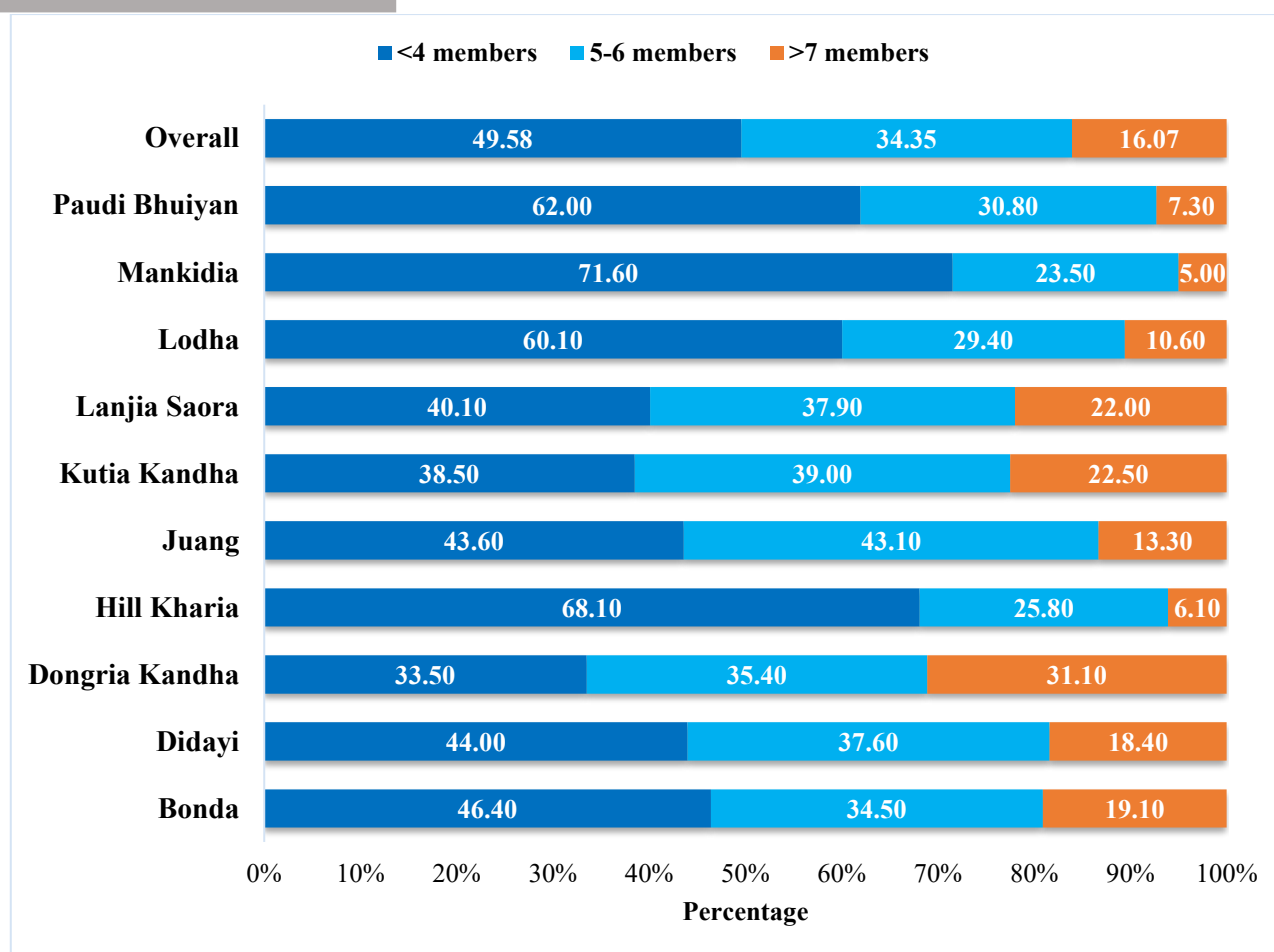


Figure 4.1.4.2: Percentages of various family sizes among the PVTGs households

Family size is crucial for understanding demographic trends, economic dependencies, and social structures within tribal communities. The data presented in the table and figure regarding the distribution of family sizes among PVTGs in Odisha highlights patterns of nuclear and extended family structures, population pressure, and socio-economic conditions. The data reveal three main categories of family size: small families with fewer than 4 members, medium-sized families with 5 to 6 members, and large families with more than 7 members.

Small families comprising fewer than four members constitute the largest share (49.58%) of total households in PVTG communities. This suggests a gradual shift towards nuclear family structures, possibly influenced by modernisation, economic constraints, and migration trends. The highest percentages of small families are found among the Mankidia (71.60%), Hill Kharia (68.10%), and Paudi Bhuiyan (62.00%). This may indicate higher migration rates, separation from extended family structures, or declining birth rates due to socio-economic constraints. The Lodha (60.10%) and Bonda (46.40%) communities also report significantly small families, reflecting trends toward independent living and possibly lower fertility rates. Conversely, the Dongria Kandha (33.50%) and Kutia Kandha (38.50%) have the lowest representation of small families, suggesting a greater inclination towards joint living arrangements.

Medium-sized families, comprising 5 to 6 members, account for 34.35% of all households. This category indicates a transitional stage between nuclear and joint families, in which families may still live together but begin to separate over time for economic or social reasons. The highest percentages

of medium-sized families are observed among the Kutia Kandha (39.00%), Dongria Kandha (35.40%), and Lanjia Saora (37.90%), suggesting a balance between traditional extended families and emerging nuclear households. Juang (43.10%) and Didayi (37.60%) also fall into this category, reflecting common patterns among agrarian or semi-agrarian tribal communities where larger household sizes may be necessary for economic activities. Hill Kharia (25.80%) and Mankidia (23.50%) report the lowest percentages of medium-sized families.

Extended families with more than seven members represent only 18.07% of the population. This indicates a decline in the traditional joint family system. The highest percentage of large families is found among the Dongria Kandha (31.10%), suggesting they still adhere to traditional joint family structures, potentially due to socio-cultural norms, dependence on collective labour, or lower out-migration rates. Kutia Kandha (22.50%) and Lanjia Saora (22.00%) also have many large families, likely due to cultural practices promoting cohabitation, land-based subsistence farming, and shared economic responsibilities. In contrast, communities such as the Mankidia (5.00%), Hill Kharia (6.10%), and Paudi Bhuiyan (7.30%) exhibit the lowest representation of large families, indicating a substantial shift toward nuclear households.

The gradual shift from joint to nuclear families is evident, with small and medium-sized families making up the majority, signalling a decline in traditional family structures. Economic factors, work-related migration, and evolving cultural norms contribute to this transformation, while land fragmentation and modernisation further discourage large families. However, tribal variations persist, as groups like the Dongria Kandha, Kutia Kandha, and Lanjia Saora continue to uphold larger family sizes, reflecting strong traditional ties.

4.2. Socio-Economic Status

Socio-economic status (SES) is a multidimensional construct encompassing key indicators such as education, occupation, housing conditions, sanitation facilities, access to agricultural land, household income, and expenditure patterns. These components collectively determine the living standards, well-being, and opportunities available to individuals and families. Education is a foundational driver of socio-economic mobility, influencing occupational choices and income-generating potential. The nature of occupation—formal, informal, agricultural, or non-agricultural- reflects economic stability and integration into broader market systems. Housing type and amenities, such as a separate kitchen and access to sanitation (e.g., avoiding open defecation), are critical markers of material well-being, health outcomes, and dignity of life. Ownership and extent of agricultural land directly affect food security and rural livelihoods. Meanwhile, household income and expenditure offer insights into economic resilience, consumption behaviour, and vulnerability to poverty. Assessing socio-economic status through these indicators is essential for understanding inequalities, designing targeted development interventions, and monitoring the effectiveness of social welfare programs, particularly among marginalised or tribal populations.

4.2.1. Educational Status

4.2.1.1. Educational Status of Male PVTGs

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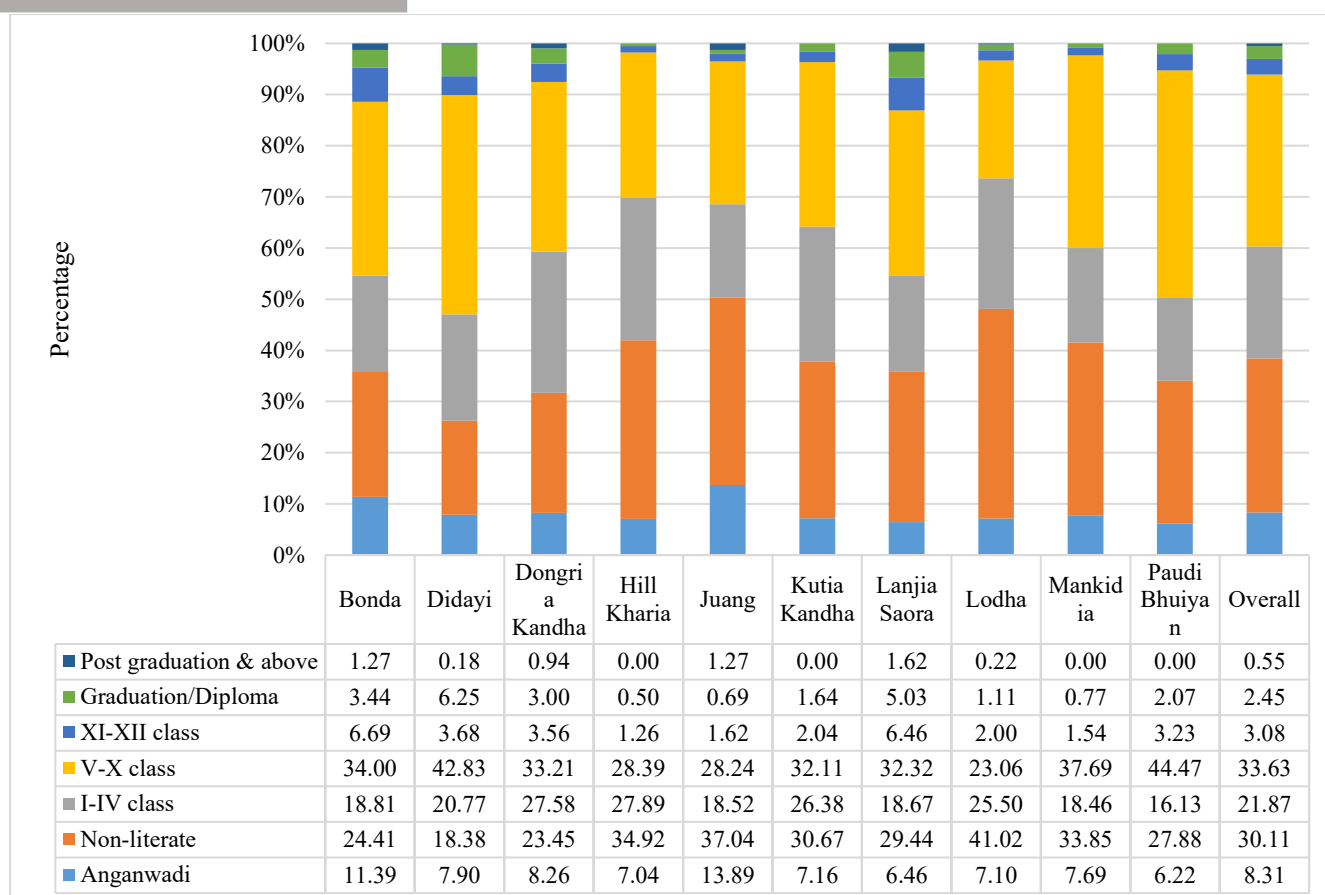


Figure 4.2.1.1: Educational status of the male PVTGs

The educational status of male members among the PVTGs of Odisha presents a diverse and challenging landscape, with a significant portion of the population still struggling with literacy and access to higher education. The data in Table 4.2.1.1 and Figure 4.2.1.1 highlight key trends in literacy levels, early childhood education, school dropouts, and higher education attainment, offering crucial insights into the socio-economic factors influencing education among PVTGs.

The overall enrollment in Anganwadis among male children of PVTGs is 8.31%, with Juang (13.89%) showing the highest proportion. However, specific communities such as Paudi Bhuyan (6.22%), Lanjia Saora (6.46%), and Hill Kharia (7.04%) have lower participation in Anganwadi programs. The lower enrollment rates at this stage may contribute to higher non-literacy rates later in life.

One of the most concerning aspects of this analysis is the high percentage of non-literate males (30.11%), indicating that nearly one-third of PVTG males have never acquired basic literacy skills. The highest rates of illiteracy are found among the Juang (37.04%), Lodha (41.02%), and Kutia Kandha (30.67%), highlighting a significant educational gap in these communities.

About 21.87% of male PVTGs have attended school up to Class IV, indicating that many children initiate primary education but do not necessarily progress further. Ethnic groups such as Dongria Kandha (27.58%), Hill Kharia (27.89%), and Kutia Kandha (26.38%) have relatively higher participation in primary education, suggesting that school accessibility might be slightly better in these regions. However, the low primary school enrollment rates among Paudi Bhuyan (18.13%) and

Mankidia (18.46%) are a concern, suggesting that children from these groups face significant barriers to accessing primary education. The failure to complete primary education increases the risk of functional illiteracy, meaning that even those who briefly attended school may lack essential literacy and numeracy skills.

The highest proportion of PVTG males (33.63%) falls in the V-X class category, indicating that many students reach the middle and high school levels before dropping out. While this indicates a gradual improvement in literacy, the challenge remains in ensuring retention beyond this stage. The highest participation in this category is among Paudi Bhuyan (44.47%), followed by Didayi (42.83%) and Lanjia Saora (32.32%), reflecting a positive trend in continued schooling. However, dropout rates after Class X remain high, primarily due to economic hardship, cultural factors, and lack of awareness regarding the importance of higher education. The transition from primary to secondary education remains critical, and most tribal students leave school due to economic or social pressures.

The percentage of male PVTGs who reach higher secondary education (XI-XII) is significantly low at 3.08%. The Bonda (6.69%) and Lanjia Saora (6.46%) communities have relatively higher participation at this stage, suggesting that some groups are progressing in higher secondary education. However, the Hill Kharia (1.26%) and Mankidia (1.54%) show alarmingly low figures, indicating severe educational disadvantages among these tribes.

The proportion of PVTG males who have attained graduation or diploma degrees remains critically low at just 2.45%, while post-graduation enrollment is even lower at 0.55%. This suggests that higher education is almost inaccessible to most tribal males, reinforcing the cycle of poverty and lack of professional employment opportunities. Only a handful of communities, such as Didayi (6.25%) and Lanjia Saora (5.03%), show some level of higher education attainment, while groups like Hill Kharia (0.50%) and Juang (0.69%) have almost negligible participation. The post-graduation figures are even lower, with only 23 individuals (0.55%) across all groups completing education beyond graduation.

The educational landscape of male members in PVTGs of Odisha reflects a complex interplay of progress and persistent challenges. While basic literacy and primary education have improved, high dropout rates and low participation in higher education remain significant concerns. By addressing these structural and socio-economic challenges, education among PVTG males can be significantly improved, leading to better employment opportunities, enhanced socio-economic status, and overall tribal development in Odisha.

4.2.1.2. Educational Status of Female PVTGs

The educational status of female members among the PVTGs of Odisha reflects severe disparities and systemic challenges that continue to limit access to education for women in these marginalised communities. The data presented in Table 4.2.1.2 and Figure 4.2.1.2 highlight alarming rates of illiteracy, low participation in higher education, and persistent socio-cultural and economic barriers that hinder educational advancement for tribal women. While some improvements are visible in primary and secondary education, the dropout rates remain high, and access to higher education is extremely limited.

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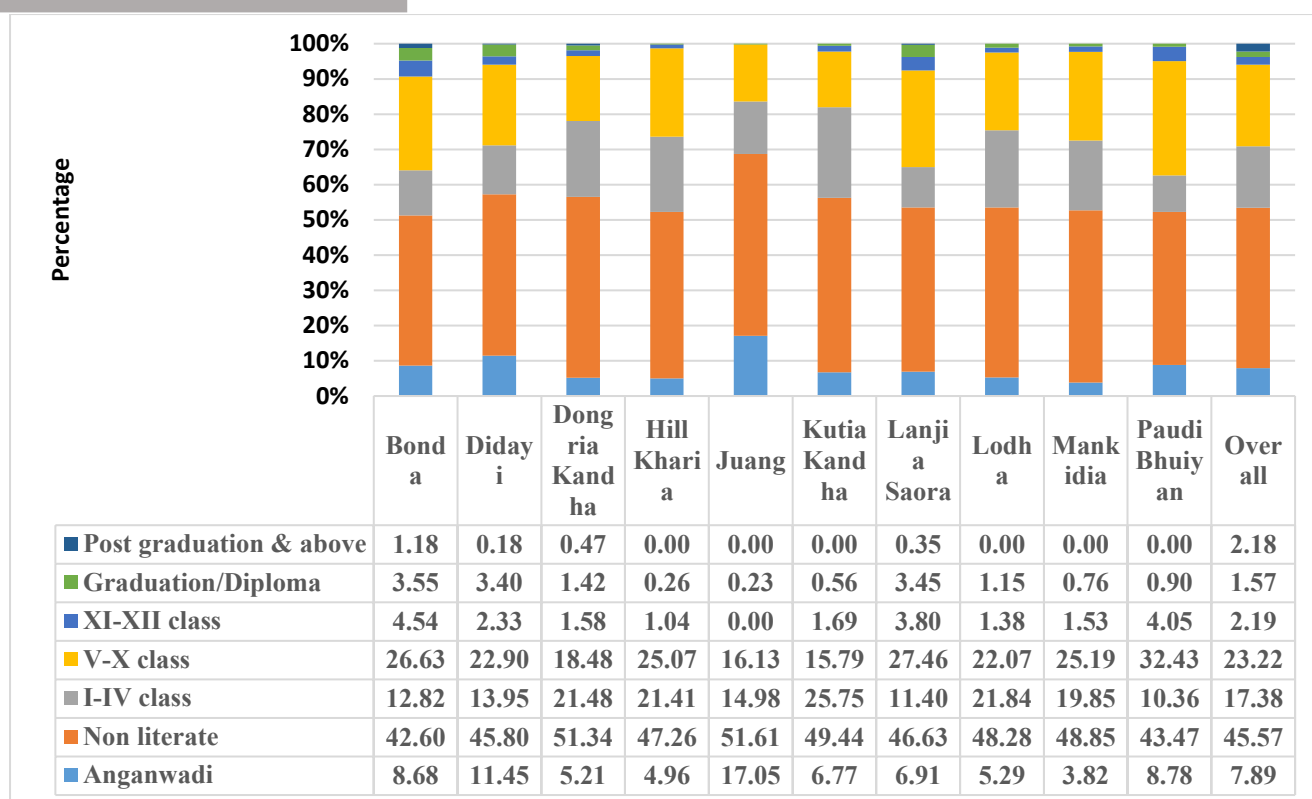


Figure 4.2.1.2: Educational status of the female PVTGs

Anganwadi centres play a crucial role in early childhood learning by providing young children with basic education, nutrition, and health support. Among female PVTGs, 7.89% are enrolled in Anganwadis, slightly lower than the male enrollment (8.31%), indicating that early childhood education is still not reaching a significant portion of tribal girls. The highest Anganwadi enrollment is among Juang girls (18.05%), followed by Didayi (11.45%), suggesting that these communities might have better awareness or access to early learning programs. However, groups like Mankidia (3.82%) and Hill Kharia (4.96%) show alarmingly low participation, indicating geographical barriers, social restrictions, or lower prioritisation of girls' education within families.

A lower percentage of girls in early education misses the foundation for future learning, leading to higher non-literacy rates later in life. Expanding Anganwadi outreach programs and encouraging female participation at this stage is essential to improving literacy levels. The most concerning statistic in this data is the non-literacy rate among female PVTGs, which stands at 45.57%. This means that nearly half of all tribal women in these communities lack basic literacy skills, making them economically and socially vulnerable.

The highest illiteracy rates are observed in Dongria Kandha (51.34%), Juang (51.61%), and Kutia Kandha (49.44%), highlighting severe educational disadvantages in these groups. Non-literacy remains a significant issue even among groups like Lodha (48.28%) and Hill Kharia (47.26%), where slightly better educational progress is observed.

Approximately 18.38% of female PVTGs have attended school up to Class IV, indicating that while some progress has been made, many girls still drop out before acquiring basic literacy and numeracy skills. Groups such as Kutia Kandha (25.75%) and Dongria Kandha (21.48%) have relatively higher

participation in primary education, suggesting some improvement in school access for young girls. However, Paudi Bhuyan (10.36%) and Lanjia Saora (11.40%) show very low primary school enrollment, suggesting that many girls in these communities either never enrol or drop out at an early stage.

Among female PVTGs, 23.22% have attended school up to Class X, indicating that many tribal girls do get access to education but drop out before completing high school. The highest participation in this category is seen among Paudi Bhuyan (32.43%), Lanjia Saora (27.46%), and Bonda (26.63%), suggesting a moderate level of retention in secondary education. However, groups such as Kutia Kandha (15.79%) and Juang (18.13%) have significantly lower participation, indicating early dropouts due to social and economic pressures.

Only 2.19% of female PVTGs have reached the XI-XII level, which is extremely low compared to male participation (3.08%). The lack of higher secondary education is a significant hurdle in breaking the cycle of poverty and gender inequality in these communities. The highest participation is seen among Paudi Bhuyan (4.05%) and Bonda (4.54%), though still at very low levels. Among groups like Juang (0.00%) and Dongria Kandha (1.58%), participation is almost negligible, indicating that many girls from these communities never get to pursue higher education.

The proportion of female PVTGs who have attained graduation or a diploma is only 1.57%, while post-graduation participation is almost non-existent at 0.55%. The highest graduation rates are observed among Lanjia Saora (3.45%) and Bonda (3.55%), but even these figures are critically low. Groups like Hill Kharia (0.26%) and Juang (0.23%) have almost no representation in higher education. Post-graduation participation is negligible, with only 12 women (0.55%) across all groups reaching this level.

4.2.1.3. Educational Status of Overall PVTGs

The educational status of the overall PVTGs in Odisha, as reflected in Table 4.2.1.3 and Figure 4.2.1.3, paints a deeply concerning picture of low literacy rates, high dropout rates, and minimal participation in higher education. While some progress has been made in primary and secondary education, a significant percentage of the population remains non-literate, and the transition to higher education remains alarmingly low.

The Anganwadi program, which provides early childhood education and basic foundational learning, has a participation rate of only 8.1% among PVTGs in Odisha. This indicates that many tribal children are missing out on early education opportunities. Among various ethnic groups, the highest Anganwadi enrollment is observed among the Juang (15.47%), which is significantly higher than that of other groups. This suggests that some communities have better access to early childhood education services or greater awareness of their benefits. On the other hand, groups like Mankidia (5.75%) and Dongria Kandha (6.6%) show lower participation, which may indicate geographical barriers, a lack of Anganwadi centres, or lower parental awareness about the importance of early education. Since early childhood education is a crucial stepping stone for further literacy and school retention, the low percentage of children attending Anganwadis suggests that many tribal children enter the education system late, leading to higher illiteracy rates later in life.

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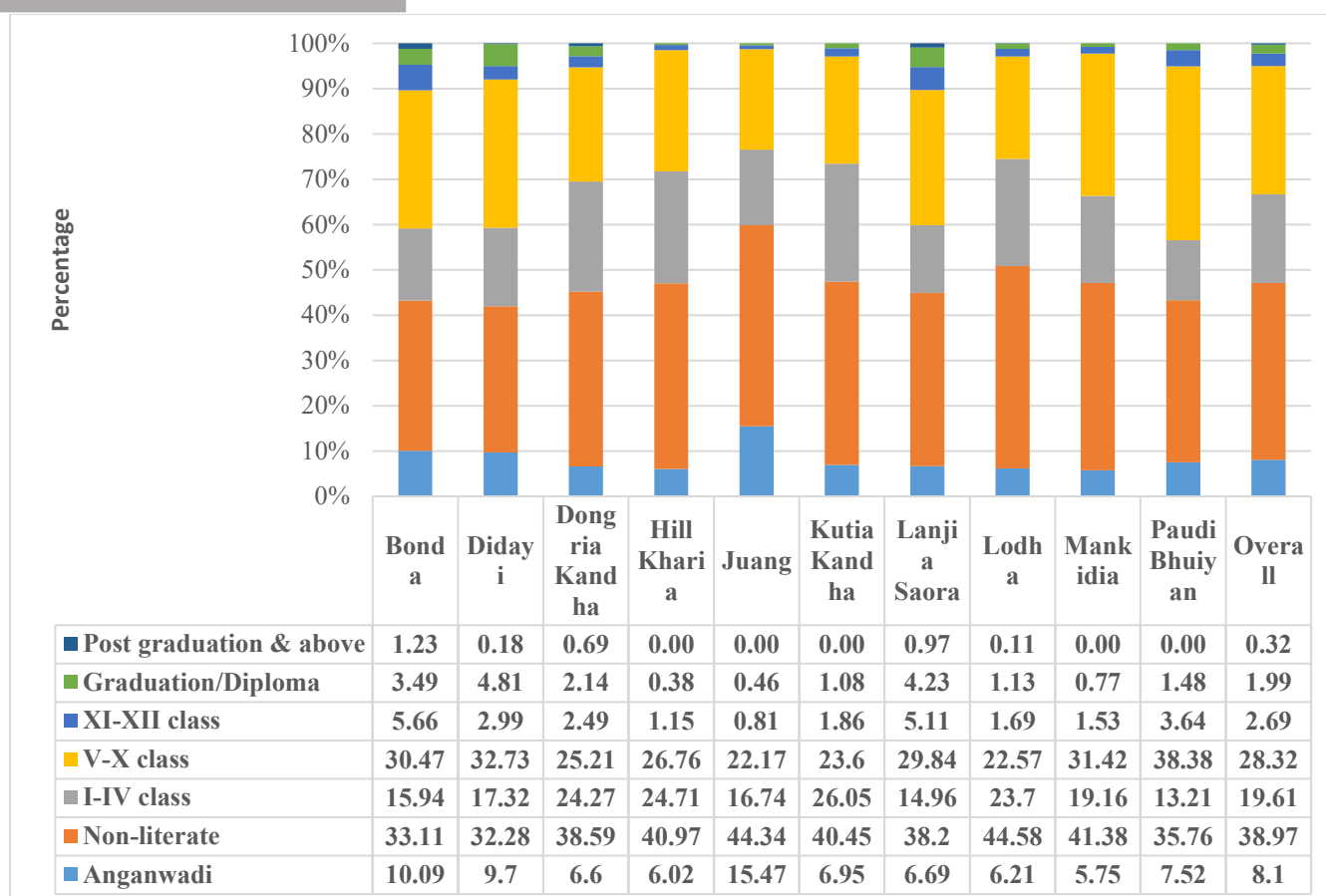


Figure 4.2.1.3: Overall educational status among the PVTGs

A staggering 38.97% of the overall PVTG population remains illiterate, indicating that almost 4 out of 10 individuals lack basic reading and writing skills. This is a significant barrier to socio-economic progress, as it limits employment opportunities, restricts access to government schemes, and hinders overall development. The highest illiteracy rates are observed among Juang (44.34%), Lodha (44.58%), and Kutia Kandha (40.45%), suggesting that these communities face severe challenges in accessing basic education. Non-literacy rates are distressingly high even in groups such as the Dongria Kandha (38.59%) and the Hill Kharia (40.97%).

Around 19.61% of the PVTG population has received education up to Class IV, indicating a moderate level of primary school enrollment. However, this also suggests that many students drop out before completing basic schooling. Among different groups, the highest participation in primary education is seen among the Kutia Kandha (26.05%) and the Dongria Kandha (24.27%), while the Paudi Bhuyan (13.21%) and the Lanjia Saora (14.96%) show much lower primary education participation rates. This imbalance suggests disparities in school accessibility and engagement levels across tribal groups. Although a significant portion of PVTG children enrol in school, the transition beyond primary education remains a critical challenge, mainly due to poverty, lack of parental support, and socio-cultural factors discouraging continued education.

The largest segment of literate PVTGs (28.32%) has received education up to Class X, which is a positive sign. However, the fact that many students stop at this level indicates a major dropout issue before higher secondary education. The highest participation in secondary education is seen among

Paudi Bhuyan (38.38%) and Bonda (30.47%), suggesting better retention rates in these groups. However, Juang (22.18%) and Lodha (22.57%) show significantly lower secondary education participation, indicating dropout issues at an earlier stage.

Only 2.69% of the PVTG population has studied up to Class XII, indicating a massive drop in participation after secondary school. The highest participation is among Lanjia Saora (5.11%) and Bonda (5.66%), while groups like Juang (0.81%) and Hill Kharia (1.15%) have extremely low numbers. The lack of proper educational facilities, social restrictions, and financial constraints prevents many students from continuing beyond Class X.

The most significant educational gap among Odisha's PVTGs is in higher education. Only 1.99% of the population has attained a Graduation/Diploma, while a mere 0.32% has pursued post-graduation. Groups like the Hill Kharia, Juang, and Kutia Kandha have nearly zero representation in higher education, reflecting a severe educational crisis.

4.2.2. Gender Parity in Educational Status

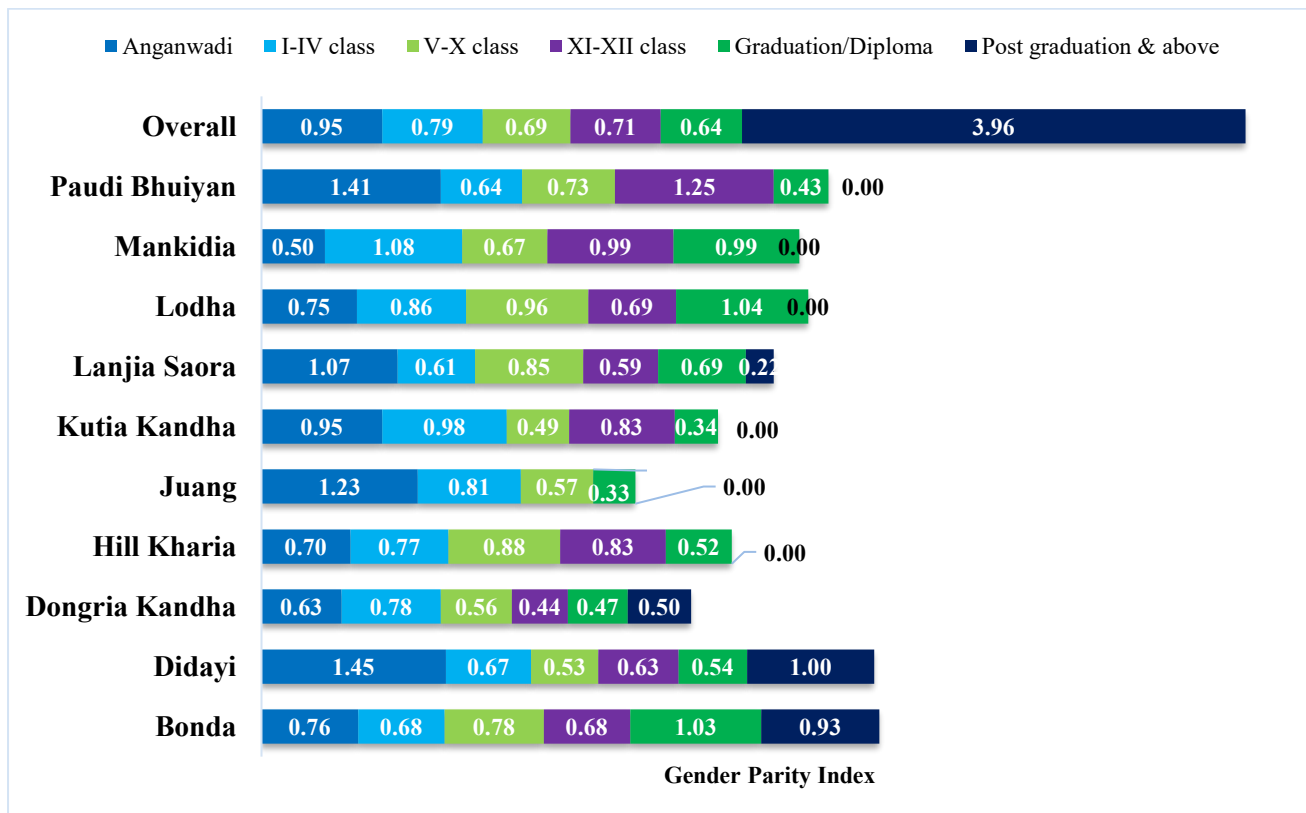


Figure 4.2.2: Gender parity in educational status

The data in Table 4.2.2 and Figure 4.2.2 illustrate the gender gap in educational attainment among PVTGs in Odisha. The gender disparity was measured using the formula: Female enrolment divided by male enrolment. This reveals a significant difference in literacy rates between males and females across various age groups and education levels, highlighting the persistent educational challenges faced by women in these tribal communities.

The gender parity index (GPI) across educational levels among the selected tribal communities shows a clear pattern: initial proximity to parity, followed by a steady, often sharp decline as education levels advance. These highlights deep-rooted structural and socio-cultural barriers affecting girls' educational progress. At the Anganwadi level, the overall GPI of 0.95 indicates near gender balance, with communities like Didayi (1.45) and Paudi Bhuiyan (1.41) even showing a strong female advantage, suggesting relatively equitable early childhood participation. However, this balance diminishes at the primary level (Classes I–IV), where the GPI drops to 0.79, reflecting increasing gender disparity. Most communities fall below parity, though Mankidia (1.08) slightly favours girls, and Kutia Kandha (0.98) approaches parity. The decline intensifies at upper primary and secondary levels (Classes V–X), with the overall GPI falling further to 0.69, indicating weakened girls' retention during adolescence. Communities like Kutia Kandha (0.49), Didayi (0.53), and Juang (0.57) show particularly stark gender gaps. At the higher secondary stage (Classes XI–XII), the overall GPI remains low at 0.71, with disparities especially severe among the Juang community, where the GPI drops to 0.00, indicating no girls enrolled, while Paudi Bhuiyan (1.25) shows higher female participation. In higher education, disparities become more evident: at the graduation/diploma level, the overall GPI is 0.64, with some communities like Lodha (1.04) and Bonda (1.03) achieving parity or a slight female advantage, but others like Juang (0.33) and Kutia Kandha (0.34) remain heavily skewed towards males. The post-graduation level reveals even greater disparities, with many communities recording negligible or zero female participation, GPIs of 0.00 in several groups, while the overall figure of 3.96 appears distorted, likely due to very low male representation rather than advances in female attainment. Overall, the data show that early gender balance is not maintained, and disparities grow with each educational level, reflecting barriers such as economic hardship, early marriage, gendered division of labour, and limited access to higher educational infrastructure, which disproportionately restrict girls' educational progress in these communities.

4.2.3. Crude literacy rate

Table 4.2.3 and Figure 4.2.3 present the overall crude literacy rate among PVTGs in Odisha, which is 61.51%, indicating that nearly 38.5% of the tribal population remains non-literate. However, a deeper analysis reveals significant disparities by gender and ethnicity. The male literacy rate (70.74%) is significantly higher than the female literacy rate (52.51%), highlighting a gender gap of 18.23 percentage points. Among males, the highest literacy rate is observed in the Didayi (81.62%) and Bonda (75.59%) tribes, whereas the lowest is among the Lodha (58.98%) and Juang (62.96%) tribes. Among females, the highest literacy rate is found in Bonda (57.4%), while the lowest is in Dongria Kandha (48.66%), reinforcing the systematic barriers to female education.

One of the most critical findings from the table is the significant gap between male and female literacy rates. In all ten PVTGs, male literacy rates are considerably higher than female literacy rates. The most pronounced gender gap is found in the Dongria Kandha community, where male literacy (76.55%) is nearly 28 percentage points higher than female literacy (48.66%).

While all PVTGs face educational challenges, some groups show higher literacy rates than others. PVTGs with relatively higher literacy rates, the Didayi (67.72%) and Bonda (66.89%), have the highest overall literacy rates, possibly due to better educational outreach, government interventions, and local initiatives supporting schooling. Paudi Bhuiyan (64.24%) also performs better than other groups, suggesting improved educational access in this community. However, despite higher literacy

rates, these communities still show significant gender disparities, indicating that progress has been uneven.

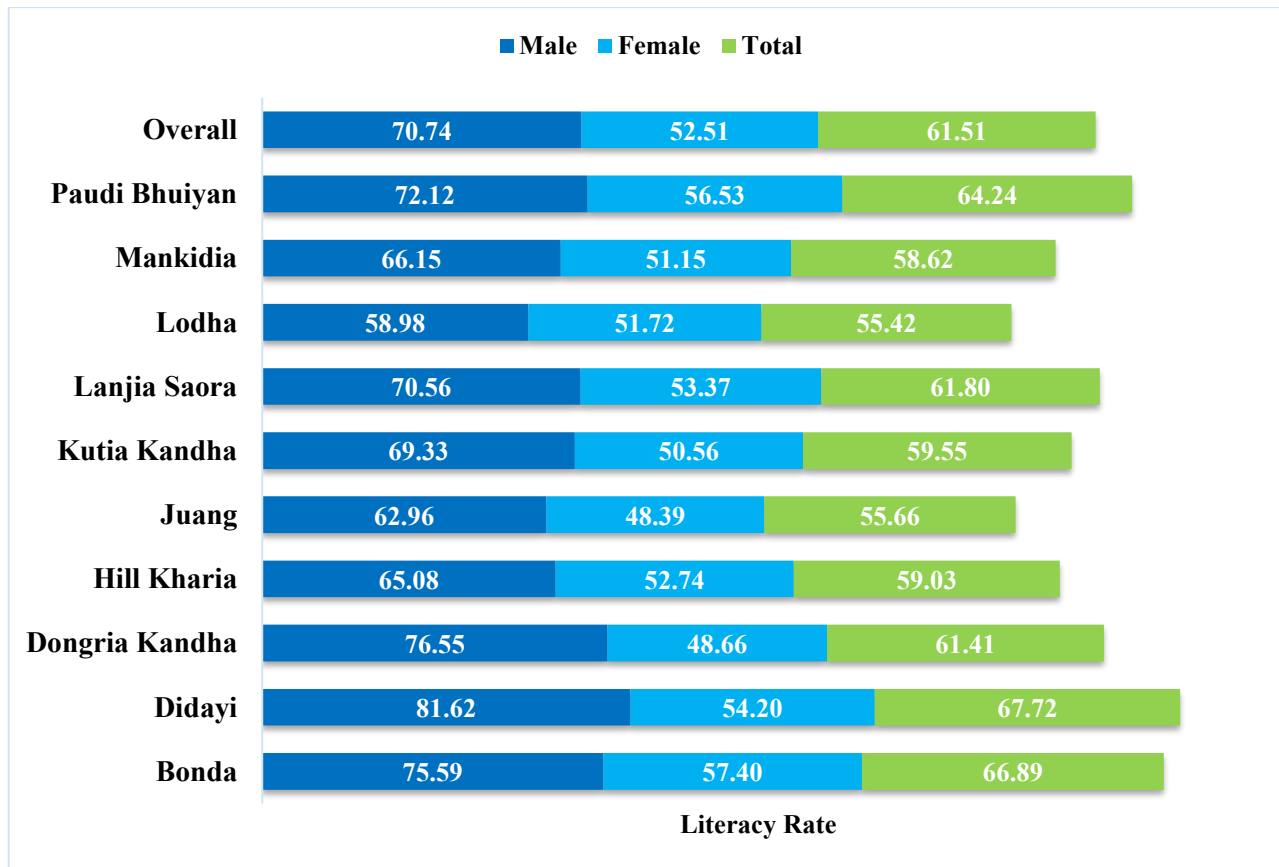


Figure 4.2.3: Gender wise crude literacy rate among the PVTGs

In contrast, groups with lower literacy rates, the Juang (55.66%) and Lodha (55.42%), have the lowest overall literacy rates, reflecting severe educational deprivation. The lowest female literacy rates are observed among the Dongria Kandha (48.66%) and Juang (48.39%), indicating that women in these groups face the most significant educational barriers. These groups require urgent government and non-government interventions to improve educational access, especially for women and children.

4.2.4. Effective literacy rate

The effective literacy rate among the 10 PVTGs of Odisha reflects significant disparities in educational attainment across different communities and between genders (Table 4.2.4 and Figure 4.2.4). The overall literacy rate among these PVTGs is 55.95%, indicating that nearly half of the population in these groups still lacks basic literacy skills. A closer examination of the data reveals that the Didayi tribe exhibits the highest overall literacy rate (65.3%), while the Mankidia tribe has one of the lowest (53.28%). The male literacy rate among these groups is considerably higher than the female literacy rate, with an overall male literacy rate of 66.60% compared to 45.61% for females. This 20.99 percentage point gap underscores the persistent gender inequality in education within these communities.

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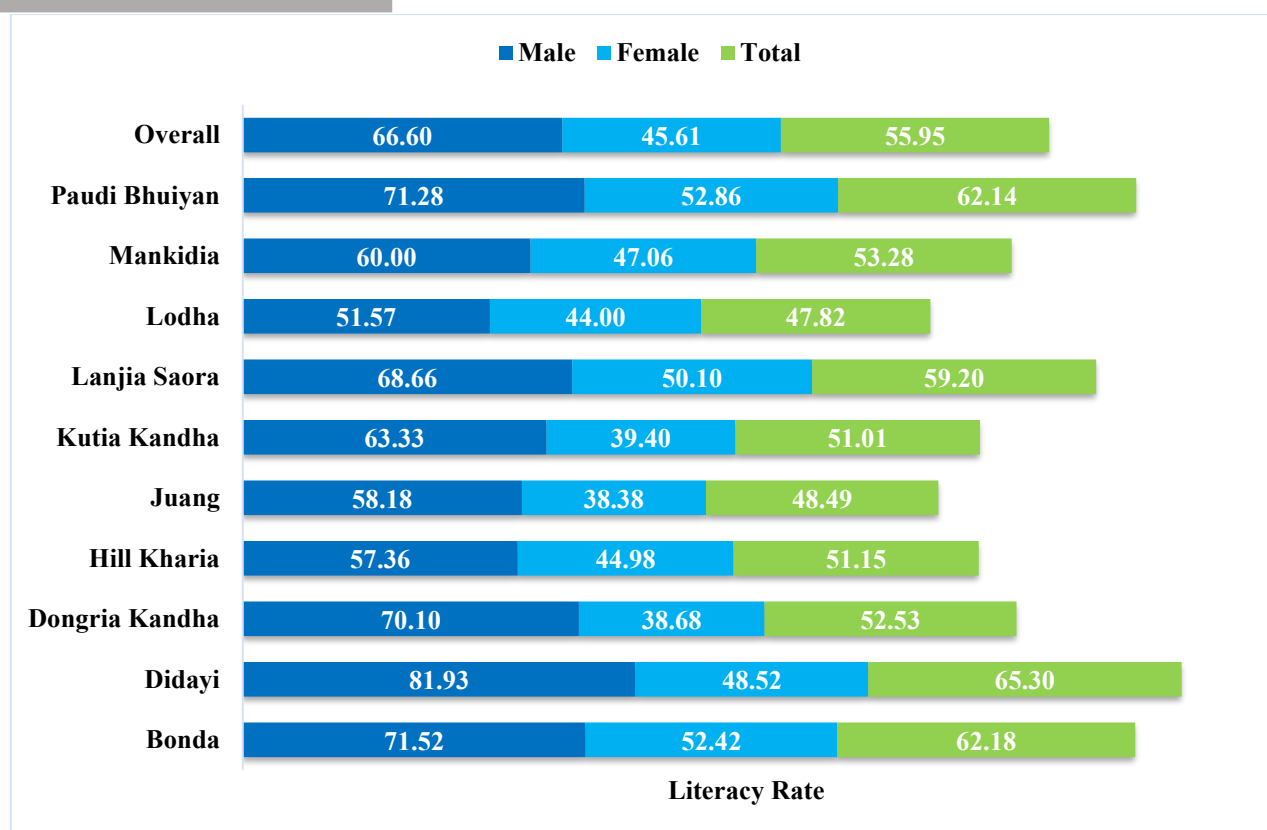


Figure 4.2.4: Effective literacy rate among the PVTGs

Among males, the Didayi tribe has the highest literacy rate (81.93%), followed by the Bonda (71.52%) and Paudi Bhuiyan (71.28%) tribes. Conversely, the Lodha (51.57%) and Hill Kharia (57.36%) tribes have some of the lowest male literacy rates, highlighting disparities among tribal groups. In contrast, female literacy rates are significantly lower across all groups, with the Dongria Kandha (38.68%) and Juang (38.38%) tribes recording the lowest rates. Even in the most literate tribe, Didayi, female literacy is only 48.52%, indicating that no tribe has achieved gender parity in literacy.

The data suggest that certain PVTGs, such as the Didayi, Bonda, and Paudi Bhuiyan, have relatively better access to education or have benefited from targeted educational interventions. However, groups like the Dongria Kandha, Juang, and Mankidia struggle with low literacy levels, particularly among women. Socio-economic factors, geographical isolation, lack of educational infrastructure, and traditional socio-cultural norms restricting women's education likely contribute to these disparities.

4.2.5. Working Population Rate

Table 4.2.5 and Figure 4.2.5 depict the Working Population Rate (WPR) for the 10 PVTGs of Odisha, revealing significant variations in workforce participation across tribes and genders. The overall WPR among these groups is 50.49%, indicating that slightly over half of the population is engaged in economic activities. However, a deeper look at the data reveals notable disparities in male and female participation rates and differences across various tribal groups. The total male WPR is 57.71%, whereas the female WPR is 43.31%, indicating that women are less likely than men to be

involved in earning activities. This gender gap is particularly pronounced in certain tribes, highlighting structural and socio-cultural barriers that limit women's economic engagement.

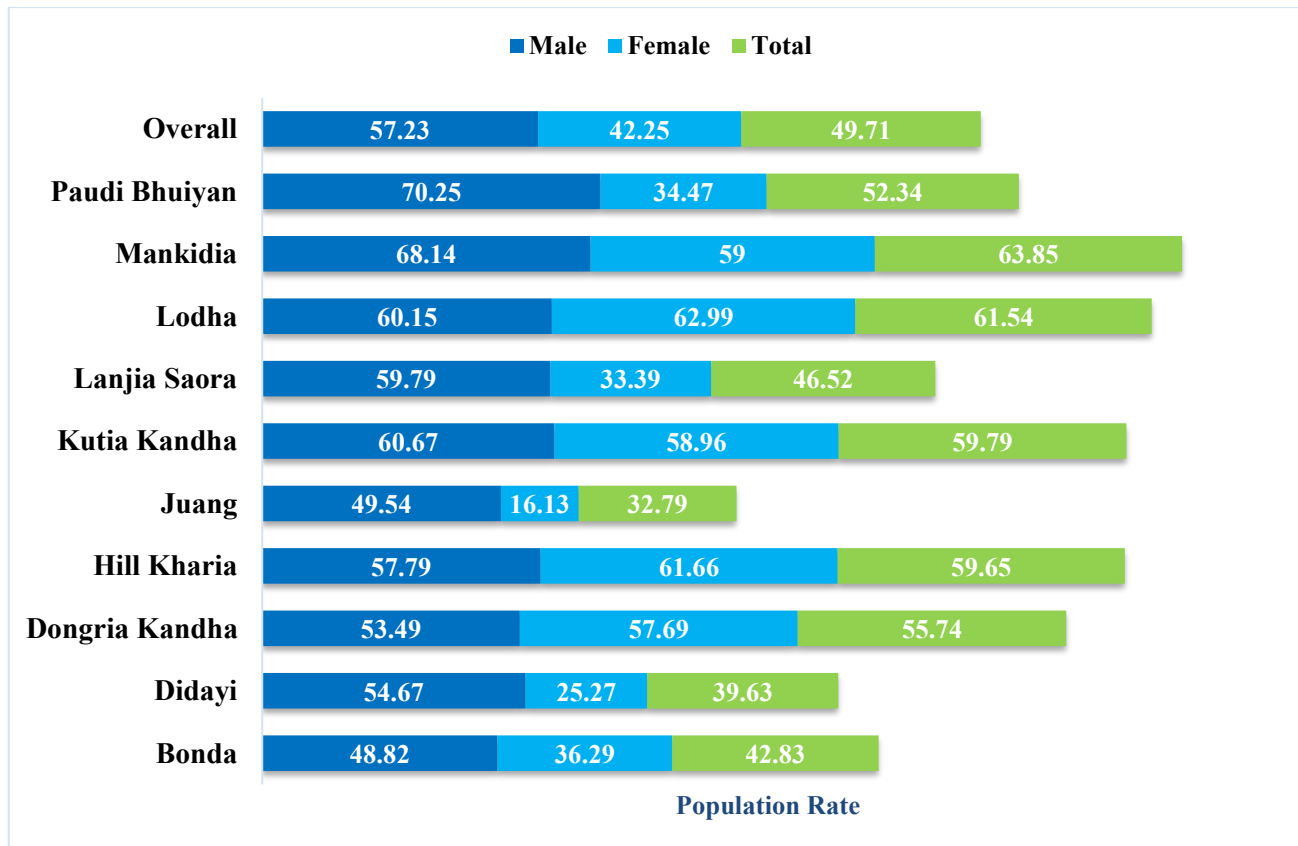


Figure 4.2.5: Overall Working Population Rate among the PVTGs

Among males, the highest WPR is observed in the Paudi Bhuiyan tribe (70.25%), followed closely by the Mankidia (68.14%) and Lanjia Saora (59.79%) tribes. On the other hand, the lowest male WPR is seen in the Bonda (48.82%) and Didayi (54.67%) tribes, indicating that nearly half of the male population in these groups is not actively engaged in work.

In contrast, female WPR varies significantly across different tribes, showing a complex picture of women's economic participation. The highest female workforce participation is found among the Lodha (62.99%), Hill Kharia (61.66%), and Dongria Kandha (57.69%) tribes. Conversely, the lowest female WPR is observed in the Didayi (25.27%) and Juang (26.46%) tribes, indicating that three-fourths of the women in these groups do not participate in economic activities.

Overall, the highest WPR is recorded among the Mankidia (63.85%) and Lodha (61.54%) tribes, while the lowest participation is found among the Didayi (39.63%) and Juang (40.40%) tribes. These disparities may stem from differences in livelihood patterns, access to education, government employment schemes, and traditional subsistence practices. Additionally, the data suggest that, in some tribal groups, female WPR is closer to male WPR (e.g., the Hill Kharia and Lodha tribes).

The relatively low overall WPR of 50.49% indicates that a significant portion of the population remains outside the workforce. This could be due to a reliance on traditional subsistence agriculture, migration trends, or a lack of employment opportunities in tribal areas. To improve workforce

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participation, especially among women, targeted interventions such as skill development programs, economic incentives for women's employment, and greater access to livelihood opportunities are necessary.

4.2.6. Occupational pattern

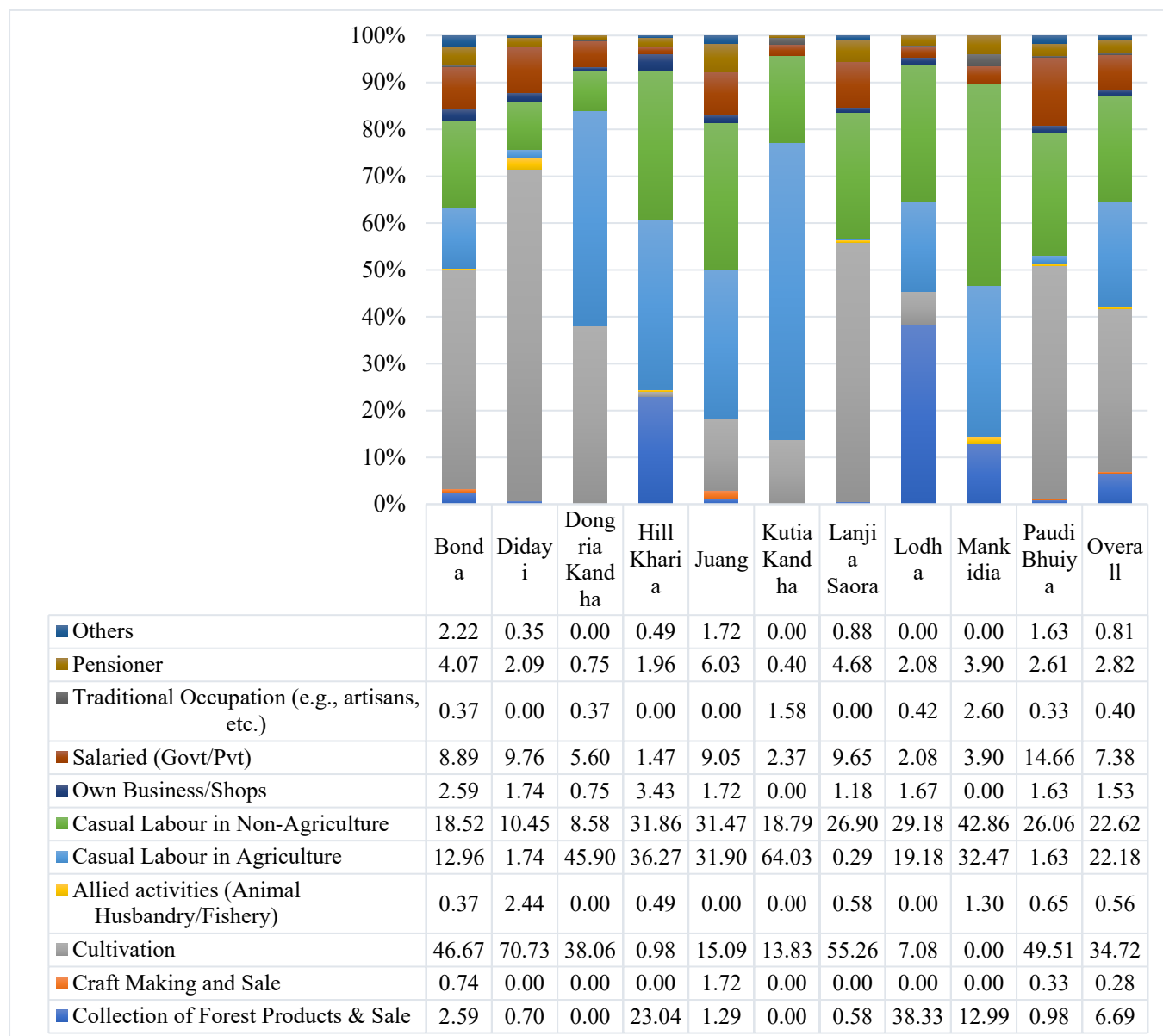


Figure 4.2.6.1: Occupational status of males among the PVTGs

Table 4.2.6.1 and Figure 4.2.6.1 present the occupational distribution of male members of the PVTGs in Odisha, which reveals significant variations in livelihood patterns across different tribal communities. The data underscores a heavy dependence on agriculture, casual labour, and non-agricultural work, with limited participation in salaried jobs, business ventures, and traditional occupations.

Cultivation is the most common occupational activity among PVTG males, with an overall participation rate of 34.72%. The highest proportion of cultivators is found among the Didayi tribe (70.73%), followed by Lanjia Saora (55.26%) and Paudi Bhuiyan (49.51%). This suggests that these groups primarily rely on farming for their sustenance and economic livelihood. In contrast, some tribes show strikingly low engagement in cultivation, such as the Hill Kharia (0.98%) and Lodha (7.08%) tribes, indicating a preference for alternative sources of income. The Mankidia tribe reports 0% cultivation engagement, likely due to their traditionally nomadic lifestyle and dependence on forest resources.

Allied activities such as animal husbandry and fisheries contribute minimally to employment, with only 0.56% of the male PVTG population engaged in them. The highest participation is among the Didayi (2.44%), but in most tribes, these activities do not constitute a significant livelihood source.

Casual labour in agriculture and non-agriculture is a significant source of livelihood for male PVTGs, accounting for 22.18% and 22.62% of employment, respectively. Some tribes, such as the Kutia Kandha, show an exceptionally high dependence on agricultural labour (64.03%), while the Dongria Kandha tribe records the highest proportion of workers in this category (45.90%). This suggests that these communities may be engaged as farm labourers due to a lack of land ownership or reliance on wage-based employment. Casual labour in non-agricultural sectors is also prevalent, with high participation among Mankidia (42.86%), Lodha (29.18%), and Hill Kharia (31.86%) communities. The high percentage in non-agricultural labour suggests that these tribes are engaged in construction work, daily wage labour, or other informal employment sectors, potentially in urban or semi-urban areas. However, this also highlights economic vulnerability, as casual labour is often irregular and lacks job security.

Forest-based occupations, such as collecting and selling forest products, contribute to only 6.69% of employment. The highest dependence on this occupation is observed among the Lodha (38.33%) and Hill Kharia (23.04%) tribes. At the same time, some groups, like the Dongria Kandha and Kutia Kandha, have no representation in this category. The low percentage indicates a decline in traditional forest-based livelihoods, possibly due to deforestation, restricted access to forest resources, or a shift towards other forms of employment.

Traditional occupations such as artisanship and handicrafts have almost disappeared, with only 0.40% of PVTG males engaged in them. The Kutia Kandha (1.58%) have the highest engagement, followed by Mankidia (2.60%), but for most other tribes, this form of livelihood has become nearly extinct. This indicates a decline in indigenous craft traditions, which could be attributed to a lack of market demand, skill transmission, and systematic support for traditional artisans.

Entrepreneurship and business ownership remain uncommon among male PVTGs, with only 1.53% engaged in running shops or small businesses. The highest participation is seen among Bonda (2.59%) and Hill Kharia (3.43%) males, suggesting that only a handful of individuals from these tribes have ventured into independent business activities. The low percentage could be due to limited capital, lack of market access, or social barriers to business ownership.

Salaried employment (both government and private) accounts for 7.38% of the total male PVTG workforce. While this is a relatively low figure, some tribes, such as Paudi Bhuiyan (14.66%) and Lanjia Saora (9.65%), have slightly better representation. The lower presence in salaried jobs suggests that most PVTG males have not yet benefited significantly from formal education and employment opportunities.

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Pensioners constitute only 2.82% of the workforce, with Juang (6.03%) showing the highest representation. This suggests that very few PVTG males have access to social security schemes, likely due to a lack of documentation, awareness, or eligibility criteria that exclude tribal communities from such benefits. The occupational structure of male PVTGs in Odisha highlights the economic vulnerabilities of these communities. With a majority engaged in agriculture and casual labour, employment opportunities remain largely informal, with little job security or financial stability.

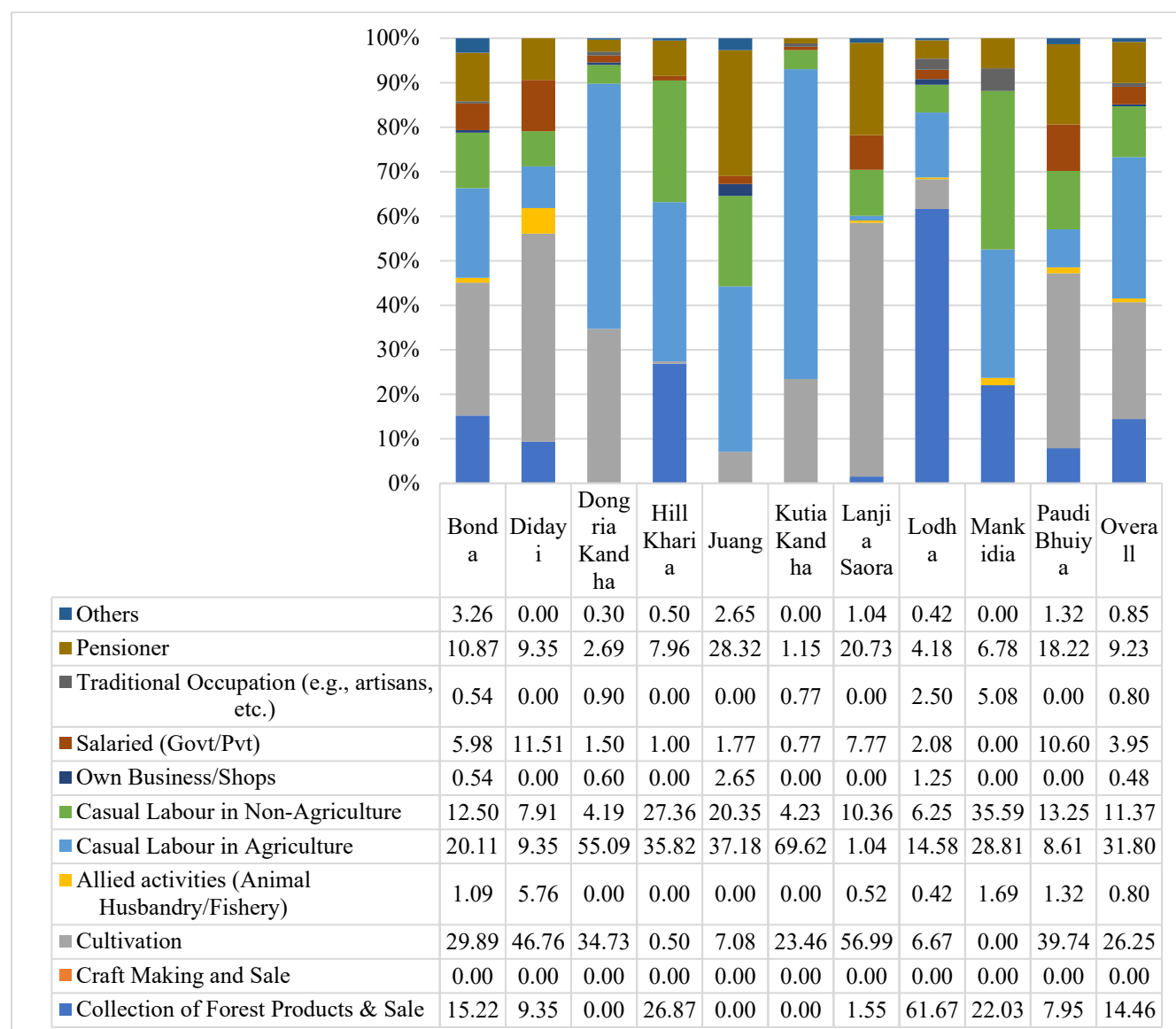


Figure 4.2.6.2: Occupational status of females among the PVTGs

The occupational distribution of female Particularly Vulnerable Tribal Groups (PVTGs) in Odisha highlights their economic engagement, dependence on informal labour, and limited access to formal employment opportunities. Table 4.2.6.2 and Figure 4.2.6.2 indicate that most women from these communities are involved in casual agricultural labour, cultivation, and forest-based livelihoods, with marginal representation in salaried jobs, businesses, and traditional occupations.

The largest segment (31.80%) of female PVTGs is engaged in casual labour in agriculture, reflecting their vulnerability to low wages, seasonal employment, and the absence of financial security. The Kutia Kandha (69.62%) and Dongria Kandha (55.09%) communities depend most on this work type, indicating limited access to land and a lack of alternative livelihood opportunities. Similarly, cultivation employs 26.25% of female PVTGs, suggesting that land-based livelihoods still play a critical role in their economic survival. The highest involvement is seen among the Lanjia Saora (56.99%) and Didayi (46.76%), demonstrating a stronger connection to farming in these communities. However, certain tribes, such as the Hill Kharia (0.50%) and Lodha (6.67%), show minimal involvement in cultivation, possibly due to landlessness or engagement in other forms of labour.

Collecting and selling forest products account for 14.46% of female PVTG employment, making it one of the most significant sources of livelihood. The highest dependency is observed among the Lodha (61.67%) and Hill Kharia (26.87%) tribes, indicating their dependence on minor forest produce, such as tendu leaves, honey, and medicinal plants. The Mankidia (22.03%) community also depends on forest-based work, which aligns with their historical nomadic lifestyle. However, several tribes, including the Dongria Kandha and Juang, show no engagement in forest-based livelihoods, possibly due to deforestation, restricted forest access, or shifts toward wage labour.

Despite some improvements in education and employment programs, female PVTGs remain severely underrepresented in formal jobs. Only 3.95% of women are in salaried (government/private) positions, with the Paudi Bhuiya (10.60%) and Lanjia Saora (7.77%) showing the highest participation. The Dongria Kandha (1.50%) and Kutia Kandha (0.77%) have negligible representation in formal employment, indicating barriers such as illiteracy, lack of vocational training, and social constraints on women's employment.

Similarly, only 0.48% of women are engaged in business or shop ownership, with the highest representation among the Juang (2.65%). The absence of female entrepreneurs in many tribes suggests that a lack of financial support, cultural restrictions, and limited market access hinder their participation in business activities.

Despite the historical significance of artisanship and traditional crafts among tribal women, only 0.80% are engaged in such occupations. The Mankidia (5.08%) and Lodha (2.50%) show some involvement, but overall, these activities have declined sharply due to modernisation, lack of institutional support, and reduced demand for indigenous handicrafts. The absence of craft-making among most tribes underscores the need for targeted initiatives to revive traditional skills and provide market linkages.

A significant proportion of female PVTGs (9.23%) are pensioners, indicating some support from government welfare schemes. The highest representation is among the Juang (28.32%) and Lanjia Saora (20.73%), reflecting better access to pension schemes in these communities. However, the Kutia Kandha (1.15%) and Dongria Kandha (2.69%) have very few pensioners, suggesting that social security programs' reach is uneven.

Non-agricultural casual labour employs 11.37% of female PVTGs, indicating a shift towards daily-wage jobs in construction, domestic work, and other informal sectors. The highest participation is seen among Mankidia women (35.59%), followed by Hill Kharia (27.36%), suggesting that limited access to land and agricultural employment opportunities pushes women into non-agricultural wage work.

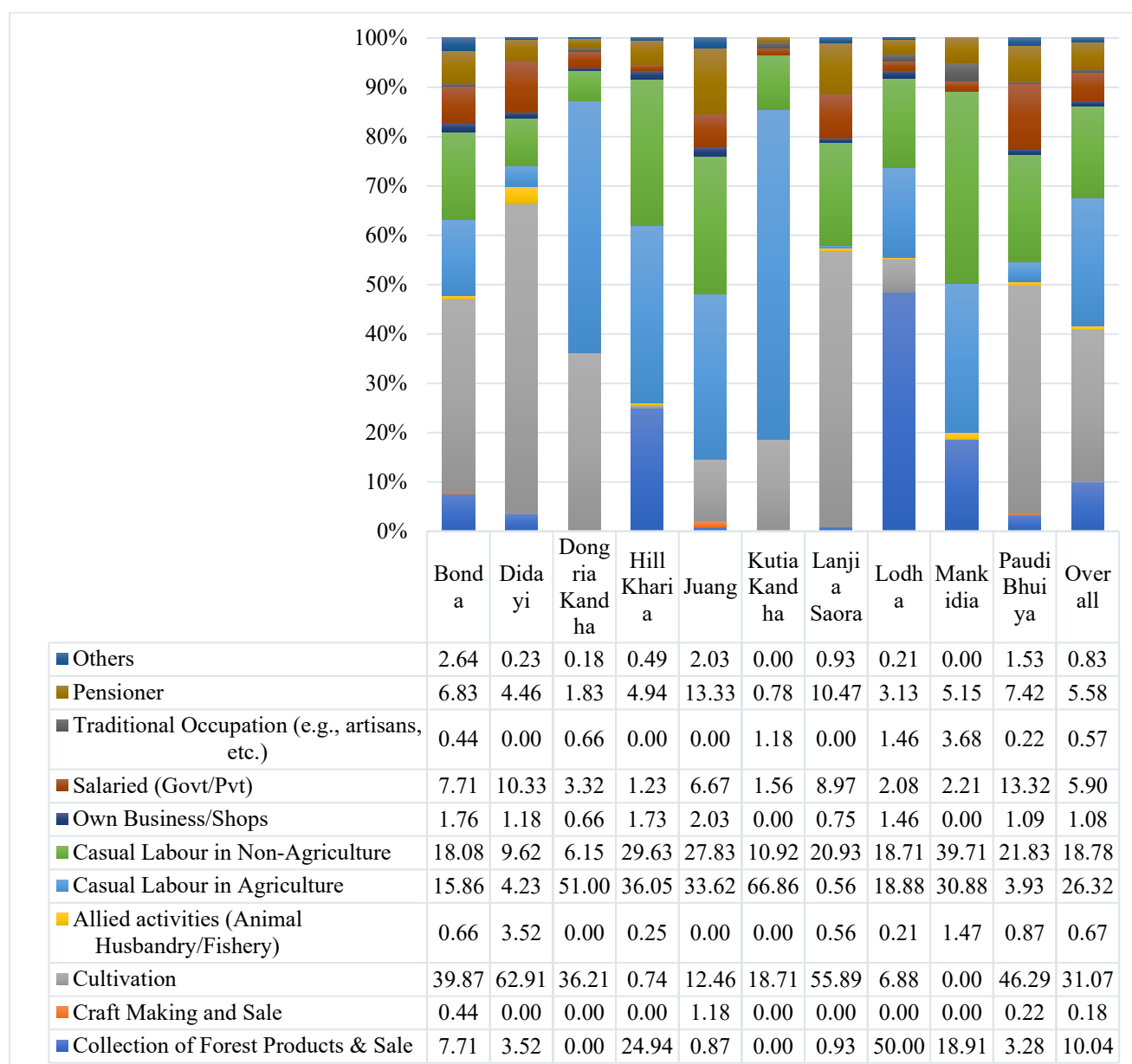


Figure 4.2.6.3: Occupational status of the overall PVTG population

The occupational distribution among the PVTGs of Odisha provides a clear picture of economic engagement, revealing diverse livelihood patterns, a heavy reliance on traditional forms of employment, and limited penetration into the formal job sectors. The data highlights the dominant role of agriculture and casual labour in sustaining these communities, alongside the marginal participation in businesses, salaried jobs, and traditional occupations (Table 4.2.6.3 and Figure 4.2.6.3).

Agriculture remains the predominant occupation among the PVTGs, with 31.07% of the total workforce engaged in cultivation. The highest participation is observed among the Lanjia Saora (55.89%), followed by the Didayi (62.91%) and Paudi Bhuiyan (46.29%) communities, indicating a strong dependence on farming as a livelihood. However, in certain groups, such as the Hill Kharia

(0.74%) and Lodha (6.88%), cultivation engagement is extremely low, possibly due to landlessness, changing economic patterns, or a shift toward other labour-intensive occupations.

Allied activities such as animal husbandry and fishery account for only 0.67% of the total PVTG workforce. While some representation is seen among the Didayi (3.52%), most tribes show negligible participation in this sector. This suggests a lack of infrastructure, access to resources, and market opportunities for animal husbandry and fishery development among PVTG groups.

Casual labour in the agricultural and non-agricultural sectors constitutes a significant portion of the occupational structure. Agricultural casual labourers constitute 26.32% of the workforce, with the highest dependence among the Kutia Kandha (66.86%) and Dongria Kandha (51.00%). The high proportion of agricultural labourers indicates landlessness or marginal landholdings, forcing individuals to work on others' farms for subsistence. Similarly, non-agricultural casual labour accounts for 18.78% of total employment, with the highest participation among the Mankidia (39.71%) and Hill Kharia (29.63%) tribes.

A significant proportion of PVTGs (10.04%) remain engaged in forest-based livelihoods, such as collecting and selling forest products. The highest dependence on this activity is seen among the Lodha (50.00%) and Hill Kharia (24.94%), indicating that forest resources continue to play a crucial role in their sustenance. The Mankidia tribe (18.91%) also relies heavily on forest collection, likely due to their historical nomadic lifestyle. Despite its historical association with traditional occupations such as craftsmanship, only 0.57% of the workforce is engaged in artisan work and handicrafts. The highest representation is among the Kutia Kandha (1.18%) and Mankidia (3.68%).

Entrepreneurship and small businesses remain underdeveloped among PVTGs, with only 1.08% of the workforce engaged in business ownership or shopkeeping. The highest participation is seen among the Bonda (1.76%) and Juang (2.03%), suggesting that only a few individuals from these communities have ventured into independent business activities.

Salaried employment (in government and private jobs) remains extremely limited, accounting for only 5.90% of the workforce. While some progress is seen among the Paudi Bhuiyan (13.32%) and Lanjia Saora (8.97%), other tribes, such as the Dongria Kandha (3.32%), have very low participation. This low number reflects limited access to higher education and formal employment opportunities, leaving PVTGs largely dependent on traditional livelihoods and informal labour.

The number of pensioners (5.58%) suggests that some PVTG members benefit from social security schemes. The Juang (13.33%) and Lanjia Saora (10.47%) have the highest proportion of pensioners, indicating that government welfare programs have reached a segment of the elderly population in these communities. However, the Kutia Kandha (0.78%) and Dongria Kandha (1.83%) show very low pensioner representation, suggesting unequal access to social welfare programs.

The occupational status of PVTGs in Odisha reveals a fragile economic landscape dominated by agriculture, casual labour, and forest-based livelihoods, with limited representation in formal employment sectors. The data highlights critical areas for intervention to ensure sustainable development and economic empowerment of these vulnerable communities.

4.2.7. House Type

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Table 4.2.7 and Figure 4.2.7 present the distribution of house types across different Particularly Vulnerable Tribal Groups (PVTGs), revealing significant disparities in housing conditions that are influenced by economic stability, geographical location, access to government housing schemes, and traditional living patterns.

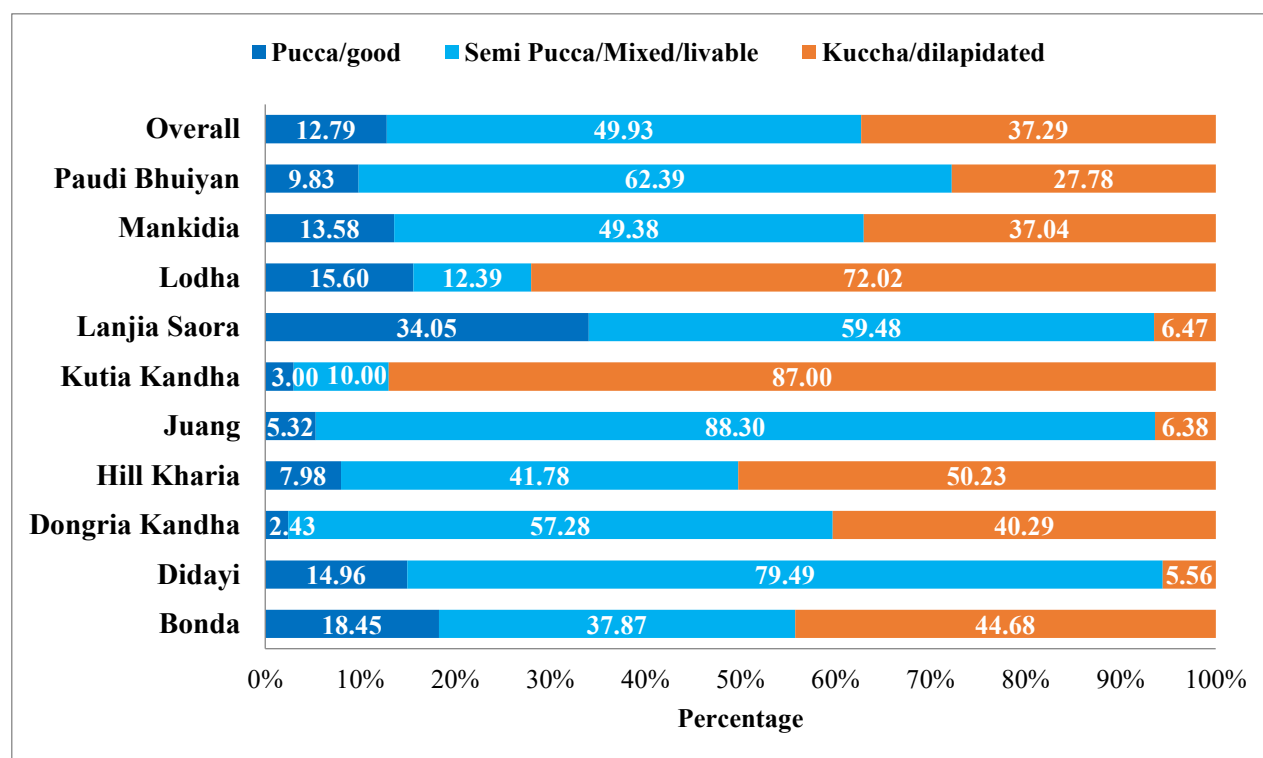


Figure 4.2.7: Distribution of different types of houses

A substantial proportion (37.29%) of tribal households live in kuccha or dilapidated houses, indicating poor housing conditions, lack of durable materials, and vulnerability to environmental hazards. This is particularly evident among the Kutia Kandha (87.00%) and Lodha (72.02%), who reside in fragile structures, making them more susceptible to adverse weather conditions and structural decay. Similarly, the Hill Kharia (50.23%) and Dongria Kandha (40.29%) also report a high percentage of kuccha houses, indicating that many of these communities still lack access to proper housing.

The largest segment of PVTG households (49.93%) resides in semi-pucca or mixed livable houses, representing a transitional phase between kuccha and pucca structures. Ethnic groups such as the Didayi (79.49%), Juang (88.30%), and Paudi Bhuiyan (62.39%) have a higher concentration in this category, suggesting moderate improvements in housing conditions, likely due to gradual economic development, locally available construction materials, and government interventions such as the Pradhan Mantri Awas Yojana (PMAY) and other rural housing schemes.

Only 12.79% of households have pucca or well-constructed houses, which provide better durability, security, and improved living standards. The Lanjia Saora (34.05%) stands out with a significantly higher proportion of pucca houses, followed by the Mankidia (13.58%) and Bonda (18.45%). However, communities such as the Kutia Kandha (3.00%) and Dongria Kandha (2.43%) have very low pucca house percentages, highlighting persistent challenges in accessing quality housing.

infrastructure. This analysis suggests that tribal housing conditions remain precarious, with most households still dependent on semi-pucca or kuccha structures.

4.2.8. Ration Card Ownership among PVTGs

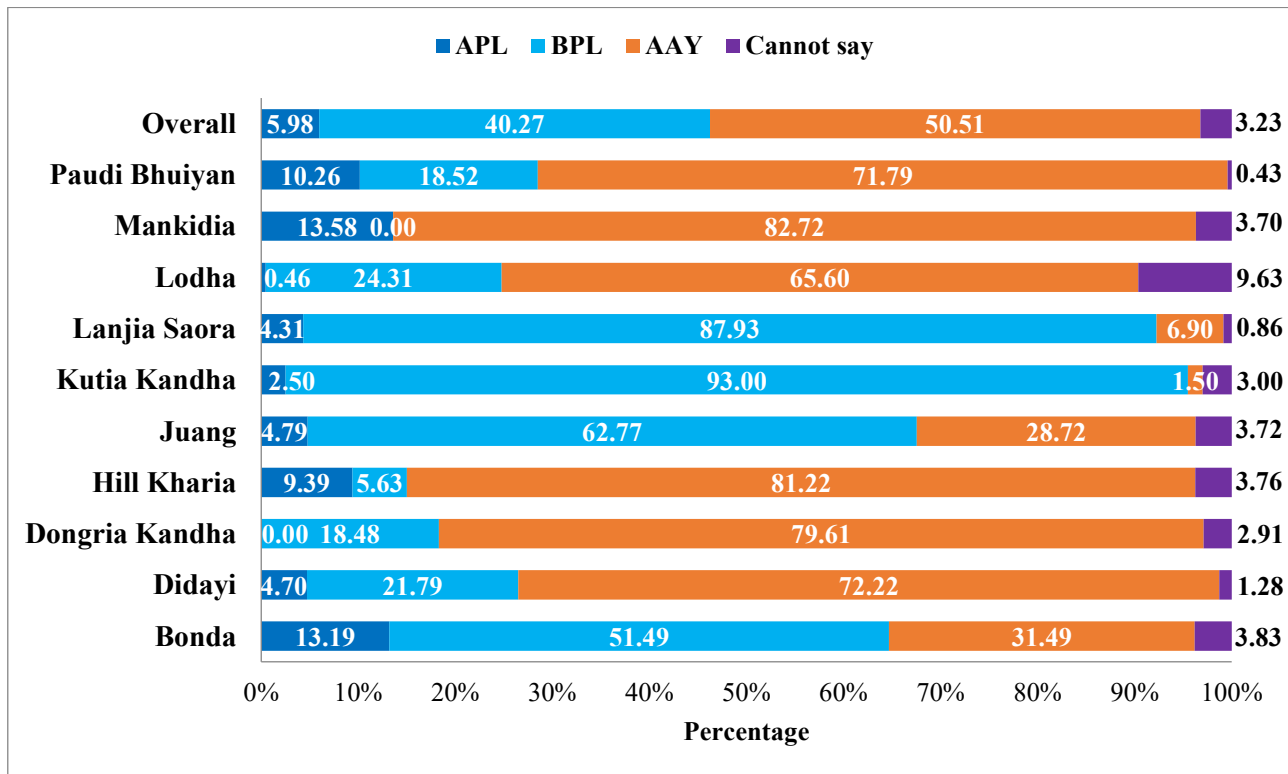


Figure 4.2.8: Distribution of different type ration card holders

The distribution of ration card categories among PVTGs provides valuable insights into their socioeconomic status, food security, and access to government welfare schemes. Table 4.2.8 and Figure 4.2.8 highlight significant disparities in the types of ration cards held by different tribal groups, reflecting varying poverty and vulnerability within these communities.

Most households (50.51%) possess an Antyodaya Anna Yojana (AAY) card issued to the poorest of the poor, indicating high dependence on subsidised food grains. Groups such as the Dongria Kandha (79.61%), Hill Kharia (81.22%), Paudi Bhuiyan (71.79%), Lodha (65.60%), and Mankidia (82.72%) have a significantly high percentage of AAY cardholders, suggesting that a substantial portion of these communities live in extreme poverty and high food insecurity.

The Below Poverty Line (BPL) category accounts for 40.27% of the households studied, indicating a considerable presence of economically disadvantaged families who qualify for government benefits but are not categorised as the absolute poorest. The Kutia Kandha (93.00%), Lanjia Saora (87.93%), and Juang (62.77%) have a high share of BPL cardholders, suggesting that, while these communities experience financial hardships, they are not as economically distressed as those under AAY.

Conversely, the Above Poverty Line (APL) cardholders comprise only 5.98% of the overall households. Notably, Bonda (13.19%), Hill Kharia (9.39%), Mankidia (13.58%), and Paudi

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Bhuiyan (10.26%) have relatively higher proportions of APL cardholders, though the numbers remain marginal compared to the BPL and AAY categories. This suggests that only a small fraction of PVTG households have attained a relatively stable economic condition.

About 3.23% of respondents were unsure of their ration card status, raising concerns about awareness and accessibility of government schemes. This issue is particularly noticeable among Lodha (9.63%) and Kutia Kandha (3.00%) groups, indicating the need for better dissemination of information and assistance in availing ration card benefits. The data indicate that most PVTG households continue to struggle with poverty, with a significant majority dependent on AAY and BPL schemes for food security.

4.2.9. Practice of open defecation

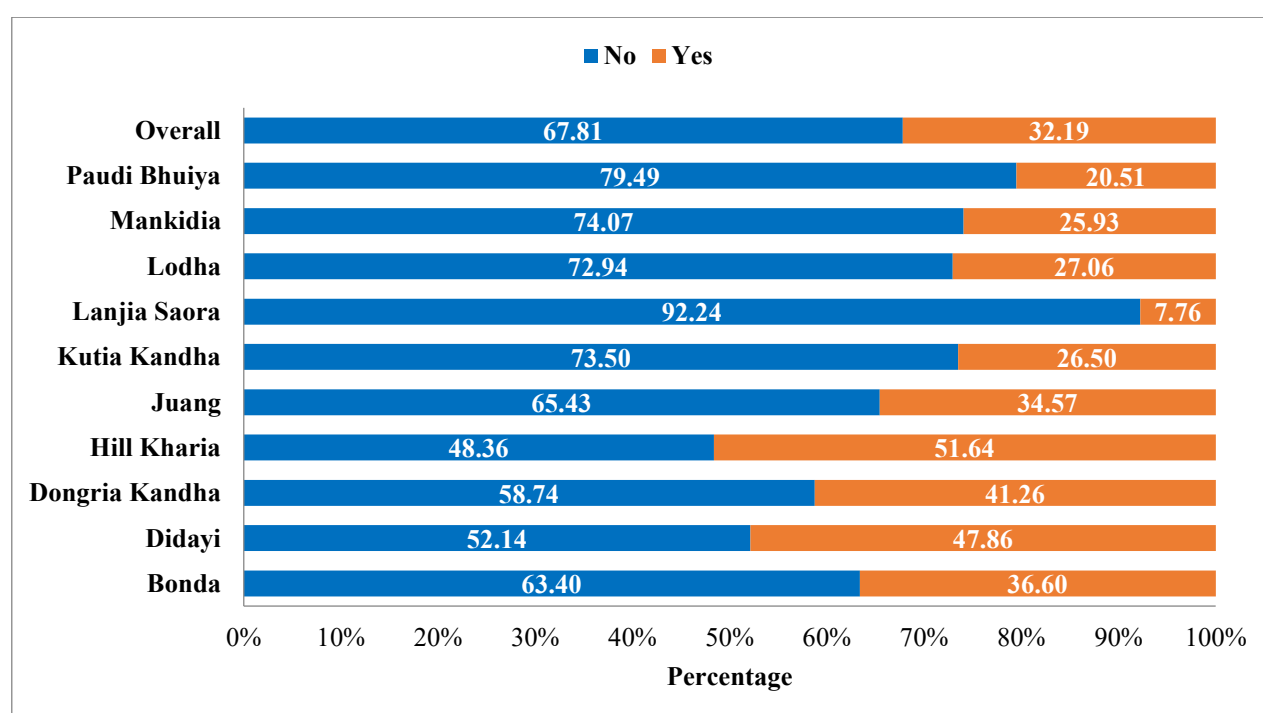


Figure 4.2.9: Practices open defecation

The issue of open defecation remains a significant public health and sanitation challenge among PVTGs. Table 4.2.9 and Figure 4.2.9 reveal wide variations in sanitation practices across ethnic groups, reflecting disparities in access to sanitation facilities, levels of awareness, and the effectiveness of government interventions.

Overall, 67.81% of PVTG households reported not practising open defecation, while 32.19% reported practising it. This indicates that while progress has been made in WASH (water, sanitation and hygiene) coverage, many of these communities still lack proper toilet facilities or continue to engage in traditional practices.

Among the groups with the lowest open defecation rates (indicating better WASH coverage), the Lanjia Saora (7.76%), Paudi Bhuiyan (20.51%), Mankidia (25.93%), and Kutia Kandha (26.50%) stand out, with relatively higher toilet adoption.

Conversely, ethnic groups like Hill Kharia (51.64%), Didayi (47.86%), and Dongria Kandha (41.26%) exhibit alarmingly high open defecation rates. The Hill Kharia community, with more than half (51.64%) still practising open defecation, has the highest percentage among all groups, indicating a critical need for targeted interventions. Ethnic groups such as Bonda (36.6%) and Juang (34.57%) fall in the moderate range, where progress has been made.

Many PVTGs reside in remote, forested regions where infrastructural development faces significant challenges. Cultural traditions, including deep-rooted practices associated with open defecation, further complicate sanitation efforts. The uneven distribution of sanitation coverage among these communities highlights disparities, leaving some groups disadvantaged.

Addressing these issues through enhanced infrastructure, awareness, and community-driven solutions is essential to ensuring better health outcomes and improved living conditions for these vulnerable communities.

4.2.10. Sources of Drinking Water

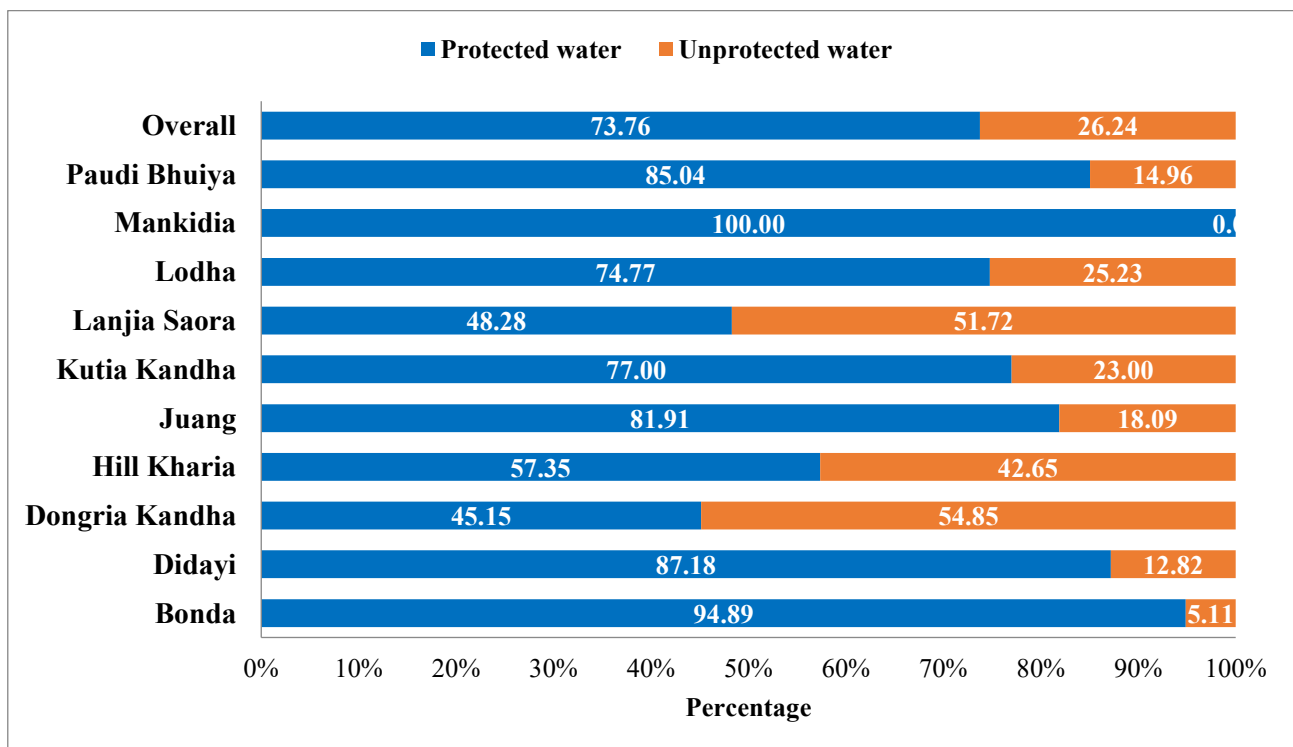


Figure 4.2.10: Status of access to drinking water among PVTGs

Access to safe drinking water is a crucial determinant of public health and well-being, particularly among PVTGs, who often reside in remote and forested regions with limited infrastructure. The data from Table 4.2.10 and Figure 4.2.10 present the distribution of drinking water sources across various PVTG communities, categorised as protected (tap, tube well, and closed wells) and unprotected (rivers, streams, ponds, and open wells).

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The overall data indicate that 73.76% of PVTG households have access to protected water, while 26.24% reported no such water sources. It is important to note that this presence does not always accurately reflect use or access to protected drinking water.

The presence/connection of protected water in the Mankidia tribe was observed to be 100% in the visited villages. Presence of such a connection in case of the Bonda (94.89%), Didayi (87.18%), Juang (81.91%) and Paudi Bhuiyan (85.04%) was also reported.

On the other hand, a high dependence on unprotected water sources was observed among the Dongria Kandha (54.85%), Lanjia Saora (51.72%), Hill Kharia (42.65%), Kutia Kandha (23%) and Lodha (25.23%).

4.2.11. Electricity is present in the house

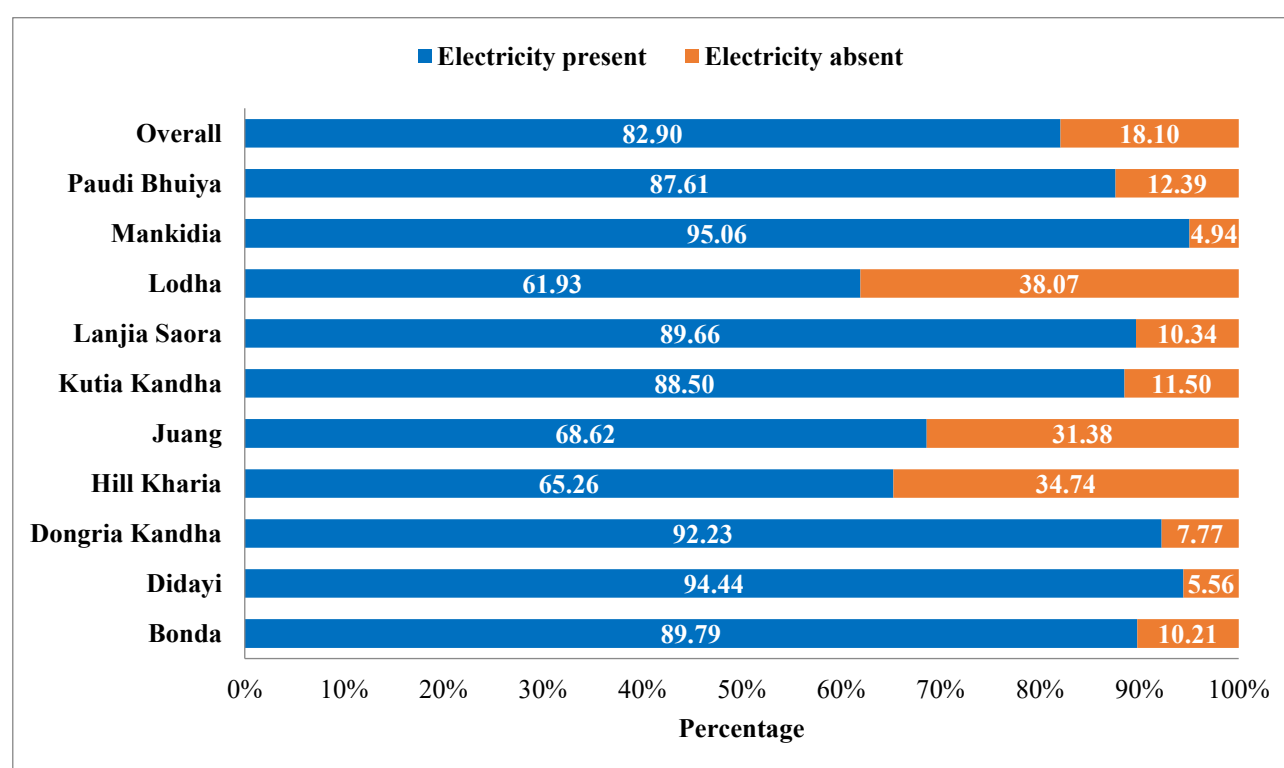


Figure 4.2.11: Presence of electricity in PVTG households

Electric access is a fundamental indicator of development and quality of life, influencing education, healthcare, livelihood, and overall well-being. Table 4.2.11 and Figure 4.2.11 present data on electricity availability among Particularly Vulnerable Tribal Groups (PVTGs), revealing both progress in electrification efforts and existing disparities across tribal communities.

The data shows that 82.90% of visited PVTG households have access to electricity, while 18.10% still lack this essential service. Several PVTGs have achieved remarkable progress in electrification, reflecting the successful implementation of government schemes and community-based initiatives. Mankidias (95.06%) has the highest electricity coverage, indicating effective infrastructure deployment in its settlements. Similarly, Didayi (94.44%) and Dongria Kandha (92.23%) have good

access to electricity. The Bonda (89.79%), Lanjia Saora (89.66%), Kutia Kandha (88.50%) and Paudi Bhuiyan (87.61%) also report good electrification rates. On the other hand, the Lodha community has the lowest percentage of unelectrified households (38.07), along with Hill Kharia (65.26%) and Juang (68.62%), among the visited households.

Electricity access among PVTGs remains uneven, mainly due to geographical and infrastructural challenges. Tribes residing in remote, forested areas face significant barriers to consistent electrification, leading to disparities in access. The absence of electricity affects multiple aspects of daily life, limiting opportunities for economic growth, education, and healthcare, making essential activities like lighting, cooking, and communication more difficult.

The overall electrification rate among PVTGs (82.90%) demonstrates significant progress in rural electricity access, yet regional disparities persist. While Mankidia, Didayi, and Dongria Kandha have achieved near-complete electrification, Lodha, Hill Kharia, and Juang communities still struggle with inadequate access.

4.2.12. Presence of a separate kitchen

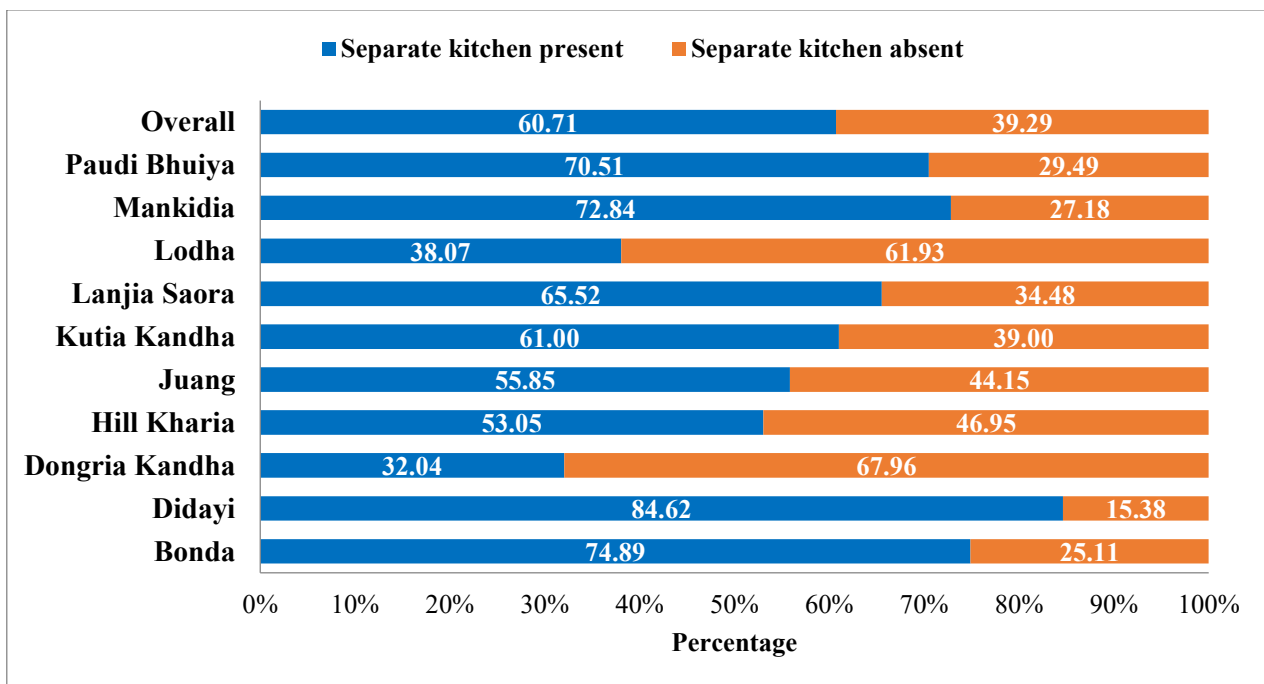


Figure 4.2.12: Frequency of presence of a separate kitchen

A separate kitchen is an important indicator of housing quality, hygiene, and overall well-being. It reflects a household's ability to manage indoor air pollution, the convenience of cooking, and the utilisation of space. The data from Table 4.2.12 and Figure 4.2.12 highlight the presence or absence of separate kitchens among PVTGs, providing insights into living conditions and infrastructure gaps. Among the 2041 surveyed PVTG households, 60.71% have a separate kitchen, whereas 39.29% lack one.

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The Didayi (84.62%) have the highest proportion of households with separate kitchens, indicating better housing quality and greater access to resources. Similarly, the Bonda (74.89%) and Paudi Bhuiyan (70.51%) also report high kitchen availability, contributing to better household organisation, improved cooking conditions, and enhanced hygiene. The Mankidia (72.84%) and Kutia Kandha (61.00%) also show relatively good access. These trends highlight the positive impact of development programs to improve living conditions within tribal communities.

Several PVTGs continue to face challenges accessing proper kitchen facilities, with many households lacking separate cooking spaces. The Dongria Kandha have the lowest percentage of households with separate kitchens, with nearly 68% lacking a separate cooking place, which can lead to smoke accumulation in living spaces and pose serious respiratory health risks. Similarly, the Lodha (38.07%) and Hill Kharia (53.05%) also struggle with inadequate kitchen facilities, with many households relying on common or open cooking areas. While the Lanjia Saora (65.52%) and Juang (55.85%) have relatively better kitchen accessibility, a considerable portion of their populations still lack this essential infrastructure.

4.2.13. Types of fuels used for cooking

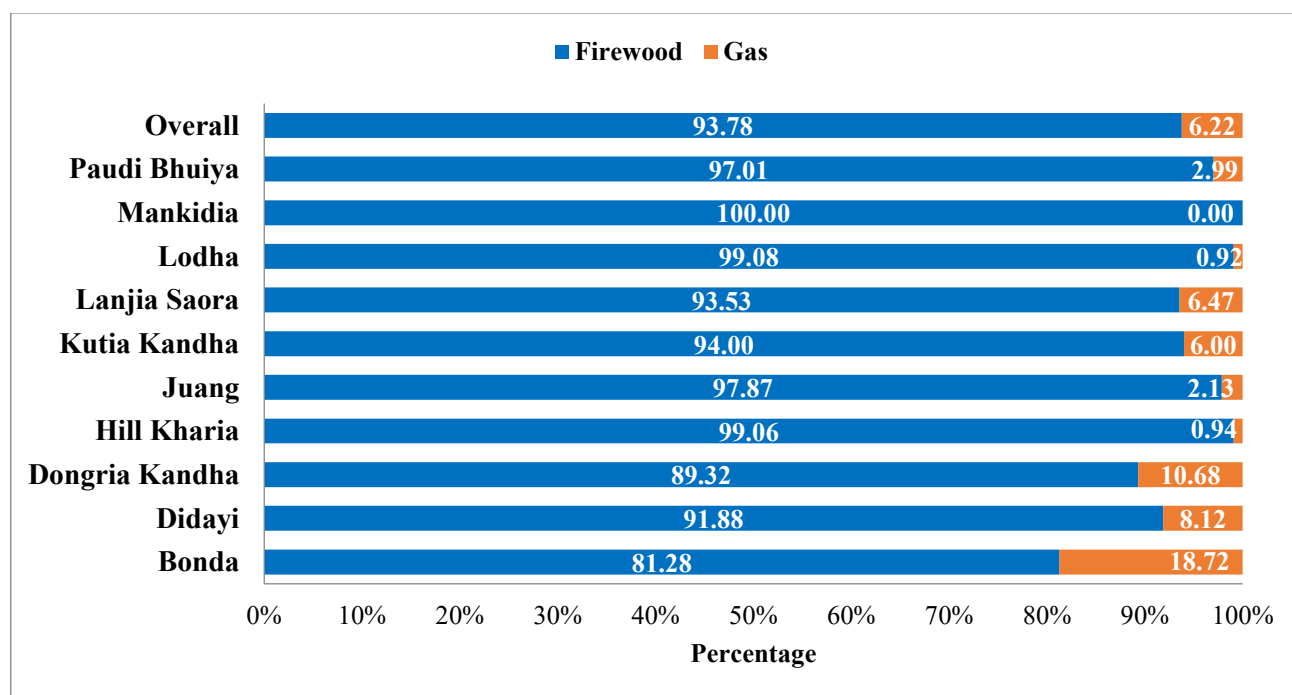


Figure 4.2.13: Types of fuel used for cooking

The type of fuel used for cooking plays a crucial role in determining household health, environmental sustainability, and quality of life. Cooking with traditional biomass fuels, such as firewood, can lead to severe indoor air pollution and respiratory diseases. The data from Table 4.2.13 and Figure 4.2.13 reveal that the vast majority (93.78%) of PVTGs households rely on firewood, with only 6.22% having access to gas or other alternative fuels. This indicates a significant gap in clean energy accessibility, directly affecting health, environmental conservation, and overall well-being.

Among the 2041 PVTG households surveyed, the overwhelming majority continue to depend on firewood as their primary cooking fuel. The highest dependency is seen among the Mankidia (100%), Lodha (99.08%), and Hill Kharia (99.06%) households, where nearly all families cook with firewood. Other groups, such as Juang (97.87%), Paudi Bhuiyan (97.01%), and Kutia Kandha (94.00%), also demonstrate extreme dependence on firewood. The widespread use of biomass fuels in these communities reflects limited access to modern energy sources, financial constraints, and deep-rooted traditional practices.

While firewood remains the dominant fuel source, a few communities are transitioning toward cleaner energy alternatives. The Bonda (18.72%), Dongria Kandha (10.68%), and Didayi (8.12%) households have comparatively higher access to gas and other cleaner fuels, although the numbers remain low.

4.2.14. Use of a Mosquito net

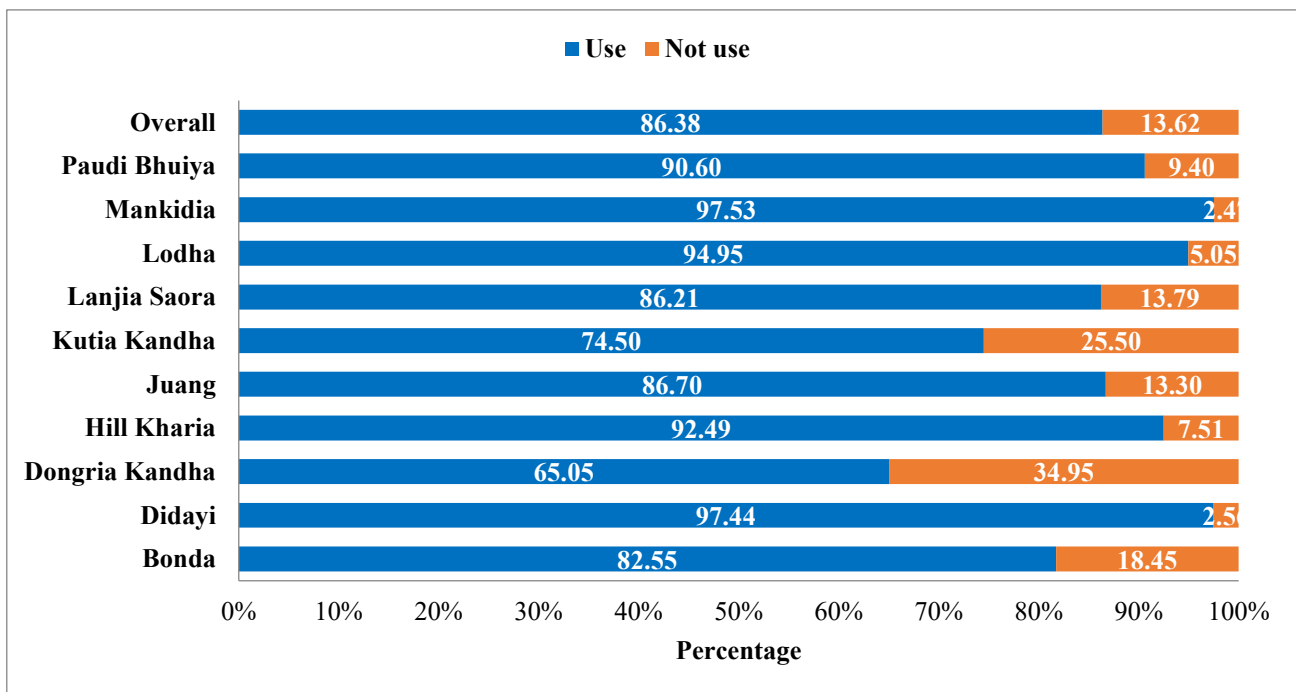


Figure 4.2.14: Practices of Mosquito net use

Mosquito nets are a crucial public health practice that help prevent mosquito-borne diseases such as malaria, dengue, and chikungunya, which are particularly prevalent in tribal and forested regions. The data from table 4.2.14 and figure 4.2.14 provide valuable insights into the mosquito net usage habits of PVTGs and highlight positive trends and areas requiring intervention.

Among the 2041 surveyed households, a majority (86.38%) reported possessing/using mosquito nets while sleeping, whereas 13.62% do not use them. This indicates high awareness and adoption of protective measures against mosquito-borne illnesses. However, more than 270 households (13.62%) do not use mosquito nets, which remains a public health concern, especially in regions prone to vector-borne diseases.

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Mankidia (97.53%), Lodha (94.95%), Hill Kharia (92.49%), Paudi Bhuiya (90.60%) and Didayi (97.44%) were reported with the highest possession/usage rates.

On the other hand, Dongria Kandha (65.05%), Kutia Kandha (74.50%), and Lanjia Saora (86.21%) show significant gaps in possession/usage, with a notable portion of their populations lacking this crucial protective measure.

The analysis of mosquito net usage among PVTG households reveals encouraging trends, with a majority (86.38%) of families ready to adopt mosquito nets for protection against mosquito-borne diseases. However, specific tribal communities, such as Dongria Kandha and Kutia Kandha, still have low adoption rates, leaving them vulnerable to malaria and other health risks.

4.2.15. Total number of living rooms in houses

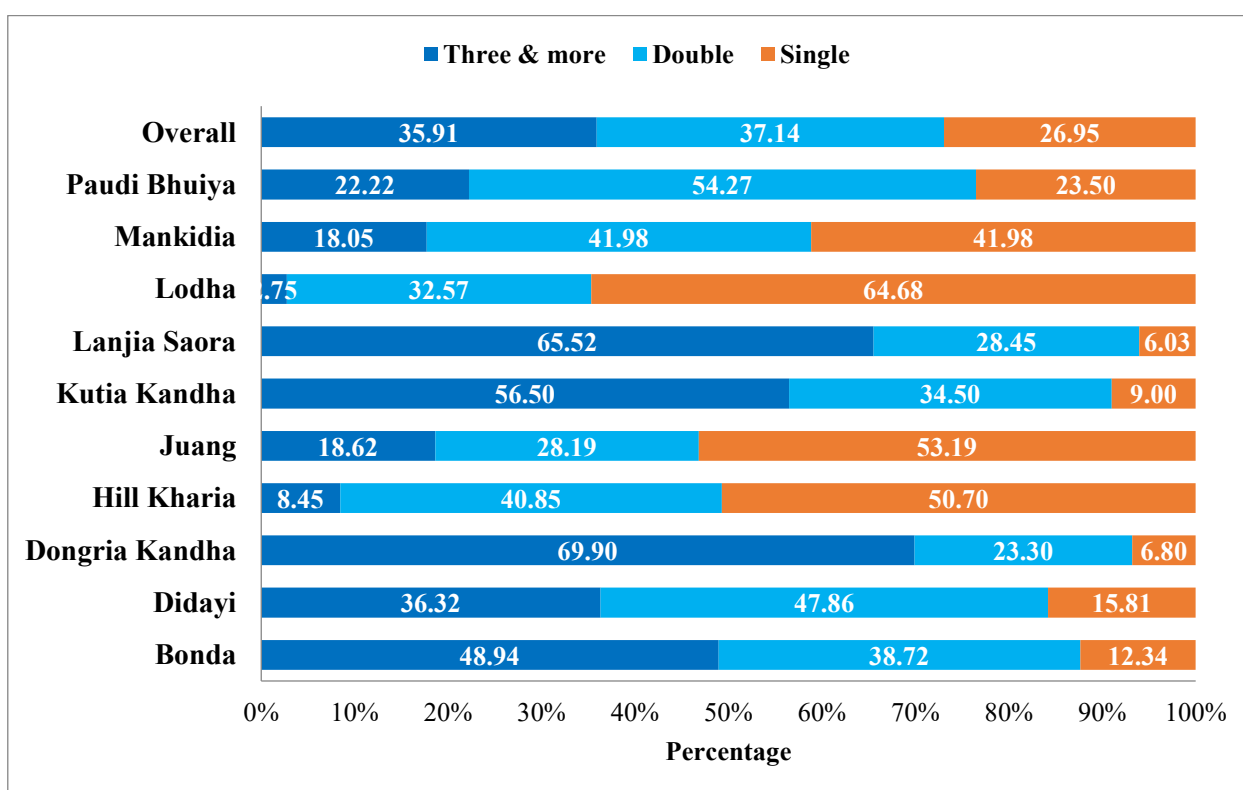


Figure 4.2.15: Total number of living rooms in the house

A household's number of living rooms is a crucial indicator of housing quality, living conditions, and overall space availability for families. Multiple rooms contribute to better household organisation, privacy, and improved hygiene, whereas limited living space can lead to overcrowding, poor ventilation, and health risks. The data from table 4.2.15 and figure 4.2.15 provide insights into the distribution of living spaces among PVTGs, revealing variations in housing conditions across different tribal communities.

The distribution of living spaces among the 2,041 surveyed PVTG households highlights notable variations in housing conditions. A significant 26.95% of households have only one living room,

indicating significant space constraints. In contrast, 37.14% of households have two rooms, while 35.91% have three or more living rooms. Addressing these disparities through housing improvement initiatives and community-driven development programs can help enhance living standards and well-being among these communities.

Several PVTG communities demonstrate relatively spacious housing conditions, with many households having three or more living rooms; Dongria Kandha (69.90%), Lanjia Saora (65.52%), Kutia Kandha (56.50%), Bonda (48.94%) and Didayi (36.32%) report a presence of spacious homes.

Several PVTG communities exhibit moderate space availability, with a considerable percentage of households having two living rooms. For example, among Paudi Bhuiyans, 54.27% of households had two rooms; Didayi (47.86%), Bonda (38.72%), Hill Kharia (40.85%) and Mankidia (41.98%) also show a similar pattern. While these communities benefit from a more structured living environment, further initiatives in housing development and resource accessibility could enhance their overall quality of life.

Several PVTG communities face significant space constraints, with many households living in single-room houses, leading to overcrowding and challenges in maintaining hygiene, privacy, and overall well-being. Lodha (64.68%) has the highest proportion of single-room households, indicating severe space limitations and inadequate housing infrastructure, followed by Juang (53.19%), Hill Kharia (50.70%), Mankidia (41.98%) and Paudi Bhuiya (23.50%), reflecting poor space distribution and limited resource access. These conditions underscore the need for targeted housing interventions, improved infrastructure, and sustainable development efforts to enhance living standards and address the spatial constraints these communities face.

Limited living space in PVTG households presents several challenges that impact health, privacy, and overall quality of life. Overcrowding in single-room houses leads to poor ventilation and high indoor pollution levels, increasing the risk of respiratory illnesses and discomfort. The lack of privacy is particularly concerning in multi-generational households, where women and adolescents may struggle with limited personal space.

Tables

Table 4.1.1.1: Age group and sex specific population distribution

Age group	Sex of the individuals				Sex combined		Sex ratio
	Male		Female				
	N	%	N	%	N	%	
0-4 years	440	9.65	457	9.8	897	9.73	1038.64
5-9 years	548	12.02	490	10.51	1038	11.26	894.18
10-14 years	576	12.63	476	10.21	1052	11.41	826.39
15-19 years	529	11.6	541	11.6	1070	11.6	1022.68
20-24 years	431	9.45	489	10.49	920	9.98	1134.57
25-29 years	408	8.95	431	9.24	839	9.1	1056.37
30-34 years	314	6.89	290	6.22	604	6.55	923.57
35-39 years	267	5.86	257	5.51	524	5.68	962.55
40-44 years	218	4.74	200	4.29	418	4.51	925.93
45-49 years	198	4.34	193	4.14	391	4.24	974.75
50-54 years	142	3.11	187	3.8	319	3.46	1246.48
55-59 years	137	3.00	146	3.13	283	3.07	1065.69
60-64 years	181	3.53	244	5.23	405	4.39	1515.53
65 and above	193	4.23	271	5.81	464	5.03	1404.15
Total	4560	100	4662	100	9222	100	1022.37

N = Number, % - Percentage

Table 4.1.1.2.1: Tribal-Age groups-wise male population distribution

Age group	Bon da	Didayi	Dong ria Kan dha	Hill Kharia	Juang	Kutia Kandh a	Lanjia Saora	Lod ha	Mankid ia	Paudi Bhuiya n	Over all
Preschool Children (<6 years)	11.39	10.09	18.26	18.33	10.19	14.31	8.33	13.97	11.54	7.51	12.04
School-going Children (6-10 years)	12.84	14.50	13.32	13.07	11.57	10.43	10.24	12.20	12.31	9.71	12.02
Adolescent (11-18 years)	19.89	18.06	18.45	12.56	19.21	15.75	18.15	18.63	18.69	13.25	18.60
Adult (18-59 years)	48.10	50.09	45.97	48.99	54.40	49.08	58.85	50.33	46.92	59.82	51.58
Older (≥60 years)	7.78	8.26	6.00	9.05	4.63	10.43	6.42	6.87	11.54	9.71	7.76
Total	553	545	533	398	432	489	576	451	130	453	4560

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Table 4.1.1.2.2: Age group-wise female population distribution

Age group	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Over all
Preschool Children (<6 years)	8.68	13.88	13.74	10.97	15.21	15.60	7.98	12.41	8.40	11.62	12.12
School-going Children (6-10 years)	10.85	9.96	11.06	13.32	11.29	12.03	8.83	9.66	13.74	6.36	10.42
Adolescent (11-18 years)	19.53	13.88	13.43	12.53	15.21	12.22	14.60	15.18	15.27	12.94	14.41
Adult (18-59 years)	51.08	51.42	47.24	52.74	50.92	47.56	58.74	51.26	50.38	58.33	51.99
Older (≥60 years)	9.86	10.85	14.53	10.44	7.37	12.59	9.85	11.49	12.21	10.75	11.05
Total	507	562	633	383	434	532	589	435	131	456	4662

Table 4.1.1.3.1: Age-wise male population distribution

Age group	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuyan	Over all
≤14 years (Children)	38.70	36.33	41.65	37.44	32.64	34.36	26.91	35.25	31.54	25.83	34.30
15-59 years (working age)	53.53	55.41	52.35	53.52	62.73	55.21	66.67	57.87	56.92	64.46	57.94
≥60 years (Elderly)	7.78	8.26	6.00	9.05	4.63	10.43	6.42	6.87	11.54	9.71	7.76
Total	553	545	533	398	432	489	576	451	130	453	4560

Table 4.1.1.3.2: Age-wise female population distribution

Age group	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuyan	Over all
≤14 years (Children)	30.97	32.03	32.23	32.38	34.79	32.52	25.13	31.49	32.82	23.25	30.52

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)											
15-59 years (working age)	59.18	57.12	53.24	57.18	57.83	54.89	65.03	57.01	54.96	66.01	58.43
≥60 years (Elderly)	9.86	10.85	14.53	10.44	7.37	12.59	9.85	11.49	12.21	10.75	11.05
Total	507	562	633	383	434	532	589	435	131	456	4662

Table 4.1.1.3.3: Age group-wise total population distribution

Age group	Bond a	Dida yi	Dongria Kandha	Hill Kharia	Juan g	Kutia Kandha	Lanjia Saora	Lodh a	Mankid ia	Paudi Bhuyan	Overa ll
≤14 years (Children)	35.00	34.15	36.54	34.96	33.72	33.40	26.01	33.41	32.18	24.53	32.39
15-59 years (working age)	56.23	56.28	52.83	55.31	60.28	55.04	65.84	57.45	55.94	65.24	58.19
≥60 years (Elderly)	8.77	9.58	10.63	9.73	6.00	11.56	8.15	9.14	11.88	10.23	9.42
Total	1060	1107	1186	781	866	1021	1185	886	261	909	9222

Table 4.1.1.4: Sex ratio of overall working and dependent Age group Population

Age group	Ethnic group										Overa ll
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidi a	Paudi Bhuyan	
0-14 years (Childre n)	733.65	909.09	918.92	832.22	1070.92	1029.76	954.84	861.64	1048.78	905.98	909.85
15-59 years (Workin g age)	1013.51	1062.91	1207.89	1028.18	926.20	1081.48	997.40	950.19	972.97	1030.82	1031.04
60+ years (Elderly)	1182.79	1355.56	2875.00	1111.11	1800.00	1313.73	1567.57	1812.90	1066.67	1113.64	1454.80

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Table 4.1.2: Ethnic group-specific different demographic ratios

Name of PVTG	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juaning	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuyan	Overall
Young dependency ratio	62.25	60.67	69.18	63.19	55.94	60.68	39.50	58.15	57.53	37.61	55.67
Working-age population	56.23	56.28	52.83	55.31	60.28	55.04	65.24	57.45	55.94	65.84	58.19
Old age dependency ratio	8.77	9.58	10.63	9.73	6.00	21.00	8.15	9.14	11.88	10.23	18.20
Age dependency ratio	77.85	77.69	89.29	80.79	65.90	81.67	51.89	74.07	78.77	53.29	71.86
Index of ageing	25.07	28.04	29.11	27.84	18.81	34.60	31.35	27.36	36.90	41.70	29.09

Table 4.1.3.1: Community-wise marital status of males of PVTGs

Marital status	Ethnic group										Total
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juaning	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuyan	
Married	37.25	45.14	40.71	46.23	29.63	44.79	46.35	46.56	52.31	50.11	43.91
Unmarried	59.49	53.39	58.18	48.74	66.67	52.76	51.39	49.66	44.62	47.24	53.21
Widow/Widower	3.07	1.47	1.13	4.77	3.70	2.45	2.08	3.77	3.08	2.43	2.80
Divorced	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.02
Separated	0.18	0.00	0.00	0.25	0.00	0.00	0.18	0.00	0.00	0.00	0.06
Total	553	545	533	398	432	489	576	451	130	453	4560

Table 4.1.3.2: Community-wise marital status of female PVTGs

Marital status	Ethnic group										Total
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juaning	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuyan	
Married	40.24	44.48	37.28	46.21	19.59	40.23	45.18	48.97	51.91	50.44	42.45
Unmarried	49.7	47.15	48.65	40.47	69.13	50.19	46.69	37.7	40.46	38.82	46.9
Widow/Widower	9.27	7.65	13.27	12.53	11.06	9.4	7.47	12.87	7.63	10.31	10.15
Divorced	0	0.53	0.32	0.26	0	0.19	0	0	0	0.22	0.15
Separated	0.79	0.18	0.47	0.52	0.23	0	0.68	0.46	0	0.22	0.36
Total	507	562	633	383	434	532	589	435	131	456	4662

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Table 4.1.3.3: Community-wise marital status of all studied PVTGs

Marital status	Ethnic group										Total
	Bond a	Diday i	Dongria Kandha	Hill Kharia	Juan g	Kutia Kandha	Lanjia Saora	Lodh a	Mankidi a	Paudi Bhuyan	
Married	38.68	44.81	38.85	46.22	24.6	42.41	45.75	47.74	52.11	50.28	43.15
Unmarried	54.81	50.23	53	44.68	67.89	51.42	49.01	43.79	42.52	43.01	50.04
Widow/Widower	6.04	4.61	7.72	8.58	7.39	6.07	4.81	8.24	5.36	6.38	6.52
Divorced	0	0.27	0.18	0.13	0	0.1	0	0	0	0.22	0.09
Separated	0.47	0.09	0.26	0.38	0.12	0	0.43	0.23	0	0.11	0.21
Total	1060	1107	1186	781	866	1021	1185	886	261	909	9222

Table 4.1.4.2: Category of Family Size

Tribal group	≤4 member	5-6 member	≥7 member	Total
Bonda	46.40	34.50	19.10	235
Didayi	44.00	37.60	18.40	234
Dongria Kandha	33.50	35.40	31.10	206
Hill Kharia	68.10	25.80	6.10	213
Juang	43.60	43.10	13.30	188
Kutia Kandha	38.50	39.00	22.50	200
Lanjia Saora	40.10	37.90	22.00	232
Lodha	60.10	29.40	10.60	218
Mankidia	71.60	23.50	5.00	81
Paudi Bhuiyan	62.00	30.80	7.30	234
Overall	49.58	34.35	18.07	2041

Table 4.2.1.1: Educational status of the male PVTGs

Category	Ethnic groups										Over all
	Bon da	Dida yi	Dongria Kandha	Hill Kharia	Jua ng	Kutia Kandha	Lanjia Saora	Lod ha	Manki dia	Paudi Bhuiyan	
Anganwadi	11.39	7.90	8.26	7.04	13.89	7.18	6.46	7.10	7.69	6.22	8.31
Non literate	24.41	18.38	23.45	34.92	37.04	30.67	29.44	41.02	33.85	27.88	30.11
I-IV class	18.81	20.77	27.58	27.89	18.52	26.38	18.67	25.50	18.46	18.13	21.87
V-X class	34.00	42.83	33.21	28.39	28.24	32.11	32.32	23.06	37.69	44.47	33.63

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XI-XII class	6.69	3.68	3.56	1.26	1.62	2.04	6.46	2.00	1.54	3.23	3.08
Graduation/Diploma	3.44	6.25	3.00	0.50	0.69	1.64	5.03	1.11	0.77	2.07	2.45
Post graduation & above	1.27	0.18	0.94	0.00	1.27	0.00	1.62	0.22	0.00	0.00	0.55
Total	553	544	533	398	432	489	557	451	130	434	4521

Table 4.2.1.2: Educational status of female PVTGs

Age group	Ethnic groups										Over all
	Bonda	Dida yi	Dongria Kandha	Hill Kharia	Juan g	Kutia Kandha	Lanjia Saora	Lod ha	Manki dia	Paudi Bhuiyan	
Anganwadi	8.68	11.45	5.21	4.96	18.05	6.77	6.91	5.29	3.82	8.78	7.89
Non literate	42.60	45.80	51.34	47.26	51.61	49.44	46.63	48.28	48.85	43.47	45.57
I-IV class	12.82	13.95	21.48	21.41	14.98	25.75	11.40	21.84	19.85	10.36	18.38
V-X class	26.63	22.90	18.48	25.07	18.13	15.79	27.46	22.07	25.19	32.43	23.22
XI-XII class	4.54	2.33	1.58	1.04	0.00	1.69	3.80	1.38	1.53	4.05	2.19
Graduation/Diploma	3.55	3.40	1.42	0.26	0.23	0.56	3.45	1.15	0.76	0.90	1.57
Post graduation & above	1.18	0.18	0.47	0.00	0.00	0.00	0.35	0.00	0.00	0.00	2.18
Total	507	559	633	383	434	532	579	435	131	444	4637

Table 4.2.1.3: Educational status of overall PVTGs

Age group	Ethnic groups										Over all
	Bonda	Dida yi	Dongria Kandha	Hill Kharia	Juan g	Kutia Kandha	Lanjia Saora	Lod ha	Manki dia	Paudi Bhuiyan	
Anganwadi	10.09	9.7	6.6	6.02	15.47	6.95	6.69	6.21	5.75	7.52	8.1
Non literate	33.11	32.28	38.59	40.97	44.34	40.45	38.2	44.58	41.38	35.76	38.97
I-IV class	15.94	18.32	24.27	24.71	18.74	26.05	14.96	23.7	19.18	13.21	19.61
V-X class	30.47	32.73	25.21	26.76	22.18	23.6	29.84	22.57	31.42	38.38	28.32
XI-XII class	5.66	2.99	2.49	1.15	0.81	1.86	5.11	1.69	1.53	3.64	2.69
Graduation/Diploma	3.49	4.81	2.14	0.38	0.46	1.08	4.23	1.13	0.77	1.48	1.99
Post graduation & above	1.23	0.18	0.69	0.00	0.00	0.00	0.97	0.11	0.00	0.00	0.32
Total	1060	1103	1186	781	866	1021	1136	886	261	878	9158

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Table 4.2.2: Gender disparity in educational status

Age group	Bon da	Dida yi	Dongria Kandha	Hill Kharia	Jua ng	Kutia Kandha	Lanjia Saora	Lod ha	Manki dia	Paudi Bhuiyan	Over all
Anganwadi	0.76	1.45	0.63	0.70	1.23	0.95	1.07	0.75	0.50	1.41	0.95
I-IV class	0.68	0.67	0.78	0.77	0.81	0.98	0.61	0.86	1.08	0.64	0.79
V-X class	0.78	0.53	0.56	0.88	0.57	0.49	0.85	0.96	0.67	0.73	0.69
XI-XII class	0.68	0.63	0.44	0.83	0.00	0.83	0.59	0.69	0.99	1.25	0.71
Graduation/Diploma	1.03	0.54	0.47	0.52	0.33	0.34	0.69	1.04	0.99	0.43	0.64
Post graduation & above	0.93	1.00	0.50	0.00	0.00	0.00	0.22	0.00	0.00	0.00	3.96

Table 4.2.3: Crude literacy rate among the 10 PVTGs

Education al characteristics	Sex	Bon da	Dida yi	Dongria Kandha	Hill Kharia	Jua ng	Kutia Kandha	Lanjia Saora	Lod ha	Manki dia	Paudi Bhuiyan	Over all
Crude Literacy Rate	Male	75.59	81.62	76.55	65.08	62.96	69.33	70.56	58.98	66.15	72.12	70.74
	Female	57.4	54.2	48.66	52.74	48.39	50.56	53.37	51.72	51.15	56.53	52.51
	Total	66.89	67.72	61.41	59.03	55.66	59.55	61.8	55.42	58.62	64.24	61.51

Table 4.2.4: Effective literacy rate of studied PVTGs

Education al characteristic	Sex	Bon da	Dida yi	Dongria Kandha	Hill Kharia	Jua ng	Kutia Kandha	Lanjia Saora	Lod ha	Manki dia	Paudi Bhuiyan	Over all
Effective Literacy Rate	Male	71.52	81.93	70.1	57.36	58.18	63.33	68.66	51.57	60	71.28	66.60
	Female	52.42	48.52	38.68	44.98	38.38	39.4	50.1	44	47.06	52.86	45.61
	Total	62.18	65.3	52.53	51.15	48.49	51.01	59.2	47.82	53.28	62.14	55.95

Table 4.2.5: Working Population Rate among studied PVTGs

Occupationa	Sex	Bond	Diday	Dongria	Hill	Juan	Kutia	Lanjia	Lodh	Mankidi	Paudi	Overall

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Participation												
Working Population Rate (WPR)	Male	48.82	54.67	53.49	57.79	54.33	60.67	59.79	60.15	68.14	70.25	57.71
	Female	36.29	25.27	57.69	61.66	26.46	58.96	33.39	62.99	59.00	34.47	43.31
	Total	42.83	39.63	55.74	59.65	40.40	59.79	46.52	61.54	63.85	52.34	50.49
	WPR											

Table 4.2.6.1: Occupational status of male PVTGs

Occupational category	Bonda	Dida	Dongria	Hill	Juana	Kutia	Lanjia	Lodha	Mankidia	Paudi	Over
		yi	Kandha	Kharia	ng	Kandha	Saora	ha		Bhuiya	all
Collection of Forest Products & Sale	2.59	0.70	0.00	23.04	1.29	0.00	0.58	38.33	12.99	0.98	6.69
Craft Making and Sale	0.74	0.00	0.00	0.00	1.72	0.00	0.00	0.00	0.00	0.33	0.28
Cultivation	46.67	70.73	38.06	0.98	15.09	13.83	55.26	7.08	0.00	49.51	34.72
Allied activities (Animal Husbandry/Fishery)	0.37	2.44	0.00	0.49	0.00	0.00	0.58	0.00	1.30	0.65	0.56
Casual Labour in Agriculture	12.96	1.74	45.90	36.27	31.90	64.03	0.29	19.18	32.47	1.63	22.18
Casual Labour in Non-Agriculture	18.52	10.45	8.58	31.86	31.47	18.79	26.90	29.18	42.86	26.06	22.62
Own Business/Shops	2.59	1.74	0.75	3.43	1.72	0.00	1.18	1.67	0.00	1.63	1.53
Salaried (Govt/Pvt)	8.89	9.76	5.60	1.47	9.05	2.37	9.65	2.08	3.90	14.66	7.38
Traditional Occupation (e.g., artisans, etc.)	0.37	0.00	0.37	0.00	0.00	1.58	0.00	0.42	2.60	0.33	0.40
Pensioner	4.07	2.09	0.75	1.96	6.03	0.40	4.68	2.08	3.90	2.61	2.82
Others	2.22	0.35	0.00	0.49	1.72	0.00	0.88	0.00	0.00	1.63	0.81
Total	270	287	268	204	232	253	342	240	77	307	2480

Table 4.2.6.2: Occupational status of female PVTGs

Occupational category	Bonda	Dida	Dongria	Hill	Juana	Kutia	Lanjia	Lodha	Mankidia	Paudi	Over
		yi	Kandha	Kharia	ng	Kandha	Saora	ha		Bhuiya	all
Collection of Forest Products & Sale	15.22	9.35	0.00	26.87	0.00	0.00	1.55	61.67	22.03	7.95	14.46
Craft Making and Sale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cultivation	29.89	46.76	34.73	0.50	7.08	23.46	56.99	6.67	0.00	39.74	26.25

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Allied activities (Animal Husbandry/Fishery)	1.09	5.76	0.00	0.00	0.00	0.00	0.52	0.42	1.69	1.32	0.80
Casual Labour in Agriculture	20.11	9.35	55.09	35.82	37.18	69.62	1.04	14.58	28.81	8.61	31.80
Casual Labour in Non-Agriculture	12.50	7.91	4.19	27.36	20.35	4.23	10.36	6.25	35.59	13.25	11.37
Own Business/Shops	0.54	0.00	0.60	0.00	2.65	0.00	0.00	1.25	0.00	0.00	0.48
Salaried (Govt/Pvt)	5.98	11.51	1.50	1.00	1.77	0.77	7.77	2.08	0.00	10.60	3.95
Traditional Occupation (e.g., artisans, etc.)	0.54	0.00	0.90	0.00	0.00	0.77	0.00	2.50	5.08	0.00	0.80
Pensioner	10.87	9.35	2.69	7.96	28.32	1.15	20.73	4.18	6.78	18.22	9.23
Others	3.26	0.00	0.30	0.50	2.65	0.00	1.04	0.42	0.00	1.32	0.85
Total	184	139	334	201	113	260	193	240	59	151	1874

Table 4.2.6.3: Occupational status of overall studied PVTGs

Occupational category	Bonda	Dida yi	Dongria Kandha	Hill Kharia	Juana	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiya	Overall
Collection of Forest Products & Sale	7.71	3.52	0.00	24.94	0.87	0.00	0.93	50.00	18.91	3.28	10.04
Craft Making and Sale	0.44	0.00	0.00	0.00	1.18	0.00	0.00	0.00	0.00	0.22	0.18
Cultivation	39.87	62.91	36.21	0.74	12.46	18.71	55.89	6.88	0.00	46.29	31.07
Allied activities (Animal Husbandry/Fishery)	0.66	3.52	0.00	0.25	0.00	0.00	0.56	0.21	1.47	0.87	0.67
Casual Labour in Agriculture	15.86	4.23	51.00	36.05	33.62	66.86	0.56	18.88	30.88	3.93	26.32
Casual Labour in Non-Agriculture	18.08	9.62	6.15	29.63	27.83	10.92	20.93	18.71	39.71	21.83	18.78
Own Business/Shops	1.76	1.18	0.66	1.73	2.03	0.00	0.75	1.46	0.00	1.09	1.08
Salaried (Govt/Pvt)	7.71	10.33	3.32	1.23	6.67	1.56	8.97	2.08	2.21	13.32	5.90
Traditional Occupation (e.g., artisans, etc.)	0.44	0.00	0.66	0.00	0.00	1.18	0.00	1.46	3.68	0.22	0.57
Pensioner	6.83	4.46	1.83	4.94	13.33	0.78	10.47	3.13	5.15	7.42	5.58
Others	2.64	0.23	0.18	0.49	2.03	0.00	0.93	0.21	0.00	1.53	0.83
Total	454	426	602	405	345	513	535	480	136	458	4354

Table 4.2.7: Different categories of houses among PVTGs households

Tribal group	Kuccha/dilapidated	Semi Pucca/Mixed/livable	Pucca/good	Total
Bonda	44.68	37.87	18.45	235
Didayi	5.56	79.49	14.96	234
Dongria Kandha	40.29	57.28	2.43	206
Hill Kharia	50.23	41.78	7.98	213
Juang	6.38	88.30	5.32	188
Kutia Kandha	87.00	10.00	3.00	200
Lanjia Saora	6.47	59.48	34.05	232
Lodha	72.02	12.39	15.60	218
Mankidia	37.04	49.38	13.58	81
Paudi Bhuiyan	27.78	62.39	9.83	234
Overall	37.29	49.93	12.79	2041

Table 4.2.8: Different categories of ration card holders among the studied PVTGs households

Tribal group	APL	BPL	AAY	Cannot say	Total
Bonda	13.19	51.49	31.49	3.83	235
Didayi	4.70	21.79	72.22	1.28	234
Dongria Kandha	0.00	18.48	79.61	2.91	206
Hill Kharia	9.39	5.63	81.22	3.76	213
Juang	4.79	62.77	28.72	3.72	188
Kutia Kandha	2.50	93.00	1.50	3.00	200
Lanjia Saora	4.31	87.93	6.90	0.86	232
Lodha	0.46	24.31	65.60	9.63	218
Mankidia	13.58	0.00	82.72	3.70	81
Paudi Bhuiyan	10.26	18.52	71.79	0.43	234
Overall	5.98	40.27	50.51	3.23	2041

Table 4.2.9: Practices open defecation among PVTGs' households

Ethnic group	No		Yes		Total
	N	%	N	%	
Bonda	149	63.4	86	36.6	235
Didayi	122	52.14	112	47.86	234

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Dongria Kandha	121	58.74	85	41.26	206
Hill Kharia	103	48.36	110	51.64	213
Juang	123	65.43	65	34.57	188
Kutia Kandha	147	73.5	53	26.5	200
Lanjia Saora	214	92.24	18	7.76	232
Lodha	159	72.94	59	27.06	218
Mankidia	60	74.07	21	25.93	81
Paudi Bhuiya	186	79.49	48	20.51	234
Overall	1384	67.81	657	32.19	2041

Table 4.2.10: Sources of drinking water collection by PVTGs households

Ethnic group	Protected water		Unprotected water		Total
	N	%	N	%	
Bonda	223	94.89	12	5.11	235
Didayi	204	87.18	30	12.82	234
Dongria Kandha	93	45.15	113	54.85	206
Hill Kharia	121	57.35	90	42.65	211
Juang	154	81.91	34	18.09	188
Kutia Kandha	154	77.00	46	23.00	200
Lanjia Saora	112	48.28	120	51.72	232
Lodha	183	74.77	55	25.23	218
Mankidia	81	100.00	0	0.00	81
Paudi Bhuiya	199	85.04	35	14.96	234
Overall	1504	73.76	535	26.24	2039

Table 4.2.11: Electricity status in PVTGs' households

Ethnic group	Electricity present		Electricity absent		Total
	N	%	N	%	
Bonda	211	89.79	24	10.21	235
Didayi	221	94.44	13	5.56	234
Dongria Kandha	190	92.23	18	7.77	206
Hill Kharia	139	65.26	74	34.74	213
Juang	129	68.62	59	31.38	188

Kutia Kandha	187	88.50	23	11.50	200
Lanjia Saora	208	89.66	24	10.34	232
Lodha	135	61.93	83	38.07	218
Mankidia	77	95.06	4	4.94	81
Paudi Bhuiya	205	87.61	29	12.39	234
Overall	1892	82.90	349	18.10	2041

Table 4.2.12.: Separate kitchen present in the studied household

Ethnic group	Separate kitchen present		Separate kitchen absent		Total
	N	%	N	%	
Bonda	186	74.89	59	25.11	235
Didayi	198	84.62	36	15.38	234
Dongria Kandha	66	32.04	140	67.96	206
Hill Kharia	113	53.05	100	46.95	213
Juang	105	55.85	83	44.15	188
Kutia Kandha	122	61.00	78	39.00	200
Lanjia Saora	152	65.52	80	34.48	232
Lodha	83	38.07	135	61.93	218
Mankidia	59	72.84	22	27.18	81
Paudi Bhuiya	185	70.51	69	29.49	234
Overall	1239	60.71	802	39.29	2041

Table 4.2.13.: Types of fuel for cooking in households of PVTGs

Ethnic group	Firewood		Others		Total
	N	%	N	%	
Bonda	191	81.28	44	18.72	235
Didayi	215	91.88	19	8.12	234
Dongria Kandha	184	89.32	22	10.68	206
Hill Kharia	211	99.06	2	0.94	213
Juang	184	97.87	4	2.13	188
Kutia Kandha	188	94.00	12	6.00	200
Lanjia Saora	218	93.53	15	6.47	232
Lodha	218	99.08	2	0.92	218

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Mankidia	81	100.00	0	0.00	81
Paudi Bhuiya	227	97.01	7	2.99	234
Overall	1914	93.78	127	6.22	2041

Table 4.2.14: Practices of Mosquito net use during sleeping among PVTGs Household

Ethnic group	Use		Not use		Total
	N	%	N	%	
Bonda	194	82.55	41	18.45	235
Didayi	228	97.44	6	2.56	234
Dongria Kandha	134	65.05	72	34.95	206
Hill Kharia	197	92.49	18	7.51	213
Juang	183	86.70	25	13.30	188
Kutia Kandha	149	74.50	51	25.50	200
Lanjia Saora	200	86.21	32	13.79	232
Lodha	207	94.95	11	5.05	218
Mankidia	79	97.53	2	2.47	81
Paudi Bhuiya	212	90.60	22	9.40	234
Overall	1863	86.38	278	13.62	2041

Table 4.2.15: Total number of living rooms in the house among PVTGs households

Ethnic group	Single		Double		Three & more		Total
	N	%	N	%	N	%	
Bonda	29	12.34	91	38.72	115	48.94	235
Didayi	37	15.81	112	47.86	85	36.32	234
Dongria Kandha	14	6.80	48	23.30	144	69.90	206
Hill Kharia	108	50.70	87	40.85	18	8.45	213
Juang	100	53.19	53	28.19	35	18.62	188
Kutia Kandha	18	9.00	69	34.50	113	56.50	200
Lanjia Saora	14	6.03	66	28.45	152	65.52	232
Lodha	141	64.68	71	32.57	6	2.75	218
Mankidia	34	41.98	34	41.98	13	18.05	81
Paudi Bhuiya	55	23.50	127	54.27	52	22.22	234
Overall	550	26.95	758	37.14	733	35.91	2041

CHAPTER – V

REPRODUCTIVE & CHILD HEALTH

5.1. Introduction

Menstrual hygiene and maternal and child health (MCH) are key focus areas within the broader public health domain. These subdomains are integral components of reproductive health and maternal and child health, each addressing different aspects of the well-being of women, children, and families. Menstrual health and hygiene refer to individuals' physical, mental, and social well-being during menstruation, emphasising access to safe products, education, and a supportive environment to address social and cultural taboos associated with menstruation. The significance of menstrual health is especially notable in resource-limited settings, where inadequate access to hygiene products, lack of education, and the stigma surrounding menstruation can lead to negative health and social outcomes for girls and women. Improving menstrual hygiene is critical in ensuring menstruation does not hinder individuals' education, employment, and social participation, particularly in low-income and developing regions (Sommer, 2010).

In parallel, MCH is a subdomain of public health that aims to improve the health and well-being of mothers, children, and families. MCH encompasses a range of health services, including prenatal care, safe childbirth practices, postnatal care, immunisation, nutrition, and early childhood development. MCH aims to reduce maternal and child mortality and morbidity by addressing key issues such as nutrition, access to healthcare, and prevention of preventable diseases. According to the World Health Organisation (WHO), maternal health refers to women's health during pregnancy, childbirth, and the postpartum period. It is strongly influenced by factors such as access to skilled birth attendants, quality prenatal care, and proper nutrition (WHO, 2020). Child health, on the other hand, focuses on the prevention of diseases and conditions such as malnutrition, infections, and congenital disabilities, which can significantly impact early childhood development and overall survival rates. Addressing maternal and child health is critical to achieving the Sustainable Development Goals (SDGs), particularly SDG 3, which focuses on ensuring healthy lives and promoting well-being for all ages.

Menstrual health, hygiene, and maternal and child health are crucial pillars of public health initiatives worldwide. By investing in these areas, public health systems can achieve positive outcomes in gender equality, education, and community health. Efforts to improve both areas are often interconnected, as better maternal health outcomes can influence families' overall well-being, and improved menstrual health can enhance women's ability to participate fully in society.

The need to study menstrual health hygiene and maternal-child health among women belonging to PVTGs in Odisha is both urgent and critical, given their unique socio-cultural positioning and alarming health disparities. These women face a compounded burden of gender, tribal identity, and geographic isolation, resulting in severely restricted access to health education, menstrual hygiene products, antenatal care, and institutional delivery services. Deep-rooted taboos and cultural myths around menstruation lead to unsafe practices, social exclusion, and reproductive tract infections, which are rarely diagnosed or treated. Simultaneously, high rates of early marriage, repeated pregnancies, malnutrition, and lack of immunisation access contribute to poor maternal and child health outcomes. For instance, studies have shown that PVTG women in Odisha have significantly lower utilisation of maternal health services compared to even other Scheduled Tribes (Mohanty et

al., 2020). Despite targeted schemes, the benefits often fail to reach these remote communities due to systemic neglect and linguistic, cultural, and infrastructural barriers. Conducting an in-depth study is essential to generate disaggregated data, highlight intersectional vulnerabilities, and develop culturally sensitive, community-led interventions. Such research will be transformative in addressing health inequities, empowering PVTG women with knowledge and services, and informing inclusive public health policy in Odisha.

5.2. Average Age of Women Under Study

Table 5.2 and Figure 5.2 represent the average age of women who willingly participated in the study, based on which this report has been prepared. The average age of the women under study can vary significantly depending on the context, including the specific population, research objectives, and geographical location. In studies on menstrual health, reproductive health, or maternal and child health, the age range of participants will vary depending on the study's focus. For instance, in menstrual health studies that often examine the onset of menarche, participants are typically aged 10-18 years, as this period spans the onset of menstruation through adolescence. In maternal health studies, such as those focused on pregnancy or childbirth, the target group usually consists of women of reproductive age, generally ranging from 18 to 40 years, with the average age often falling between 28 and 35 years. In child health and development studies that explore women's health in the postpartum period, participants' ages often range from the late 20s to early 40s, reflecting the typical age range for childbirth. Ultimately, the average age of women under study will depend on the specific focus of the research. However, it generally spans from adolescence to early adulthood, particularly in reproductive and maternal health studies.

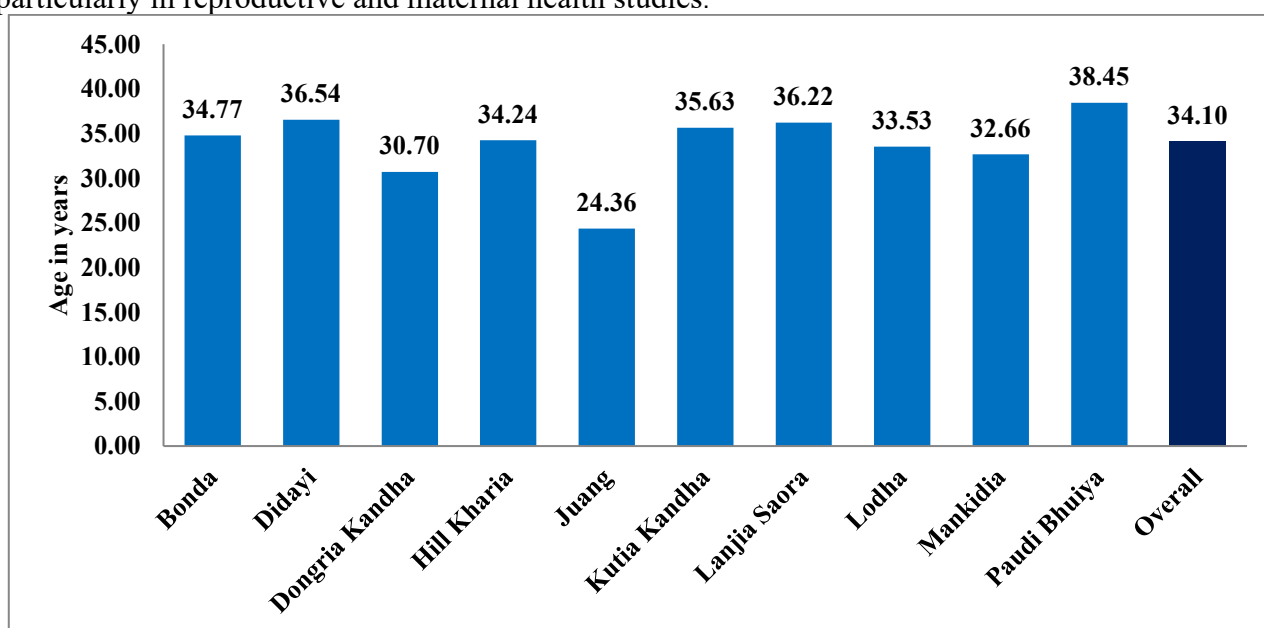


Figure 5.2: Distribution current mean age (in years) of the studied PVTG Women

The present age distribution of women across the studied PVTGs reveals distinct demographic patterns and disparities (Table 5.2 & Figure 5.2). The overall mean age of 34.10 years and a standard deviation of 12.84 indicate a relatively dispersed population with a broad age range from 14 to 75 years. Among the groups, Juang women exhibit the lowest mean age (24.36 years) and the narrowest standard deviation (4.31), suggesting a predominantly younger demographic, likely due to high birth rates and lower life expectancy. In contrast, Paudi Bhuiya women have the highest

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mean age (38.45 years) and the largest standard deviation (14.37), indicating a relatively older population with significant age variation. Notably, the Kutia Kandha group has the widest age range (18–75 years) and the greatest variation ($SD = 18.25$), suggesting a mixed-age structure that may reflect better survival rates or intergenerational cohabitation. Dongria Kandha women, with a mean age of 30.70 years and a standard deviation of 10.65, represent a comparatively younger group, suggesting potential differences in fertility, mortality, or socio-cultural practices that may influence their demographic composition. The data also highlights a general trend where some tribes, such as Lanjia Saora (Mean = 36.22) and Didayi (Mean = 36.54), show higher mean ages, indicating a more balanced population structure with older age groups well represented. Conversely, groups like Mankidia (Mean = 32.66) and Lodha (Mean = 33.53) fall closer to the overall average, showing moderate variation in age distribution.

5.3.1. First Age at Menarche

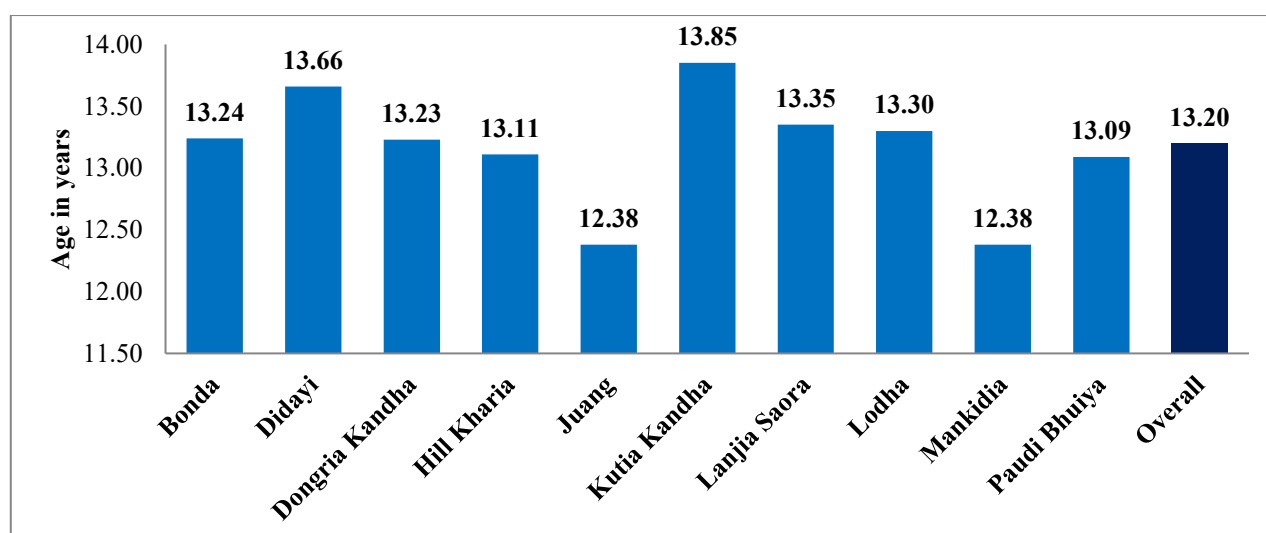


Figure 5.3.1: Average age at menarche

Table 5.3.1 and Figure 5.3.1 present the data on the average age at menarche among women from different PVTGs. These reveal notable variations, suggesting underlying biological, nutritional, and socio-economic influences. The overall mean age at menarche is 13.2 years, with a standard deviation of 1.31, indicating a relatively consistent onset of puberty across the groups. However, significant intergroup differences are evident. Juang and Mankidia women experience menarche at the youngest mean age (12.38 years), with relatively high standard deviations (1.5 and 1.12, respectively), suggesting greater variability within these groups. Early menarche in these communities could be linked to genetic factors, nutritional patterns, or environmental stressors that accelerate puberty. In contrast, the Kutia Kandha group has the highest mean menarcheal age (13.85 years), followed by Didayi (13.66 years), indicating a later onset of puberty. This could be influenced by factors such as delayed physical growth due to nutritional deficiencies, lower fat reserves, or socio-cultural practices that affect overall health and development. The relatively lower variation in menarcheal age among groups such as the Dongria Kandha ($SD = 0.71$) and the Didayi ($SD = 0.71$) suggests a more homogeneous pattern, possibly due to similar dietary habits, genetic predispositions, or shared environmental conditions. On the other hand, groups like Lodha ($SD = 1.54$) and Paudi Bhuiya ($SD = 1.31$) show higher standard deviations, indicating diverse experiences

within their communities, possibly due to differences in socio-economic status, and nutritional intake.

5.3.2. Ritual practices at First Menstruation

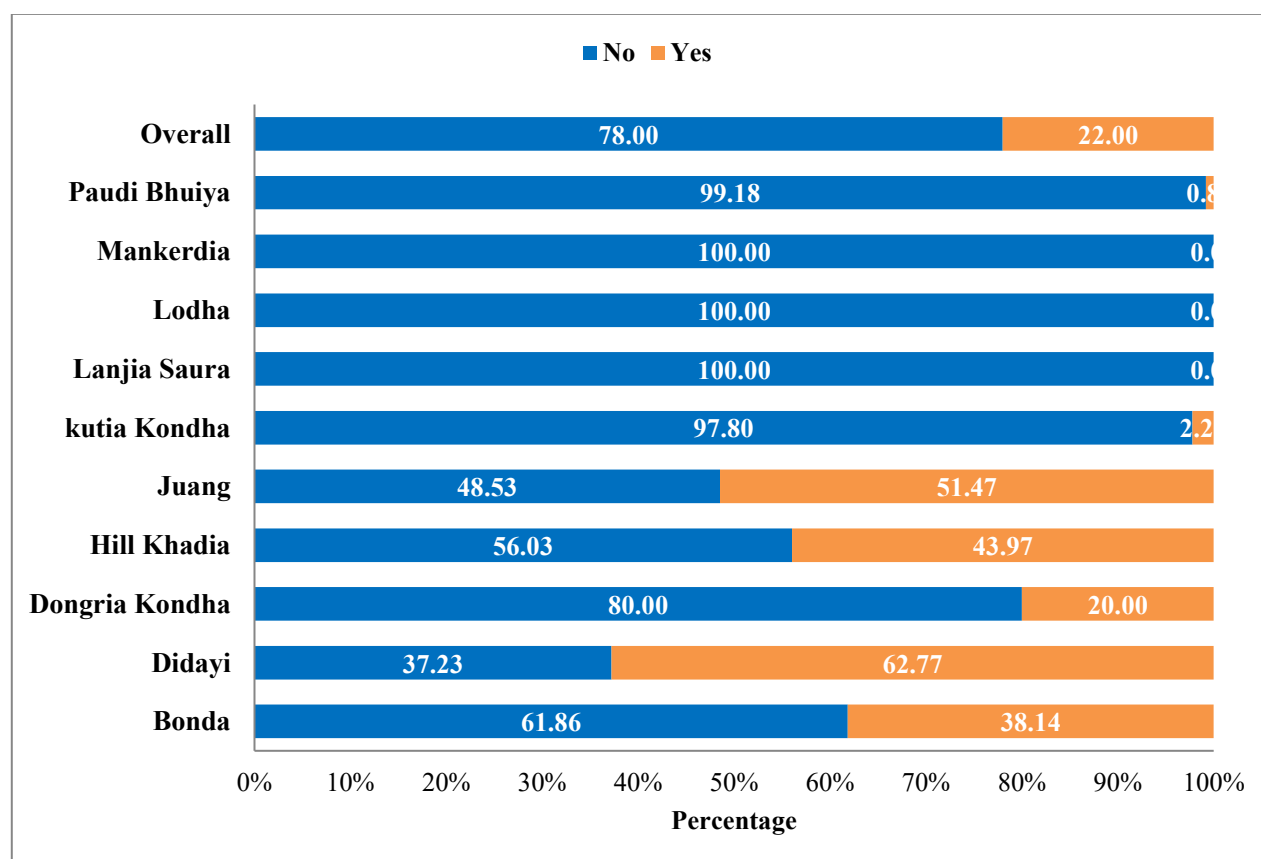


Figure 5.3.2: Ritual practices at first menstruation among PVTG women

Table 5.3.2 and Figure 5.3.2 present the data on ritual practices at first menstruation among the studied PVTGs, which reveal significant variations, reflecting diverse cultural perceptions and traditions surrounding menarche. Overall, only 22% of respondents reported practising rituals at first menstruation, while the majority (78%) did not, suggesting that traditional puberty rites are either declining or not universally observed across these communities. Among the tribes, the Didayi (62.77%) and Kutia Kandha (51.47%) have the highest prevalence of ritual observance, indicating that menstrual initiation is culturally significant within these groups. Such practices may involve seclusion, purification rites, or community celebrations, reflecting deep-rooted beliefs in purity, transition to womanhood, and social norms regarding menstruation. Similarly, the Bonda (38.14%) and Hill Kharia (43.97%) also maintain ritualistic observances, though to a lesser extent, suggesting some degree of cultural retention. In stark contrast, several groups, including the Lodha, Mankidia, and Paudi Bhuiya, report no ritual observances (0%), while others, like the Juang (2.2%) and Lanjia Saora (0.82%), exhibit negligible participation in such practices. The Dongria Kandha also show a low ritual adherence rate (20%), indicating that these communities either never had such customs or have gradually abandoned them due to modernisation, external influences, or changing socio-economic conditions.

5.3.3. Source of First Information on Menstruation

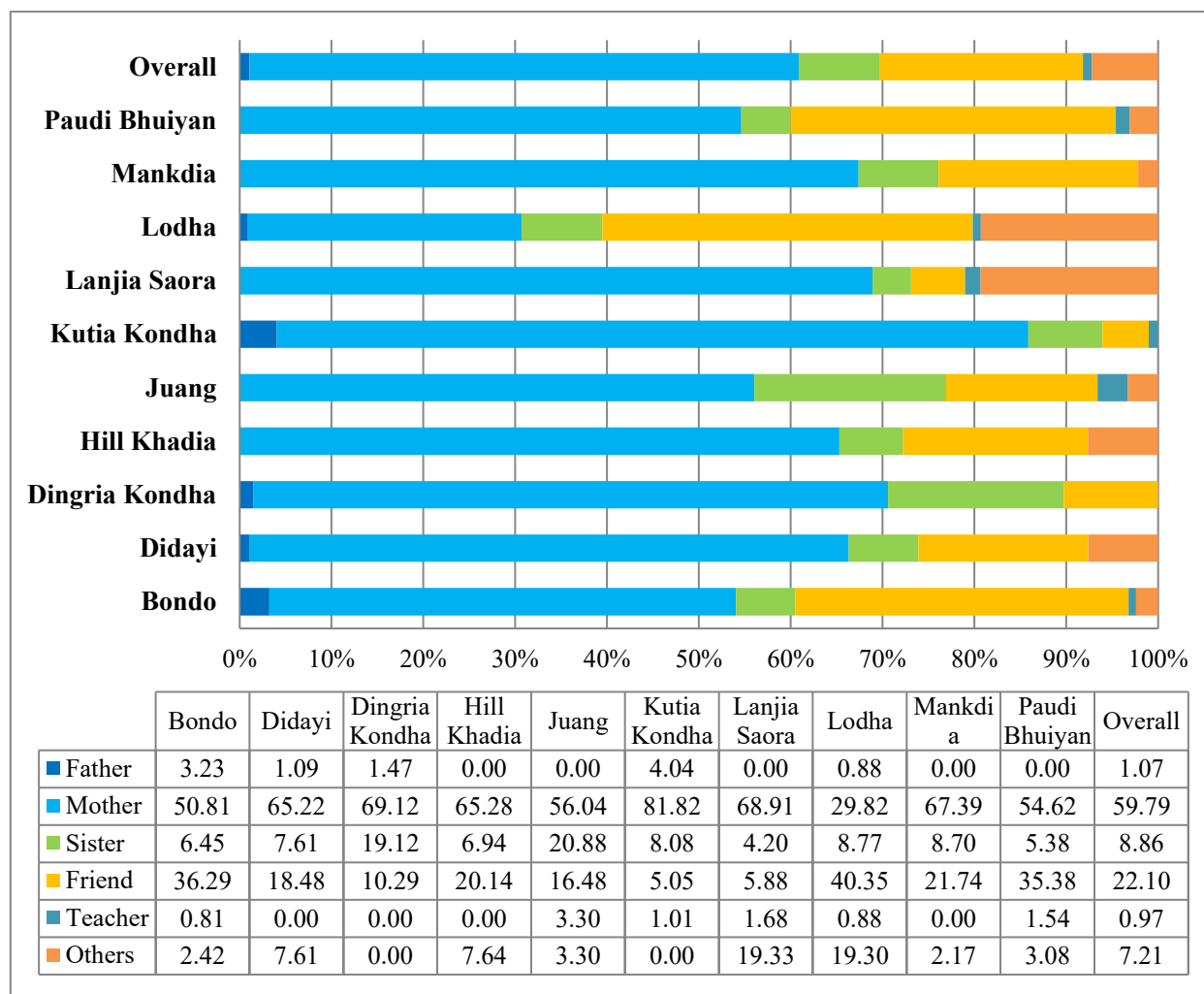


Figure 5.3.3: Person providing first information about menstruation

Table 5.3.3 and Figure 5.3.3 present the data on sources of information about menstruation among PVTGs reveal a strong reliance on mothers (59.79%) as primary informants, highlighting the mother's central role in transmitting menstrual knowledge within these communities. This trend is consistent across all ethnic groups, with the Kutia Kandha (81.82%), Dongria Kandha (69.12%), and Lanjia Saora (68.91%) exhibiting the highest dependence on maternal guidance. The dominant role of mothers in this aspect suggests that menstrual discussions are confined mainly within the family, possibly reflecting cultural taboos or limited external educational influence. Friends (22.10%) emerge as the second most common source, particularly among the Lodha (40.35%), Paudi Bhuiya (35.38%), and Bonda (36.29%), indicating that peer influence plays a significant role in menstrual awareness, especially in groups where parental discussions may be limited. The dependence on sisters (8.86%) is lower but noticeable among Juang (20.88%) and Dongria Kandha (19.12%), reflecting the potential for intra-family knowledge sharing among siblings. Teachers play an almost negligible role (0.97%) in menstrual education, suggesting a lack of formal school-based health education. This absence could be due to inadequate reproductive health curriculum, stigma, or a lack of trained educators addressing menstrual issues in these tribal settings. The Juang (3.30%) and Paudi Bhuiya (1.54%) show minimal dependence on teachers, reinforcing that schools are not a primary channel for menstrual awareness. Fathers are the least involved (1.07%), with little to no

participation across most groups, reflecting entrenched gender norms that position menstruation as a female-exclusive topic. However, "others" (7.21%), including community elders or traditional healers, play a notable role in some groups like Lanjia Saora (19.33%) and Lodha (19.30%), suggesting that alternative sources, possibly rooted in traditional knowledge, contribute to menstrual education.

5.3.4. Status of regularity in menstruation cycle

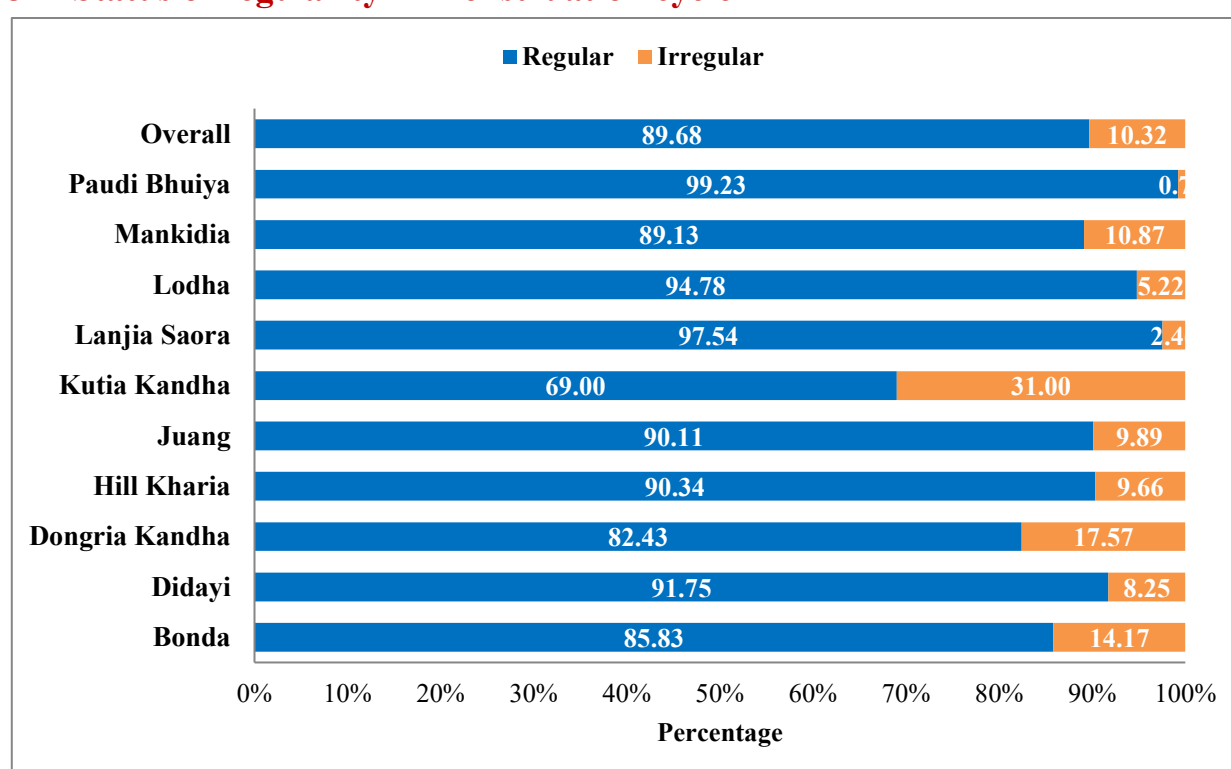


Figure 5.3.4: Types of menstruation

The data on menstruation regularity among women from PVTGs reveals that the majority (89.68%) experience regular menstrual cycles, while 10.32% report irregular menstruation (Table 5.3.4 & Figure 5.3.4). This suggests a generally stable reproductive health status across most groups, although notable variations exist among different ethnic communities. The Paudi Bhuiya (99.23%), Lanjia Saora (97.54%), and Lodha (94.78%) exhibit the highest rates of regular menstruation, indicating a lower prevalence of menstrual health issues among these groups. Similarly, the Didayi (91.75%), Hill Kharia (90.34%), and Juang (90.11%) also report high regularity, suggesting a common trend of menstrual stability among the majority of PVTG women. However, certain groups show a considerably higher proportion of irregular menstruation. The Kutia Kandha women, in particular, have the highest percentage of irregular menstruation (31.00%), followed by the Dongria Kandha (18.57%).

5.3.5. Duration of days at First and Current Menstrual Cycle

The data on the average duration of menstrual periods among women from PVTGs show a noticeable reduction over time (Table 5.3.5; Figures 5.3.5.1 & 5.3.5.2). The overall mean duration of menstruation was 4.82 days (SD = 1.53) during the first menstrual cycle, which has now decreased to

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3.94 days (SD = 1.57). This trend is consistent across all ethnic groups, suggesting potential shifts in health, nutrition, lifestyle, or reproductive ageing among the women studied. Among the groups, the Paudi Bhuiya (5.93 days), Lanjia Saora (5.73 days), and Didayi (5.67 days) initially had the longest menstrual durations. In comparison, the Mankidia (3.86 days) and Dongria Kandha (4.29 days) had the shortest (Figure 5.3.5.1).

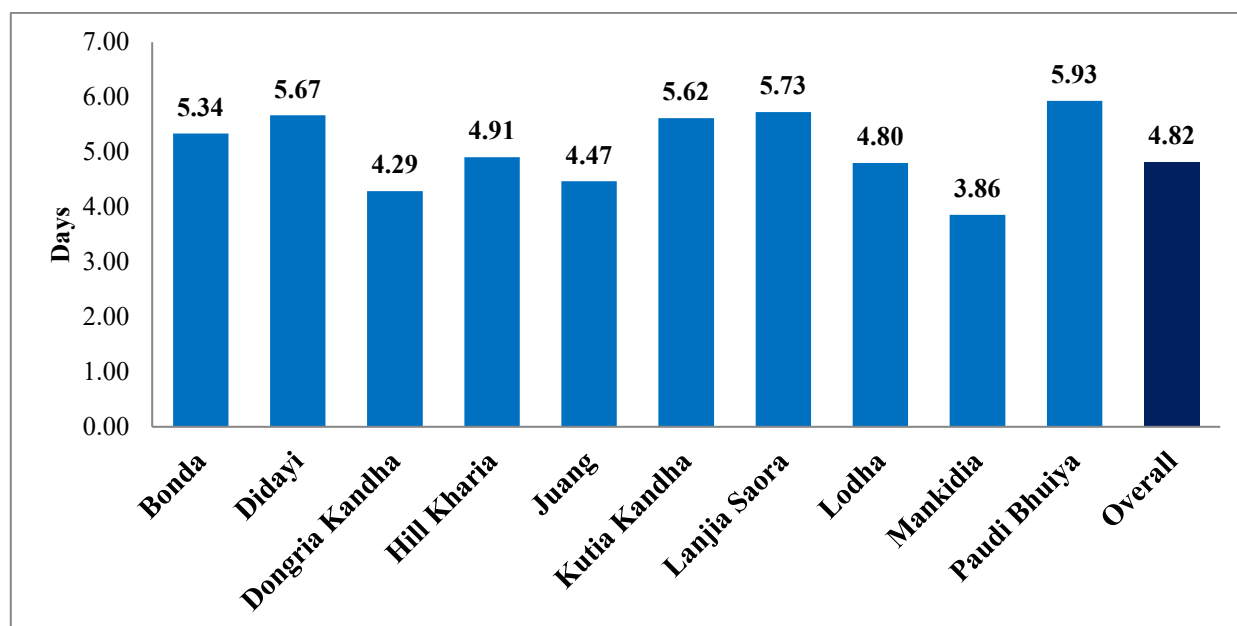


Figure 5.3.5.1: Average Duration of the First Menstrual Period (Days)

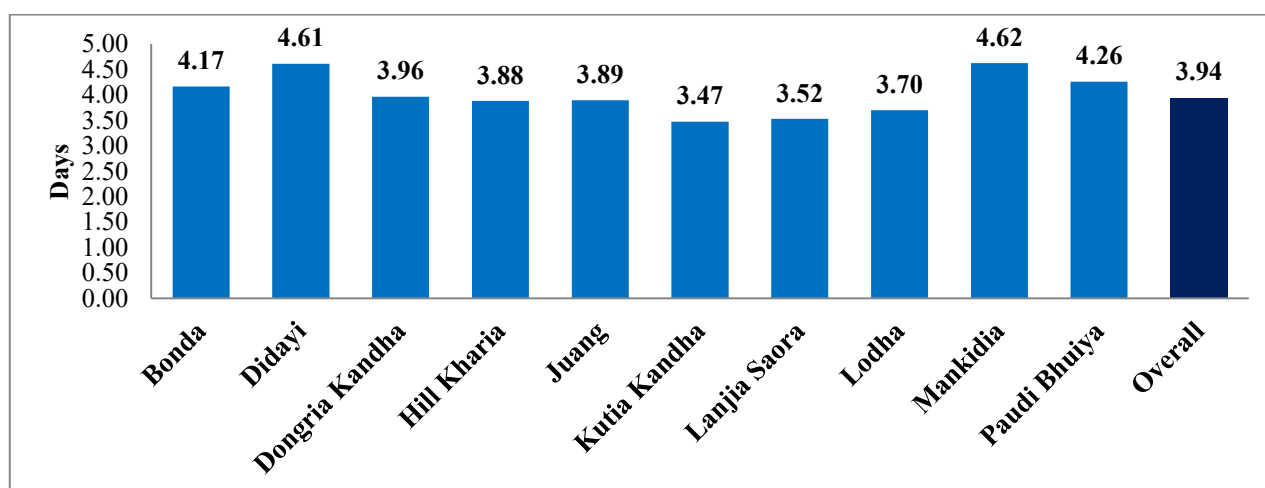


Figure 5.3.5.2: Average Duration of the Current Menstrual Period (Days)

However, in the present cycle data, the duration has reduced across all groups, with the Kutia Kandha (3.47 days) and Lanjia Saora (3.52 days) now reporting the shortest menstrual periods. The most significant reductions in menstrual duration are observed in groups like the Bonda (from 5.34 to 4.18 days) and the Paudi Bhuiya (from 5.93 to 4.26 days) (Figure 5.3.5.2).

5.3.6. Menstrual Hygiene

Menstrual hygiene practices among women are fundamental to maintaining reproductive health and dignity, with far-reaching implications for both menstrual health and hygiene and for maternal and child health research. These practices include using clean, safe absorbents, changing frequency, proper genital hygiene, and safe disposal methods. Poor menstrual hygiene, often due to limited access to sanitary products, water, sanitation, and privacy, can lead to a range of health issues, including reproductive tract infections, urinary tract infections, and increased risk of infertility. Furthermore, inadequate hygiene management can cause psychological distress, social exclusion, and absenteeism from school or work, particularly among adolescents and women in low-resource settings. In maternal and child health research, menstrual hygiene is a key determinant of reproductive preparedness and health-seeking behaviour, influencing outcomes such as early detection of menstrual disorders, fertility patterns, and maternal morbidity. Promoting safe and informed menstrual hygiene practices through education, infrastructure, and policy interventions is essential for improving menstrual health outcomes and supporting the broader continuum of women's health, including safe pregnancy, childbirth, and child well-being.

5.3.6.1. Usage of Sanitary Napkin

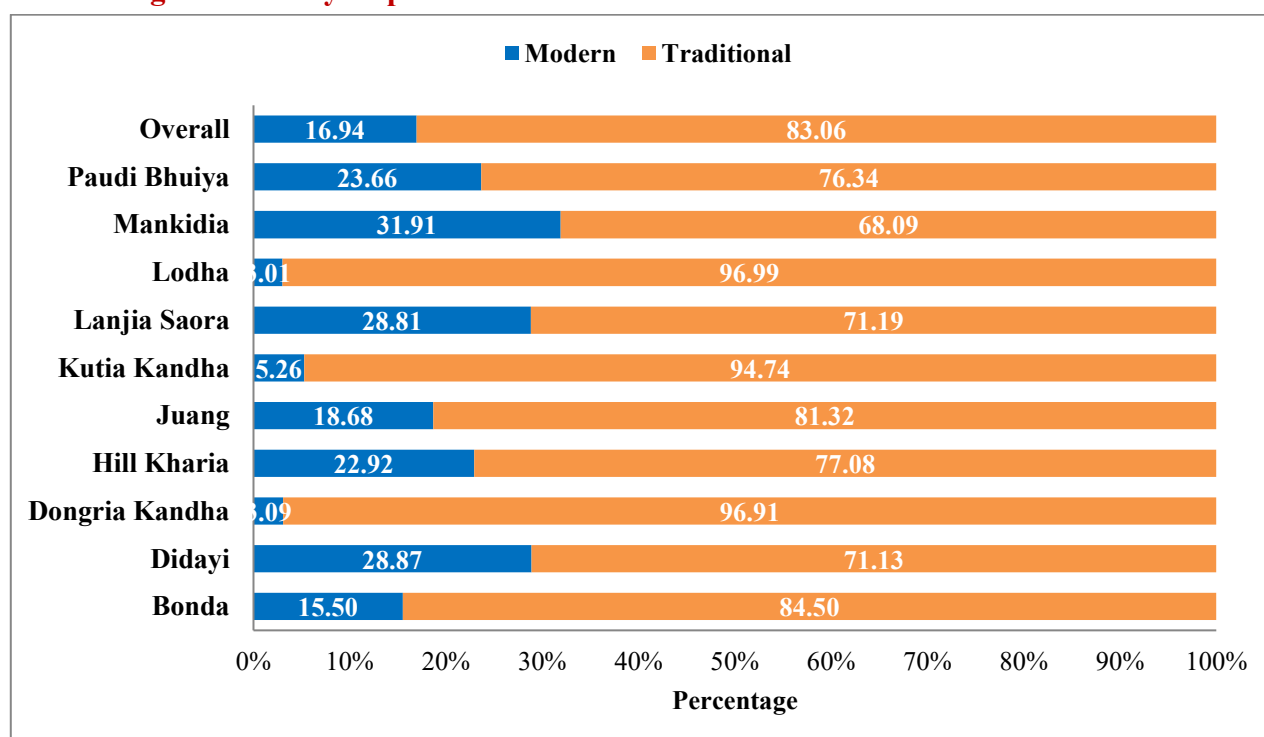


Figure 5.3.6.1: Types of Sanitary Napkins Used Among PVTG Women

Table 5.3.6.1 and Figure 5.3.6.1 present the types of menstrual hygiene materials used by women from PVTGs, revealing a strong reliance on traditional materials: 83.06% still use cloth or other indigenous alternatives, while only 18.94% have adopted modern sanitary napkins. This significant disparity highlights persistent barriers to menstrual hygiene accessibility, affordability, and awareness among these tribal communities. The highest dependence on traditional materials is observed among the Lodha (96.99%), Dongria Kandha (96.91%), and Kutia Kandha (94.74%), indicating that modern menstrual hygiene products have made minimal inroads into these groups. The strong preference for traditional methods may be due to economic constraints, lack of access to commercial sanitary products, or deep-rooted cultural practices that favour reusable cloth over

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disposable napkins. Similarly, the Bonda (84.50%), Juang (81.32%), and Hill Kharia (77.08%) also exhibit high usage of traditional materials, reinforcing the trend of limited exposure to modern menstrual hygiene products. In contrast, a comparatively higher adoption of modern sanitary napkins is seen among the Mankidia (31.91%), Lanjia Saora (28.81%), and Didayi (28.87%). These figures suggest that some level of awareness, affordability, or accessibility has reached these groups, possibly due to government interventions, NGO initiatives, or market penetration. The Paudi Bhuiya (23.66%) and Hill Kharia (22.92%) also show moderate acceptance of modern hygiene products, indicating a gradual but slow shift towards improved menstrual hygiene management.

5.3.6.2: Materials Used for Cleaning Non-disposable Sanitary Napkin

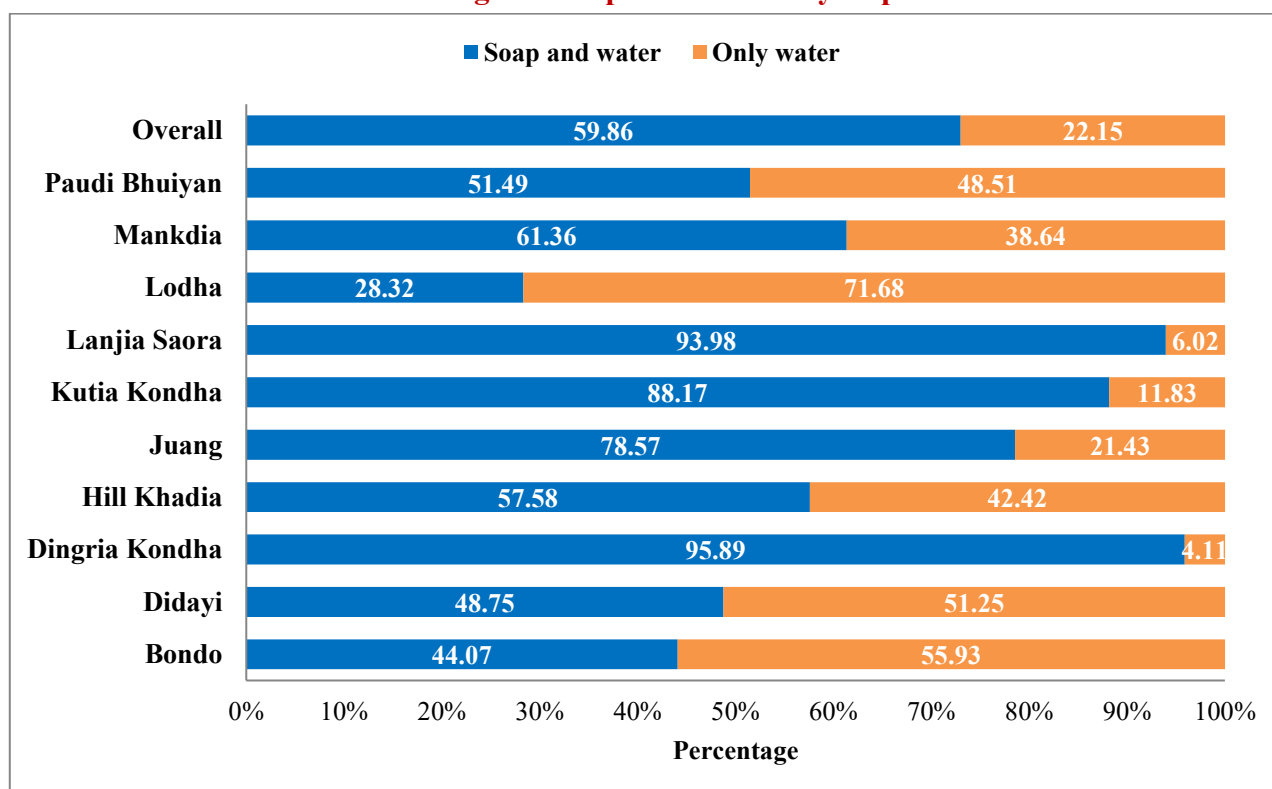


Figure 5.3.6.2: Material used for cleaning sanitary napkins

Table 5.3.6.2 and Figure 5.3.6.2 present the cleaning materials used for sanitary napkins among PVTG women, indicating significant variation in menstrual hygiene practices across ethnic groups. 59.86% of women use soap and water, while 22.15% rely only on water for cleaning reusable menstrual materials. The dependence on water alone suggests gaps in menstrual hygiene awareness and access to proper sanitation resources. Ethnic groups such as the Dongria Kandha (95.89%), Lanjia Saora (93.98%), and Kutia Kandha (88.18%) show the highest adoption of soap and water for cleaning, reflecting a relatively better understanding of hygiene practices. The Juang (78.57%) and Hill Kharia (57.58%) also have a majority using soap, indicating moderate awareness. This trend suggests that specific communities have adopted improved cleaning methods, potentially due to external interventions, education, or improved access to resources. Conversely, a significant portion of women in some ethnic groups continue to rely solely on water, which may not be sufficient for maintaining proper hygiene and preventing infections. The Lodha (71.68%), Bonda (55.93%), and Didayi (51.25%) report the highest dependency on water alone, highlighting potential risks of bacterial infections and poor menstrual hygiene. The Paudi Bhuiya (48.51%) and Mankidia

(38.64%) also show a considerable percentage using only water, indicating a lack of awareness or limited access to soap.

5.3.6.3. Average Number of Napkins used During Menstruation days

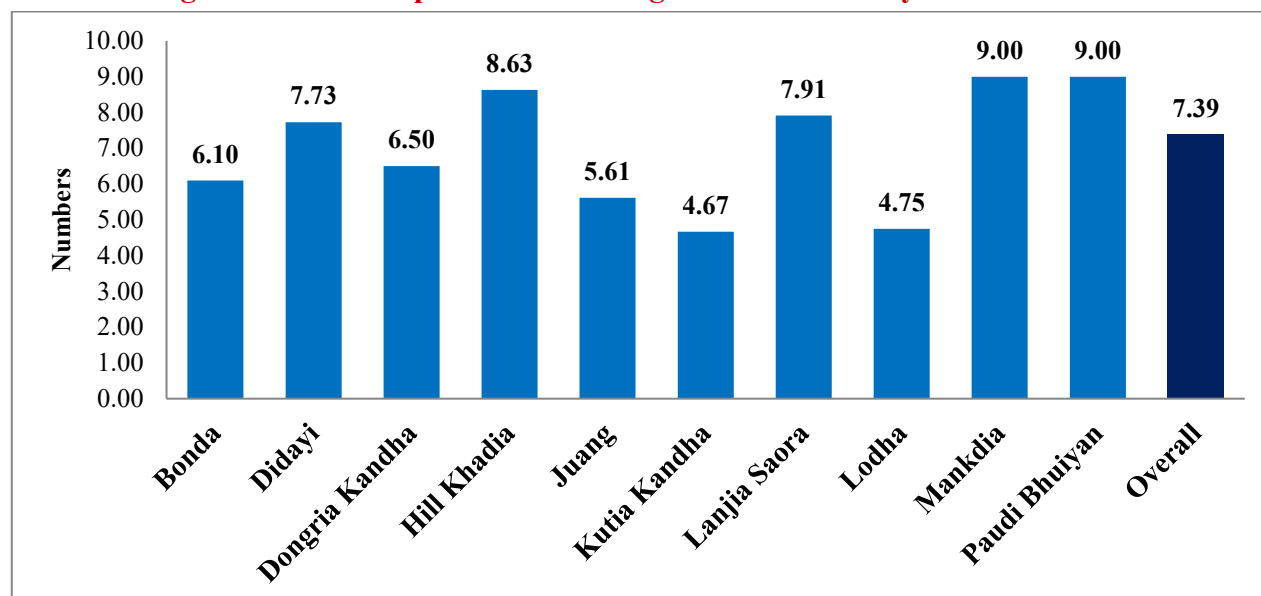


Figure 5.3.6.3: Number of sanitary napkins used during menstruation

The data on the average number of sanitary napkins used during menstruation among PVTG women reveal significant variations across different ethnic groups, highlighting disparities in menstrual hygiene management (Table 5.3.6.3 & Figure 5.3.6.3). The overall mean usage is 7.39 pads per cycle (SD = 3.25), but individual ethnic groups show considerable differences, which may be influenced by factors such as awareness, accessibility, affordability, and cultural practices. The highest usage is observed among Mankidia (9.00 pads, SD = 2.61) and Paudi Bhuiya (9.00 pads, SD = 3.45), followed closely by Hill Kharia (8.63 napkins, SD = 2.96) and Lanjia Saora (7.91 napkins, SD = 2.28). This higher napkin usage suggests better menstrual hygiene practices, potentially influenced by greater awareness, greater accessibility to sanitary products, or heavier menstrual flow. On the other hand, ethnic groups such as Kutia Kandha (4.67 napkins, SD = 2.31) and Lodha (4.75 napkins, SD = 3.15) report the lowest usage. This may indicate restricted access to sanitary products due to financial constraints, lack of awareness, or a preference for alternative methods such as reusable cloth. The Bonda (6.10 napkins, SD = 4.27) and Juang (5.61 napkins, SD = 1.39) also show relatively lower usage than the overall mean, suggesting potential limitations in menstrual hygiene management.

5.4.1. Age of Women at first and last Child Birth

Age at first and last childbirth refers to the ages at which a woman gives birth to her first and most recent (or last) child, respectively, indicating the reproductive span.

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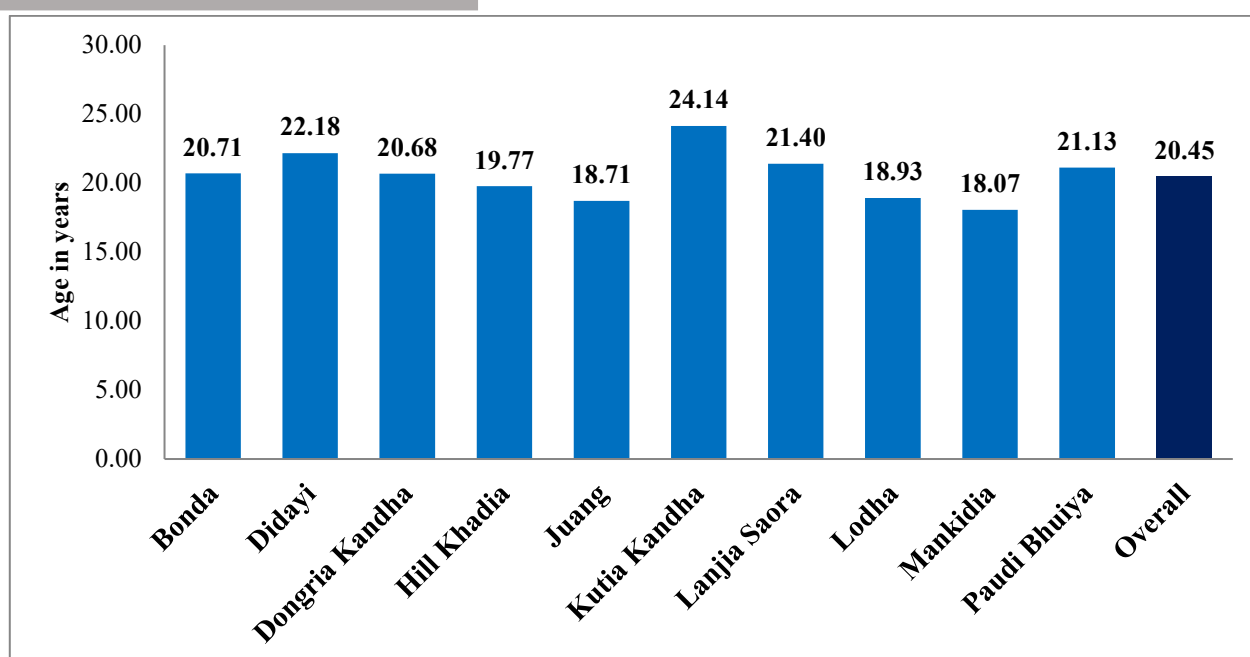


Figure 5.4.1.1: Age in years of mothers at first child birth

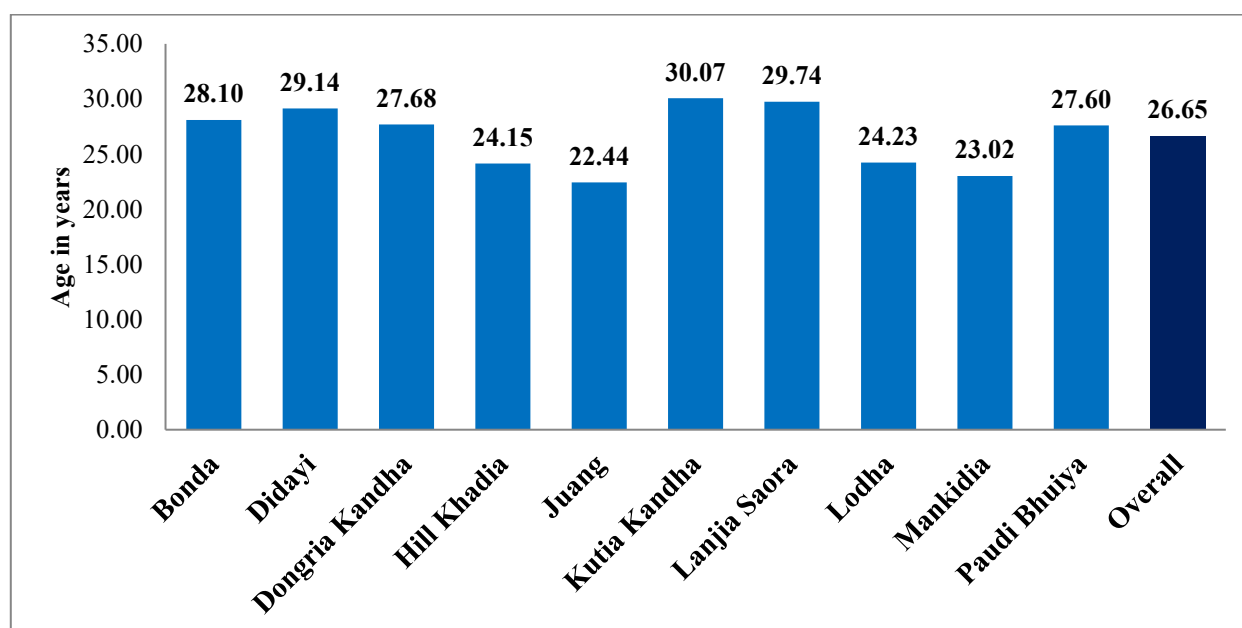


Figure 5.4.1.2: Age in years of mothers at last child birth

Table 5.4.1 and figures (5.4.1.1 & 5.4.1.2) provide information on the average age of mothers at childbirth among PVTG women, which offers insight into maternal health, fertility patterns, and reproductive behaviour. The overall mean age at first live birth is 20.45 years (SD = 5.31), while the mean age at last live birth is 26.65 years (SD = 6.82). However, significant variations exist across different ethnic groups, reflecting diverse socio-cultural practices, early marriage traditions, and access to healthcare. The youngest average age at first live birth is observed among the Mankidia (18.07 years, SD = 3.22), Juang (18.71 years, SD = 2.87), and Lodha (18.93 years, SD = 5.82), suggesting an early trend in motherhood. These groups also show relatively lower mean ages at last live birth, with Mankidia (23.02 years) and Juang (22.44 years) ceasing childbirth earlier than others.

This early onset and completion of childbearing suggest limited access to education and family planning resources, reinforcing the need for reproductive health awareness. Conversely, the Kutia Kandha (24.14 years, SD = 6.94) and Lanjia Saora (21.40 years, SD = 4.43) report the highest average age at first live birth, suggesting a delayed onset of motherhood compared to other groups. Similarly, Kutia Kandha (30.07 years, SD = 8.54) and Lanjia Saora (29.74 years, SD = 6.63) have the highest mean age at last live birth, reflecting a longer reproductive span. This could be attributed to different fertility norms, better maternal health awareness, or greater autonomy in reproductive decisions.

5.4.2. Average age gap of mothers between first and last child birth

The average age gap between a woman's first and last childbirths is the typical number of years between her first and last deliveries, reflecting her childbearing duration and spacing.

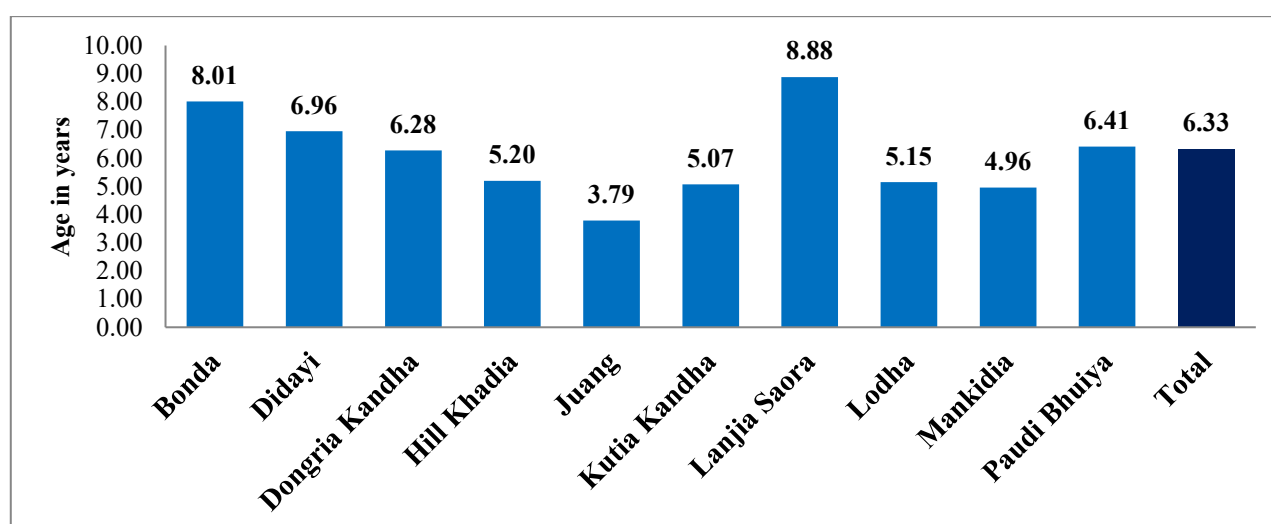


Figure 5.4.2: Age gap between first and last child birth

Table 5.4.2 and Figure 5.4.2 show the average age gap between the first and last childbirth among PVTG women, providing crucial insights into reproductive span, birth spacing, and fertility patterns. The overall mean interval between the first and last childbirth is 6.33 years (SD = 5.18), indicating a relatively short reproductive period for most women. However, significant variations exist across ethnic groups, reflecting diverse socio-cultural influences and access to reproductive healthcare. The longest reproductive span is observed among Lanjia Saora (8.88 years, SD = 5.38) and Bonda (8.01 years, SD = 4.63), suggesting either larger family sizes or greater birth spacing. In contrast, Juang (3.79 years, SD = 6.42) and Mankidia (4.96 years, SD = 5.25) exhibit the shortest intervals, which may reflect early cessation of childbirth due to economic hardships, health complications, or higher infant mortality rates, reducing the motivation for extended childbearing. Other groups, such as Hill Kharia (5.20 years, SD = 3.15) and Kutia Kandha (5.07 years, SD = 4.15), show a relatively narrow gap between first and last childbirth, suggesting closely spaced pregnancies.

5.4.3. Number of Conceptions

The number of conceptions refers to the total count of times a woman has become pregnant, regardless of the pregnancy outcome, including live births, miscarriages, or abortions.

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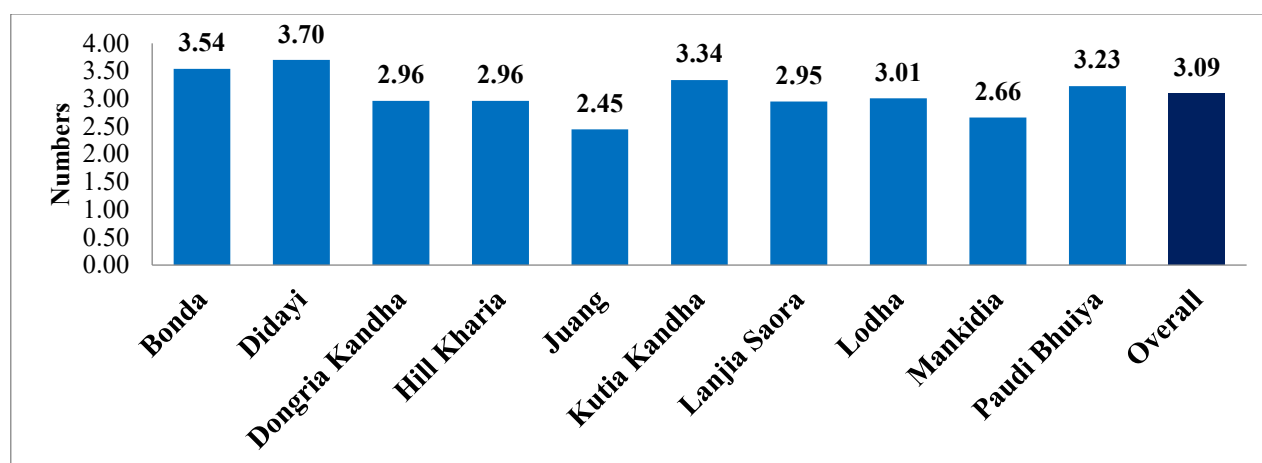


Figure 5.4.3: Number of conceptions of PVTGs mothers

In the present study, Table 5.4.3 and Figure 5.4.3 present the report on the average number of conceptions among PVTG women, providing insights into their reproductive patterns and fertility behaviours. The overall mean number of conceptions is 3.09 (SD = 1.71), indicating that, on average, women conceive around three times in their lifetime. However, considerable variation exists across ethnic groups, reflecting diverse socio-cultural, economic, and health-related factors influencing fertility. Among the studied groups, Didayi (Mean = 3.70, SD = 1.96) and Bonda (Mean = 3.54, SD = 1.92) report the highest number of conceptions, suggesting higher fertility rates, which may be linked to cultural norms favouring larger families or limited access to contraception and maternal healthcare. Similarly, Kutia Kandha (Mean = 3.34, SD = 1.70) and Paudi Bhuiya (Mean = 3.23, SD = 1.88) also exhibit relatively high conception rates, which could indicate a preference for multiple children or a lack of reproductive health awareness. In contrast, Juang (Mean = 2.45, SD = 1.39), Mankidia (Mean = 2.66, SD = 1.20), and Dongria Kandha (Mean = 2.96, SD = 1.70) have the lowest number of conceptions, which may suggest either a preference for smaller families, higher instances of infant or maternal mortality, or the influence of external factors such as economic hardship or increasing awareness of family planning.

5.4.4. Average age at Conception

Average age at conception is the typical age at which a woman becomes pregnant, calculated by averaging the ages at which conceptions occur within a group.

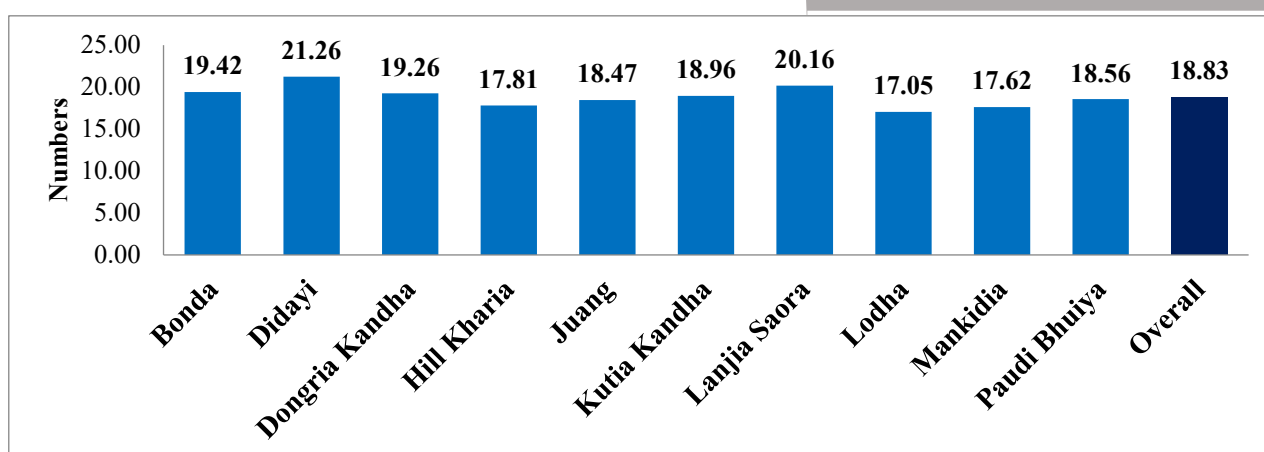


Figure 5.4.4.1: Age at first conception of PVTGs mothers

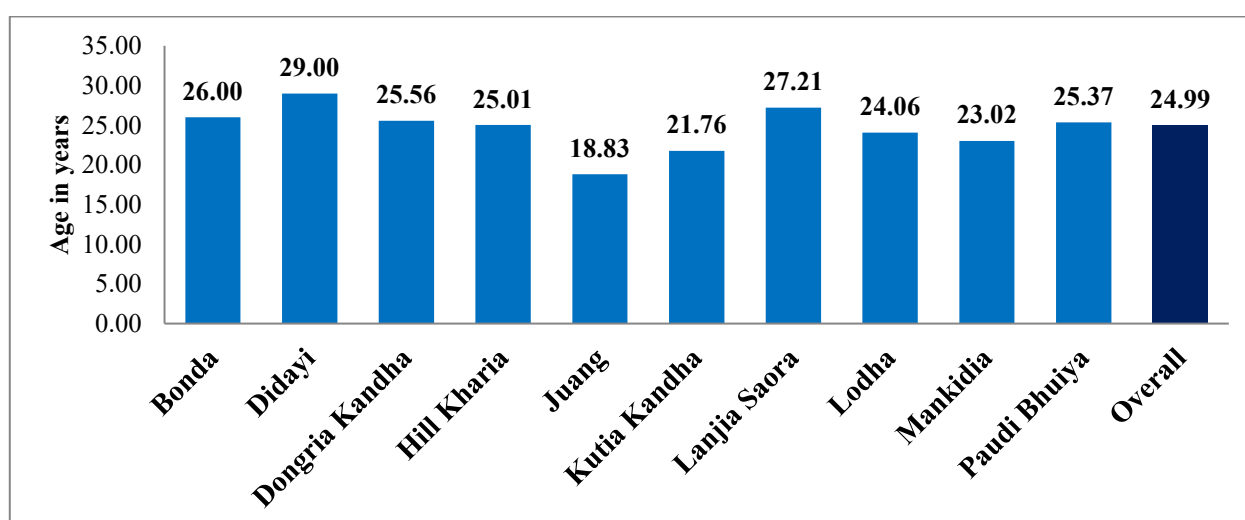


Figure 5.4.4.2: Age at last conception of PVTGs mothers

The present data on the average age of conception among PVTG mothers highlights variations in reproductive patterns and maternal health experiences across different ethnic groups (Table 5.4.4). The overall mean age at first conception is 18.83 years (SD = 6.65), indicating that most women experience their first pregnancy in their late teens. However, the high standard deviation suggests considerable variation, likely influenced by socio-cultural factors, economic conditions, and access to reproductive healthcare. Among the groups, Lodha (Mean = 18.05, SD = 2.64), Hill Khadia (Mean = 18.81, SD = 2.36), and Mankidia (Mean = 18.62, SD = 2.11) report the lowest ages at first conception. This early childbearing trend may be attributed to traditional norms encouraging early marriage and childbearing, as well as limited access to education and contraceptive methods. Early pregnancies can have significant health risks, including higher maternal and infant mortality rates and increased risk of complications. Conversely, Didayi (Mean = 21.26, SD = 18.77) and Lanjia Saora (Mean = 20.18, SD = 3.94) exhibit higher mean ages at first conception, suggesting delayed pregnancies than other groups. This could be due to better awareness of family planning, higher educational attainment, or different social customs regarding marriage and childbirth (Figure 5.4.4.1).

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Regarding the age at last conception, the overall mean is 24.99 years (SD = 12.91), indicating that women typically complete their reproductive years by mid to late 20s. Didayi (Mean = 29.00, SD = 13.15) and Lanjia Saora (Mean = 27.21, SD = 6.35) have the highest ages at last conception, suggesting extended childbearing years, potentially due to cultural preferences for larger families or longer birth intervals. In contrast, Juang (Mean = 18.83, SD = 10.33) and Kutia Kandha (Mean = 21.76, SD = 9.48) exhibit lower last conception ages, which may indicate earlier completion of childbearing, possibly due to health concerns, higher mortality rates, or changing reproductive behaviours (Figure 5.4.4.2).

5.4.5. Average age gap between first and last conception

The average age gap between first and last conception is the typical years between a woman's initial and final pregnancies. It is important to understand reproductive health, family planning, and spacing, which impact maternal and child well-being.

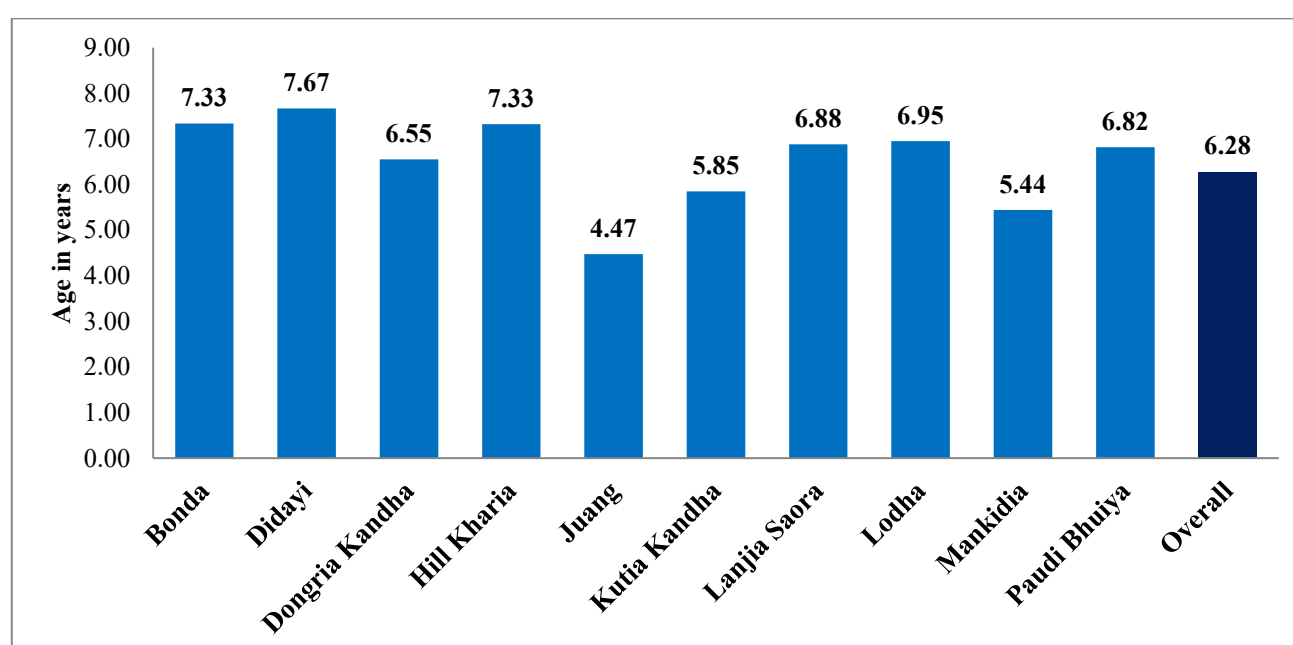


Figure 5.4.5: Age gap between first and last conception of PVTGs mothers

Table 5.4.5 and Figure 5.4.5 present the average age gap between first and last conception among PVTG mothers, revealing important insights into reproductive patterns and birth spacing. The overall mean age gap is 6.28 years (SD = 5.78), indicating that, on average, women continue to conceive children for about six years after their first pregnancy. However, the wide standard deviation suggests significant variation across different ethnic groups. Among the groups, Didayi (Mean = 7.67, SD = 5.77), Bonda (Mean = 7.33, SD = 6.96), and Hill Kharia (Mean = 7.33, SD = 6.03) exhibit the longest reproductive span. This may be due to cultural preferences for larger families, longer birth intervals, or access to traditional healthcare systems that support extended childbearing. A prolonged reproductive span can indicate a more spaced-out approach to childbirth, which could be beneficial for maternal and child health. Conversely, Juang (Mean = 4.47, SD = 6.23) and Mankidia (Mean = 5.44, SD = 3.06) have the shortest reproductive spans. This may suggest earlier cessation of childbearing due to social, economic, or health-related factors, including high maternal mortality rates, limited access to healthcare, or a cultural preference for fewer children. Shorter gaps

between first and last conception can increase the risk of maternal depletion syndrome, where closely spaced pregnancies negatively impact maternal health. The data also show that groups such as Kutia Kandha (Mean = 5.85, SD = 7.31) and Paudi Bhuiya (Mean = 6.82, SD = 6.07) have moderate reproductive spans, reflecting a mix of both extended and condensed childbearing trends within these communities.

5.4.6. Number of Live births of PVTG women

The number of live births refers to the total count of children born alive to a woman, indicating her reproductive history and contributing to demographic and health assessments.

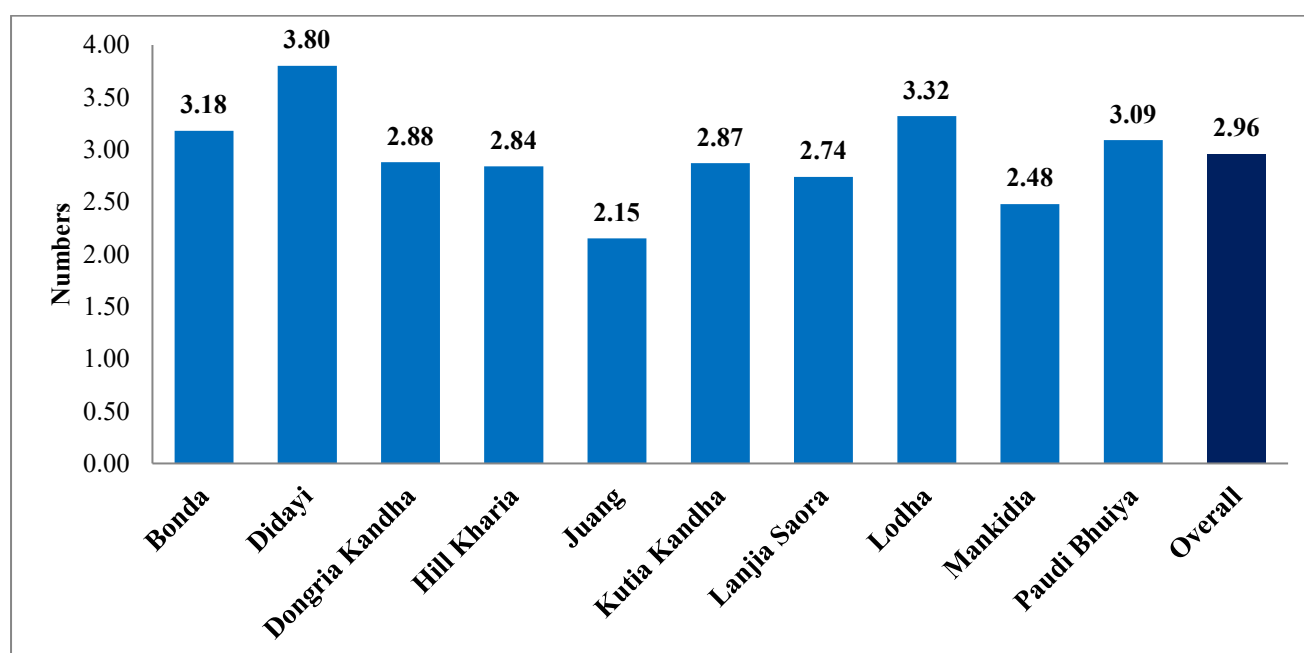


Figure 5.4.6: Number of live births of PVTG women

Table 5.4.6 and Figure 5.4.6 present the data on the average number of live births among PVTG women provides crucial insights into fertility patterns and reproductive health across different ethnic groups. The overall mean number of live births is 2.96 (SD = 2.02), indicating that, on average, women in these communities give birth to about 3 children. However, the high standard deviation suggests significant variation among different groups. Among the ethnic groups, Didayi women (Mean = 3.80, SD = 2.79) and Lodha women (Mean = 3.34, SD = 3.18) have the highest average number of live births. This suggests a trend toward larger families, which cultural preferences, traditional beliefs regarding family size, or limited access to contraception and family planning resources could influence. Large family sizes may also reflect higher infant mortality rates. Conversely, Juang (Mean = 2.15, SD = 1.25) and Mankidia (Mean = 2.48, SD = 1.09) women report the lowest average number of live births. This may indicate a shift toward smaller families, possibly due to socioeconomic factors, changing reproductive behaviours, or higher child mortality rates that affect birth rates. Limited access to healthcare services or cultural restrictions on remarriage after widowhood may also contribute to lower birth rates in these groups. Other ethnic groups, such as Bonda (Mean = 3.18), Dongria Kandha (Mean = 2.90), Hill Kharia (Mean = 2.84), and Paudi Bhuiya (Mean = 3.09), exhibit moderate fertility rates, indicating a balance between traditional large-family norms and emerging reproductive health awareness.

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5.5.1.1. Antenatal Check-ups

Antenatal check-ups are regular medical visits and examinations a pregnant woman undergoes during pregnancy to monitor the health and development of the fetus and ensure maternal well-being. The data on antenatal checkups among different ethnic groups highlights disparities in maternal healthcare access (Table 5.5.1.1 & Figure 5.5.1.1). The overall completion rate of antenatal checkups is 74.76%, indicating that a significant portion of pregnant women (25.24%) did not receive complete antenatal care. Jung women have the highest completion rate at 97.80%, followed by Dongria Kandha (91.25%) and Kutia Kandha (88.89%), suggesting better awareness, access, or healthcare interventions in these communities.

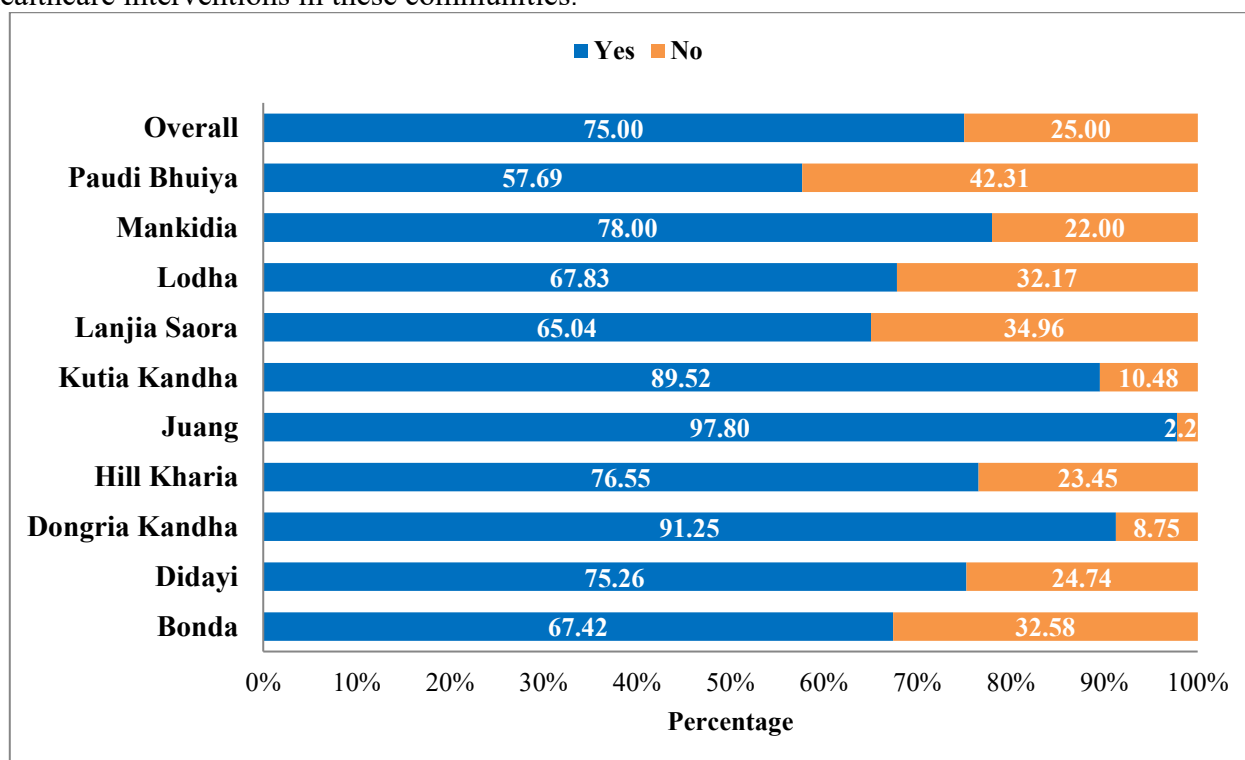


Figure 5.5.1.1: Status of antenatal checkups

In contrast, Paudi Bhuiya has the lowest percentage of completed checkups (57.69%), with 42.31% of women missing out on essential maternal healthcare services. Lanjia Saora (65.04%), Bonda (67.42%), and Lodha (67.83%) also exhibit relatively low completion rates, indicating potential barriers such as geographical remoteness, cultural beliefs, or lack of healthcare facilities.

5.5.1.2. Nature of Antenatal Check-ups

The nature of antenatal check-ups refers to the type, frequency, and quality of medical examinations and care a pregnant woman receives to monitor her and her baby's health throughout pregnancy.

Irregular visits, limited healthcare access, and a dual dependence on both allopathic and traditional healthcare practices often characterise the nature of antenatal check-ups (ANC). While antenatal care is essential for monitoring maternal and fetal health, tribal women frequently receive inadequate ANC due to geographical isolation, socio-economic constraints, and cultural beliefs.

Table 5.5.1.2 and Figure 5.5.1.2 depict the results of antenatal checkups across different ethnic groups, revealing a strong preference for modern healthcare practices, with 90.01% opting for modern medical services. However, 9.99% still rely on traditional or home-based care, which may lack scientific backing and necessary medical interventions. The highest dependence on modern healthcare is observed among the Paudi Bhuiya (97.33%), Lanjia Saora (96.25%), and Dongria Kandha (95.89%), indicating better integration with formal healthcare systems. Conversely, Hill Kharia (76.58%) and Lodha (78.21%) exhibit greater dependence on traditional or home-based care (23.42% and 21.79%, respectively), due to limited healthcare access, cultural resistance, or lack of awareness.

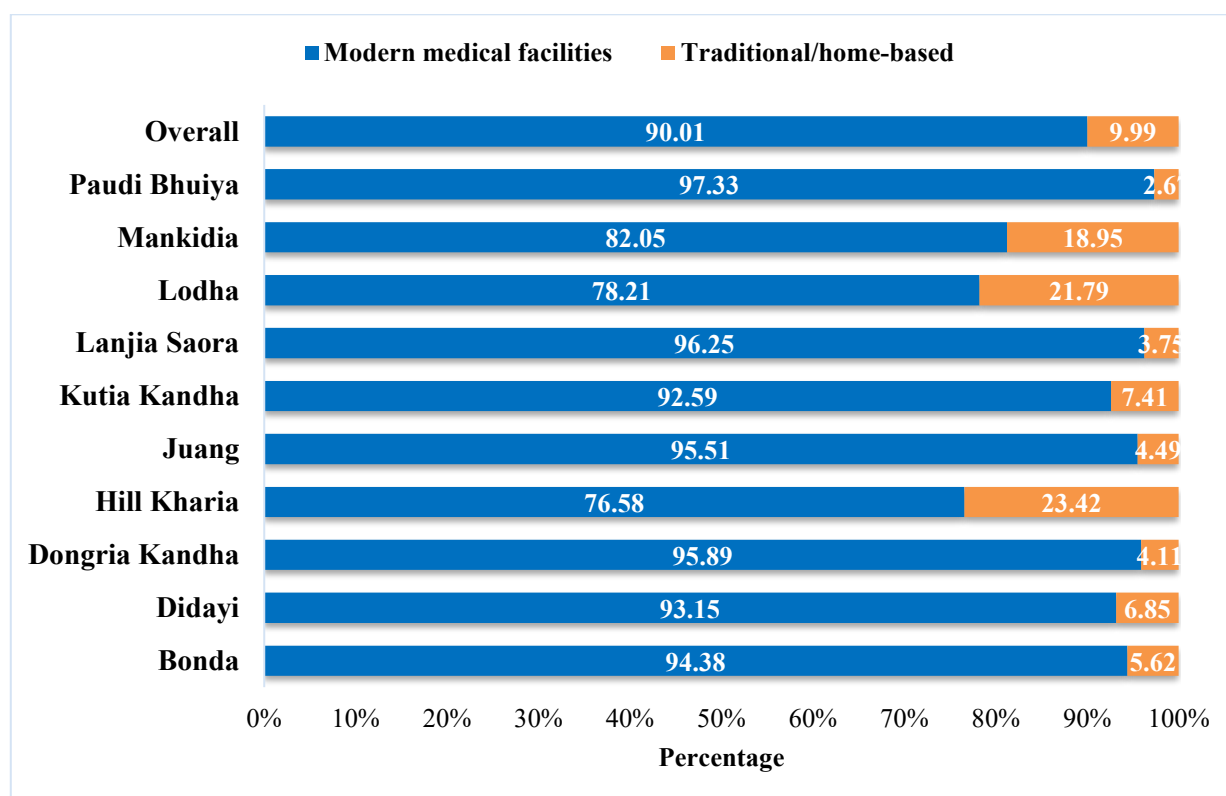


Figure 5.5.1.2: Types of antenatal checkup

The relatively lower adoption of modern antenatal care among these groups suggests the need for targeted health education and improved healthcare infrastructure to encourage safer pregnancy practices. Addressing cultural barriers and strengthening outreach programs can help bridge the gap and ensure comprehensive maternal healthcare access for all ethnic communities.

5.5.1.3. Intake of Medicines at the time of Antenatal checkup

Medicine intake during antenatal check-ups refers to pregnant women taking prescribed supplements or medications, such as iron, folic acid, and vaccines, to support fetal development and maternal health.

The data on iron and folic acid (IFA) tablet intake among mothers' highlights disparities in maternal nutrition and healthcare adherence across ethnic groups (Table 5.5.2.1 & Figure 5.5.2.1). The overall consumption rate is 74.18%, meaning that nearly one in four pregnant women (25.82%) did not

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receive essential micronutrient supplementation, which is crucial for preventing anaemia and ensuring maternal and fetal health. The highest compliance is observed among the Dongria Kandha (95.83%), Juang (93.67%), and Kutia Kandha (89.80%), suggesting greater awareness, improved healthcare interventions, or greater access to supplements in these communities. In contrast, Paudi Bhuiya exhibits the lowest intake: only 50.96% consume IFA tablets, and 49.04% miss out on this vital supplement, indicating serious healthcare gaps.

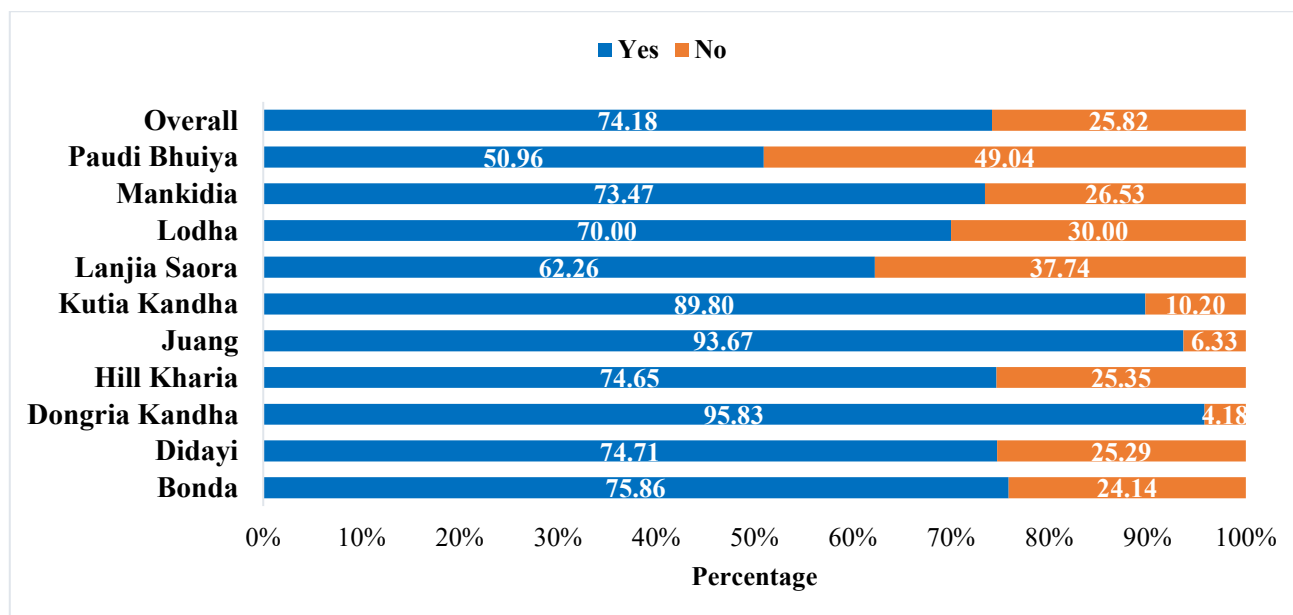


Figure 5.5.2.1: Intake of iron/folic acid tablets by mothers

Similarly, Lanjia Saora (62.26%) and Lodha (70.00%) exhibit relatively lower compliance, suggesting potential barriers such as a lack of awareness, accessibility issues, or cultural hesitations.

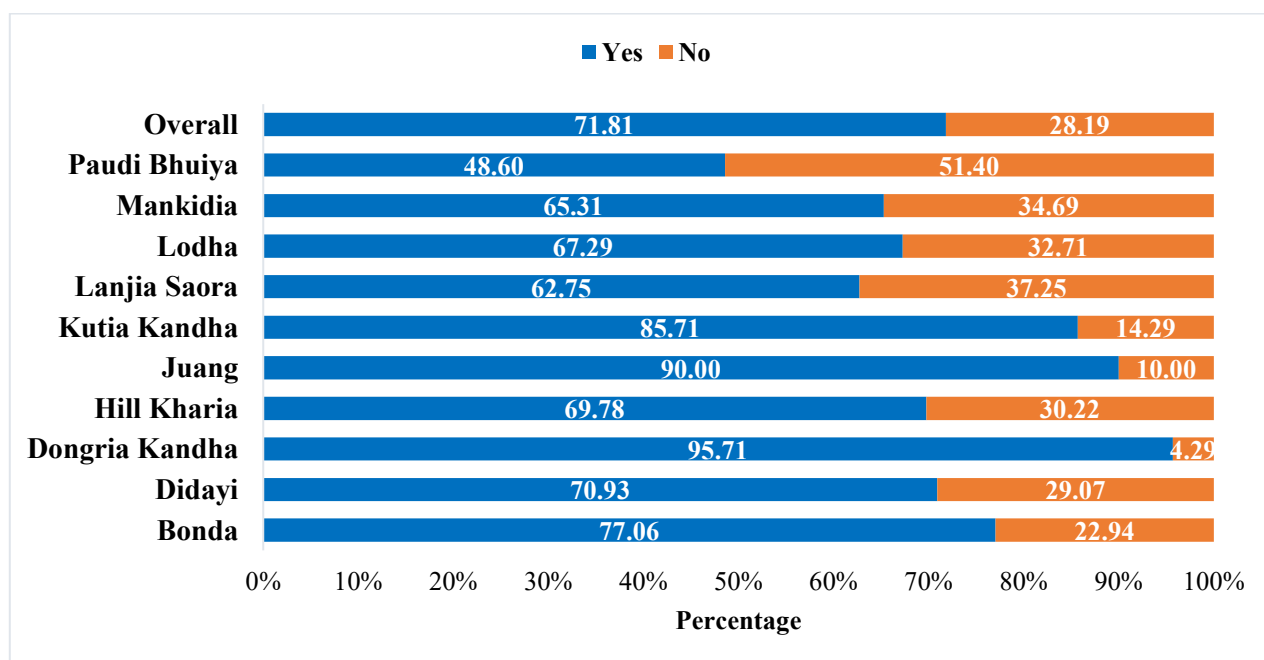


Figure 5.5.2.2: Intake of Calcium tablets by mothers

Table 5.5.2.2 and Figure 5.5.2.2 present the percentage of mothers who take calcium tablets, revealing significant disparities across ethnic groups and highlighting potential gaps in maternal nutrition and healthcare access. While the overall intake is 71.81%, nearly 28.19% of pregnant women did not receive calcium supplementation, which is crucial for fetal bone development and maternal health. The highest compliance is observed among Dongria Kandha (95.71%), Juang (90.00%), and Kutia Kandha (85.71%), suggesting better awareness, healthcare interventions, or accessibility to essential supplements. In contrast, Paudi Bhuiya has the lowest intake, with only 48.60% consuming calcium tablets, leaving 51.40% vulnerable to deficiencies and associated health risks. Similarly, Lanjia Saora (62.75%) and Mankidia (65.31%) exhibit lower consumption rates, suggesting possible barriers such as limited healthcare outreach, cultural beliefs, or logistical challenges in the distribution of supplements.

5.5.2.3. Immunisation Status

Immunisation status refers to the record of vaccines an individual has received to protect against specific infectious diseases, indicating their level of immunity and compliance with recommended vaccination schedules. The immunisation plays a crucial role in preventing neonatal and maternal tetanus, as well as diphtheria-related complications, yet multiple factors, including limited healthcare access, cultural beliefs, and lack of awareness, hinder their uptake among tribal women.

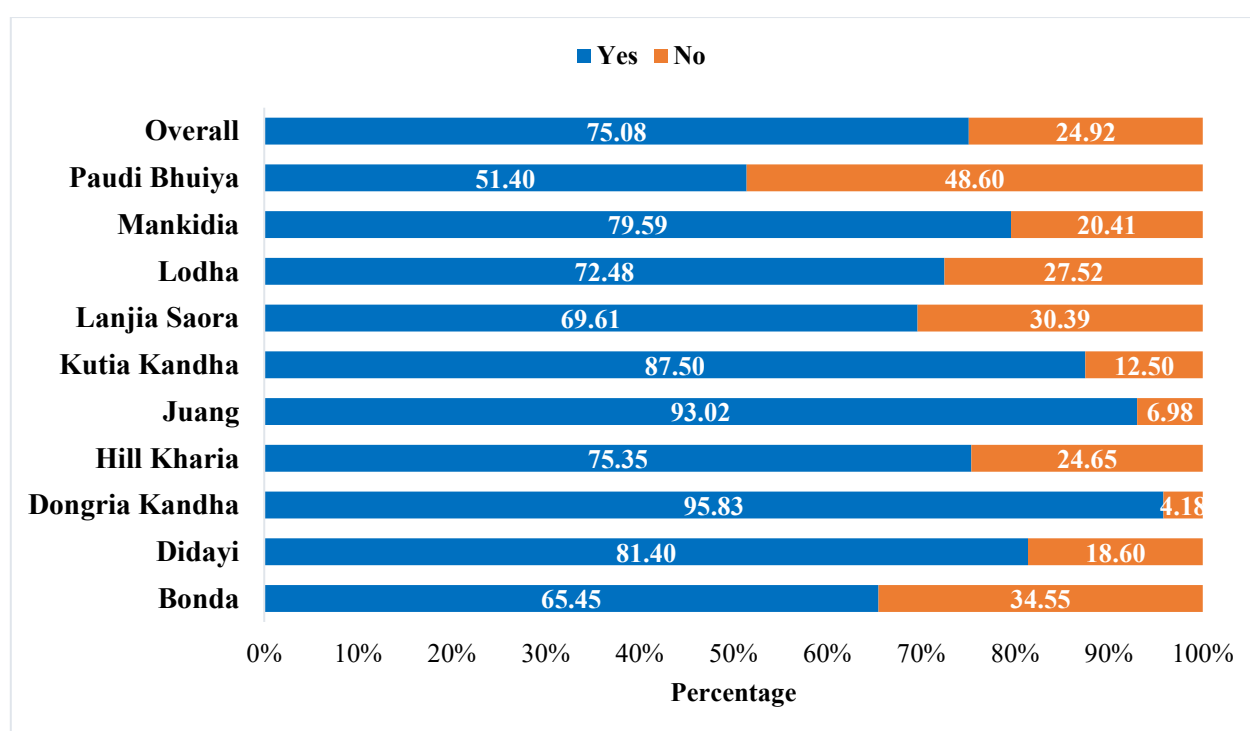


Figure 5.5.2.3: Status of TT immunisation by mothers

The TT (Tetanus Toxoid) immunisation data among mothers' highlights disparities in maternal healthcare access across different ethnic groups (Table 5.5.2.3 & Figure 5.5.2.3). The overall immunisation rate stands at 75.08%, meaning nearly one in four mothers (24.92%) did not receive the vaccine, leaving them and their newborns vulnerable to tetanus, a preventable but potentially fatal infection. The highest immunisation coverage is observed among Dongria Kandha (95.83%), Juang (93.02%), and Kutia Kandha (87.50%), suggesting effective healthcare outreach and

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awareness programs in these communities. However, Paudi Bhuiya shows the lowest coverage, with only 51.40% of mothers receiving TT immunisation, leaving 48.60% unprotected, signalling significant gaps in healthcare access or awareness. Similarly, Bonda (65.45%), Lanjia Saora (69.61%), and Lodha (72.48%) have lower immunisation rates. The data underscores the need for targeted vaccination drives, improved healthcare accessibility, and awareness campaigns to ensure full immunisation coverage across all ethnic groups, ultimately reducing maternal and neonatal mortality.

5.5.3. Body weight in Kg (kilograms) of mothers in the last trimester

Body weight of mothers in kilograms in the last trimester refers to the maternal body weight measured during the final three months of pregnancy and serves as an indicator of maternal nutrition and fetal growth status.

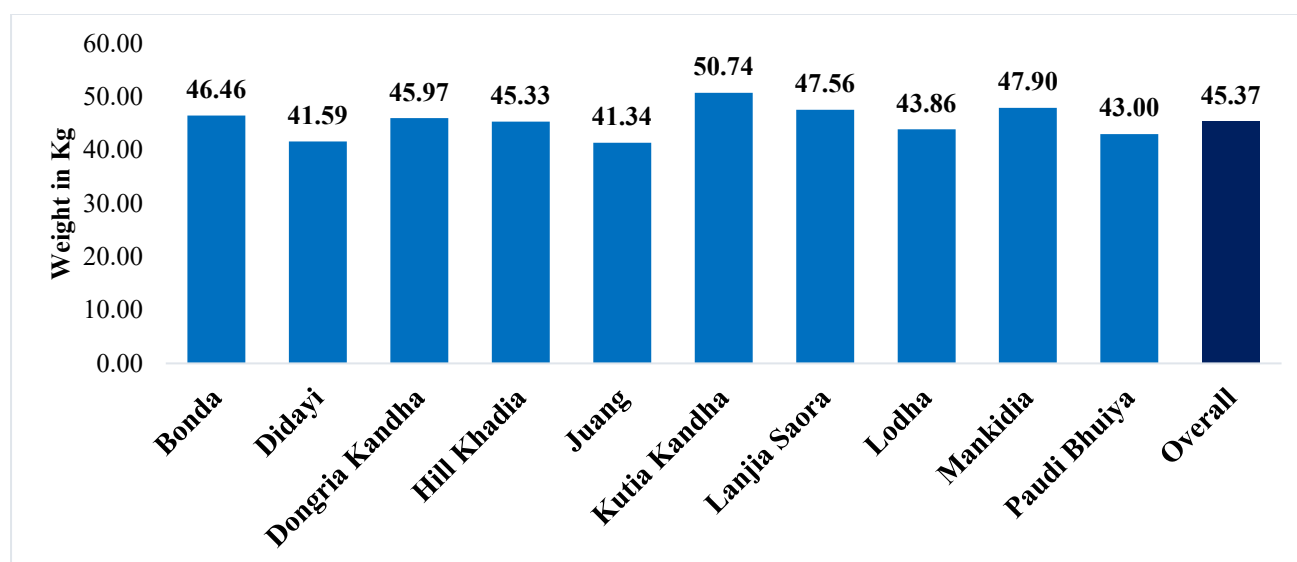


Figure 5.5.3: Average body weight in Kg (Kilogram) of mothers at the last trimester

Table 5.5.3 and Figure 5.5.3 present the average body weight of mothers in their last trimester, providing critical insights into maternal nutrition and overall health across different ethnic groups. The overall mean weight is 45.37 kg, with a standard deviation of 6.61 kg, indicating considerable variation. The highest mean body weight is observed among Kutia Kandha (50.74 kg), Mankidia (47.90 kg), and Lanjia Saora (47.56 kg). The lowest mean weights were recorded among Juang (41.34 kg), Didayi (41.59 kg), and Paudi Bhuiya (43.00 kg), raising concerns about malnutrition and inadequate maternal care in these communities. The high standard deviation among certain groups, such as Paudi Bhuiya (9.04) and Lanjia Saora (8.85), suggests significant variability in weight within these populations. Overall, a low maternal weight was observed, particularly in the last trimester.

5.6. Child Immunisation

Child immunisation is a crucial public health intervention to reduce infant and child mortality by protecting children from life-threatening diseases such as diphtheria, pertussis, tetanus (DPT), polio, tuberculosis (BCG), measles, hepatitis, and rubella. The following tables and figures

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present the data collected on the immunisation status (DPT, Polio, BCG, Measles, Vitamin A, Hepatitis Vaccine, and MMR) of 10 PVTGs under study.

The data on DPT (Diphtheria, Pertussis, and Tetanus) vaccine intake among children highlights vaccination coverage across ethnic groups, with an overall immunisation rate of 84.54% (Table 5.6.1 & Figure 5.6.1). The Dongria Kandha (96%), Juang (94.19%), Kutia Kandha (94.59%), and Paudi Bhuiya (95.35%) communities have high immunisation coverage rates, indicating effective health outreach and a strong cultural inclination toward vaccination.

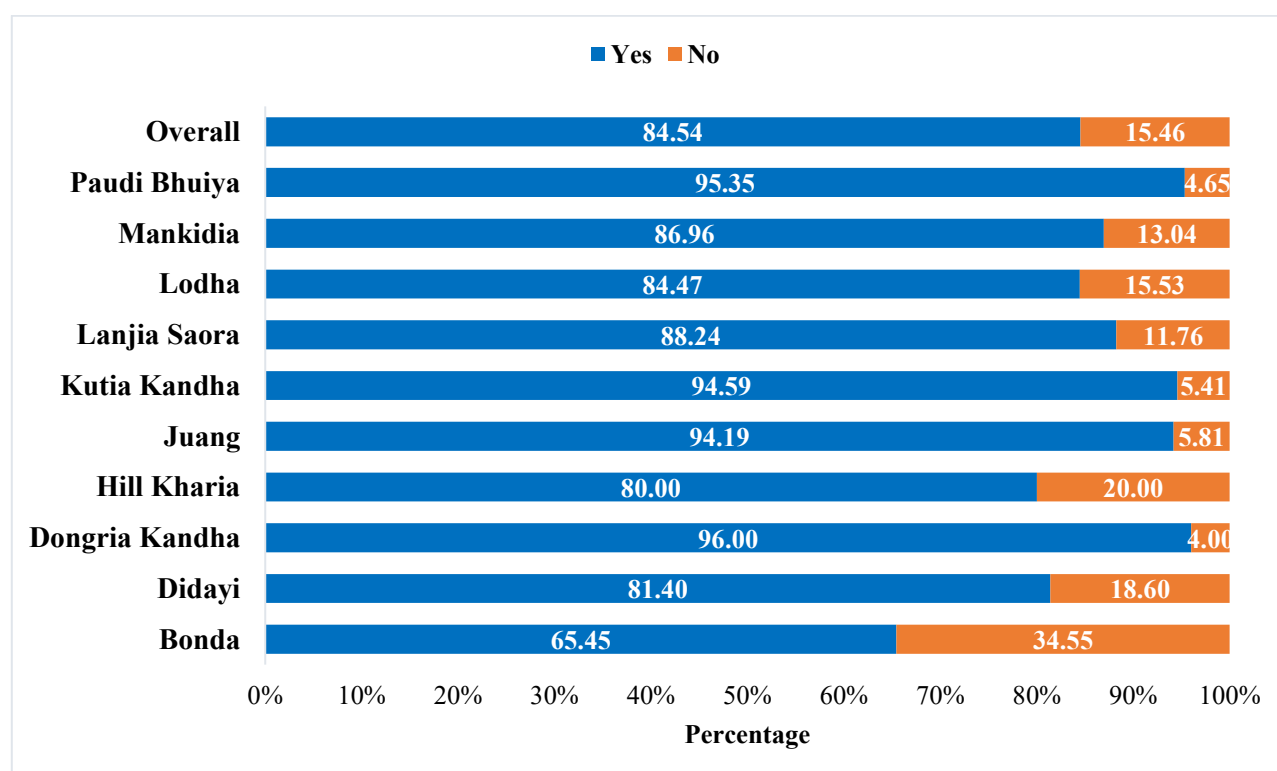


Figure 5.6.1: Status of DPT vaccination

Tribes like the Bonda community have the lowest uptake at 65.45%, followed by the Hill Kharia (80%) and the Didayi (81.40%), revealing potential barriers such as accessibility, awareness, or socio-cultural resistance necessitating targeted interventions to address vaccine hesitancy or logistical challenges.

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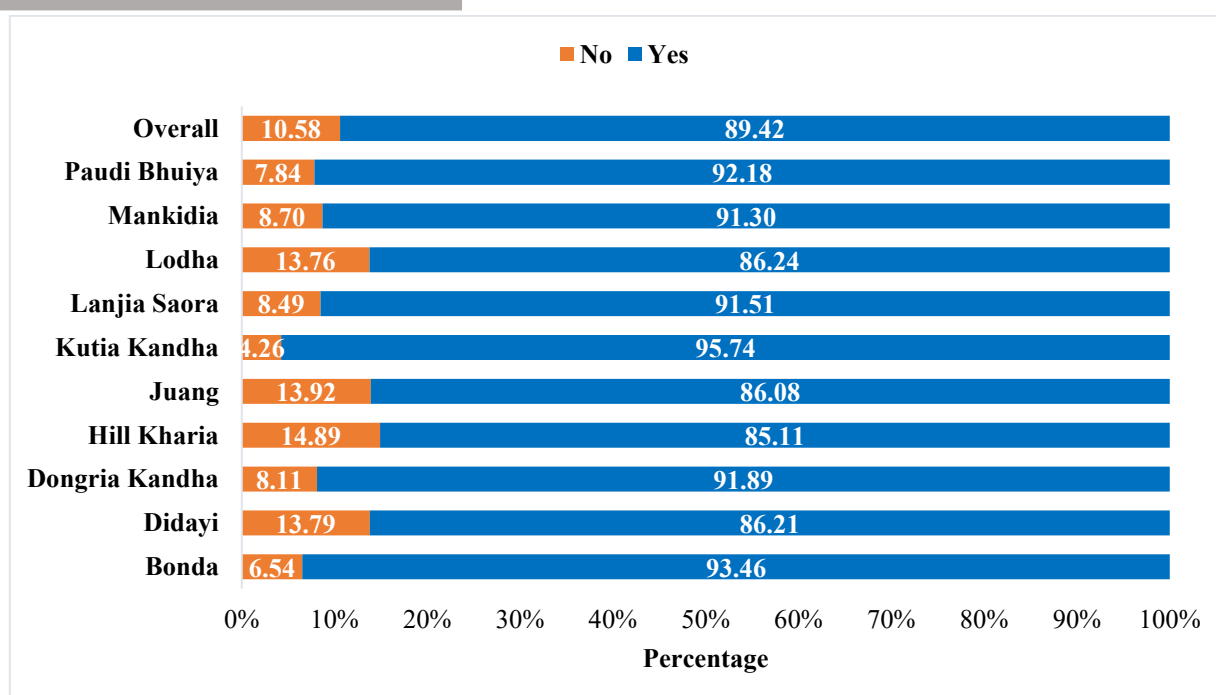


Figure 5.6.2: Status of polio vaccination

The data on polio vaccine intake among children indicates a overall immunisation rate of 89.42% (Table 5.6.2 & Figure 5.6.2). The highest coverage is observed among Kutia Kandha (95.74%), Bonda (93.46%), and Paudi Bhuiya (92.18%). Polio Vaccine compliance status among other groups, such as Dongria Kandha (91.89%), Lanjia Saora (91.51%), and Mankidia (91.30%), Hill Kharia (85.11%), Lodha (86.24%), and Juang (86.08%), Didayi (86.21%) and Hill Kharia (85.11%) was also reported.

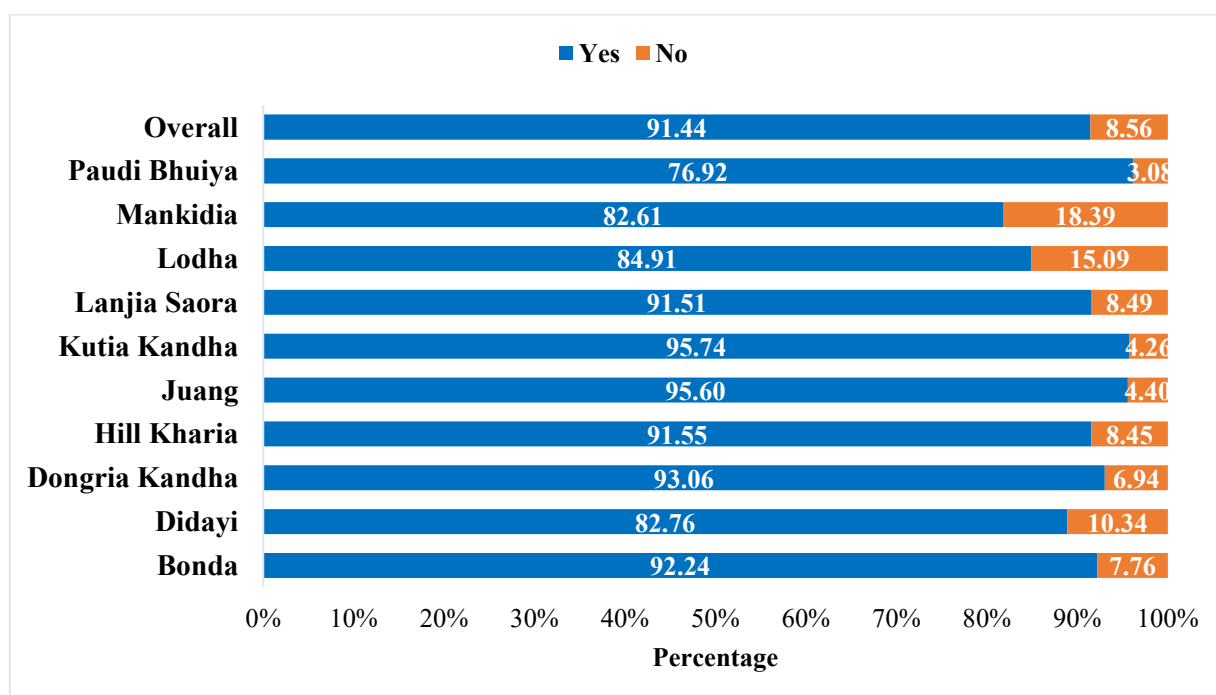


Figure 5.7.3: Status of BCG vaccine

Table 5.6.3 and Figure 5.6.3 present the status of BCG (Bacillus Calmette-Guérin) vaccination among children, highlighting an overall immunisation coverage of 91.44%. The vaccination rates are seen among Juang (95.60%) and Kutia Kandha (95.74%), followed by Dongria Kandha (93.06%) and Bonda (92.24%), Hill Kharia (91.55%) and Lanjia Saora (91.51%) Paudi Bhuiya (76.92%), Mankidia (82.61%), Didayi (82.76%), and Lodha (84.91%), It indicates some of the groups showed lower coverage ranging from 10.34% to 18.39%.

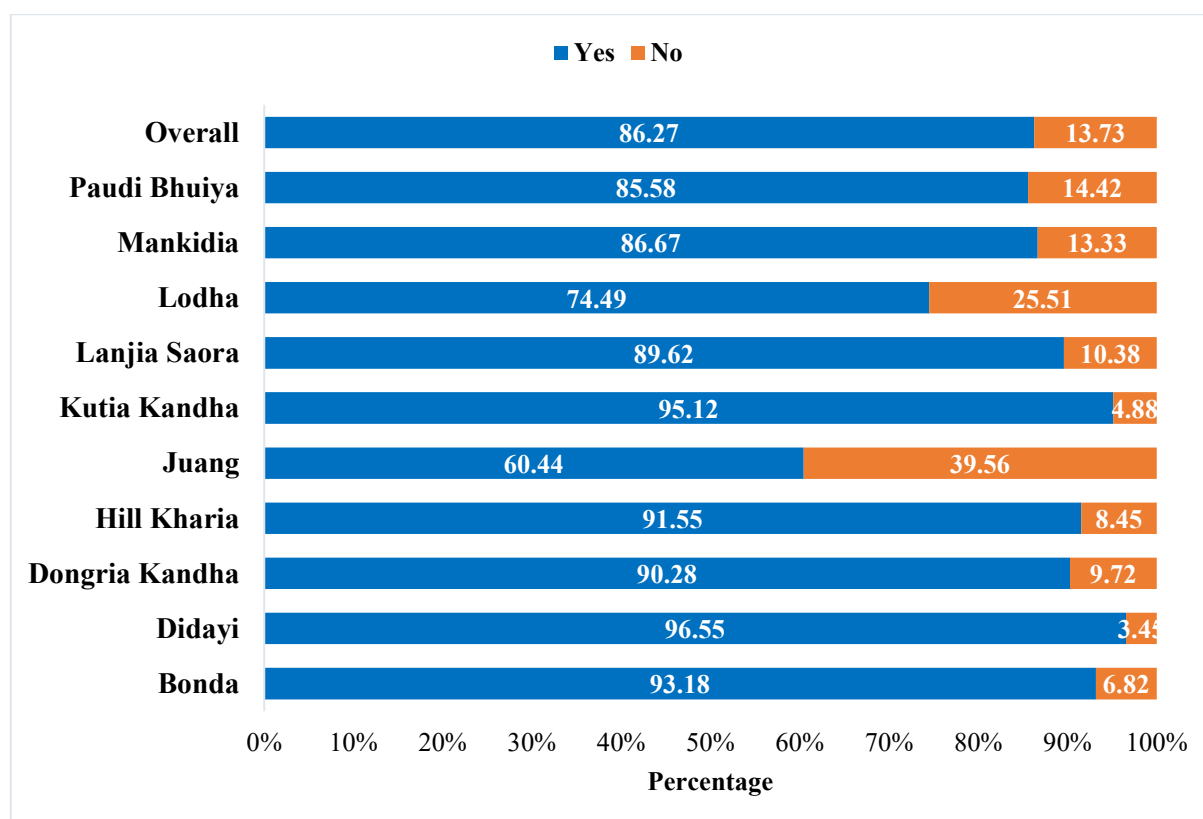


Figure 5.6.4: Status of measles Vaccination

The data on measles vaccination among children reveal an overall immunisation rate of 86.27%, (Table 5.6.4 & Figure 5.6.4). The vaccination coverage is seen in Didayi (96.55%), Kutia Kandha (95.12%), and Bonda (93.18%), Hill Kharia (91.55%) and Dongria Kandha (90.28%), Juang (60.44%), Lodha (74.49%) and Paudi Bhuiya (85.58%) at various level.

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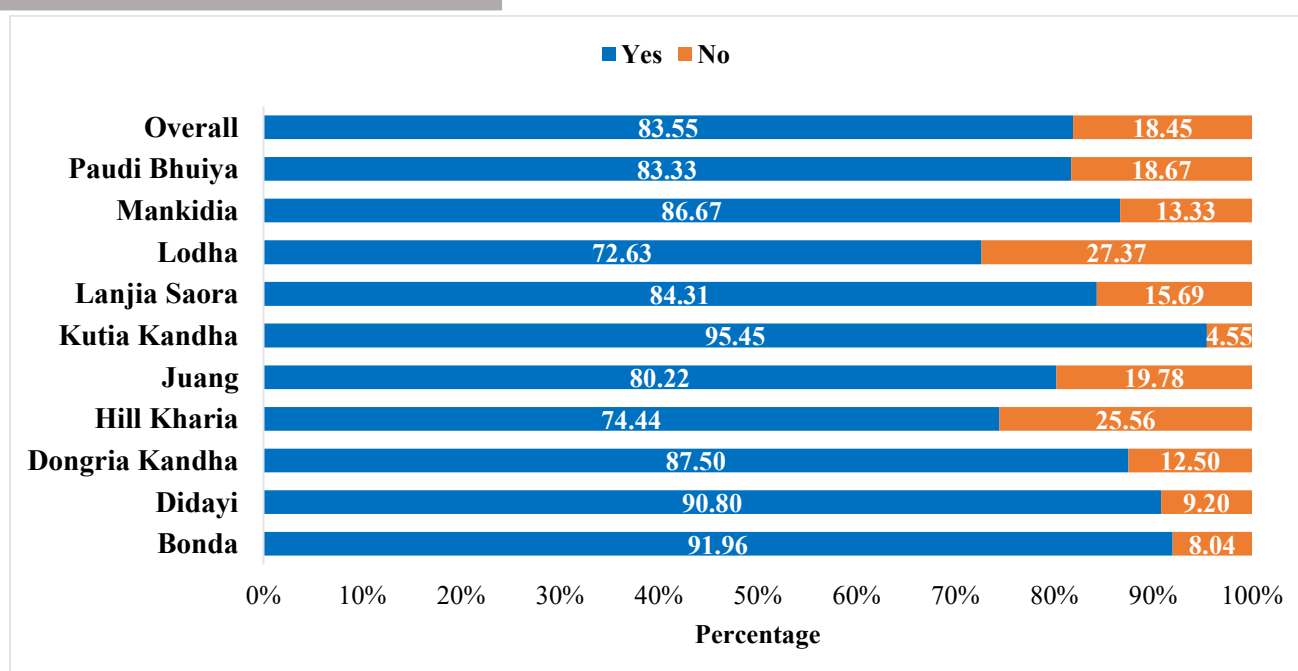


Figure 5.6.5: Status of Vitamin A Supplementation

Table 5.6.5 and Figure 5.6.5 present the data on Vitamin A supplementation among children, indicating an overall supplementation rate of 83.55%. This supplementation was recorded among Kutia Kandha (95.45%), Bonda (91.96%), and Didayi (90.80%), Hill Kharia (74.44%), Lodha (72.63%), and Juang (80.22%) with high variation.

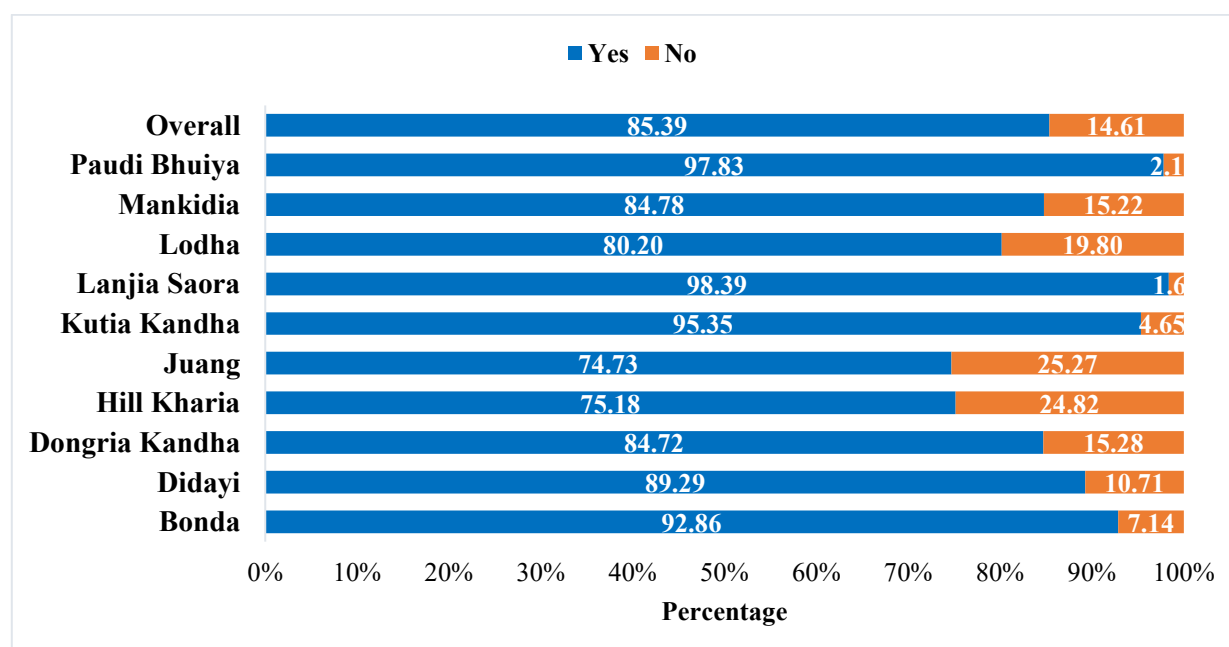


Figure 5.6.6: Status of Hepatitis vaccination

Table 5.6.6 and Figure 5.6.6 present data on hepatitis vaccination among children, revealing an overall immunisation rate of 85.39%. The vaccination rates are observed in Lanjia Saora (98.39%),

Paudi Bhuiya (97.83%), Kutia Kandha (95.35%), Bonda (92.86%), Didayi (89.29%), Hill Kharia (75.18%), Juang (74.73%), and Lodha (80.20%) with substantial variation.

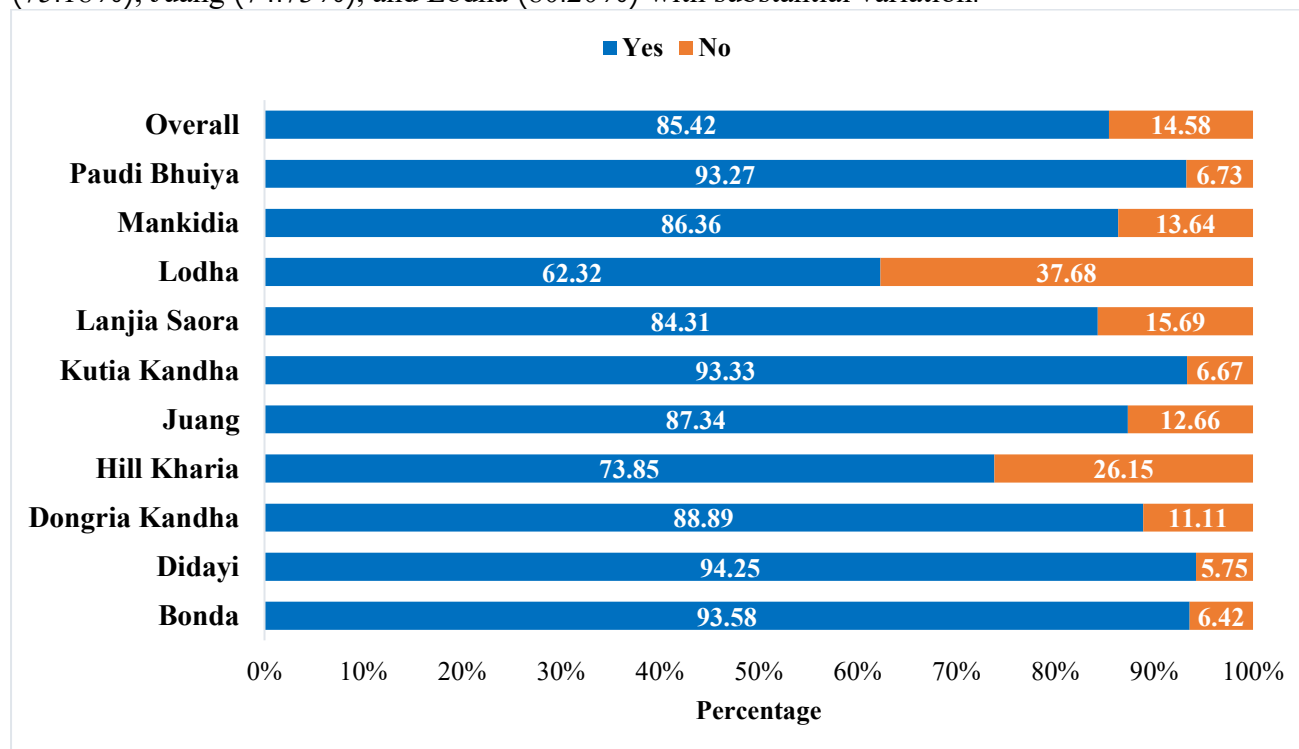


Figure 5.6.7: Status of MMR Vaccination

The data on MMR (Measles, Mumps, and Rubella) vaccination among children reveal an overall immunisation rate of 85.42%, demonstrating significant progress (Table 5.6.7 & Figure 5.6.7). The vaccination rates are observed among Didayi (94.25%), Bonda (93.58%), Paudi Bhuiya (93.27%), Kutia Kandha (93.33%), Lodha (62.32%), Hill Kharia (73.85%) and Lanjia Saora (84.31%) at diverse levels.

5.7. Breastfeeding practices

Breastfeeding practices refer to the methods, frequency, and duration with which a mother feeds her infant breast milk, influencing the child's nutrition, immunity, and overall health and development.

5.7.1. Status of breastfeeding within the first hour of the child's birth

Immediate breastfeeding after birth, which involves initiating breastfeeding within the first hour of delivery, is crucial for newborn survival, immunity, and long-term health.

Table 5.7.1 and Figure 5.7.1 present the results of immediate breastfeeding practices among women, revealing an overall rate of 84.33%, indicating a positive trend in early breastfeeding initiation, which is crucial for neonatal health. The highest adherence is observed among Juang (97.80%), Lanjia Saora (91.87%), and Paudi Bhuiya (91.54%) women, demonstrating strong cultural or healthcare influences that promote early breastfeeding. The Bonda (87.12%), Hill Kharia (86.90%), and Mankidia (88.00%) communities also exhibit high compliance, suggesting awareness of the benefits of colostrum, the nutrient-rich first milk that boosts immunity.

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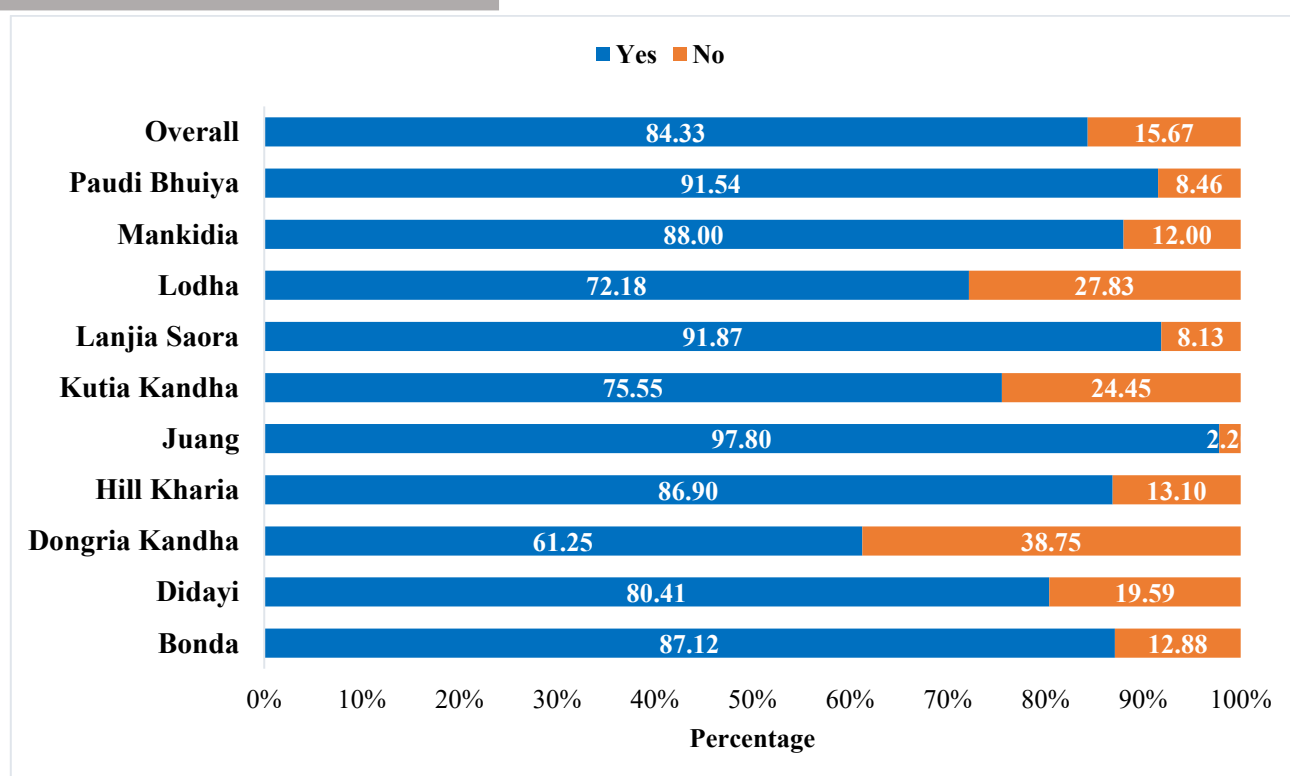


Figure 5.7.1: Status of breastfeeding within first hour of the child birth

However, significant gaps exist among certain groups, particularly among the Dongria Kandha (61.25%), Lodha (72.18%), and Kutia Kandha (75.55%), where a substantial proportion of women delay breastfeeding. The relatively lower rates in these communities may stem from traditional practices, lack of awareness, or misconceptions about colostrum. The delay in initiating breastfeeding can lead to increased risks of infections, malnutrition, and delayed mother-infant bonding.

5.7.2. Status of breastfeeding after 6 months of birth of the child

Continued breastfeeding after 6 months of birth refers to feeding infants breast milk alongside appropriate complementary foods beyond six months, supporting sustained nutrition, immunity, and healthy growth during early childhood.

The data on continued breastfeeding beyond six months show an overall rate of 74.60%, indicating a positive trend in prolonged breastfeeding practices (Table 5.7.2 & Figure 5.7.2). Certain ethnic groups, such as the Bonda (87.88%), Lanjia Saora (87.80%), and Paudi Bhuiya (83.85%), show strong adherence to continued breastfeeding, reflecting cultural norms or effective health awareness programs in these communities. The Juang (81.32%) and Dongria Kandha (78.75%) groups also exhibit encouraging rates, indicating a good understanding of the long-term benefits of breastfeeding.

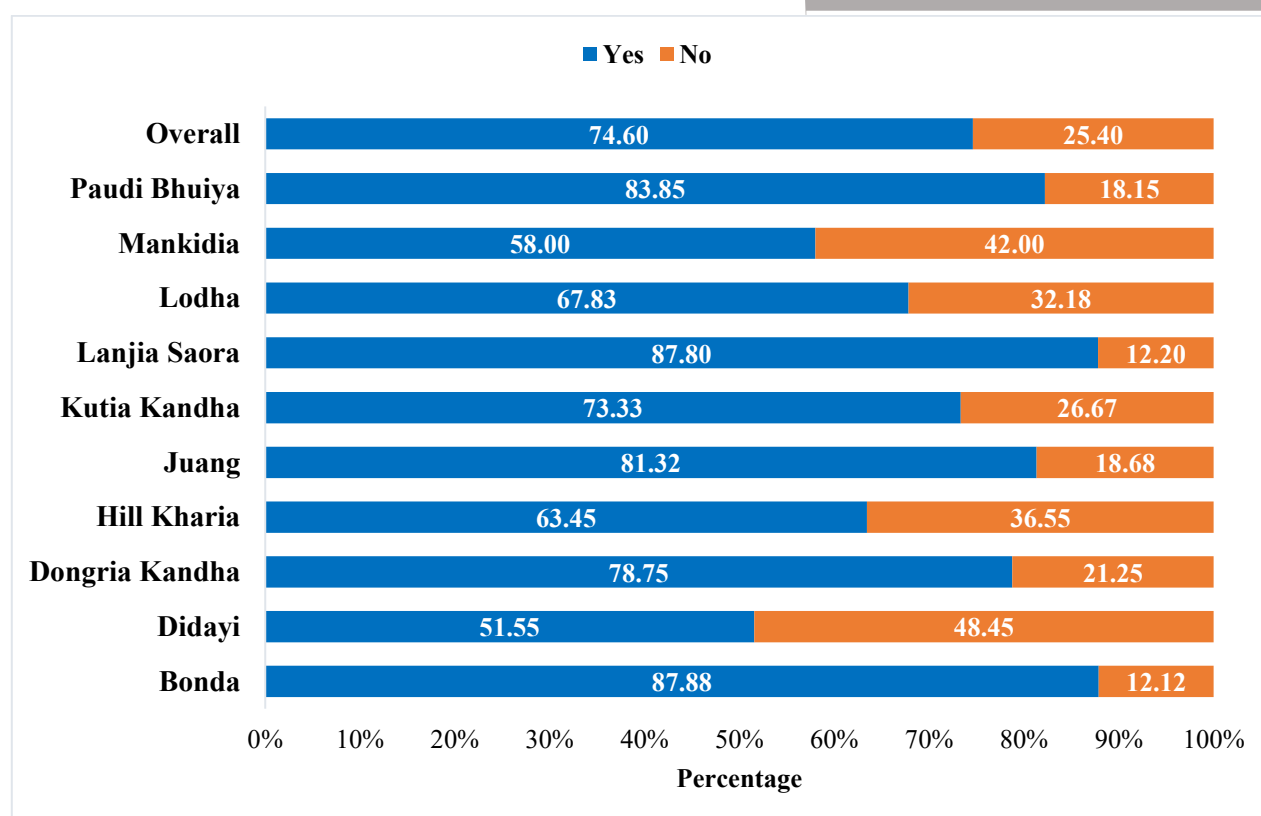


Figure 5.7.2: Status of breastfeeding after 6 months of birth

However, low rates are observed among Didayi (51.55%), Mankidia (58.00%), and Hill Kharia (63.45%) women, with a significant proportion also discontinuing breastfeeding before the recommended period.

5.7.3. Knowledge of mothers that “Colostrum is good for the baby”

Knowledge of mothers that “colostrum is good for the baby” refers to mothers' awareness that the first thick, yellowish breast milk is highly nutritious and vital for newborn immunity and development.

From Table 5.7.3 and Figure 5.7.3, the data on maternal knowledge regarding the benefits of colostrum indicates that 67.18% of mothers recognise its importance, while a significant 32.84% remain unaware. Colostrum, often called the “first milk,” is rich in antibodies and essential nutrients that give newborns a strong immune foundation. The lack of awareness among nearly one-third of mothers highlights a crucial gap in maternal and child health education. Ethnic groups such as the Juang (78.02%), Lanjia Saora (73.18%), and Bonda (70.45%) show relatively high levels of awareness, indicating that traditional knowledge or effective health outreach programs may be positively influencing these communities.

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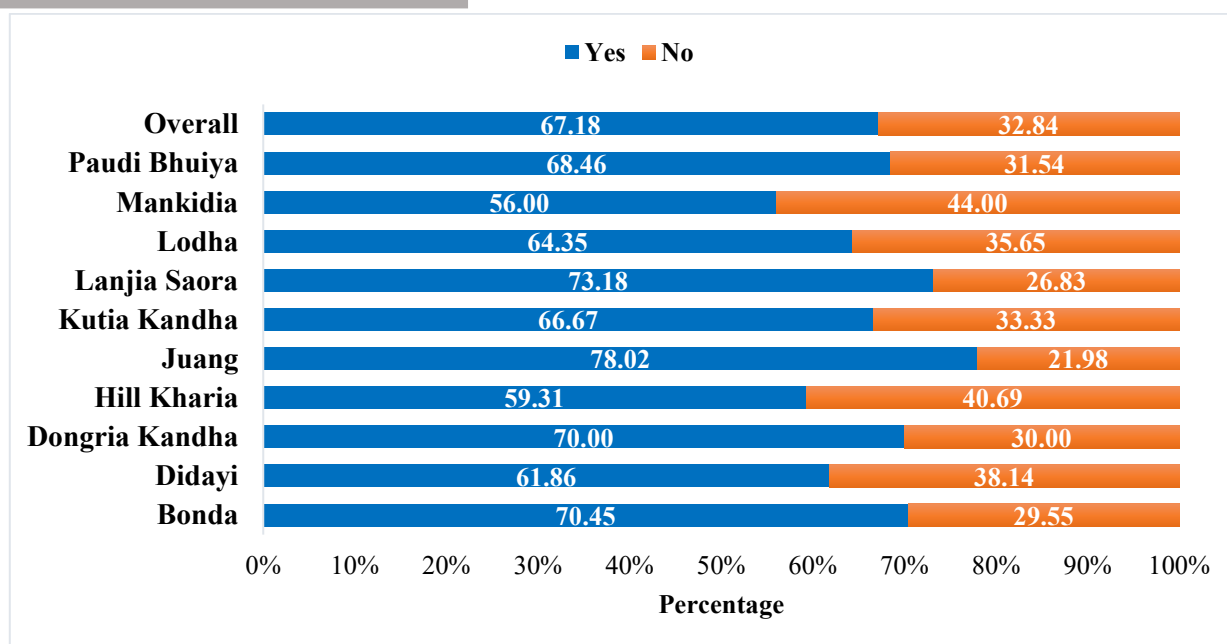


Figure 5.7.3: Status of Mother's knowledge about the importance of Colostrum for the child

However, worrying levels of misinformation persist among the Hill Kharia (59.31%), Didayi (61.86%), and Mankidia (56.00%) communities, where over 35% of mothers are unaware of colostrum's benefits.

5.7.4. Initiation of supplementary feeding for children

Initiation of supplementary feeding for children refers to the introduction of solid or semi-solid foods alongside breast milk, typically starting at six months of age, to meet growing nutritional needs for healthy development.

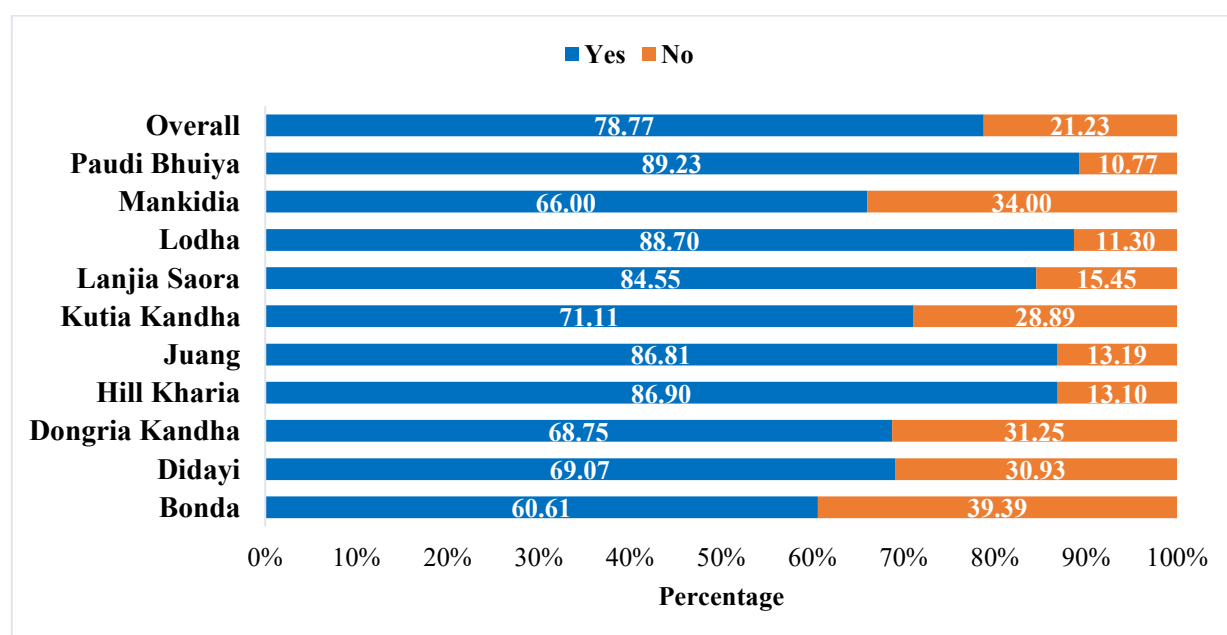


Figure 5.7.4: Status of Initiation of Complementary Feeding for Children

The data on the initiation of complementary feeding for children reveal substantial variation across ethnic groups, with an overall adoption rate of 78.77% (Table 5.7.4 & Figure 5.7.4). The highest uptake is observed among the Paudi Bhuiya (89.23%), Lodha (88.70%), Hill Kharia (86.90%), Juang (86.81%), and Lanjia Saora (84.55%) communities, suggesting a strong awareness of child nutrition or effective intervention programs in these groups. In contrast, the Bonda community has the lowest adoption rate at 60.61%, followed by Mankidia (66.00%) and Dongria Kandha (68.75%), indicating potential gaps in nutritional awareness, accessibility, or cultural acceptance of supplementary feeding. The relatively high percentage of children not receiving supplementary feeding in these communities (ranging from 31.25% to 39.39%) underscores the need for targeted nutritional programs, improved outreach, and culturally sensitive education on child health.

5.8.1. Child delivery by places

Child delivery by place refers to the classification of childbirth based on where it occurs, such as at home, in government hospitals, or private healthcare facilities, reflecting access to and choice of maternal care services.

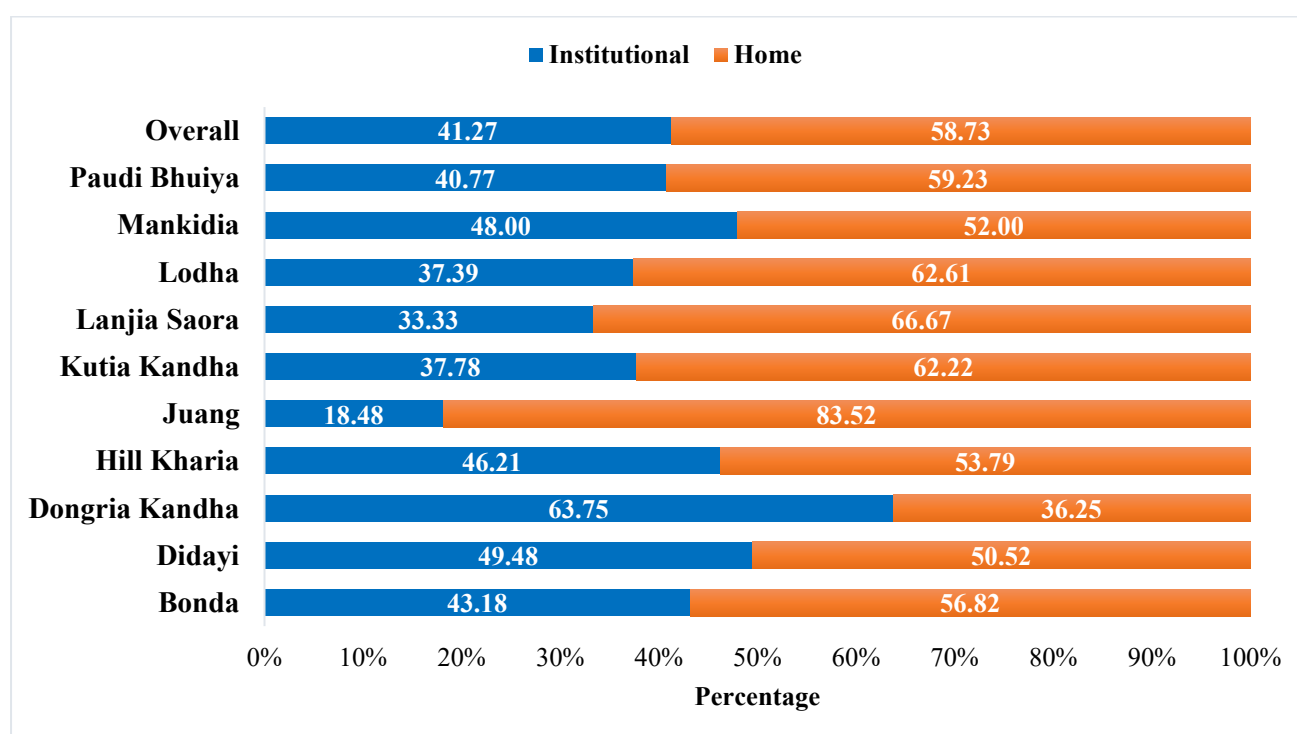


Figure 5.8.1: Status of types of delivery by places

Table 5.8.1 and Figure 5.8.1 present data on delivery locations, highlighting a significant reliance on home births across many ethnic groups, with an overall home delivery rate of 58.73%. While some communities, such as the Dongria Kandha (63.75% institutional) and Didayi (49.48% institutional), show relatively higher uptake of institutional deliveries, others, like the Juang (83.52% home births) and Lanjia Saora (66.67% home births), exhibit strong preferences for traditional childbirth settings. The continued prevalence of home deliveries, particularly in the Juang, Lanjia Saora, and Kutia Kandha communities, suggests potential barriers, including geographic inaccessibility, limited awareness, cultural traditions, or inadequate healthcare infrastructure. In contrast, communities with

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higher institutional delivery rates may have benefited from improved maternal healthcare services, awareness campaigns, or government incentives promoting hospital births. The overall institutional delivery rate of 41.27% indicates progress but also underscores the need for targeted interventions to encourage safer childbirth practices, enhance healthcare accessibility, and address cultural concerns, ultimately reducing maternal and infant mortality risks.

5.8.2. Pattern of assistance/support during delivery

Help during delivery refers to the assistance provided to a woman during childbirth, either by trained health professionals such as ASHAs, ANMs, or dais (traditional birth attendants), or by family members such as mothers-in-law, to ensure maternal and neonatal care and support.

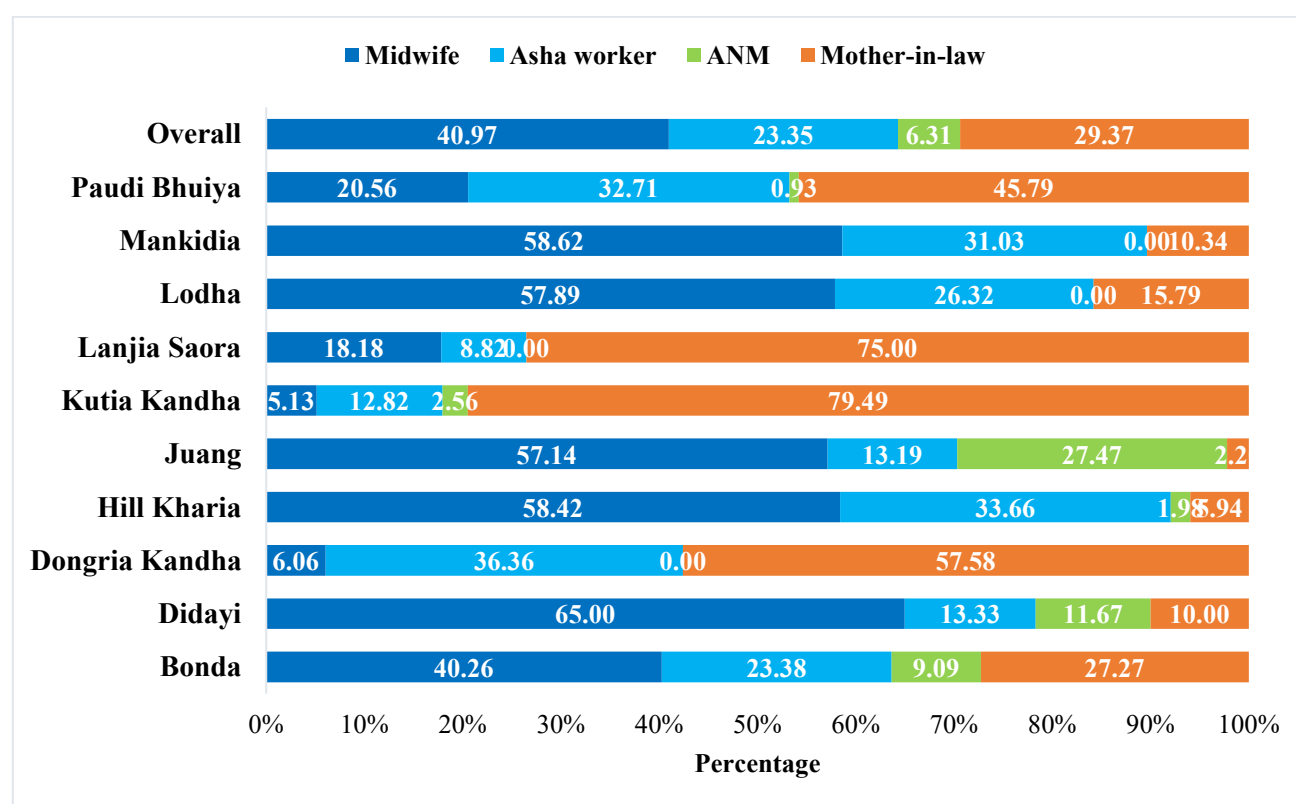


Figure 5.8.2: Pattern of assistance/support during delivery by different health workers and family members

The data (Table 5.8.2 & Figure 5.8.2) on childbirth assistance across ethnic groups reveals a strong dependence on traditional birth attendants, with midwives assisting in 40.97% of cases and family members, particularly mothers-in-law, involved in 29.37% of deliveries. The high involvement of mothers-in-law in specific communities, such as Kutia Kandha (79.49%), Lanjia Saora (75.00%), and Dongria Kandha (57.58%), suggests a deep-rooted cultural preference for home-based, family-assisted deliveries rather than professional healthcare support. While ASHA workers assist in 23.35% of deliveries overall, their role is more pronounced in some communities, such as Paudi Bhuiya (32.71%) and Dongria Kandha (36.36%), suggesting the potential to integrate community health workers into maternal care. However, the relatively low involvement of Auxiliary Nurse Midwives (ANMs) at just 6.31% highlights limited access to trained medical professionals, which could contribute to maternal and neonatal health risks. The data underscores the need for enhanced

healthcare outreach, particularly in communities where traditional family-assisted births remain dominant.

5.8.3. Types of Delivery Methods

Types of delivery methods among PVTG women refer to the various ways childbirth occurs, including institutional deliveries in health facilities and home deliveries, which are often influenced by cultural practices, accessibility, and availability of healthcare services.

The data on delivery types across ethnic groups show an overwhelming preference for standard delivery, with an overall rate of 95.94% (Table 5.8.3 & Figure 5.8.3). The highest rates are seen among the Hill Kharia (98.56%), Paudi Bhuiya (98.39%), and Kutia Kandha (98.15%), indicating that cesarean deliveries are relatively rare in these communities.

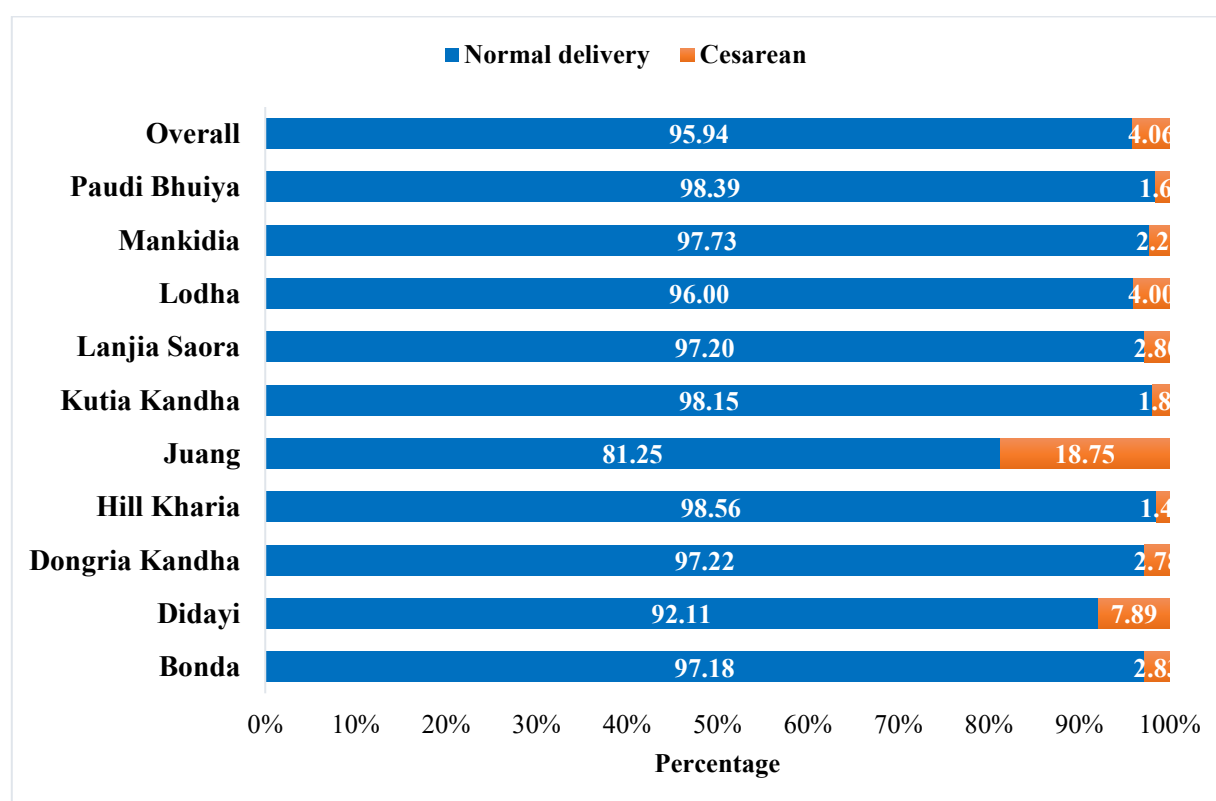


Figure 5.8.3: Types of delivery methods adopted among PVTG women

The Juang community has the lowest rate of normal delivery (81.25%) and the highest rate of cesarean deliveries (18.75%). This data underscores the need for improved maternal healthcare services, particularly in remote areas, to ensure that women with complications receive necessary interventions.

5.8.4. Maternal health complications during/after delivery

Maternal health complications during or after delivery refer to medical issues that arise in the mother around the time of childbirth, such as excessive bleeding, infection, high blood pressure, or prolonged labour, which can pose serious risks to her health and life.

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Table 5.8.4 and Figure 5.8.4 depict the data on maternal health complications during or after delivery, highlighting significant variations across ethnic groups, with an overall complication rate of 13.70%. While most women (86.30%) reported no issues, specific communities, such as the Juang (29.67%), Bonda (18.18%), Lodha (18.18%), and Dongria Kandha (18.46%), exhibit notably higher complication rates. These elevated figures may indicate limited access to maternal healthcare, inadequate prenatal care, or dependence on traditional birthing practices that may not adequately address medical risks. In contrast, groups such as Paudi Bhuiya (4.95%), Lanjia Saora (6.31%), and Mankidia (9.09%) reported the lowest complication rates.

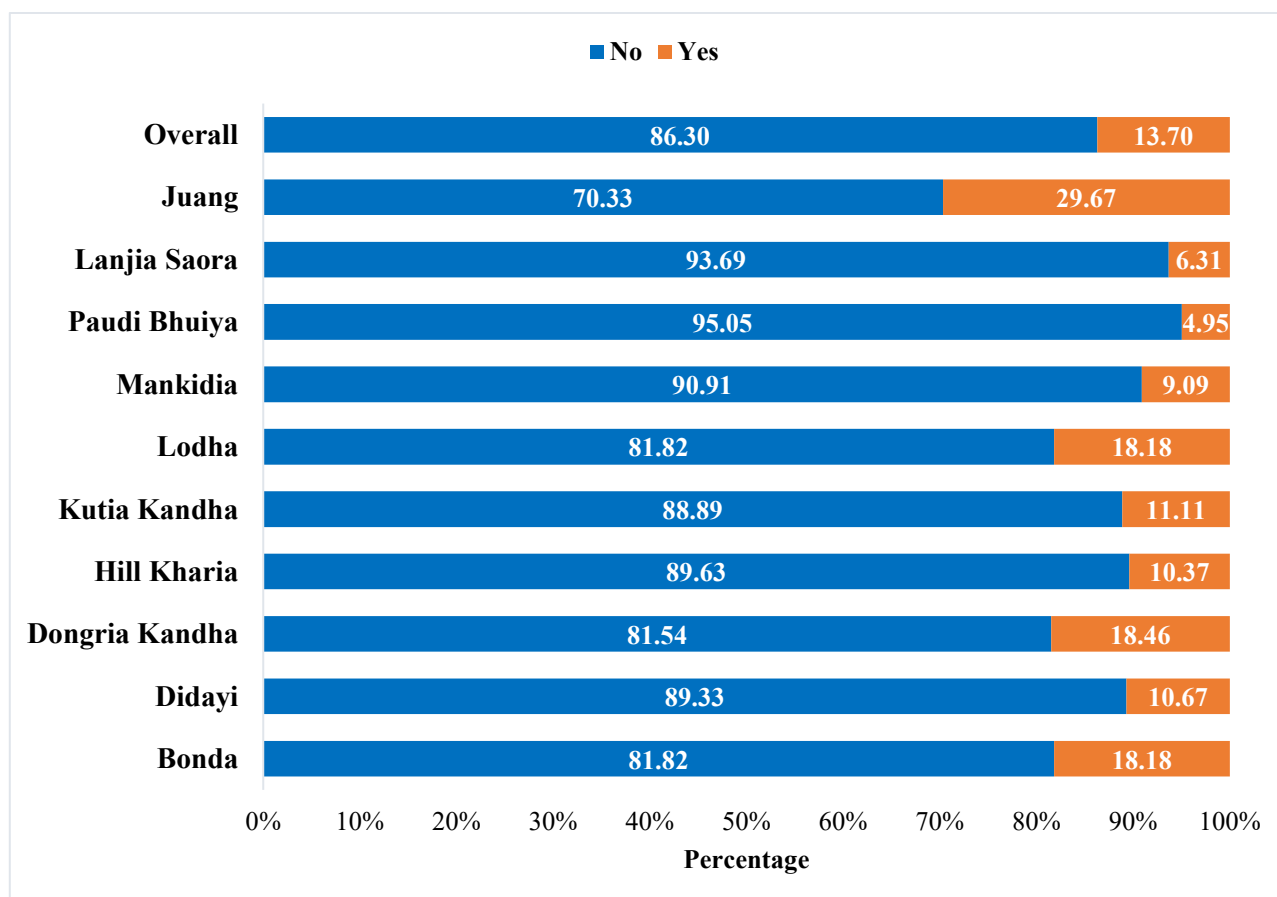


Figure 5.8.4: Status of delivery-related health complications

5.8.5. Status of premature delivery

Premature delivery, defined as childbirth occurring before 37 weeks of gestation, is a significant concern in India, particularly among tribal populations.

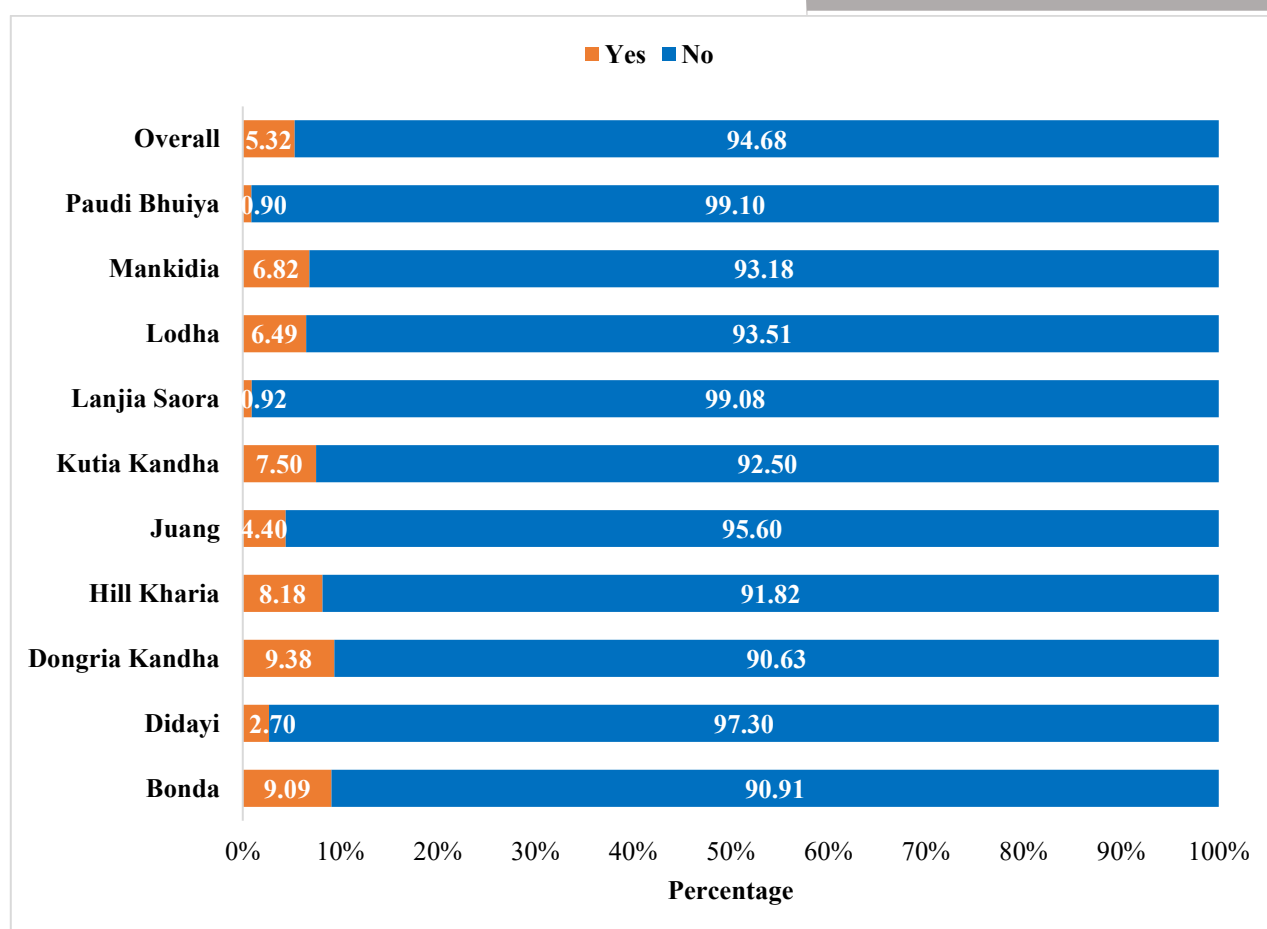


Figure 5.8.5: Status of premature delivery among PVTGs mothers

Table 5.8.5 and Figure 5.8.5 present the database results on premature deliveries among mothers of PVTGs, indicating an overall incidence rate of 5.32% with significant variation across ethnic groups. The highest rates are observed among the Bonda (9.09%), Dongria Kandha (9.38%), and Hill Kharia (8.18%) communities, suggesting potential maternal health challenges, inadequate prenatal care, or nutritional deficiencies that may contribute to preterm births. Conversely, the lower rates indicate possible underreporting. While the overall incidence appears relatively low, the disparities between groups highlight the need for targeted healthcare interventions. Factors such as poor maternal nutrition, high levels of physical labour during pregnancy, limited access to institutional healthcare, and lack of awareness about antenatal care could be contributing to higher preterm birth rates in specific communities.

5.8.6. Number of miscarriage(s)

Miscarriage, or spontaneous abortion before 20 weeks of gestation, is a significant reproductive health concern.

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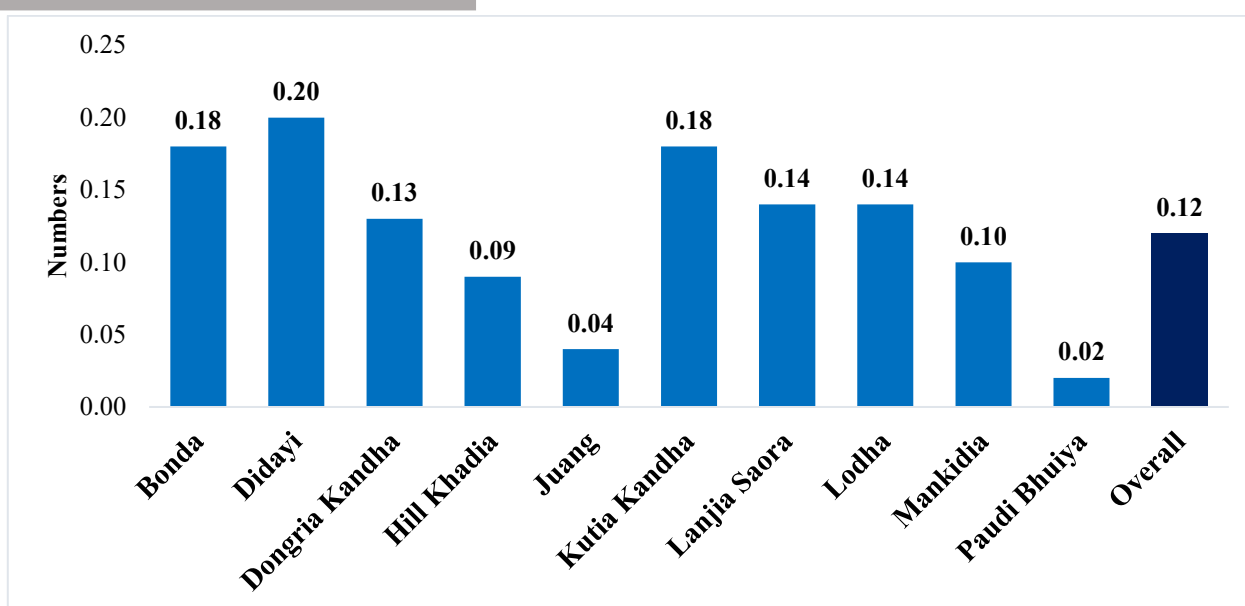


Figure 5.8.6: Average number of miscarriage(s) among PVTGs mothers

Table 5.8.6 and Figure 5.8.6 present the report on miscarriage rates among PVTGs, revealing an overall mean of 0.12 miscarriages per mother, with notable variations across different ethnic groups. The highest average miscarriage rates are observed among Didayi (0.20), Kutia Kandha (0.18), and Bonda (0.18) mothers, indicating potential reproductive health challenges, inadequate prenatal care, malnutrition, or environmental stressors that could contribute to pregnancy loss. The lower rates suggest possible underreporting due to a lack of awareness regarding early pregnancy losses.

5.8.7. Status of the number of abortions

The average number of abortions, including both spontaneous (miscarriages) and induced abortions, is a concerning reproductive health issue.

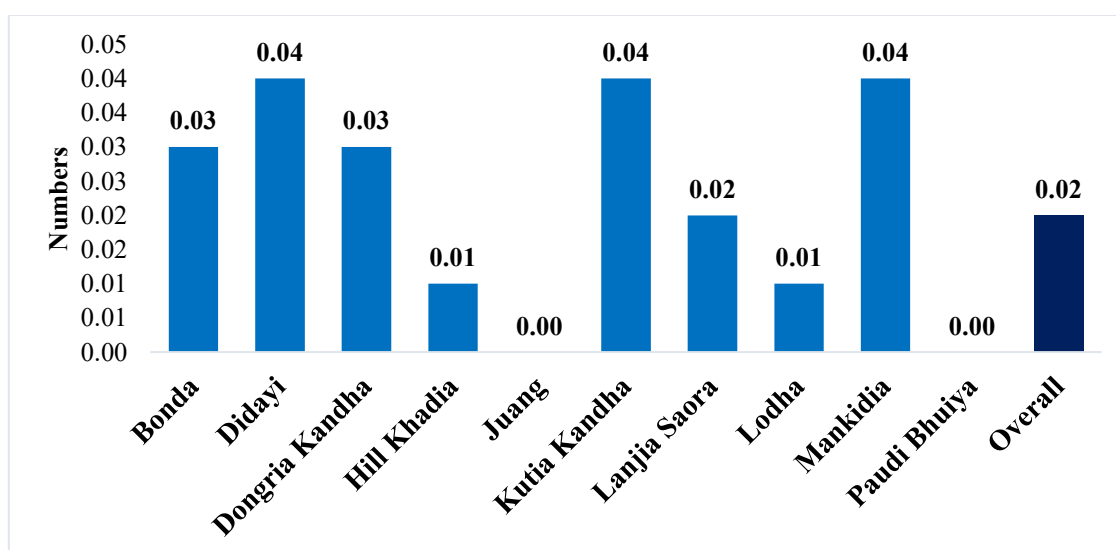


Figure 5.8.7: Average number of abortion/s among PVTGs' mothers

Table 5.8.7 and Figure 5.8.7 depict the number of average abortion cases among the women of the 10 PVTGs. The data on the incidence of abortion among PVTGs mothers shows an overall low average rate of 0.02 abortions per mother. The highest averages are observed among the Didayi (0.04), Kutia Kandha (0.04), and Mankidia (0.04) communities, while Juang and Paudi Bhuiya report no recorded cases. The low incidence of reported abortions may not necessarily indicate fewer unwanted or high-risk pregnancies. However, it could reflect underreporting, limited healthcare access, or some traditional practices. In many indigenous communities, reproductive health services may be insufficient, leading women to carry pregnancies to term regardless of personal or medical circumstances.

5.8.8. Average number of stillbirths

The number of stillbirths refers to the total count of babies born with no signs of life after 20 weeks of gestation, indicating fetal loss and reflecting maternal health and prenatal care quality.

The data on stillbirth rates among PVTGs mothers shows an overall average of 0.09 stillbirths per mother, with significant disparities across different ethnic groups (Table 5.8.8 & Figure 5.8.8). The Bonda community reports the highest rate (0.35), which is notably higher than the overall average, indicating severe maternal health challenges. This could be attributed to poor prenatal care, malnutrition, high physical labour during pregnancy, or lack of access to institutional healthcare. Other communities, such as Kutia Kandha (0.11), also show higher-than-average stillbirth rates, suggesting similar health vulnerabilities. In contrast, some groups, including Mankidia (0.00), Lodha (0.03), Juang (0.03), and Hill Kharia (0.03), report lower stillbirth rates, which may reflect underreporting due to cultural taboos surrounding stillbirths.

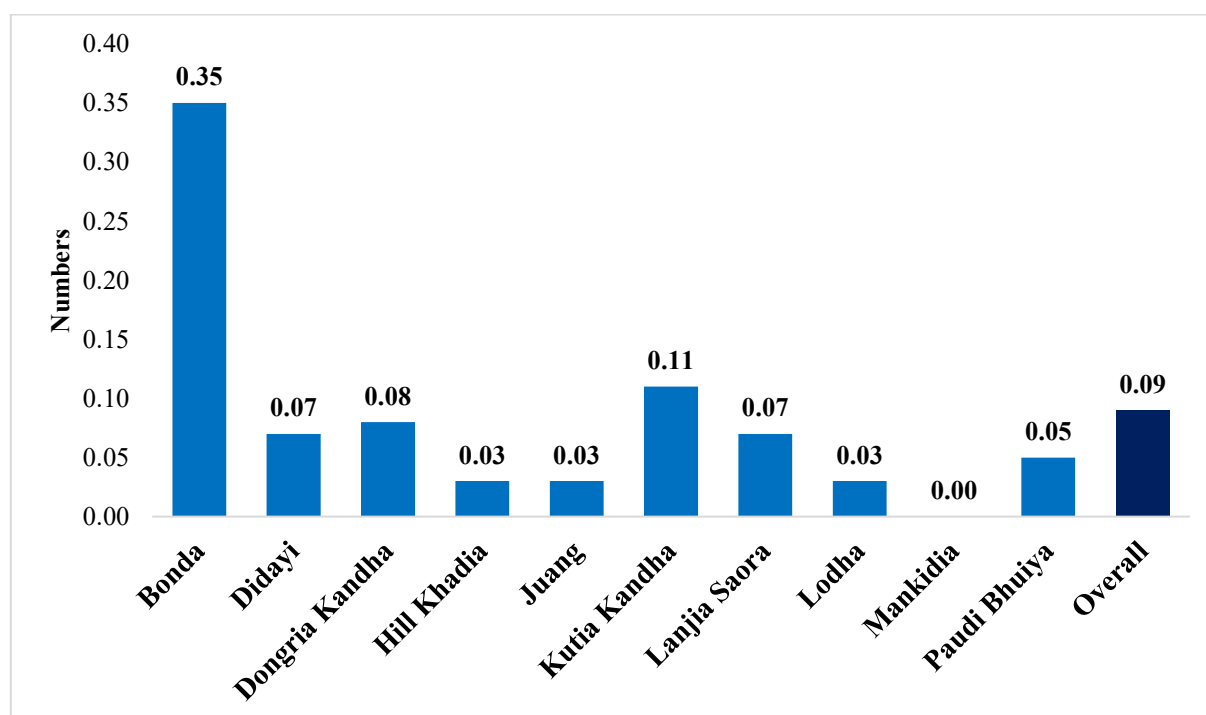


Figure 5.8.8: Average Number of stillbirth(s) of PVTGs mothers

5.8.9. Average number of pregnancies

The number of pregnancies refers to the total number of times a woman has conceived, regardless of the outcome (live birth, miscarriage, stillbirth, or abortion). It is a key indicator in assessing reproductive history, maternal health, and fertility patterns.

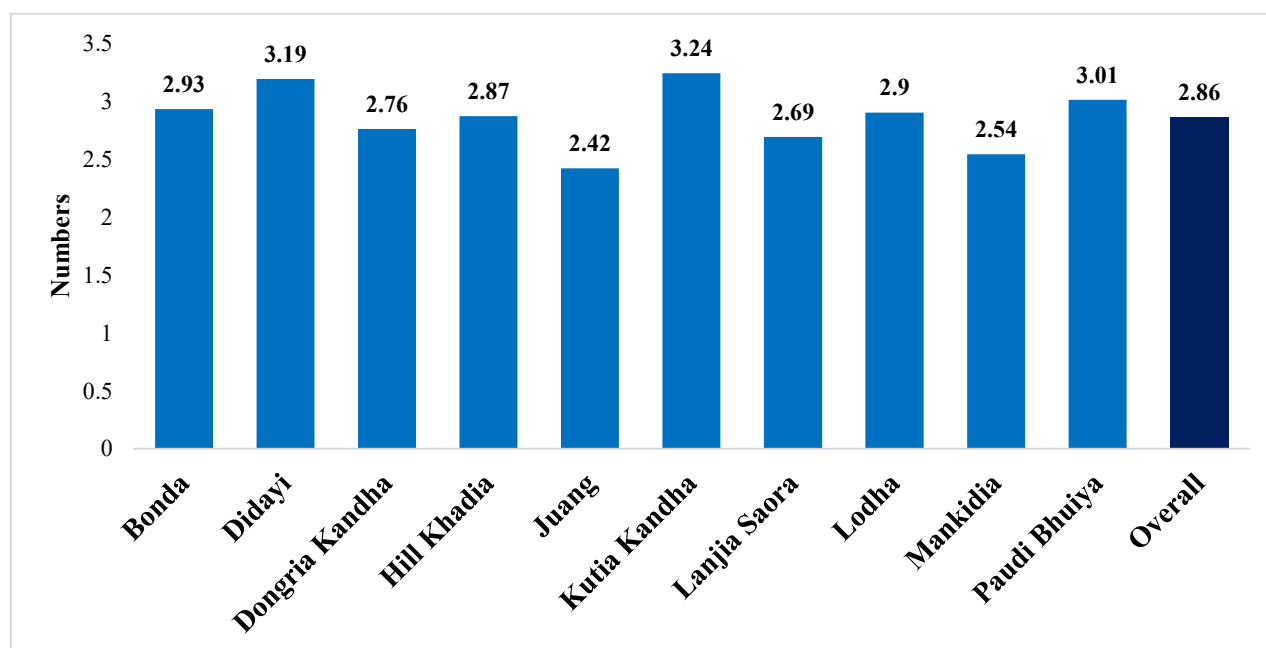


Figure 5.8.9: Average number of pregnancies of PVTGs' mothers

Table 5.8.9 and Figure 5.8.9 present the average number of pregnancies per mother among mothers of PVTGs, with an overall mean of 2.86 and variations across ethnic groups. The Kutia Kandha (3.24), Didayi (3.19), and Paudi Bhuiya (3.01) communities report the highest average pregnancies, indicating higher fertility rates. On the other hand, Juang (2.42), Mankidia (2.54), and Dongria Kandha (2.76) report fewer pregnancies per mother, which could indicate a shift toward smaller family sizes, possibly due to increased awareness of family planning or socio-economic changes affecting fertility behaviour. The overall trend suggests that while fertility rates among PVTGs remain moderate, disparities exist due to variations in healthcare access, cultural attitudes toward childbirth, and socio-economic conditions. Further exploration may help identify the reasons for the smaller family sizes in some PVTGs.

5.8.10. Status of average number of surviving children

The number of surviving children refers to the total count of a woman's children alive at the time of inquiry, indicating child survival and overall family health status.

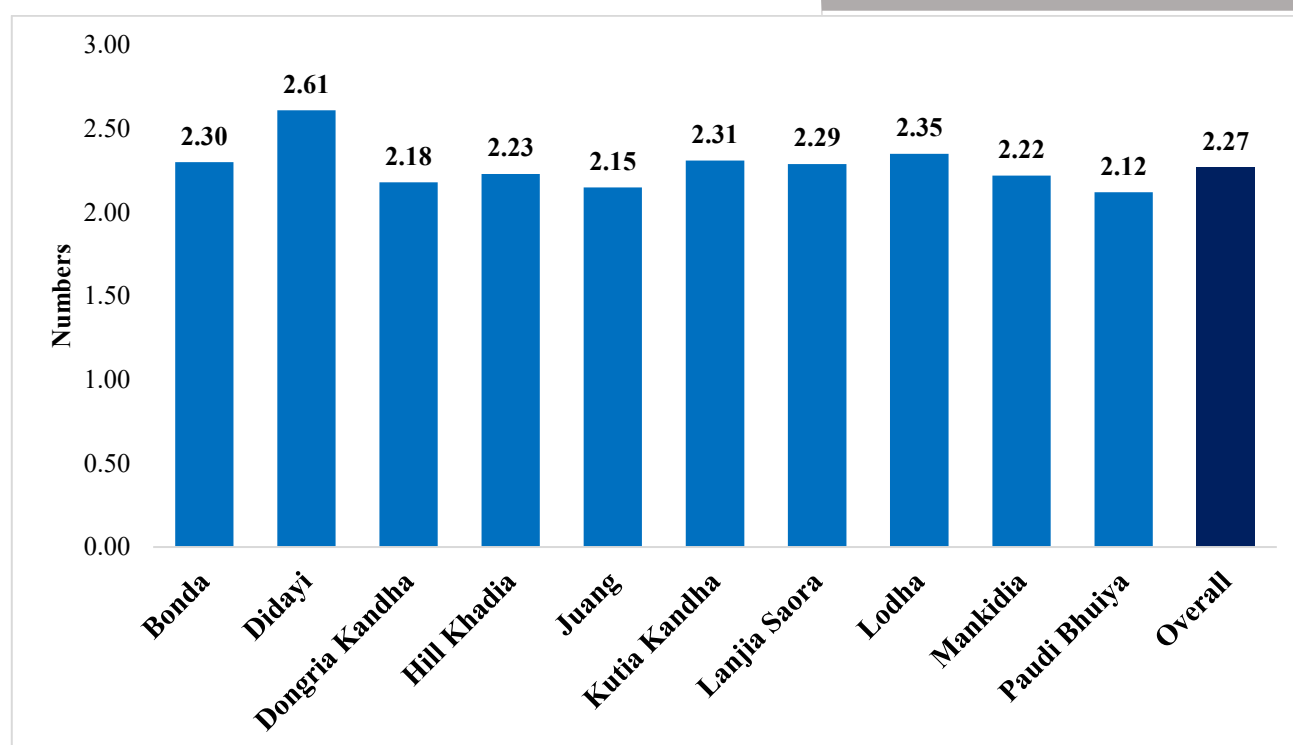


Figure 5.8.10: Status of the number of surviving children of PVTGs' mothers

The data on the average number of surviving children among PVTGs mothers indicates an overall mean of 2.27 surviving children per mother, with some variation among ethnic groups (Table 5.8.10 & Figure 5.8.10). The Didayi (2.61), Lodha (2.35), and Kutia Kandha (2.31) communities report the highest averages, suggesting relatively higher child survival rates. On the lower end, Paudi Bhuiya (2.12), Juang (2.15), and Dongria Kandha (2.18) report fewer surviving children per mother, possibly indicating higher child mortality rates. Comparing these figures with the average number of pregnancies (2.86), there is a noticeable gap, indicating child mortality or stillbirths among PVTGs. Strengthening maternal and child healthcare services, ensuring timely vaccinations, improving nutrition programs, and promoting institutional deliveries could help bridge this gap and improve child survival rates. Targeted interventions addressing these disparities can improve health outcomes and overall well-being for PVTG communities.

5.9. Status of birth weight among PVTGs' children

Birth weight among children refers to the body weight of a newborn immediately after birth and serves as a key indicator of neonatal health, maternal nutrition, and the quality of prenatal care.

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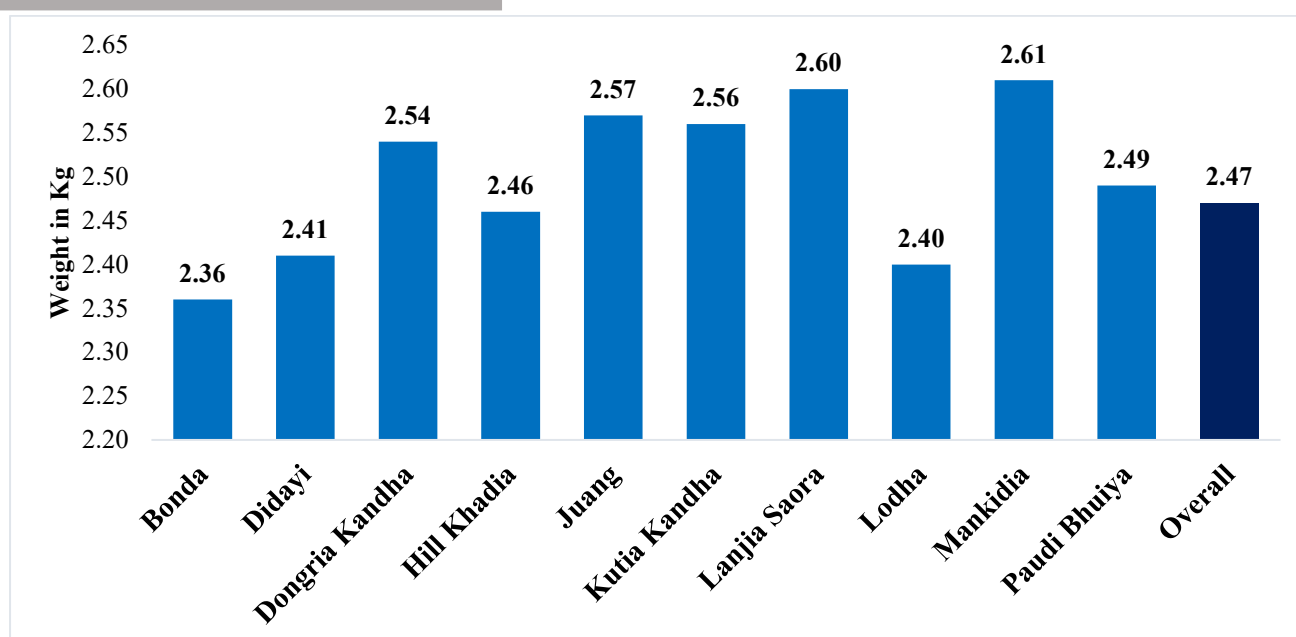


Figure 5.9.1: Status of birth weight of PVTGs' children

Table 5.9.1 and Figure 5.9.1 present data-based results on the average birth weight of the PVTGs, which reveal significant variation across ethnic groups. The overall mean birth weight of 2.47 kg (SD = 0.45) is below the commonly accepted normal birth weight threshold of 2.5 kg, indicating a potential prevalence of low birth weight among these communities. The Bonda have the lowest mean birth weight (2.36 kg) among the groups, while the Mankidia have the highest (2.61 kg). The standard deviation (SD) also varies, with groups such as Juang (SD = 0.56) and Paudi Bhuiya (SD = 0.55) showing greater variability, suggesting greater disparities in birth outcomes within these groups. The factors influencing these disparities could be multifaceted, including maternal health, nutrition, socio-economic conditions, and access to healthcare. Ethnic groups with lower mean birth weights may face higher risks of neonatal complications, malnutrition, and mortality. Additionally, the relatively small sample sizes in some groups (e.g., Paudi Bhuiya, Mankidia, and Kutia Kandha) may limit the generalizability of the findings and warrant further investigation.

Table 5.9.2 and Figure 5.9.2 present the frequency distribution of birth weight classification among Particularly Vulnerable Tribal Groups (PVTGs), highlighting a concerning prevalence of low birth weight (LBW): 38.27% of newborns fall into the Extremely Low Birth Weight (ELBW) or Very Low Birth Weight (VLBW) categories. The overall ELBW rate remains low (1.00%), but the VLBW rate (37.27%) is alarmingly high, particularly among Bonda (50.00%), Didayi (51.13%), and Lodha (40.80%) communities. These groups may be at heightened risk for neonatal complications, developmental delays, and long-term health issues. In contrast, some groups, such as Dongria Kandha (73.72%), Kutia Kandha (72.50%), and Mankidia (72.73%), exhibit relatively higher proportions of Normal Birth Weight (NBW), suggesting possible variations in maternal health, dietary patterns, or healthcare access. The wide disparity in LBW prevalence across ethnic groups underscores the need for targeted interventions focusing on maternal nutrition, antenatal care, and socio-economic upliftment. Additionally, the sample size for some groups (e.g., Paudi Bhuiya and Mankidia) is relatively small, requiring careful interpretation and further research to confirm trends. Addressing these disparities is critical for improving neonatal and infant health outcomes among PVTGs.

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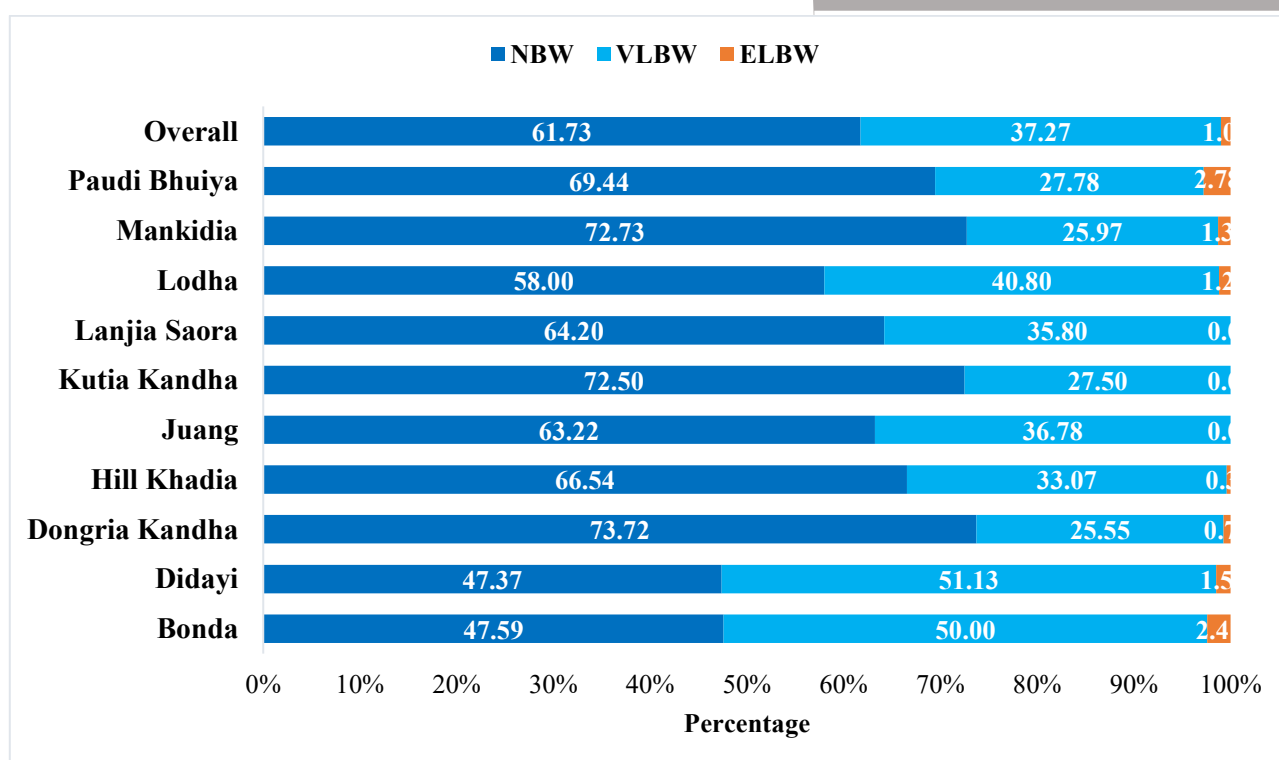


Figure 5.9.2: Frequency of Low Birth Weight (LBW) among PVTGs

5.10.1. Awareness about family planning

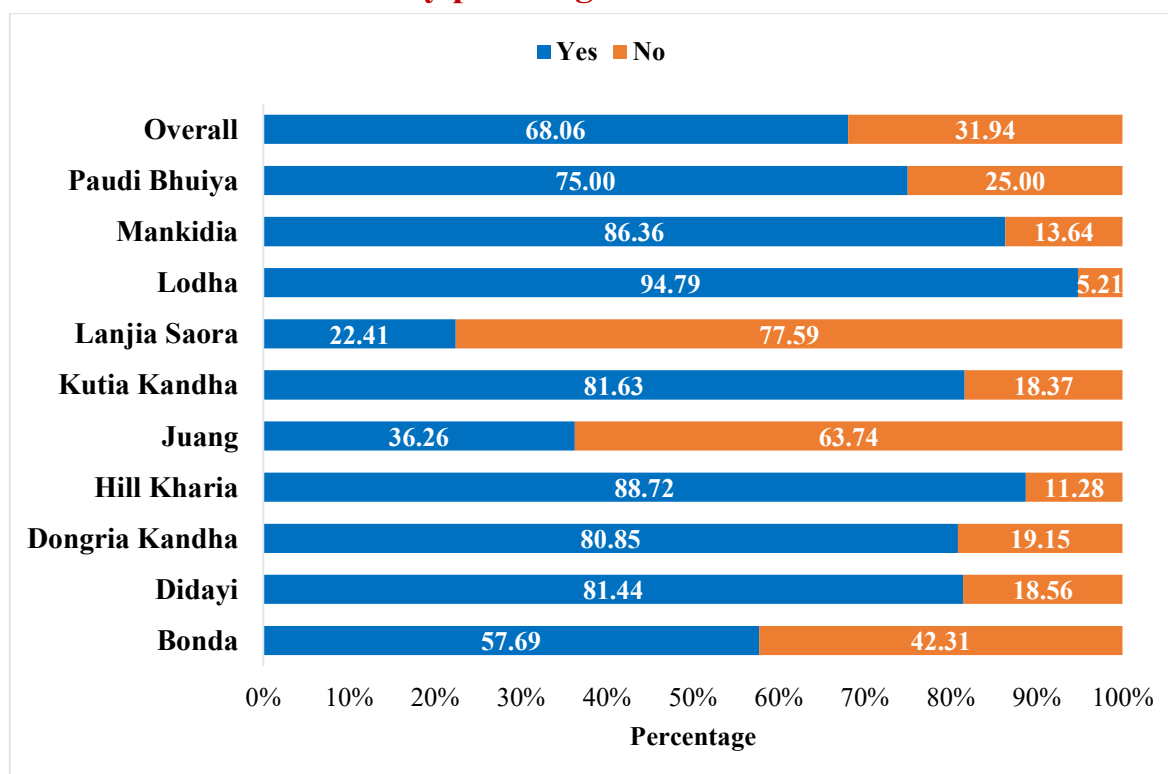


Figure 5.10.1: Status of awareness about family planning among the PVTGs

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Awareness about family planning refers to the knowledge and understanding individuals have regarding reproductive choices, contraceptive methods, and the benefits of planning pregnancies for health, economic, and social well-being.

The awareness of family planning among PVTGs is mixed, with an overall rate of 68.06% (Table 5.10.1 & Figure 5.10.1). The findings indicate significant disparities existing across ethnic groups. The Lodha (94.79%), Hill Kharia (88.72%), and Mankidia (86.36%) communities exhibit high rates of practice, while the Lanjia Saora (22.41%) and Juang (36.26%) communities show lower rates.

5.10.2. Different sources of awareness about family planning

In raising awareness about family planning, different sources refer to individuals or groups, such as healthcare workers, teachers, media, NGOs, and community leaders, who provide information, guidance, and support to promote informed reproductive choices.

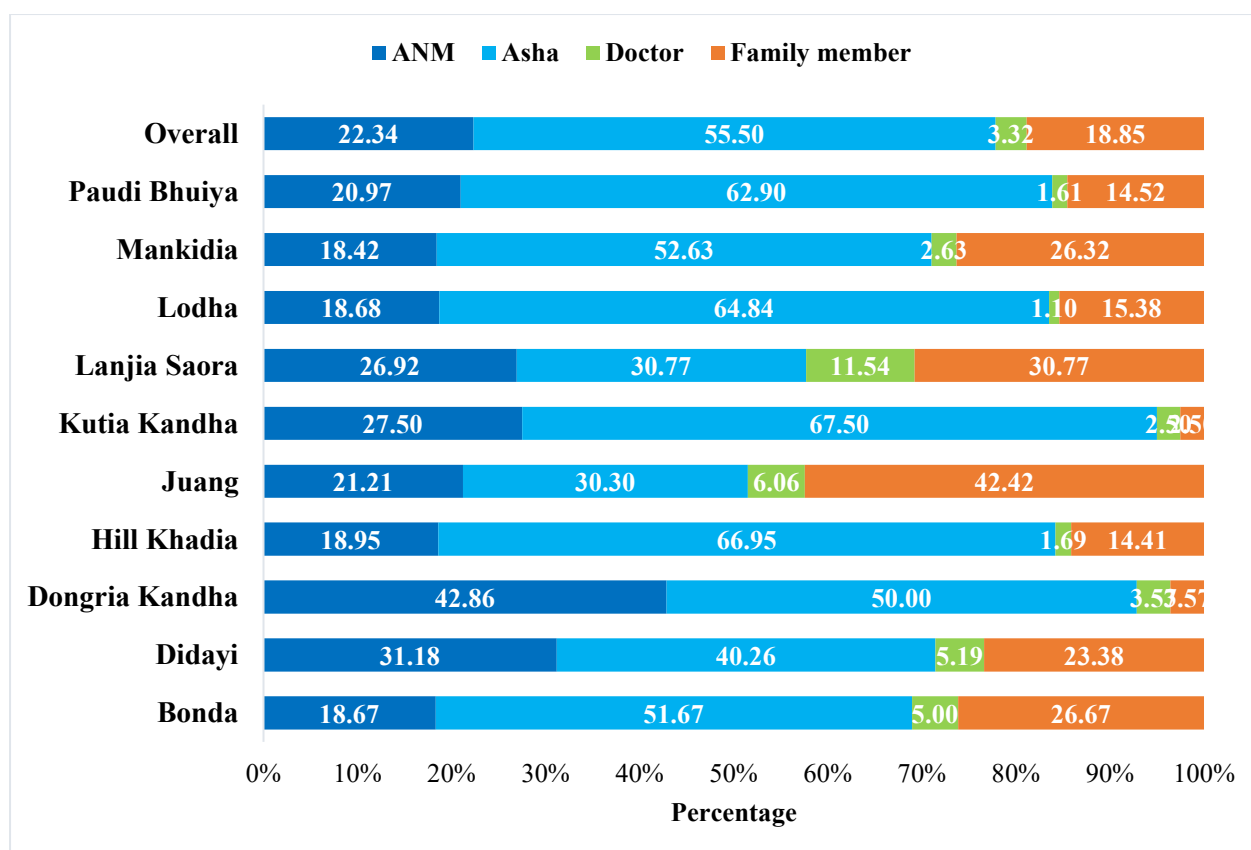


Figure 5.10.2: Status of various sources influencing family planning practices

Table 5.10.2 and Figure 5.10.2 present the data on sources of family planning practices among PVTGs, revealing that Accredited Social Health Activists (ASHAs) play the most significant role, influencing 55.50% of individuals. Auxiliary Nurse Midwives (ANMs) account for 22.34%, while family members (18.85%) also play a notable role. However, doctors contribute only 3.32%, suggesting limited direct interaction between PVTG communities and formal medical professionals. There are notable variations among ethnic groups. In some, like the Hill Khadia (66.95%) and Kutia Kandha (67.50%), ASHAs are the dominant source of influence. In contrast, family members play a larger role in others, such as the Juang (42.42%) and Lanjia Saora (30.77%). The Dongria Kandha

community has relatively higher influence from ANMs (42.86%), indicating localised variations in healthcare outreach.

5.10.3. Attitude toward family planning practices

Attitude toward family planning refers to individuals' beliefs, feelings, and predispositions regarding contraception use, reproductive choices, and control over family size and childbearing.

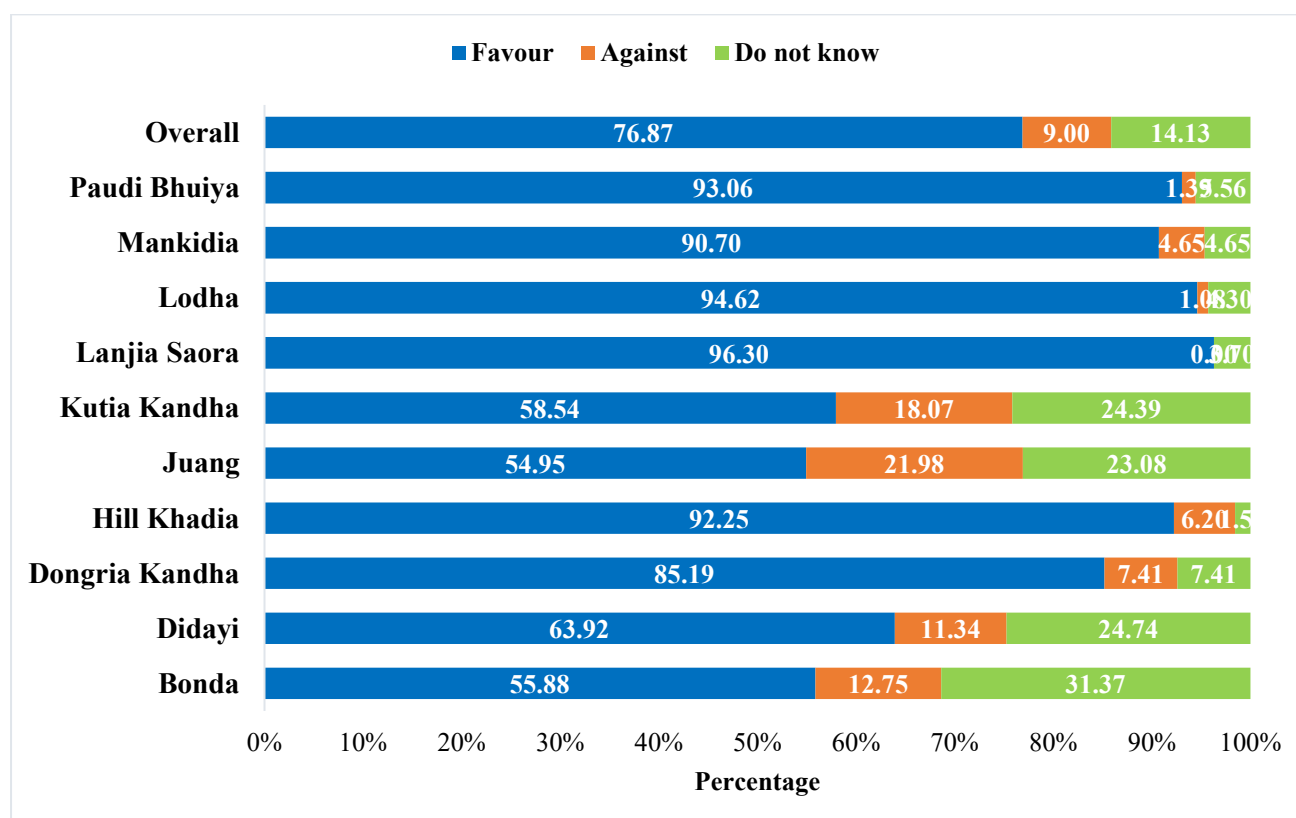


Figure 5.11.3: Ethnic perspectives on Family Planning

Table 5.10.3 and Figure 5.10.3 present the data on attitudes toward family planning among PVTGs, which reflects a predominantly favourable stance, with 76.87% of individuals supporting it. However, 14.13% remain uncertain, and 9.00% are against it. Significant variations exist among ethnic groups. The Lanjia Saora (96.30%), Lodha (94.62%), Hill Khadia (92.25%), and Paudi Bhuiya (93.06%) show the highest acceptance. In contrast, communities like Juang (54.95%), Bonda (55.88%), and Kutia Kandha (58.54%) display relatively lower acceptance, coupled with higher proportions of individuals who are either uncertain or opposed to family planning. The Juang (21.98%) and Kutia Kandha (18.07%) have the highest opposition rates. A significant percentage of individuals also do not know about family planning (14.13%), particularly among the Bonda (31.37%), Didayi (24.74%), and Juang (23.08%) communities.

5.10.4. Status of acceptance to family planning practices

Acceptance of family planning refers to the willingness of individuals or couples to use contraceptive methods and adopt practices that support Planned Parenthood and reproductive health

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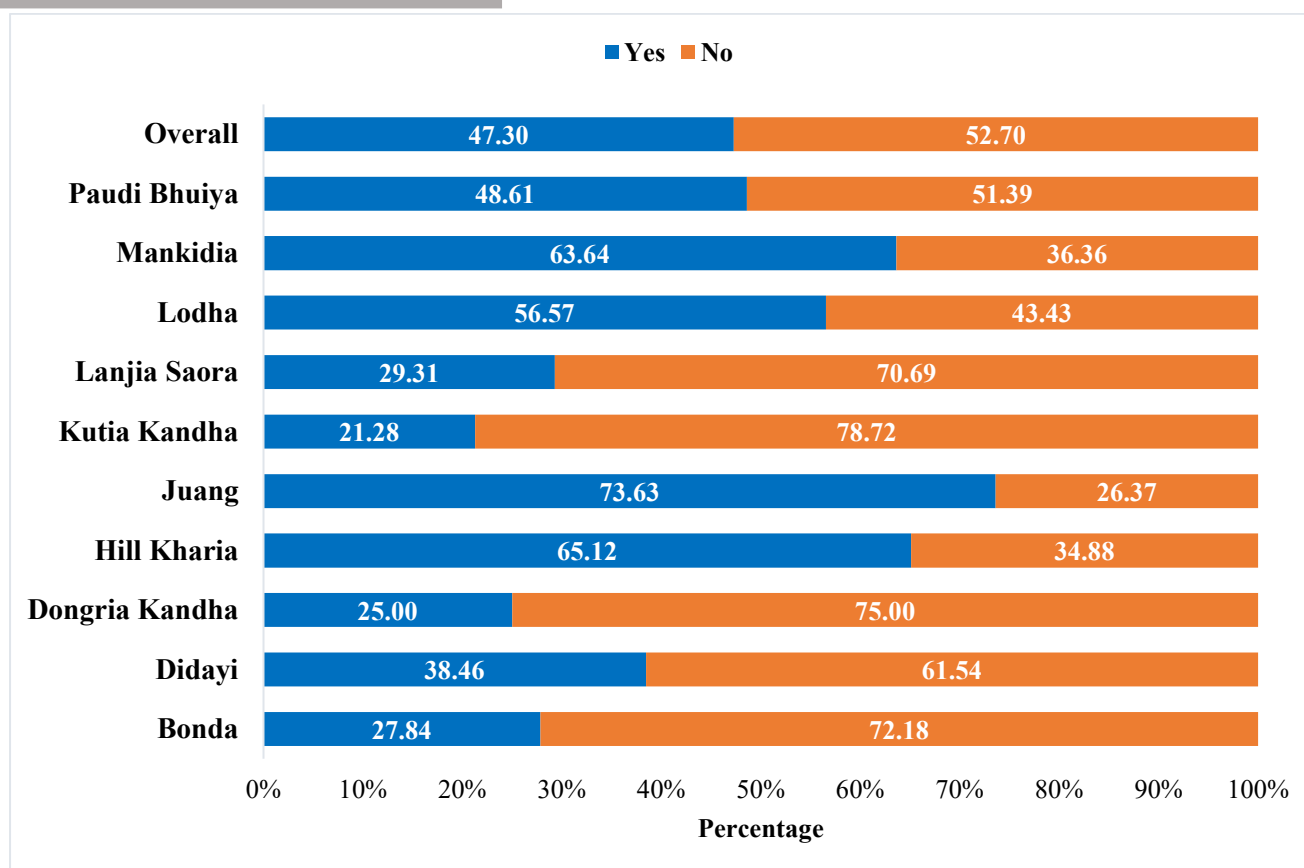


Figure 5.10.4: Acceptance rate of family planning practices among participants with favored view

The data on current family planning use among PVTGs show that 47.30% of individuals are actively practising family planning, compared with a majority of non-practitioners (52.70%) (Table 5.10.4 & Figure 5.10.4). Significant disparities exist across ethnic groups. The Juang (73.63%) and Hill Kharia (65.12%) show the highest rates of family planning adoption. Similarly, the Mankidia (63.64%) and Lodha (56.57%) also demonstrate relatively high usage. However, groups such as the Kutia Kandha (21.28%), Dongria Kandha (25.00%), and Bonda (27.84%) have low adoption rates.

5.10.5. Methods adopted for family planning

Family planning involves traditional methods like withdrawal and calendar rhythm, and modern methods including sterilisation pills, IUDs, condoms, and sterilisation, enabling couples to control fertility and plan pregnancies effectively.

Table 5.10.5 and Figure 5.10.5 present the data on the types of family planning methods currently in use among PVTGs, indicating a preference for modern contraceptive methods, with 79.95% of users adopting them. In contrast, 20.05% rely on traditional methods. This suggests that while modern contraception has gained significant acceptance, traditional practices continue to persist in specific communities, possibly due to cultural beliefs, accessibility issues, or personal preferences. There is substantial variation among ethnic groups. The Paudi Bhuiya (94.29%), Mankidia (92.86%), and Hill Kharia (90.48%) exhibit the highest dependence on modern contraceptive methods. Conversely,

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the Juang (46.43%) show the highest dependence on traditional methods. Similarly, the Lanjia Saora (33.33%) and Bonda (22.22%) also have a notable proportion using traditional methods.

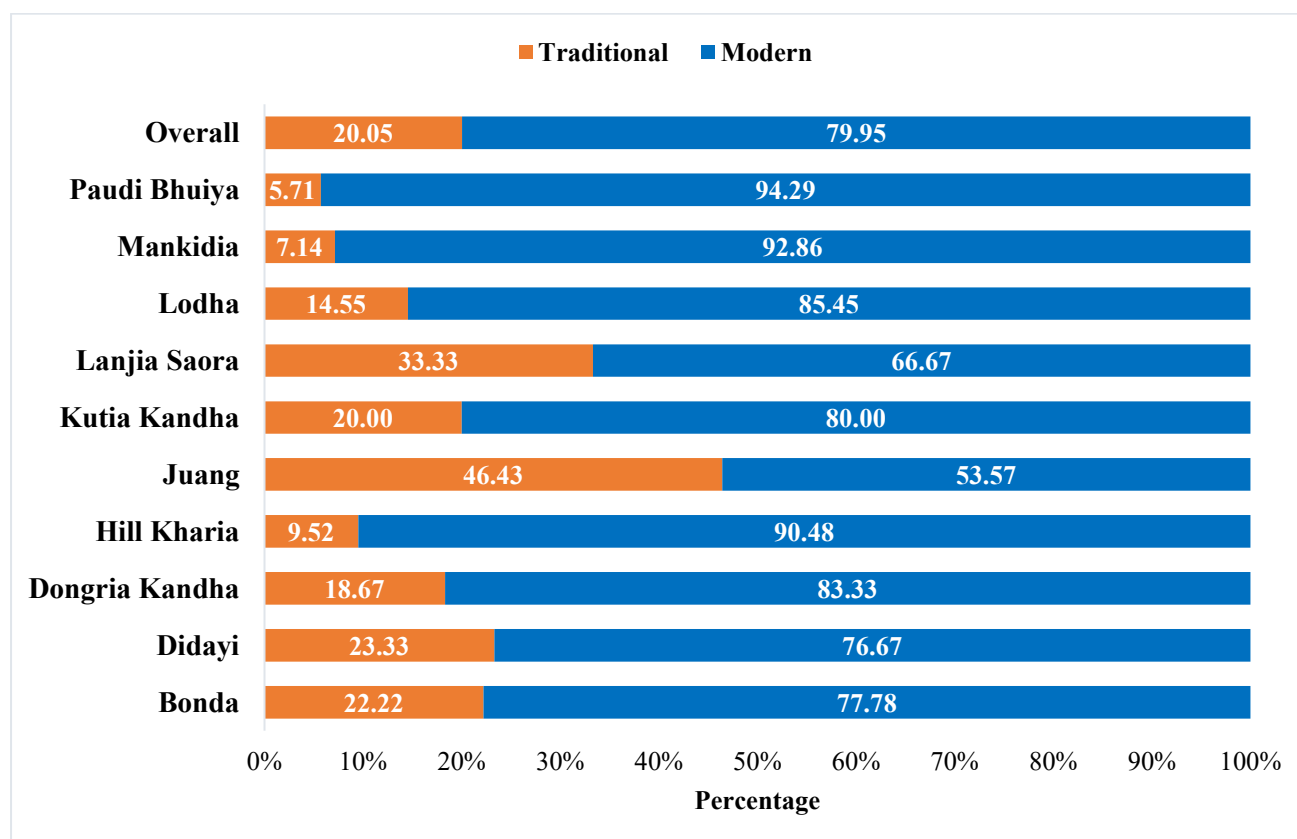


Figure 5.10.5: Adoption of traditional and modern methods among participants accepting the family planning practices

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Tables for MH & MCH among PVTGs women
Table 5.2: Current Age Distribution of Studied PVTG Women

Ethnic group	N	Mean	Standard Deviation	Min. range	Max. range
Bonda	132	34.77	11.53	14	68
Didayi	95	36.54	11.72	18	66
Dongria Kandha	74	30.70	10.65	18	61
Hill Kharia	145	34.24	12.55	18	68
Juang	91	24.36	4.31	18	36
Kutia Kandha	70	35.63	18.25	18	75
Lanjia Saora	123	36.22	12.71	19	74
Lodha	115	33.53	13.79	18	65
Mankidia	50	32.66	11.22	18	63
Paudi Bhuiya	130	38.45	14.37	18	65
Overall	1025	34.10	12.84	14	75

Table 5.3.1: Average age at menarche

Ethnic group	N	Mean	SD
Bonda	118	13.24	1.76
Didayi	94	13.66	0.71
Dongria Kandha	74	13.23	0.71
Hill Kharia	141	13.11	1.07
Juang	91	12.38	1.5
Kutia Kandha	68	13.85	0.96
Lanjia Saora	122	13.35	1.18
Lodha	109	13.3	1.54
Mankidia	48	12.38	1.12
Paudi Bhuiya	129	13.09	1.31
Overall	994	13.2	1.31

N = Number, SD = Standard Deviation

Table 5.3.2: Ritual practices at first menstruation

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Ethnic group	Yes	%	No	%	Total
Bonda	45	38.14	73	61.86	118
Didayi	59	62.77	35	37.23	94
Dongria Kandha	18	20.00	64	80.00	80
Hill Kharia	62	43.97	79	56.03	141
Juang	2	2.20	89	97.80	91
Kutia Kandha	35	51.47	33	48.53	68
Lanjia Saora	1	0.82	121	99.18	122
Lodha	0	0.00	109	100.00	109
Mankidia	0	0.00	48	100.00	48
Paudi Bhuiya	0	0.00	129	100.00	129
Overall	220	22.00	780	78.00	1000

Table 5.3.3: Sources of information about menstruation

Ethnic group	Father	%	Mother	%	Sister	%	Friend	%	Teacher	%	Others	%	Total
Bonda	4	3.23	63	50.81	8	6.45	45	36.29	1	0.81	3	2.42	124
Didayi	1	1.09	60	65.22	7	7.61	18	18.48	0	0.00	7	7.61	92
Dongria Kandha	1	1.47	47	69.12	13	19.12	7	10.29	0	0.00	0	0.00	68
Hill Kharia	0	0.00	94	65.28	10	6.94	29	20.14	0	0.00	11	7.64	144
Juang	0	0.00	51	56.04	19	20.88	15	18.48	3	3.30	3	3.30	91
Kutia Kandha	4	4.04	81	81.82	8	8.08	5	5.05	1	1.01	0	0.00	99
Lanjia Saora	0	0.00	82	68.91	5	4.20	7	5.88	2	1.68	23	19.33	119
Lodha	1	0.88	34	29.82	10	8.77	46	40.35	1	0.88	22	19.30	114
Mankidia	0	0.00	31	67.39	4	8.70	10	21.74	0	0.00	1	2.18	46
Paudi Bhuiya	0	0.00	71	54.62	7	5.38	46	35.38	2	1.54	4	3.08	130
Overall	11	1.07	614	59.79	91	8.86	227	22.10	10	0.97	74	7.21	1027

Table 5.3.4: Menstruation patterns

Ethnic group	Regular	%	Irregular	%	Total
Bonda	109	85.83	18	14.18	127
Didayi	89	91.75	8	8.25	97
Dongria Kandha	61	82.43	13	18.57	74
Hill Kharia	131	90.34	14	9.66	145
Juang	82	90.11	9	9.89	91
Kutia	69	69.00	31	31.00	100

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Kandha					
Lanjia Saora	119	97.54	3	2.46	122
Lodha	109	94.78	6	5.22	115
Mankidia	41	89.13	5	10.87	46
Paudi Bhuiya	129	99.23	1	0.77	130
Overall	939	89.68	108	10.32	1047

Table 5.3.5: Average Duration of the Menstrual Period (in Days)

Tribal group	Duration of the menstrual period (1st)		Duration of the Menstrual period (present)	
	Mean	SD	Mean	SD
Bonda	5.34	1.69	4.18	1.54
Didayi	5.67	1.89	4.61	2.08
Dongria Kandha	4.29	1.09	3.96	1.67
Hill Kharia	4.91	1.79	3.88	1.48
Juang	4.47	1.01	3.89	0.72
Kutia Kandha	5.62	1.49	3.47	1.09
Lanjia Saora	5.73	1.86	3.52	1.03
Lodha	4.8	1.81	3.7	1.69
Mankidia	3.86	1.54	4.62	2.09
Paudi Bhuiya	5.93	1.47	4.26	2.31
Overall	4.82	1.53	3.94	1.57

Table 5.3.6.1: Types of Materials Used for Sanitary Napkins Among PVTG Women

Ethnic group	Traditional	%	Modern	%	Total
Bonda	109	84.50	20	15.50	129
Didayi	69	71.13	28	28.87	97
Dongria Kandha	94	96.91	3	3.09	97
Hill Kharia	111	77.08	33	22.92	144
Juang	74	81.32	18	18.68	91
Kutia Kandha	90	94.74	5	5.26	95

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Lanjia Saora	84	71.19	34	28.81	118
Lodha	322	96.99	10	3.01	332
Mankidia	32	68.09	15	31.91	47
Paudi Bhuiya	100	76.34	31	23.66	131
Overall	1064	83.06	218	18.94	1281

Table 5.3.6.2: Type of material used for cleaning sanitary napkin

Ethnic group	Soap and water	%	Only water	%	Total
Bondo	52	44.07	66	55.93	118
Didayi	39	48.75	41	51.25	80
Dongria Kandha	70	95.89	3	4.11	73
Hill Khadia	76	57.58	56	42.42	132
Juang	11	78.57	3	21.43	14
Kutia Kandha	82	88.18	11	11.83	93
Lanjia Saora	78	93.98	5	6.02	83
Lodha	32	28.32	81	71.68	113
Mankidia	27	61.36	18	38.64	44
Paudi Bhuiya	52	51.49	49	48.51	101
Overall	519	59.86	192	22.15	867

Table 5.3.6.3: Average number of sanitary pads used during menstruation

Ethnic group	Mean	SD
Bonda	6.10	4.27
Didayi	7.73	4.03
Dongria Kandha	6.50	0.71
Hill Khadia	8.63	2.96
Juang	5.61	1.39
Kutia Kandha	4.67	2.31
Lanjia Saora	7.91	2.28
Lodha	4.75	3.15
Mankdia	9.00	2.61
Paudi Bhuiyan	9.00	3.45
Overall	7.39	3.25

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Table 5.4.1: Average age in years of mothers at child birth

Ethnic group	N	Mean	SD	N	Mean	SD
Mother's age at first live birth				Mother's age bat last live birth		
Bonda	121	20.71	5.91	91	28.1	6.75
Didayi	83	22.18	5.64	77	29.14	7.22
Dongria Kandha	69	20.68	4.65	50	27.68	6.45
Hill Khadia	121	19.77	5.2	100	24.15	3.53
Juang	87	18.71	2.87	54	22.44	6.83
Kutia Kandha	38	24.14	6.94	29	30.07	8.54
Lanjia Saora	110	21.4	4.43	82	29.74	6.63
Lodha	109	18.93	5.82	83	24.23	6.1
Mankidia	48	18.07	3.22	35	23.02	5.97
Paudi Bhuiya	114	21.13	5.38	85	27.6	6.69
Overall	900	20.45	5.31	686	26.65	6.82

Table 5.4.2: Average age distance between first and last child birth

Ethnic group	N	Mean	SD
Bonda	90	8.01	4.63
Didayi	76	6.96	5.69
Dongria Kandha	50	6.28	4.58
Hill Khadia	86	5.20	3.15
Juang	52	3.79	6.42
Kutia Kandha	29	5.07	4.15
Lanjia Saora	81	8.88	5.38
Lodha	81	5.15	4.61
Mankidia	35	4.96	5.25
Paudi Bhuiya	85	6.41	5.47
Overall	665	6.33	5.18

Table 5.4.3: Average number of conceptions of PVTGs' mothers

Ethnic group	N	Mean	SD

Bondo	118	3.54	1.92
Didayi	86	3.70	1.96
Dongria Kandha	67	2.96	1.70
Hill Khadia	137	2.96	1.56
Juang	91	2.45	1.39
Kutia Kandha	38	3.34	1.70
Lanjia Saora	113	2.95	1.51
Lodha	109	3.01	1.60
Mankidia	47	2.66	1.20
Paudi Bhuiya	119	3.23	1.88
Overall	925	3.09	1.71

Table 5.4.4: Average age of conception of PVTGs mothers

Age of conception	Ethnic group	N	Mean	SD
Age at first conception	Bond	112	19.42	4.07
	Didayi	88	21.26	18.77
	Dongria Kandha	57	19.26	3.44
	Hill Khadia	141	18.81	2.36
	Juang	91	18.47	2.35
	Kutia Kandha	23	18.96	6.05
	Lanjia Saora	118	20.18	3.94
	Lodha	110	18.05	2.64
	Mankidia	48	18.62	2.11
	Paudi Bhuiya	119	18.56	2.23
	Overall	905	18.83	6.65
Age at last conception	Bondo	88	26.00	8.86
	Didayi	84	29.00	13.15
	Dongria Kandha	41	25.56	7.18
	Hill Khadia	126	25.01	18.06
	Juang	81	18.83	10.33
	Kutia Kandha	25	21.76	9.48
	Lanjia Saora	115	27.21	6.35
	Lodha	98	24.06	21.91

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	Mankidia	41	23.02	3.10
	Paudi Bhuiya	118	25.37	5.88
	Overall	818	24.99	12.91

Table 5.4.5: Average age gap between first and last conception of PVTGs mothers

Ethnic group	N	Mean	SD
Bonda	86	7.33	6.96
Didayi	84	7.67	5.77
Dongria Kandha	40	6.55	5.08
Hill Kharia	126	7.33	6.03
Juang	81	4.47	6.23
Kutia Kandha	20	5.85	7.31
Lanjia Saora	115	6.88	5.87
Lodha	98	6.95	5.45
Mankidia	41	5.44	3.06
Paudi Bhuiya	118	6.82	6.07
Overall	808	6.28	5.78

Table 5.4.6: Average number of live births of PVTGs women

Ethnic group	N	Mean	SD
Bondo	114	3.18	1.75
Didayi	84	3.80	2.79
Dongria Kandha	71	2.90	1.67
Hill Khadia	141	2.84	1.49
Juang	91	2.15	1.25
Kutia Kandha	54	2.87	1.61
Lanjia Saora	115	2.74	1.71
Lodha	108	3.34	3.18
Mankidia	48	2.48	1.09
Paudi Bhuiya	121	3.09	1.95
Overall	947	2.96	2.02

Table 5.5.1.1: Status of women who completed all antenatal checkups

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Ethnic group	Yes	%	No	%	Total
Bonda	89	67.42	43	32.58	132
Didayi	73	75.26	24	24.74	97
Dongria Kandha	73	91.25	7	8.75	80
Hill Kharia	111	76.55	34	23.45	145
Juang	89	97.80	2	2.20	91
Kutia Kandha	48	88.89	6	11.11	54
Lanjia Saora	80	65.04	43	34.96	123
Lodha	78	67.83	37	32.18	115
Mankidia	39	78.00	11	22.00	50
Paudi Bhuiya	75	57.69	55	42.31	130
Overall	755	74.24	262	25.76	1018

Table 5.5.1.2: Places of antenatal checkup

Ethnic group	Modern medical facilities	%	Traditional/home-based	%	Total
Bonda	84	94.38	5	5.62	89
Didayi	68	93.15	5	6.85	73
Dongria Kandha	70	95.89	3	4.11	73
Hill Kharia	85	76.58	26	23.42	111
Juang	85	95.51	4	4.49	89
Kutia Kandha	50	92.59	4	7.41	54
Lanjia Saora	77	96.25	3	3.75	80
Lodha	61	78.21	18	21.79	78
Mankidia	32	82.05	7	18.95	39
Paudi Bhuiya	73	97.33	2	2.67	75
Overall	685	90.01	76	9.99	761

Table 5.5.2.1: Status of intake of iron/folic acid tablets by mothers

Ethnic group	Yes	%	No	%	Total
Bonda	88	75.86	28	24.14	118
Didayi	65	74.71	22	25.29	87
Dongria Kandha	69	95.83	3	4.18	72
Hill Kharia	106	74.65	36	25.35	142

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Juang	74	93.67	5	6.33	79
Kutia Kandha	44	89.80	5	10.20	49
Lanjia Saora	66	62.26	40	37.74	106
Lodha	77	70.00	33	30.00	110
Mankidia	36	73.47	13	26.53	49
Paudi Bhuiya	53	50.96	51	49.04	104
Overall	678	74.18	236	25.82	914

Table 5.5.2.2: Status of intake of Calcium tablets by mothers

Ethnic group	Yes	%	No	%	Total
Bonda	84	77.06	25	22.94	109
Didayi	61	70.93	25	29.07	86
Dongria Kandha	67	95.71	3	4.29	70
Hill Kharia	97	69.78	42	30.22	139
Juang	81	90	9	10	90
Kutia Kandha	42	85.71	7	14.29	49
Lanjia Saora	64	62.75	38	37.25	102
Lodha	72	67.29	35	32.71	107
Mankidia	32	65.31	18	34.69	50
Paudi Bhuiya	52	48.6	55	51.4	107
Overall	652	71.81	256	28.19	908

Table 5.5.2.3: Status of TT immunisation among mothers

Ethnic group	Yes	%	No	%	Total
Bonda	72	65.45	38	34.55	110
Didayi	70	81.40	18	18.60	86
Dongria Kandha	69	95.83	3	4.18	72
Hill Kharia	107	75.35	35	24.65	142
Juang	80	93.02	6	6.98	86
Kutia Kandha	42	87.50	6	12.50	48
Lanjia Saora	71	69.61	31	30.39	102
Lodha	79	72.48	30	27.52	109
Mankidia	39	79.59	10	20.41	49
Paudi Bhuiya	55	51.40	52	48.60	107

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Overall	684	75.08	227	24.92	911

Table 5.5.3: Average body weight in Kg (Kilogram) of mothers at the last trimester

Ethnic group	N	Mean	SD
Bonda	118	46.46	7.88
Didayi	87	41.59	4.53
Dongria Kandha	72	45.97	4.22
Hill Khadia	142	45.33	4.18
Juang	79	41.34	8.22
Kutia Kandha	49	50.74	6.26
Lanjia Saora	106	47.56	8.85
Lodha	110	43.86	7.58
Mankidia	49	47.90	5.39
Paudi Bhuiya	104	43.00	9.04
Overall	914	45.37	6.61

Table 5.6.1: Status of DPT vaccination among children

Ethnic group	Yes	%	No	%	Total
Bonda	72	65.45	38	34.55	110
Didayi	70	81.40	18	18.60	86
Dongria Kandha	72	96.00	3	4.00	75
Hill Kharia	112	80.00	28	20.00	140
Juang	81	94.19	5	5.81	86
Kutia Kandha	35	94.59	2	5.41	37
Lanjia Saora	90	88.24	12	11.76	102
Lodha	87	84.47	18	15.53	103
Mankidia	40	86.96	6	13.04	46
Paudi Bhuiya	41	95.35	2	4.65	43
Overall	700	84.54	128	15.46	828

Table 5.6.2: Status of polio vaccination among children

Ethnic group	Yes	%	No	%	Total

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Bonda	100	93.46	7	6.54	107
Didayi	75	86.21	12	13.79	87
Dongria Kandha	68	91.89	6	8.11	74
Hill Kharia	120	85.11	21	14.89	141
Juang	68	86.08	11	13.92	79
Kutia Kandha	45	95.74	2	4.26	47
Lanjia Saora	97	91.51	9	8.49	106
Lodha	94	86.24	15	13.76	109
Mankidia	42	91.3	4	8.7	46
Paudi Bhuiya	94	92.18	8	7.84	102
Overall	803	89.42	95	10.58	898

Table 5.6.3: Status of BCG vaccination among children

Ethnic group	Yes	%	No	%	Total
Bonda	107	92.24	9	7.76	118
Didayi	72	82.76	9	10.34	87
Dongria Kandha	67	93.06	5	6.94	72
Hill Kharia	130	91.55	12	8.45	142
Juang	87	95.60	4	4.40	91
Kutia Kandha	45	95.74	2	4.26	47
Lanjia Saora	97	91.51	9	8.49	106
Lodha	90	84.91	18	15.09	106
Mankidia	38	82.61	8	18.39	46
Paudi Bhuiya	100	76.92	4	3.08	130
Overall	833	91.44	78	8.56	911

Table 5.6.4: Status of measles vaccination among children

Ethnic group	Yes	%	No	%	Total
Bonda	123	93.18	9	6.82	132
Didayi	84	96.55	3	3.45	87
Dongria Kandha	65	90.28	7	9.72	72
Hill Kharia	130	91.55	12	8.45	142
Juang	55	60.44	36	39.56	91

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Kutia Kandha	39	95.12	2	4.88	41
Lanjia Saora	95	89.62	11	10.38	106
Lodha	73	74.49	25	25.51	98
Mankidia	39	86.67	6	13.33	45
Paudi Bhuiya	89	85.58	15	14.42	104
Overall	792	86.27	126	13.73	918

Table 5.6.5: Status of Vitamin A supplementation among children

Ethnic group	Yes	%	No	%	Total
Bonda	103	91.96	9	8.04	112
Didayi	79	90.80	8	9.20	87
Dongria Kandha	63	87.50	9	12.50	72
Hill Kharia	99	74.44	34	25.56	133
Juang	73	80.22	18	19.78	91
Kutia Kandha	42	95.45	2	4.55	44
Lanjia Saora	43	84.31	8	15.69	51
Lodha	69	72.63	26	27.37	95
Mankidia	39	86.67	6	13.33	45
Paudi Bhuiya	35	83.33	7	18.67	42
Overall	645	83.55	127	18.45	772

Table 5.6.6: Status of Hepatitis vaccination among children

Ethnic group	Yes	%	No	%	Total
Bonda	104	92.86	8	7.14	112
Didayi	75	89.29	9	10.71	84
Dongria Kandha	61	84.72	11	15.28	72
Hill Kharia	103	75.18	34	24.82	137
Juang	68	74.73	23	25.27	91
Kutia Kandha	41	95.35	2	4.65	43
Lanjia Saora	61	98.39	1	1.61	62
Lodha	81	80.20	20	19.80	101
Mankidia	39	84.78	7	15.22	46
Paudi Bhuiya	45	97.83	1	2.18	46

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Overall	678	85.39	118	14.61	794

Table 5.6.7: Status of MMR vaccination among children

Ethnic group	Yes	%	No	%	Total
Bonda	102	93.58	7	6.42	109
Didayi	82	94.25	5	5.75	87
Dongria Kandha	64	88.89	8	11.11	72
Hill Kharia	96	73.85	34	26.15	130
Juang	69	87.34	10	12.66	79
Kutia Kandha	28	93.33	2	6.67	30
Lanjia Saora	43	84.31	8	15.69	51
Lodha	43	62.32	26	37.68	69
Mankidia	38	86.36	6	13.64	44
Paudi Bhuiya	97	93.27	7	6.73	104
Overall	662	85.42	113	14.58	775

Table 5.7.1: Status of practice of women breastfeeding the child immediately after birth

Ethnic group	Yes	%	No	%	Total
Bonda	115	87.12	18	12.88	132
Didayi	78	80.41	19	19.59	97
Dongria Kandha	49	61.25	31	38.75	80
Hill Kharia	126	86.90	19	13.10	145
Juang	89	97.80	2	2.20	91
Kutia Kandha	34	75.55	11	24.45	45
Lanjia Saora	113	91.87	10	8.13	123
Lodha	83	72.18	32	27.83	115
Mankidia	44	88.00	6	12.00	50
Paudi Bhuiya	119	91.54	11	8.46	130
Overall	850	84.33	158	15.67	1008

Table 5.7.2: Status of women breastfeeding children after 6 months of birth

Ethnic group	Yes	%	No	%	Total
Bonda	118	87.88	18	12.12	132

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Didayi	50	51.55	47	48.45	97
Dongria Kandha	63	78.75	18	21.25	80
Hill Kharia	92	63.45	53	36.55	145
Juang	74	81.32	18	18.68	91
Kutia Kandha	33	73.33	12	26.67	45
Lanjia Saora	108	87.80	15	12.20	123
Lodha	78	67.83	37	32.18	115
Mankidia	29	58.00	21	42.00	50
Paudi Bhuiya	109	83.85	21	18.15	130
Overall	752	74.60	256	25.40	1008

Table 5.7.3: Status of Mothers' knowledge about Colostrum for child health

Ethnic group	Yes	%	No	%	Total
Bonda	93	70.45	39	29.55	132
Didayi	60	61.86	37	38.14	97
Dongria Kandha	56	70.00	24	30.00	80
Hill Kharia	86	59.31	59	40.69	145
Juang	71	78.02	20	21.98	91
Kutia Kandha	30	66.67	15	33.33	45
Lanjia Saora	90	73.18	33	26.83	123
Lodha	74	64.35	41	35.65	115
Mankidia	28	56.00	22	44.00	50
Paudi Bhuiya	89	68.46	41	31.54	130
Overall	677	67.18	331	32.84	1008

Table 5.7.4: Status of initiation of supplementary feeding for children

Ethnic group	Yes	%	No	%	Total
Bonda	80	60.61	52	39.39	132
Didayi	67	69.07	30	30.93	97
Dongria Kandha	55	68.75	25	31.25	80
Hill Kharia	126	86.90	19	13.10	145
Juang	79	86.81	12	13.19	91

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Kutia Kandha	32	71.11	13	28.89	45
Lanjia Saora	104	84.55	19	15.45	123
Lodha	102	88.70	13	11.30	115
Mankidia	33	66.00	18	34.00	50
Paudi Bhuiya	118	89.23	14	10.77	130
Overall	794	78.77	214	21.23	1008

Table 5.8.1: Types of delivery by places

Ethnic group	Home	%	Institutional	%	Total
Bonda	75	56.82	57	43.18	132
Didayi	49	50.52	48	49.48	97
Dongria Kandha	29	36.25	51	63.75	80
Hill Kharia	78	53.79	67	46.21	145
Juang	76	83.52	15	18.48	91
Kutia Kandha	28	62.22	18	37.78	45
Lanjia Saora	82	66.67	41	33.33	123
Lodha	72	62.61	43	37.39	115
Mankidia	26	52.00	24	48.00	50
Paudi Bhuiya	77	59.23	53	40.77	130
Overall	592	58.73	418	41.27	1008

Table 5.8.2: Status of support for delivery by different health workers and family members

Ethnic group	Midwife	%	Asha worker	%	ANM	%	Mother-in-law	%	Total
Bonda	31	40.26	18	23.38	7	9.09	21	27.27	77
Didayi	39	65.00	8	13.33	7	11.67	6	10.00	60
Dongria Kandha	2	6.06	12	36.36	0	0.00	19	57.58	33
Hill Kharia	59	58.42	34	33.66	2	1.98	6	5.94	101
Juang	52	57.14	12	13.19	25	27.47	2	2.20	91
Kutia Kandha	2	5.13	5	12.82	1	2.56	31	79.49	39
Lanjia Saora	11	18.18	6	8.82	0	0.00	51	75.00	68
Lodha	44	57.89	20	26.32	0	0.00	12	15.79	76
Mankidia	18	58.62	9	31.03	0	0.00	3	10.34	29
Paudi Bhuiya	22	20.56	35	32.71	1	0.93	49	45.79	107
Overall	279	40.97	159	23.35	43	6.31	200	29.37	681

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Table 5.8.3: Status of normal and C-section delivery

Ethnic group	Normal delivery	%	C-section delivery	%	Total
Bonda	103	97.18	3	2.83	106
Didayi	70	92.11	6	7.89	76
Dongria Kandha	70	97.22	2	2.78	72
Hill Kharia	137	98.56	2	1.44	139
Juang	52	81.25	12	18.75	64
Kutia Kandha	53	98.15	1	1.85	54
Lanjia Saora	104	97.20	3	2.80	107
Lodha	96	96.00	4	4.00	100
Mankidia	43	97.73	1	2.27	44
Paudi Bhuiya	122	98.39	2	1.61	124
Overall	850	95.94	36	4.06	886

Table 5.8.4: Status of maternal health complication during/after delivery

Ethnic group	Yes	%	No	%	Total
Bonda	20	18.18	90	81.82	110
Didayi	8	10.67	67	89.33	75
Dongria Kandha	12	18.46	53	81.54	65
Hill Kharia	14	10.37	121	89.63	135
Kutia Kandha	5	11.11	40	88.89	45
Lodha	18	18.18	81	81.82	99
Mankidia	4	9.09	40	90.91	44
Paudi Bhuiya	5	4.95	96	95.05	101
Lanjia Saora	7	6.31	104	93.69	111
Juang	27	29.67	64	70.33	91
Overall	120	13.70	756	86.30	876

Table 5.8.5: Status of incidences of premature delivery among PVTG mothers

Ethnic group	Yes	%	No	%	Total
Bonda	8	9.09	80	90.91	88
Didayi	1	2.70	36	97.30	37
Dongria Kandha	6	9.38	58	90.63	64

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Hill Kharia	9	8.18	101	91.82	110
Juang	4	4.40	87	95.60	91
Kutia Kandha	3	7.50	37	92.50	40
Lanjia Saora	1	0.92	108	99.08	109
Lodha	5	6.49	72	93.51	77
Mankidia	3	6.82	41	93.18	44
Paudi Bhuiya	1	0.90	110	99.10	111
Overall	41	5.32	730	94.68	771

Table 5.8.6: Status of average number of miscarriage(s) among PVTG mothers

Ethnic group	Mothers	Miscarriage(s)	Mean
Bonda	132	21	0.18
Didayi	97	19	0.20
Dongria Kandha	80	10	0.13
Hill Khadia	145	13	0.09
Juang	91	4	0.04
Kutia Kandha	45	8	0.18
Lanjia Saora	123	18	0.14
Lodha	115	18	0.14
Mankidia	50	5	0.10
Paudi Bhuiya	130	3	0.02
Overall	1008	118	0.12

Table 5.8.7: Status of average number of abortion/s among PVTG mothers

Ethnic group	Mothers	Abortion/s	Mean
Bonda	132	4	0.03
Didayi	97	4	0.04
Dongria Kandha	80	2	0.03
Hill Khadia	145	1	0.01
Juang	91	0	0.00
Kutia Kandha	45	2	0.04
Lanjia Saora	123	2	0.02

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Lodha	115	1	0.01
Mankidia	50	2	0.04
Paudi Bhuiya	130	0	0.00
Overall	1008	18	0.02

Table 5.8.8: Status of average number of stillbirth(s) of PVTGs mothers

Ethnic group	Mothers	Stillbirth(s)	Mean
Bonda	132	46	0.35
Didayi	97	7	0.07
Dongria Kandha	80	6	0.08
Hill Khadia	145	5	0.03
Juang	91	3	0.03
Kutia Kandha	45	5	0.11
Lanjia Saora	123	8	0.07
Lodha	115	3	0.03
Mankidia	50	0	0.00
Paudi Bhuiya	130	7	0.05
Overall	1008	90	0.09

Table 5.8.9: Status of average number of pregnancies of PVTGs' mothers

Ethnic group	Mothers	Pregnancies	Mean
Bonda	132	387	2.93
Didayi	97	309	3.19
Dongria Kandha	80	221	2.76
Hill Khadia	145	418	2.87
Juang	91	221	2.42
Kutia Kandha	45	146	3.24
Lanjia Saora	123	331	2.69
Lodha	115	334	2.90
Mankidia	50	127	2.54
Paudi Bhuiya	130	391	3.01
Overall	1008	2883	2.86

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Table 5.8.10: Status of average number of surviving children of PVTGs' mothers

Ethnic group	Women	Surviving	Mean
Bonda	132	303	2.30
Didayi	97	253	2.61
Dongria Kandha	80	184	2.18
Hill Khadia	145	324	2.23
Juang	91	196	2.15
Kutia Kandha	45	104	2.31
Lanjia Saora	123	282	2.29
Lodha	115	270	2.35
Mankidia	50	111	2.22
Paudi Bhuiya	130	276	2.12
Overall	1008	2293	2.27

Table 5.9.1: Status of average birth weight of PVTGs' children

Ethnic group	Child	Mean	SD
Bonda	186	2.36	0.54
Didayi	133	2.41	0.52
Dongria Kandha	137	2.54	0.30
Hill Khadia	257	2.46	0.42
Juang	87	2.57	0.56
Kutia Kandha	80	2.56	0.35
Lanjia Saora	81	2.60	0.50
Lodha	250	2.40	0.38
Mankidia	77	2.61	0.46
Paudi Bhuiya	36	2.49	0.55
Overall	1304	2.47	0.45

Table 5.9.2: Status of frequency of Low Birth Weight (LBW)

Ethnic group	Birth Weight Classification						Total
	ELBW	%	VLBW	%	NBW	%	
Bonda	4	2.41	83	50.00	79	47.59	186
Didayi	2	1.50	68	51.13	63	47.37	133

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Dongria Kandha	1	0.73	35	25.55	101	73.72	137
Hill Khadia	1	0.39	85	33.07	181	66.54	257
Juang	0	0.00	32	36.78	55	63.22	87
Kutia Kandha	0	0.00	22	27.50	58	72.50	80
Lanjia Saora	0	0.00	29	35.80	52	64.20	81
Lodha	3	1.20	102	40.80	145	58.00	250
Mankidia	1	1.30	20	25.97	56	72.73	77
Paudi Bhuiya	1	2.78	10	27.78	25	69.44	36
Overall	13	1.00	486	37.27	805	61.73	1304

Extreme Low Birth Weight (ELBW), Very Low Birth Weight (VLBW), and Normal Birth Weight (NBW)

Table 5.10.1: Status of awareness of family planning among PVTGs' families

Ethnic group	Yes	%	No	%	Total
Bonda	60	57.69	44	42.31	104
Didayi	79	81.44	18	18.56	97
Dongria Kandha	38	80.85	9	19.15	47
Hill Kharia	118	88.72	15	11.28	133
Juang	33	36.26	58	63.74	91
Kutia Kandha	40	81.63	9	18.37	49
Lanjia Saora	26	22.41	90	77.59	118
Lodha	91	94.79	5	5.21	96
Mankidia	38	86.36	6	13.64	44
Paudi Bhuiya	63	75.00	21	25.00	84
Overall	586	68.06	275	31.94	861

Table 5.10.2: Status of various source-based awareness about family planning

Ethnic group	Aware of whom								Total
	ANM	%	Asha	%	Doctor	%	Family member	%	
Bonda	10	18.67	31	51.67	3	5.00	18	26.67	60
Didayi	24	31.18	31	40.26	4	5.19	18	23.38	77
Dongria Kandha	12	42.86	14	50.00	1	3.57	1	3.57	28
Hill Khadia	20	18.95	79	66.95	2	1.69	18	14.41	118
Juang	7	21.21	10	30.30	2	6.06	14	42.42	33

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Kutia Kandha	11	27.50	27	67.50	1	2.50	1	2.50	40
Lanjia Saora	7	26.92	8	30.77	3	11.54	8	30.77	26
Lodha	18	18.68	59	64.84	1	1.10	14	15.38	91
Mankidia	7	18.42	20	52.63	1	2.63	10	26.32	38
Paudi Bhuiya	13	20.97	39	62.90	1	1.61	9	14.52	62
Overall	128	22.34	318	55.50	19	3.32	108	18.85	573

Table 5.10.3: Status of attitude toward family planning

Ethnic group	Attitude toward family planning						Total
	Favour	%	Against	%	Do not know	%	
Bonda	57	55.88	13	12.75	32	31.37	102
Didayi	62	63.92	11	11.34	24	24.74	97
Dongria Kandha	23	85.19	2	7.41	2	7.41	27
Hill Khadia	119	92.25	8	6.20	2	1.55	129
Juang	50	54.95	20	21.98	21	23.08	91
Kutia Kandha	24	58.54	7	18.07	10	24.39	41
Lanjia Saora	26	96.30	0	0.00	1	3.70	27
Lodha	88	94.62	1	1.08	4	4.30	93
Mankidia	39	90.70	2	4.65	2	4.65	43
Paudi Bhuiya	67	93.06	1	1.39	4	5.56	72
Overall	555	76.87	65	9.00	102	14.13	722

Table 5.10.4: Status of family planning

Ethnic group	Yes	%	No	%	Total
Bonda	27	27.84	70	72.18	97
Didayi	30	38.46	48	61.54	78
Dongria Kandha	6	25.00	18	75.00	24
Hill Kharia	84	65.12	45	34.88	129
Juang	67	73.63	24	26.37	91
Kutia Kandha	10	21.28	37	78.72	47
Lanjia Saora	34	29.31	82	70.69	118
Lodha	56	56.57	43	43.43	99
Mankidia	28	63.64	18	36.36	44

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Paudi Bhuiya	35	48.61	37	51.39	72
Overall	377	47.30	420	52.70	797

Table 5.10.5: Status of facility type accessed for family planning

Ethnic group	Traditional	%	Modern	%	Total
Bonda	6	22.22	21	77.78	27
Didayi	7	23.33	23	76.67	30
Dongria Kandha	1	18.67	5	83.33	6
Hill Kharia	8	9.52	76	90.48	84
Juang	26	46.43	30	53.57	56
Kutia Kandha	2	20.00	8	80.00	10
Lanjia Saora	11	33.33	22	66.67	33
Lodha	8	14.55	47	85.45	55
Mankidia	2	7.14	26	92.86	28
Paudi Bhuiya	2	5.71	33	94.29	35
Overall	73	20.05	291	79.95	364

CHAPTER – VI

GROWTH, NUTRITIONAL STATUS & HEALTH

6.1. Introduction

Body growth, nutritional status, and health studies are crucial for a country's public health and development strategies for several reasons: Nutritional status is a strong predictor of growth and development, particularly in the first 1000 days of life, and may influence susceptibility to non-communicable diseases in adulthood. Assessing nutritional status through anthropometric measurements, dietary intake, and clinical examinations provides valuable insights into a population's overall health.

The study of physical growth and development also plays a pivotal role in evaluating individuals' overall health, nutritional status, and well-being, especially among marginalised and nutritionally vulnerable populations, such as the PVTGs. In the present research, anthropometric parameters, namely height (or length in younger age groups), weight, Minimum waist circumference, and Body Mass Index (BMI), have been employed as non-invasive, standardised indicators for assessing the nutritional profile and risk of central obesity among PVTG individuals across Odisha. These indicators are widely recognised for their reliability in gauging growth patterns, undernutrition, and overnutrition, particularly among socioeconomically disadvantaged populations (WHO, 2006; de Onis et al., 2007). The present dataset highlights selected anthropometric measures, including age-wise means, medians (50th percentile), standard deviations (SDs), and incremental growth values across the age range of 1 to 18 years, presented in comprehensive tables and line graphs.

6.2.1.1. Body length/height

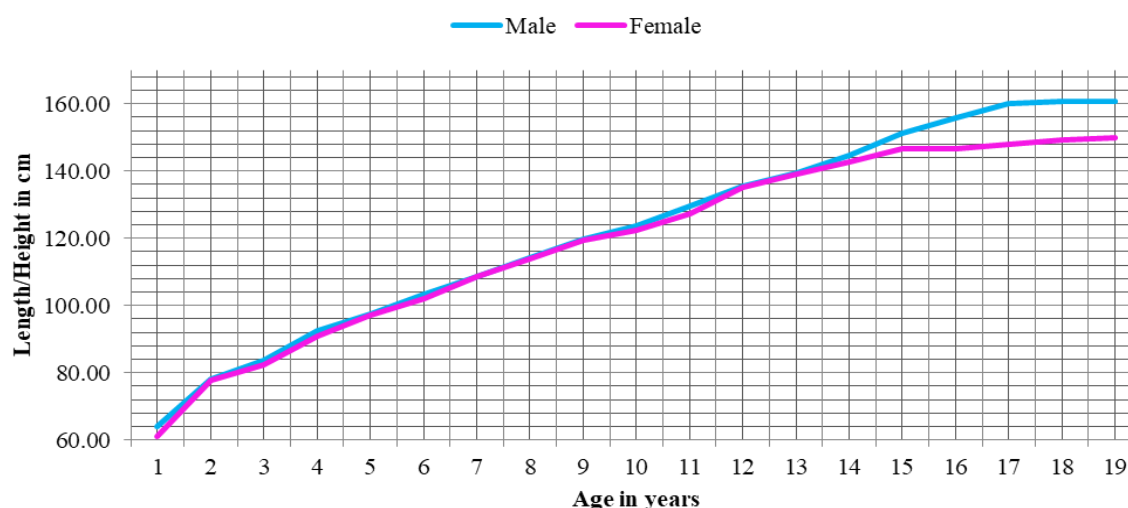


Figure 6.2.1.1.a: Length/Height mean curves for males and females from 1 year to 18 years

The given table 6.2.1.1.1 and figure 6.2.1.1.a present age and sex-specific median, mean, standard deviation (SD), and incremental changes in body length/height for males and females from infancy to 18 years.

In early childhood (1–4 years), both sexes exhibit rapid growth, with males initially showing a higher mean height than females, except at age 1, when females have a higher mean height (77.81 cm vs

78.11 cm). The annual height increment is relatively high, particularly in the first year (14.18 cm for males, 18.73 cm for females), indicating a phase of rapid postnatal growth. However, by age 4, growth begins to slow, with the annual increment dropping to around 4.87 cm for males and 6.28 cm for females.

Between ages 5 and 12, both sexes show a steady increase in height, with males generally maintaining a slight advantage. Notably, at ages 10–12 years, females briefly surpass males in median height, suggesting an earlier onset of puberty. At age 12 years, females have a mean height of 139.11 cm compared to 139.32 cm for males, with a smaller SD (7.38 vs. 10.37), indicating less variation in female height.

A significant divergence in height is observed from ages 13 to 18, with males continuing to grow substantially, while females' height growth slows considerably after 14 years. The pubertal growth spurt is evident in males between 13 and 15 years, with an annual height increment of above 5 cm. In contrast, females experience a peak growth phase at 11–13 years, after which their height gain declines sharply. By age 15, the mean height for males is 155.97 cm, significantly surpassing the female mean of 146.71 cm.

By 18 years, male height reaches a maximum of around 180.75 cm, while females reach 150.02 cm, reflecting the well-documented biological trend of greater adult stature in males. The SD values also suggest more height variability among males than females, especially during adolescence, potentially due to differences in genetic and environmental influences. The final incremental changes at 18–18 years (0.09 cm in males, 0.83 cm in females) confirm the completion of major growth phases.

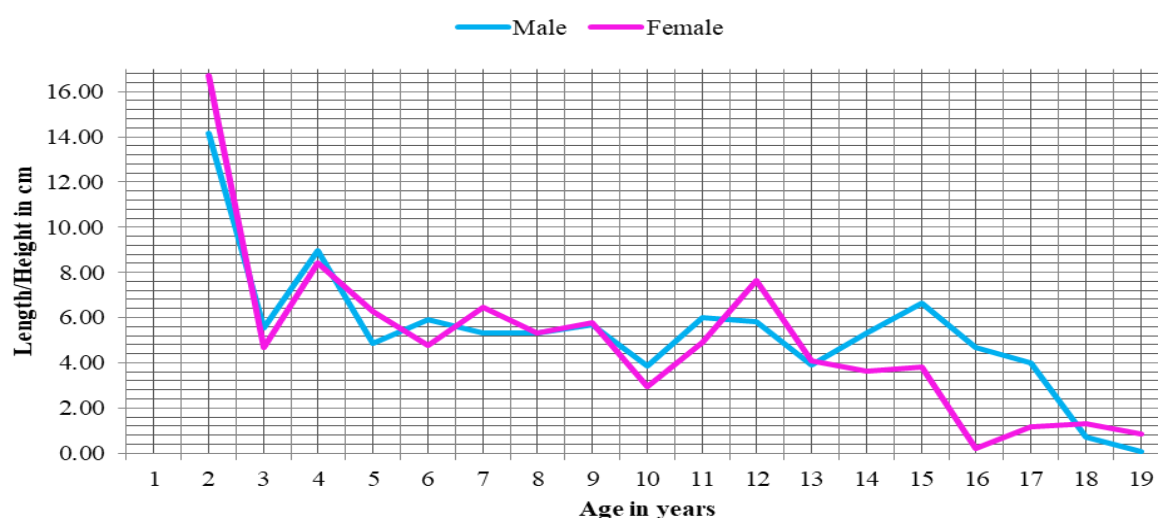


Figure 6.2.1.1.b Length/Height velocity (cm/year) among males and females from 1 year to 18 years

The height velocity curve for males and females from 1 to 18 years provides key insights into growth patterns at different developmental stages (Figure 6.2.1.1.b).

The highest height velocity is observed during infancy (around 1 year), where both males and females exhibit rapid growth. This peak represents the continuation of postnatal growth. However, after this

initial surge, the velocity sharply declines, indicating a slowing rate of height gain. By age 5, growth stabilises at a lower but steady pace.

Between 6 and 10 years, males and females experience relatively stable growth rates with minor fluctuations. The curves remain close together, indicating similar growth patterns before puberty. This phase is often called the childhood steady growth phase, where annual height increments are relatively low but consistent.

A critical divergence occurs around 10–12 years, when females reach peak growth velocity earlier than males. This is a well-known biological phenomenon in which girls enter puberty earlier, leading to accelerated height gain. However, their peak velocity is lower than the male peak velocity, and their growth rate declines earlier.

In contrast, males experience their pubertal growth spurt later, around 13–15 years, with a more prolonged period of increased velocity. This delayed but sustained growth advantage ultimately results in greater adult stature for males.

Beyond 18 years, male and female growth velocities decline sharply, approaching near-zero increments by 18 years, signifying the completion of significant height gains. The earlier stabilisation of female growth further reinforces the biological trend toward shorter adult height in females, driven by earlier epiphyseal plate closure.

The height velocity curve effectively illustrates the earlier, shorter growth spurt in females, contrasted with the delayed but prolonged pubertal growth in males. These trends align with established human growth patterns, driven by hormonal influences of estrogen in females (leading to early plate closure) and testosterone in males (allowing for extended growth).

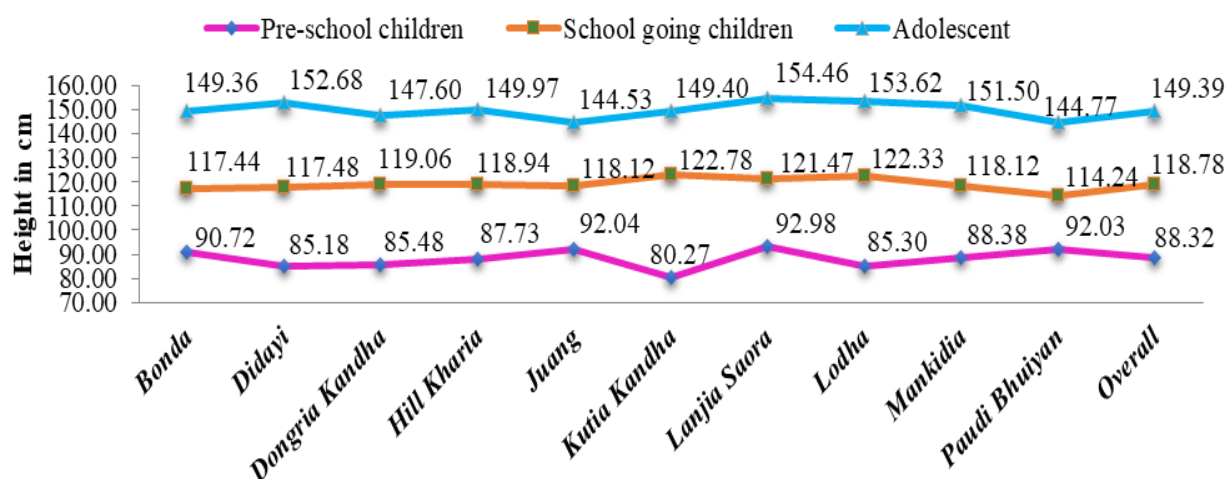


Figure 6.2.1.1.2: Ethnic group-specific mean height increment throughout their age groups among males

Table 6.2.1.1.2 and Figure 6.2.1.1.2 present the mean height of males across three age groups, i.e. pre-school children, school-going children, and adolescents, among 10 Particularly Vulnerable Tribal Groups (PVTGs) in Odisha. The analysis provides insights into growth patterns, inter-ethnic

variations, and potential influencing factors, including genetics, nutrition, and environmental conditions.

Pre-school children's overall mean height is 88.32 cm, with significant inter-ethnic variations. The Kutia Kandha (80.27 cm) exhibit the shortest average height, while the Lanjia Saora (92.98 cm) and Juang (92.04 cm) have the tallest averages. The high standard deviation (SD) across groups (ranging from 7.18 to 21.03) suggests considerable variation within each tribe, possibly due to differences in early childhood nutrition, health conditions, and genetic predispositions.

The overall mean height increases to 118.78 cm in the school-age group, reflecting consistent growth across all ethnic groups. The Kutia Kandha (122.78 cm), Lodha (122.33 cm), and Lanjia Saora (121.5 cm) show slightly higher mean heights compared to others, whereas the Paudi Bhuiyan (114.24 cm) exhibits a relatively lower mean height. The SD values remain moderate, indicating a more uniform growth pattern than the pre-school stage. The minor inter-group differences at this stage suggest common environmental and nutritional factors influencing growth.

The overall mean height increases to 149.39 cm during adolescence, highlighting a significant growth spurt. The Lanjia Saora (154.46 cm), Lodha (153.62 cm), and Didayi (152.68 cm) show the tallest average heights, while the Juang (144.53 cm) and Paudi Bhuiyan (144.77 cm) have the shortest stature. Genetic factors, dietary diversity, and health conditions could influence this variation. This group's relatively high SD (10.22–15.73) suggests individual variations in pubertal growth onset and progression among the different tribes.

The data reveal clear age-related growth trends, with a sharp increase in height from pre-school to adolescence. However, ethnic disparities persist, likely due to differences in genetic potential, dietary habits, and living conditions. The lower heights observed in some groups, such as the Juang and Paudi Bhuiyan, may indicate nutritional stress or health challenges. In contrast, groups like the Lanjia Saora and Lodha show relatively better growth outcomes.

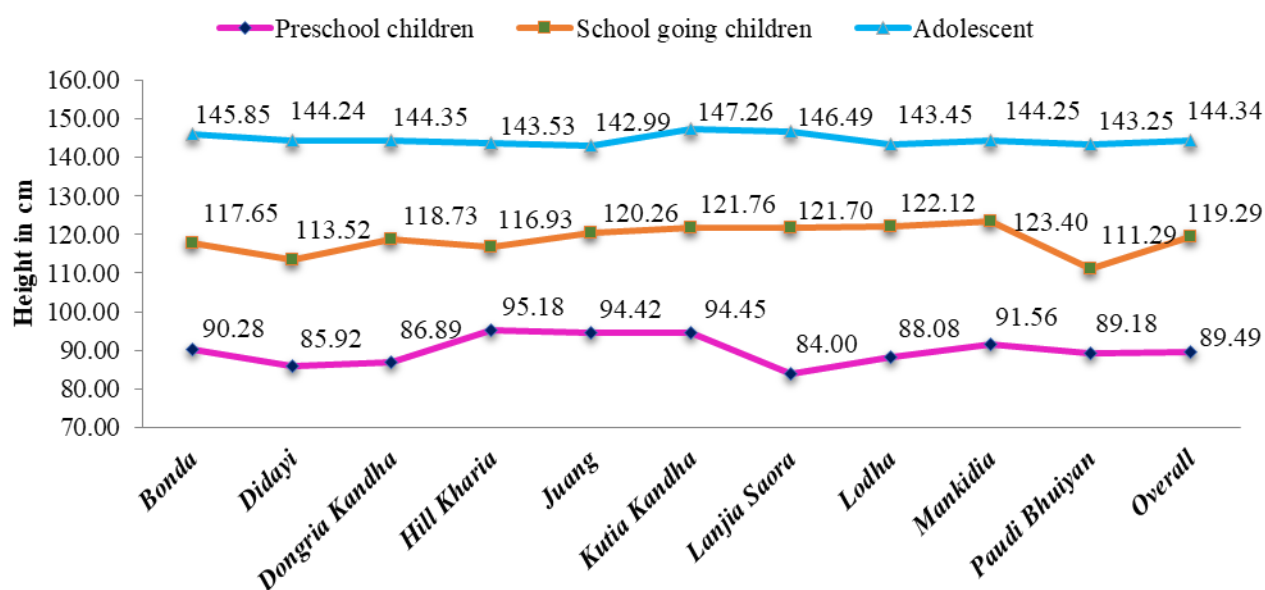


Figure 6.2.1.1.3: Ethnic group-specific mean height increment throughout their age groups among females

The ethnic- and age-group-specific analysis of mean height among female children across various PVTGs reveals distinct growth trajectories, reflecting the intersecting effects of genetics, nutrition, and socio-environmental conditions (Table 6.2.1.1.3 and Figure 6.2.1.1.3).

For preschool children, mean heights range from 84.00 cm in the Lanjia Saora community to 95.18 cm in Hill Kharia, with an overall mean of 89.49 cm. This indicates early disparities due to nutritional deficits or developmental delays. This trend continues among school-aged children, whose heights range from 111.29 cm in Paudi Bhuiyan to 123.40 cm in Mankidia, yielding an overall mean height of 119.29 cm. This suggests a general catch-up in growth, although there is still some variability.

In the adolescent group, heights tend to cluster around 140-150 cm, with measurements like 147.26 cm in Kutia Kandha and 142.99 cm in Juang, yielding an overall mean of 144.34 cm. This narrowing gap during adolescence may reflect a delayed but eventual growth spurt in most groups. However, some communities, such as Kutia Kandha and Lanjia Saora, consistently improve growth outcomes throughout the stages.

The consistently lower height values across groups, such as Juang and Paudi Bhuiyan, suggest chronic undernutrition or intergenerational growth issues. Overall, while height generally improves with age across all groups, the ethnic disparities highlight the necessity for targeted, community-specific nutrition and health interventions to ensure equitable growth and development outcomes for tribal girls.

6.2.1.2. Body weight

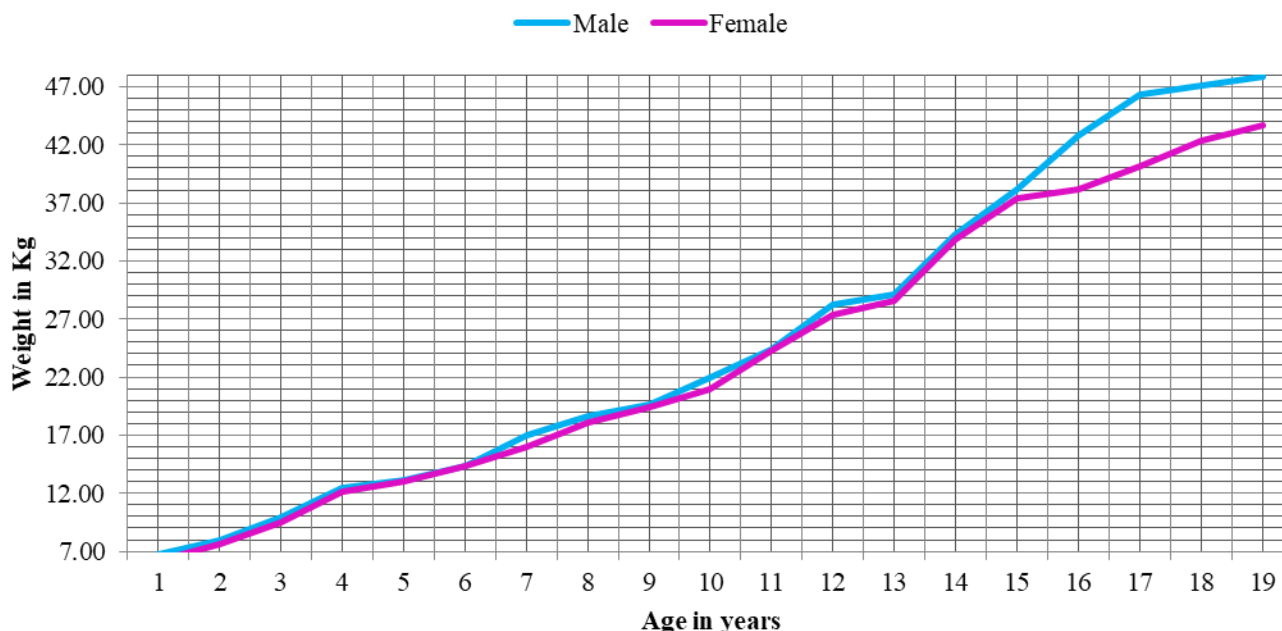


Figure 6.2.1.2.1.a: Weight mean curves for males and females from 1 year to 18 years

Table 6.2.1.2.1 and Figure 6.2.1.2.1.a present the average weight of males across three age groups, pre-school children, school-age children, and adolescents, among 10 PVTGs in Odisha. The analysis

highlights growth patterns, inter-ethnic disparities, and potential influencing factors such as nutrition, health conditions, and genetics.

Pre-school children have an average weight of 11.44 kg, with notable variations across ethnic groups. The Hill Kharia (10.4 kg) and Didayi (10.55 kg) have the lowest mean weights, while the Juang (12.77 kg) and Lanjia Saora (11.91 kg) display relatively higher averages. The SD ranges from 2.26 to 3.78, indicating moderate group variation. These weight differences may be influenced by factors such as early childhood nutrition, breastfeeding practices, and exposure to infections, which significantly impact growth during these formative years.

In the school-age group, the average weight increases to 20.21 kg, reflecting steady growth across all tribes. The Kutia Kandha (22.95 kg), Dongria Kandha (21.37 kg), and Juang (20.97 kg) exhibit higher mean weights, whereas the Paudi Bhuiyan (18.93 kg) and Didayi (18.84 kg) show relatively lower weights. The higher SD values (3.65–6.45) suggest more variability in individual growth patterns, which could be attributed to dietary intake, physical activity, and overall health status.

During adolescence, the average weight increases markedly to 37.95 kg, reflecting the typical puberty growth spurt. Despite this, significant differences remain among the groups. The Lanjia Saora (43.9 kg), Dongria Kandha (40.86 kg), and Mankidia (39.47 kg) have higher average weights, whereas the Paudi Bhuiyan (34.65 kg) and Juang (35.81 kg) maintain lower averages. The high standard deviation (8.69–12.4) suggests considerable variability in the timing and extent of growth during puberty, which may be influenced by genetics, diet quality, and socio-economic status.

The data reveal a clear trend of progressive weight gain with age, but persistent ethnic disparities exist. The Lanjia Saora and Dongria Kandha show comparatively better growth outcomes, while groups such as the Paudi Bhuiyan and Hill Kharia maintain consistently lower weights, likely reflecting nutritional deficits or higher disease burdens. These findings suggest a need for targeted nutritional and healthcare interventions, particularly in early childhood and adolescence, to support healthy growth and development among these vulnerable tribal communities.

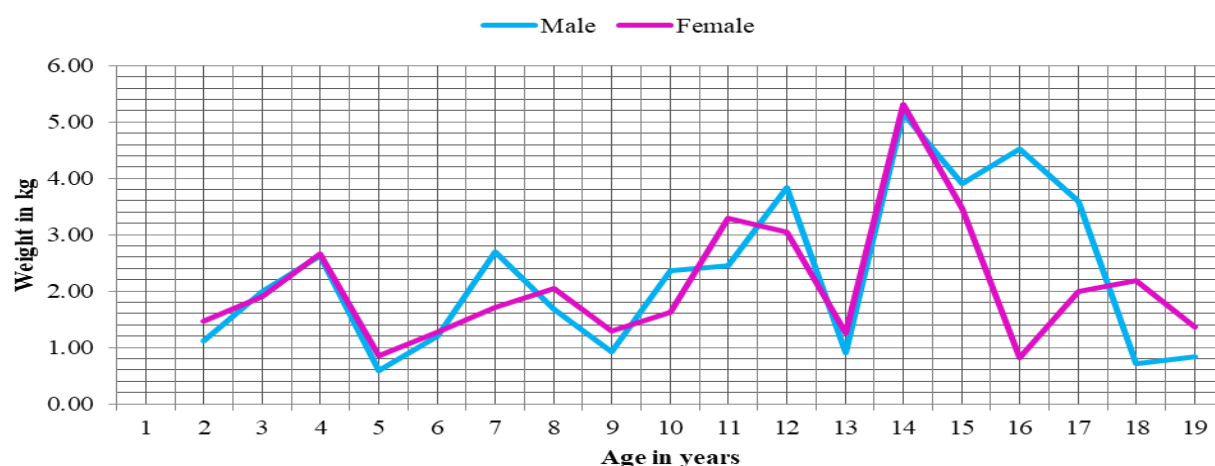


Figure 6.2.1.2.1.b: Weight velocity (kg/year) among males and females from 1 year to 18 years old

Figure 6.2.1.2.1.b depicts the weight velocity curve, which provides insights into the rate of weight gain among males and females from 1 to 18 years, highlighting fluctuations driven by growth spurts, developmental stages, and sex-specific physiological changes.

Weight velocity fluctuates during the first few years of life but remains relatively low and stable. This is expected, as growth slows after infancy following the rapid weight gain of the first year. Both sexes exhibit similar trends in weight velocity during this stage.

Between 6 and 10 years, weight gain remains relatively consistent and moderate, with minor fluctuations. There are no significant sex differences, indicating comparable prepubertal growth patterns in both boys and girls.

A distinct increase in weight velocity is observed during early adolescence, particularly between 10 and 14 years, signifying the pubertal growth spurt. Females tend to show an earlier peak, aligning with earlier pubertal onset. However, males surpass females in weight velocity after age 14, reflecting a delayed but more intense adolescent growth phase.

A notable peak in weight velocity for males appears around 13–15 years, corresponding to their pubertal growth spurt, which is more prolonged than in females. Meanwhile, female weight velocity declines after 14 years, as their growth nears completion earlier than that of males. The high fluctuations in weight velocity during puberty indicate irregular growth spurts, characteristic of adolescent development.

The weight velocity patterns highlight apparent sex-based differences in growth dynamics, particularly during adolescence. Females experience an earlier but shorter growth spurt. In contrast, males exhibit a later but more sustained increase in weight velocity, ultimately resulting in greater weight gain in males by late adolescence.

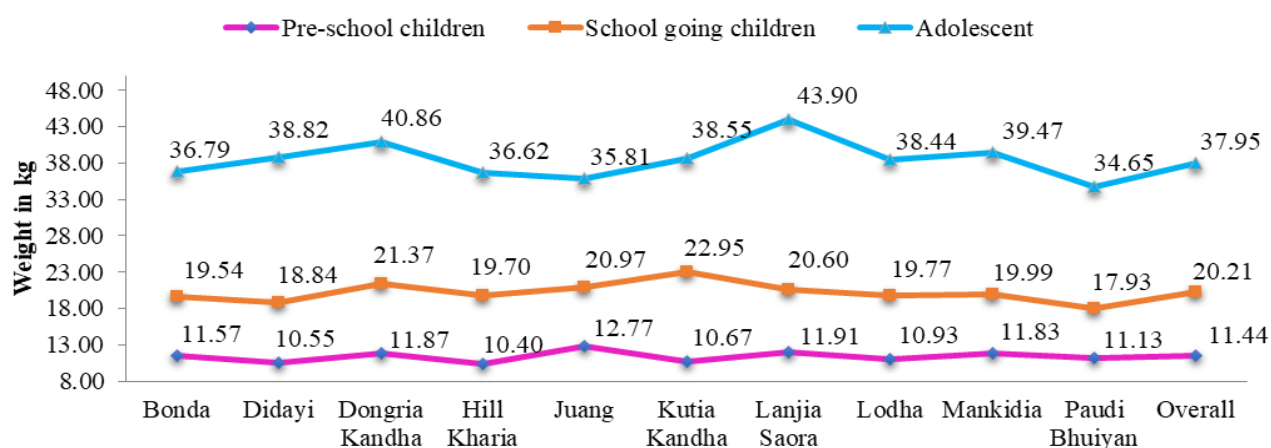


Figure 6.2.1.2.2: Ethnic group-specific mean weight increment throughout their age groups among males

The table and figure 6.2.1.2.2 present the mean weight of males across three age groups, pre-school children, school-going children, and adolescents, among ten Particularly Vulnerable Tribal Groups (PVTGs) in Odisha. The analysis highlights growth patterns, inter-ethnic disparities, and potential influencing factors, including nutrition, health conditions, and genetics.

The overall mean weight for pre-school children is 11.44 kg, with significant variations across ethnic groups. The Hill Kharia (10.4 kg) and Didayi (10.55 kg) have the lowest mean weights, while the Juang (12.77 kg) and Lanjia Saora (11.91 kg) exhibit relatively higher average weights. The standard deviation (SD) ranges from 2.26 to 3.78, indicating moderate group variation.

In the school-age group, the mean weight increases to 20.21 kg, reflecting steady growth across all tribes. The Kutia Kandha (22.95 kg), Dongria Kandha (21.37 kg), and Juang (20.97 kg) show higher mean weights, whereas the Paudi Bhuiyan (18.93 kg) and Didayi (18.84 kg) have relatively lower weights. The higher SD values (ranging from 3.65 to 6.45) suggest greater variation in individual growth patterns, which could be influenced by dietary intake, physical activity, and health status.

During adolescence, the overall mean weight rises significantly to 37.95 kg, demonstrating the expected growth spurt associated with puberty. However, considerable inter-group differences remain. The Lanjia Saora (43.9 kg), Dongria Kandha (40.86 kg), and Mankidia (39.47 kg) have higher mean weights, while the Paudi Bhuiyan (34.65 kg) and Juang (35.81 kg) continue to show lower average weights. The relatively high SD (ranging from 8.69 to 12.4) indicates variation in the timing and magnitude of pubertal growth, potentially linked to genetic factors, dietary quality, and socio-economic conditions.

The data indicate progressive weight gain with age, yet ethnic disparities persist. The Lanjia Saora and Dongria Kandha display better growth outcomes, whereas groups such as the Paudi Bhuiyan and Hill Kharia consistently show lower weights. This may reflect nutritional deficits or a higher disease burden. The findings suggest a need for targeted nutritional and healthcare interventions, especially during early childhood and adolescence, to support healthy growth and development among vulnerable tribal communities.

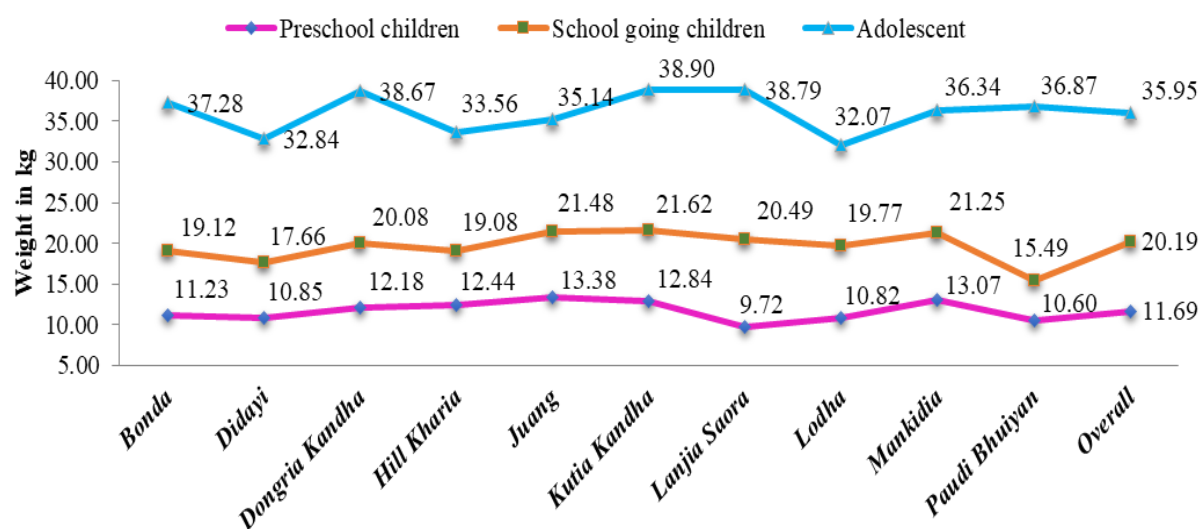


Figure 6.2.1.2.3: Ethnic group-specific mean weight increment throughout their age groups among males

The analysis of mean body weight among female children from Particularly Vulnerable Tribal Groups (PVTGs) shows age-related trends and persistent differences between groups (see Table and Figure 6.2.1.2.3). In the preschool age group, mean weights range from 9.72 kg in the Lanjia Saora to 13.38 kg in the Juang group, with an average of 11.69 kg. This indicates a significant level of undernutrition in early childhood, particularly among groups like Lanjia Saora, Didayi, and Paudi Bhuiyan. The low

weight values and high standard deviations suggest a diverse range of nutritional statuses within and among these groups.

For school-age girls, the mean weight increases significantly to 20.19 kg. However, considerable variation remains, with weights ranging from 15.49 kg in the Paudi Bhuiyan to over 21 kg in groups such as Juang, Kutia Kandha, and Mankidia. This disparity may reflect differences in household food security, dietary practices, or access to health services.

In the adolescent group, average weights rise further to 35.95 kg. Some groups, like Kutia Kandha and Lanjia Saora, approach or exceed 38 kg, while others, such as Didayi and Lodha, remain below 33 kg. This suggests ongoing nutritional stress or stunting during critical developmental years.

The variation in weight gain across ages and ethnicities underscores the complex relationships among socio-economic, cultural, and ecological factors that affect health. These findings highlight the urgent need for targeted nutritional interventions addressing acute and chronic undernutrition in these vulnerable populations.

6.2.1.3. Growth of Body Mass Index (BMI)

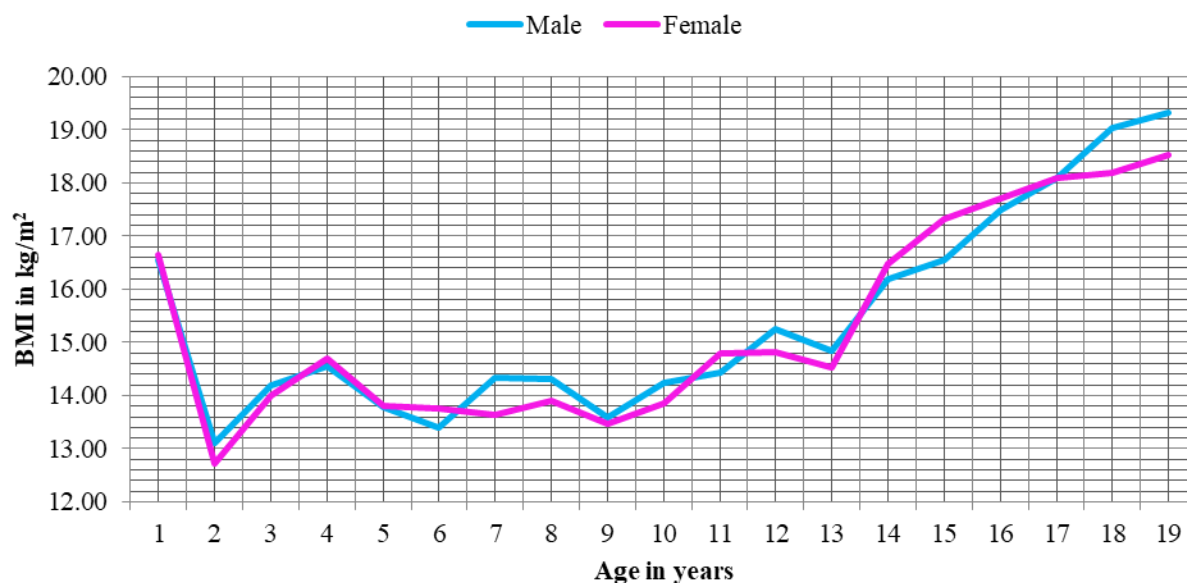


Figure 6.2.1.3.1.a: BMI mean curves (kg/year) among males and females from 1 year to 18 years old

The Body Mass Index (BMI) trends across age groups provide valuable insights into growth patterns, nutritional status, and sex-based variations (see Table 6.2.1.3.1 and Figure 6.2.1.3.1). The data for both males and females demonstrate fluctuating increments in BMI, particularly during early childhood and adolescence, which correspond to key developmental and pubertal phases.

A significant decline in BMI is observed from infancy (1–11 months) to 1 year, with a sharp decrease of -3.43 kg/m² for males and -3.92 kg/m² for females. This drop reflects the natural shift from rapid infant growth to slower weight gain during toddlerhood. BMI remains relatively stable, with minor

fluctuations between 2 and 5 years, consistent with a steady increase in height without proportionate weight gain during early childhood.

From 6 to 12 years, BMI gradually increases in both sexes, though incremental changes remain relatively small. A mild dip at 8 years is seen in both sexes, suggesting periodic shifts in body composition. However, the increase from 10 to 12 years is more pronounced, particularly in females, indicating the beginning of the pubertal transition.

Adolescence marks the most significant phase of BMI growth, particularly in females. At 13 years, the BMI increment for females (1.94 kg/m²) is higher than that for males (1.36 kg/m²), indicating the onset of puberty in girls at an earlier age. By age 14, females have higher median and mean BMI than males, suggesting greater body mass accumulation due to hormonal changes and increased fat deposition.

In males, BMI steadily increases from 13 to 18 years, with gradual increases beyond 15 years. The peak BMI increase in males (1.36 kg/m² at 13 years) occurs slightly later than in females, consistent with the delayed onset of male puberty. By age 18, males reach a higher mean BMI (19.31 kg/m²) than females (18.53 kg/m²), reflecting their increased muscle mass and overall larger body size.

The BMI trends highlight key sex differences in growth patterns. Females experience an earlier and steeper increase in BMI during puberty, while males exhibit a more prolonged and steady increase in late adolescence, ultimately leading to a higher BMI at 18. Hormonal changes, shifts in body composition, and pubertal timing primarily drive these differences. The overall trends also indicate that both sexes exhibit a gradual, healthy increase in BMI throughout development, with no extreme fluctuations indicative of malnutrition or obesity.

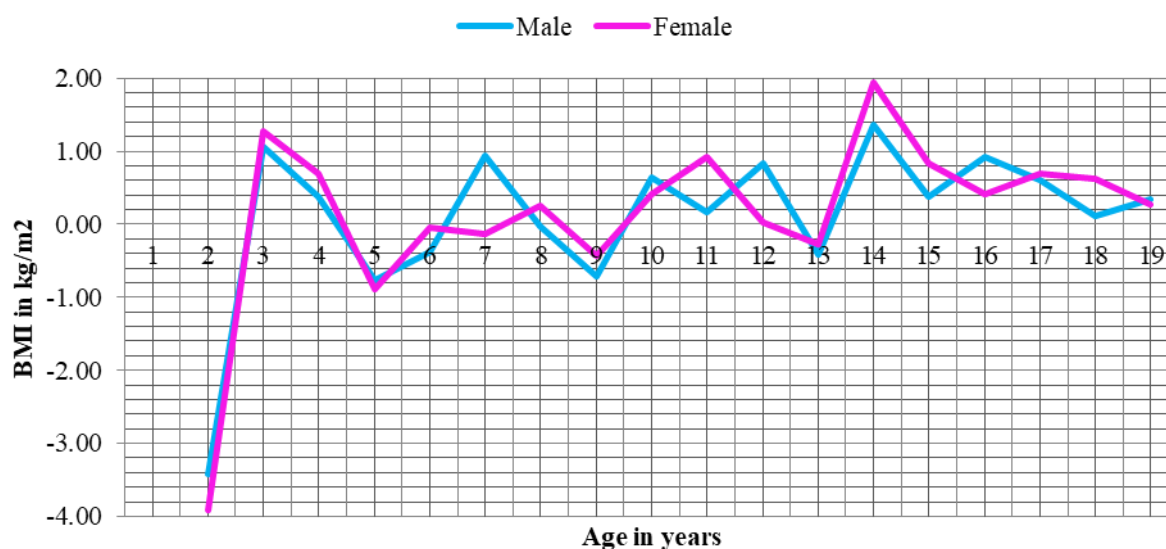


Figure 6.2.1.3.1.b: Weight velocity (kg/year) among males and females from 1 year to 18 years old

The weight velocity curve illustrates the annual weight gain among males and females aged 1 to 18 years, capturing key growth phases and gender-specific differences (Figure 6.2.1.3.1.b). The trend exhibits sharp fluctuations, reflecting periods of rapid weight gain interspersed with slower growth phases, characteristic of human development.

A steep initial rise in weight velocity is evident during the first year of life, corresponding to the rapid growth typically observed in infancy. However, this is followed by a gradual decline after 1 year, which aligns with the natural deceleration of growth as children transition from infancy to early childhood. The fluctuations in weight gain during this period are relatively minor, indicating consistent but slower growth compared to infancy.

The weight velocity remains moderate and relatively stable between ages 6 and 12 years, with both males and females following a similar trajectory. However, some fluctuations are visible, likely due to individual differences in growth spurts and external factors such as nutrition and physical activity levels.

Both sexes experience a surge in weight velocity during adolescence, reflecting pubertal growth acceleration. Females generally exhibit an earlier increase in weight velocity, consistent with earlier puberty onset. However, males eventually surpass females, indicating greater accumulation of lean muscle mass in boys. The curve also highlights considerable fluctuations during these years, which can be attributed to variations in growth spurts among individuals.

The weight velocity pattern reveals age-specific and sex-specific growth trends, with a rapid increase in infancy, moderate stability in middle childhood, and significant fluctuations during adolescence. The early, higher weight gain in females and the late-adolescent surge in males reflect pubertal timing and hormonal influences. The variability in the weight velocity curve is expected, as growth does not occur at a constant rate but rather in spurts influenced by genetics, nutrition, and environmental factors.

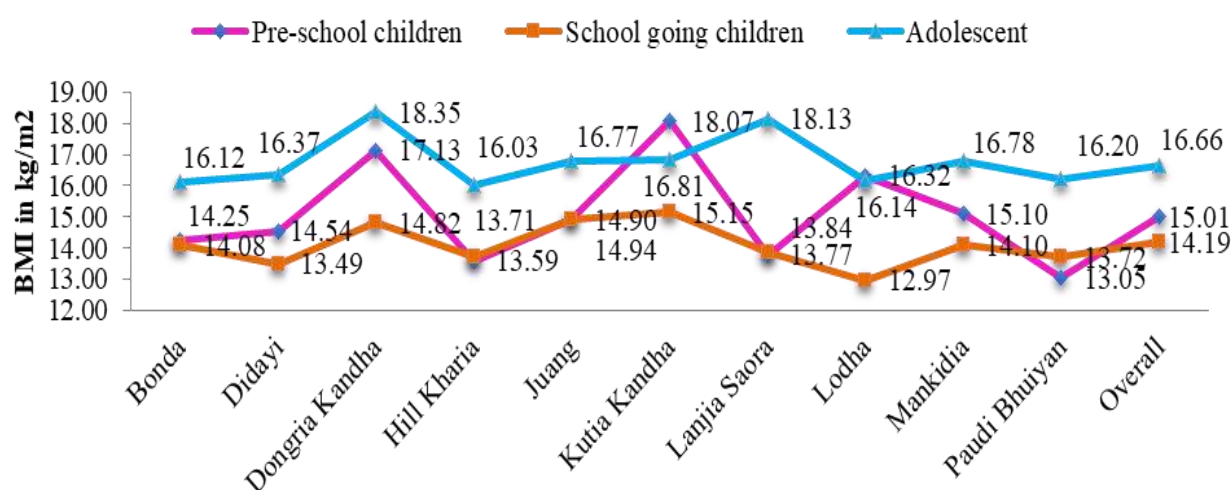


Figure 6.2.1.3.2: Status of ethnic group-specific mean BMI increment throughout their age groups among males

The table and figure 6.2.1.3.2 present data that provide insights into Body Mass Index (BMI) variations among male individuals across three age groups: pre-school children, school-going children, and adolescents from ten Particularly Vulnerable Tribal Groups (PVTGs) in Odisha. BMI is a key indicator of nutritional status, growth patterns, and overall health, and its variations across different ethnic groups reflect underlying dietary, socio-economic, and genetic influences.

Pre-school children's overall mean BMI is 15.01 kg/m², with noticeable variations across groups. The Kutia Kandha (18.07 kg/m²) and Dongria Kandha (18.13 kg/m²) exhibit higher BMI values. In contrast,

the Paudi Bhuiyan (13.05 kg/m²) and Hill Kharia (13.59 kg/m²) have the lowest BMI values. The standard deviation (SD) is relatively high (up to 7.47 in Kutia Kandha and 6.30 in Lodha), suggesting considerable individual variations in growth patterns within these ethnic groups.

Among school-going children, the overall mean BMI decreases slightly to 14.19 kg/m², with Dongria Kandha (14.82 kg/m²), Juang (14.94 kg/m²), and Kutia Kandha (15.15 kg/m²) maintaining higher BMI values. However, the Lodha (12.97 kg/m²) and Didayi (13.49 kg/m²) reports lower BMI values. The lower SD values (1.51–2.18) suggest greater uniformity in BMI distribution among individuals compared to preschool children.

During adolescence, the mean BMI increases to 18.66 kg/m², reflecting pubertal growth and increased muscle mass. The Dongria Kandha (18.35 kg/m²) and Lanjia Saora (18.13 kg/m²) have the highest BMI values. On the other hand, the Hill Kharia (18.03 kg/m²) and Paudi Bhuiyan (18.20 kg/m²) remain on the lower side, potentially reflecting persistent nutritional deficits. The moderate SD values (1.99–3.31) suggest that individuals in this age category exhibit divergent growth trajectories.

The BMI trends across age groups indicate gradual growth and development. However, ethnic disparities persist. The data underscores the need for targeted nutritional interventions, particularly for ethnic groups with consistently lower BMI values, to ensure better growth outcomes and reduce the risk of undernutrition-related health problems.

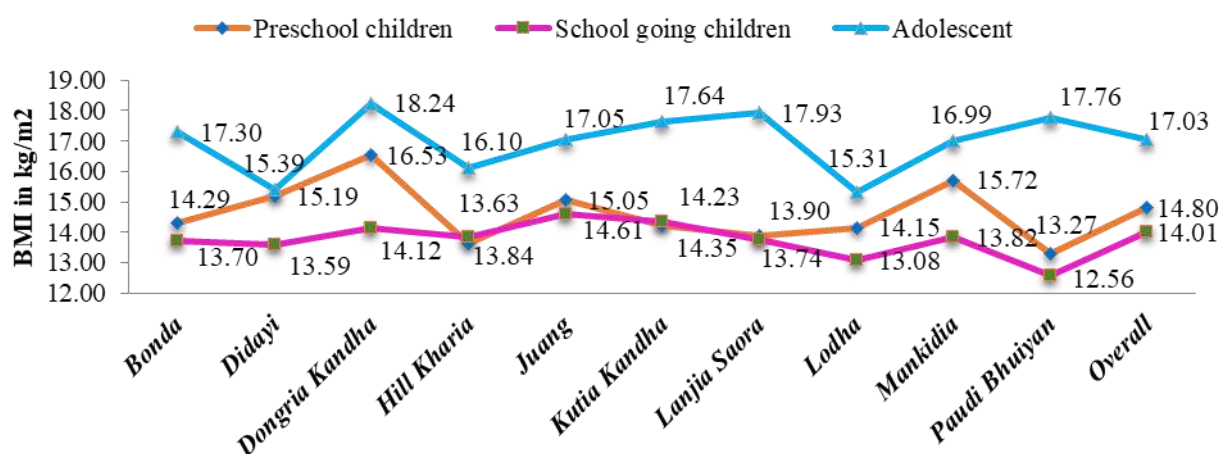


Figure 6.2.1.3.3: Ethnic group-specific mean BMI increment throughout their age groups among females

The patterns of Body Mass Index (BMI) among female children and adolescents from various PVTGs show a gradual increase with age, but also highlight ongoing nutritional inequalities across different ethnic groups (see Table & Figure 6.2.1.3.3).

For preschool children, the overall mean BMI is 14.80 kg/m², but there is significant variation: it ranges from 13.27 kg/m² in Paudi Bhuiyan to 18.53 kg/m² in Dongria Kandha. These disparities may reflect differences in early childhood feeding practices, infection rates, and access to healthcare services.

In the school-age group, the overall mean BMI declines slightly to 14.01 kg/m², with most groups clustered around the threshold for undernutrition (BMI < 14.5 kg/m²). Once again, the Paudi Bhuiyan girls show the lowest mean BMI at 12.56 kg/m², indicating chronic undernourishment. This stage may

represent a critical period of vulnerability, especially for girls, as their nutritional status significantly influences pubertal development and future reproductive health.

Among adolescents, the mean BMI rises to 18.03 kg/m², approaching normal BMI ranges; however, group variation persists. Dongria Kandha (18.24 kg/m²), Lanjia Saora (18.93 kg/m²), and Paudi Bhuiyan (18.76 kg/m²) achieve comparatively healthier levels, while groups such as Didayi (15.39 kg/m²) and Lodha (15.31 kg/m²) remain notably lower. These findings suggest ongoing nutritional deficiencies and potentially delayed puberty growth spurts in specific groups. The high standard deviations across all age categories further underscore intra-group inequalities, likely linked to socioeconomic diversity, household food security, and gender-based differences in care.

6.2.2. “Weight-for-Height z-score (WHZ)”, “Weight-for-Age z-score (WAZ)” and “Height-for-Age z-score (HAZ)”:

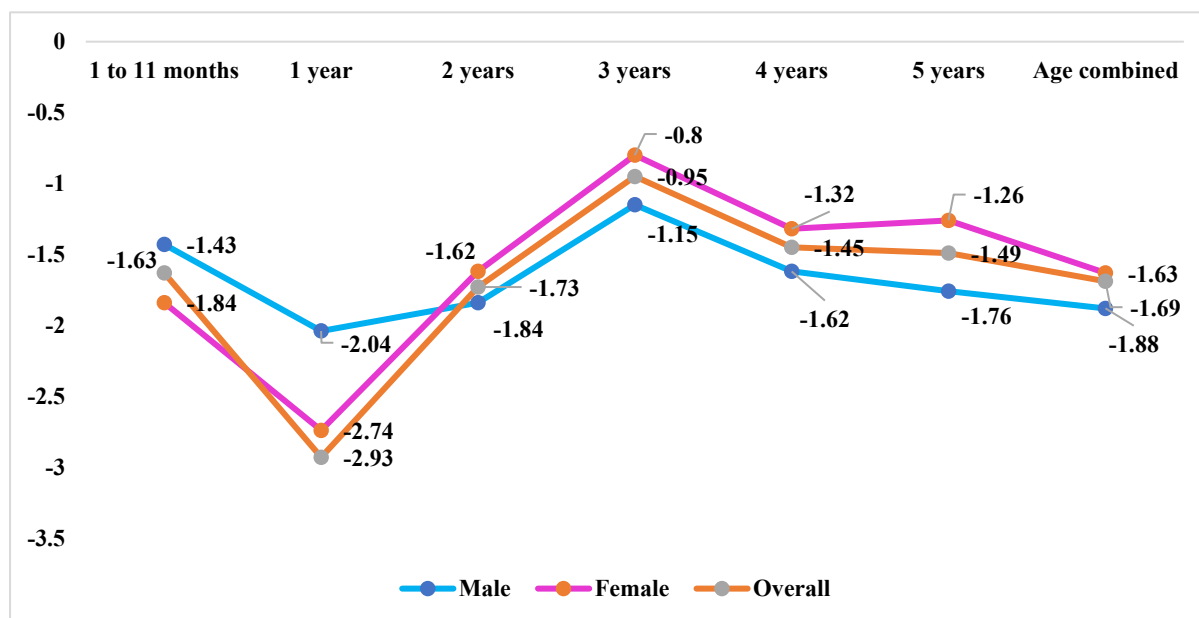


Figure 6.2.2.1.1: Status of weight-for-Height Z-score among the preschool children

The ages and gender-specific analysis of Weight-for-Height Z-scores (WHZ) in Table and Figure 6.2.2.1.1 provide critical insights into the acute nutritional status of PVTG preschool children. The overall mean WHZ of -1.69 (SD = 2.07) indicates that, on average, children in this population experience moderate wasting compared to the WHO reference median (Z-score = 0). Gender disparities are evident, with male children exhibiting a lower mean WHZ (-1.88) compared to females (-1.63), suggesting a higher susceptibility to acute malnutrition among boys. Age-wise, the most severe deficits occur in one-year-old children, where females (-2.74) have a lower mean WHZ than males (-2.04), highlighting a critical period of vulnerability, likely due to inadequate complementary feeding practices and post-weaning nutritional gaps. A notable improvement is observed at age three (-0.95 overall). However, this positive trend is not sustained, as WHZ values decline again in older children, indicating potential issues with sustained dietary adequacy or increased exposure to infections. The standard deviations remain relatively high across all age groups, reflecting significant variability in nutritional outcomes, possibly due to disparities in household food security, healthcare access, and

feeding practices. These findings emphasise the need for urgent, targeted interventions, particularly focusing on the first two years of life, when acute malnutrition is most severe, and gender-sensitive approaches to address the heightened risk among male children.

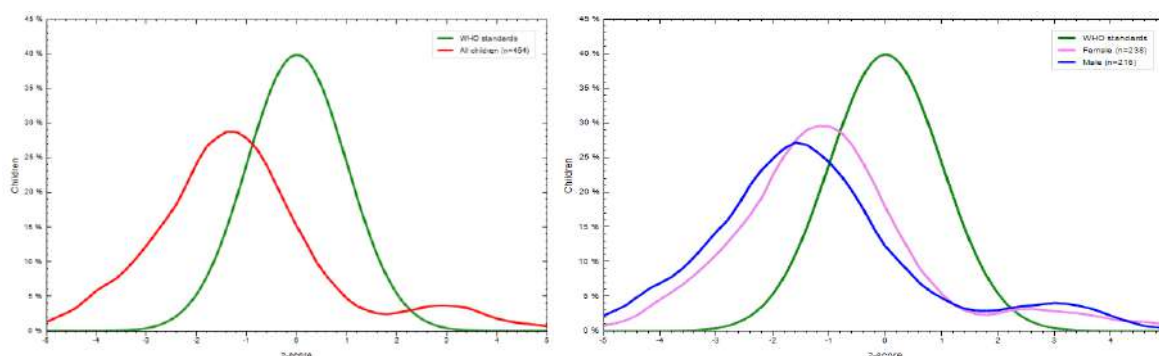


Figure 6.2.2.1.1.a: Distribution of Weight for Height Z-score of PVTGs preschool children

Figure 6.2.2.1.1.b: Gender specific distribution of Weight for Height Z-score of PVTGs preschool children

The Z-score distribution of Weight-for-Height (WHZ) among PVTG preschool children, as illustrated in Figure 6.2.2.1.1. a and 6.2.2.1.1.b, provide compelling evidence that their nutritional status deviates significantly from the WHO 2006 reference population. This is further supported by the mean WHZ Z-score of -1.69 (4.55th percentile), which is notably distant from the WHO median (Z-score = 0), underscoring the widespread burden of acute undernutrition. The figures also reveal that the WHZ distribution is symmetrical across both genders, suggesting a consistent pattern of nutritional deficiency. However, a closer examination indicates a slight leftward shift in the mean Z-score for males compared with females, suggesting that male children may be at a higher risk of wasting. Despite these differences, the distributions for both genders exhibit near-mesokurtic tendencies, meaning they closely resemble a normal distribution in terms of peak sharpness and tail weight. These findings highlight the urgent need for targeted nutritional interventions, with particular attention to the heightened vulnerability among male children, to bridge the gap between PVTG preschoolers and global nutritional standards.

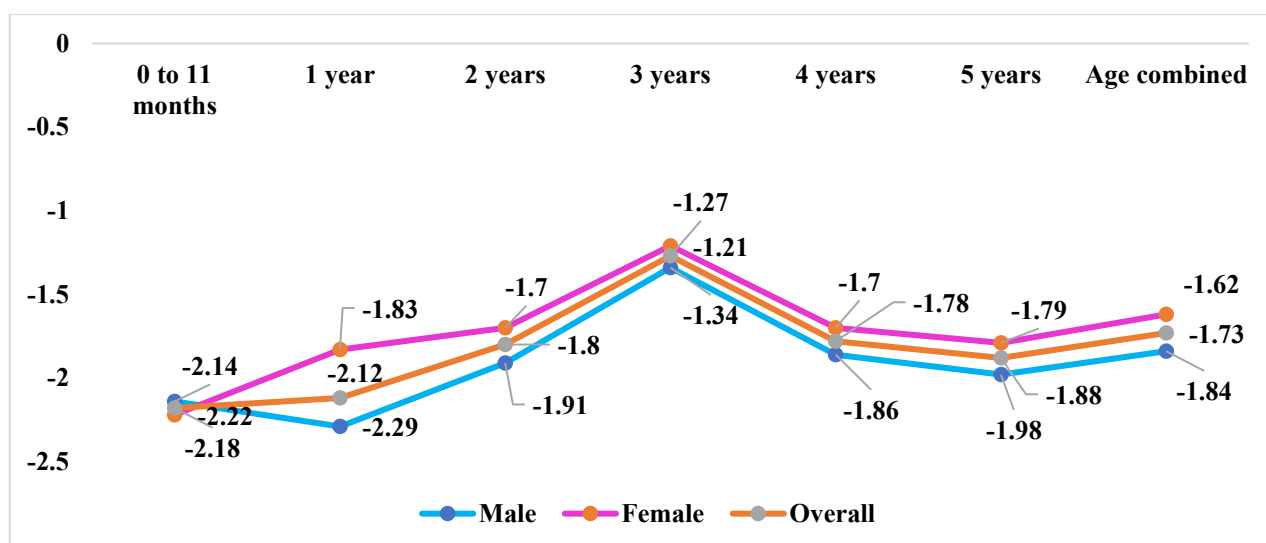


Figure 6.2.2.1.2: Weight-for-Age Z-score among the preschool children

The age- and gender-specific analysis of Weight-for-Age Z-scores (WAZ) among PVTG preschool children, as presented in Table 6.2.2.1.2 and Figure 6.2.2.1.2, underscores a persistent trend of undernutrition across all age groups. The overall mean WAZ of -1.73 (SD = 1.37) is significantly below the WHO reference median (Z-score = 0), indicating chronic undernutrition in this population. A gendered perspective reveals that male children consistently exhibit lower mean WAZ scores than their female counterparts, with an overall mean of -1.84 for males versus -1.62 for females. This suggests a slightly greater nutritional vulnerability among boys. Age-wise, the most severe weight deficits are observed in infants (0–11 months: -2.18) and one-year-olds (-2.12). Notably, three-year-olds exhibit a relative improvement (-1.27), yet the trend reverses in older age groups, with four- and five-year-olds experiencing worsening nutritional deficits. The narrowing standard deviation across older groups implies reduced variability, possibly due to the stabilisation of chronic undernutrition. These findings highlight the urgency for age-specific nutritional interventions, particularly targeting infants and toddlers, alongside gender-responsive strategies to address the greater risk observed in male children.

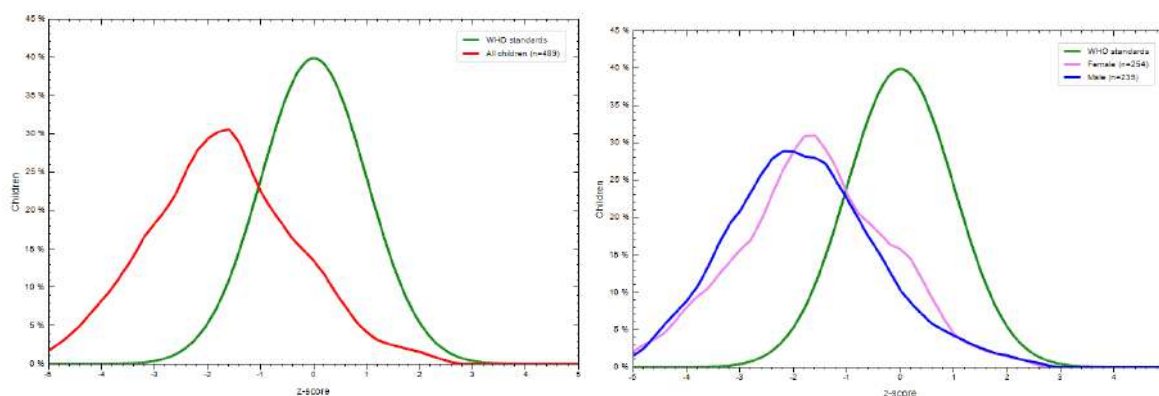


Figure 6.2.2.1.2.a: Distribution of Weight for age Z-score of PVTGs preschool children

Figure 6.2.2.1.2.b: Gender specific distribution of Weight for age Z-score of PVTGs preschool children

The Kernel density plots clearly visualise the distribution of Weight-for-Age Z-score (WAZ) among PVTG preschool children, highlighting significant deviations from the WHO 2006 reference population (figures 6.2.2.1.2.a and 6.2.2.1.2.b). The observed mean WAZ of -1.73 (4.18th percentile) underscores a substantial burden of chronic undernutrition, as the distribution remains notably distant from the WHO median (Z-score = 0). The figures also reveal that the WAZ distribution among males is more symmetric than among females, suggesting a more uniform pattern of weight deficits among boys. Interestingly, the mean WAZ values for both genders are relatively similar, indicating that undernutrition affects male and female children almost equally. However, the leftward shift of both curves confirms a pervasive nutritional deficit across the population. Additionally, the near-mesokurtic distributions suggest that extreme deviations (outliers) are relatively limited despite the widespread prevalence of underweight status. These findings emphasise the urgency of nutritional interventions tailored to both genders, ensuring equitable access to adequate dietary and healthcare resources to mitigate chronic undernutrition among PVTG children.

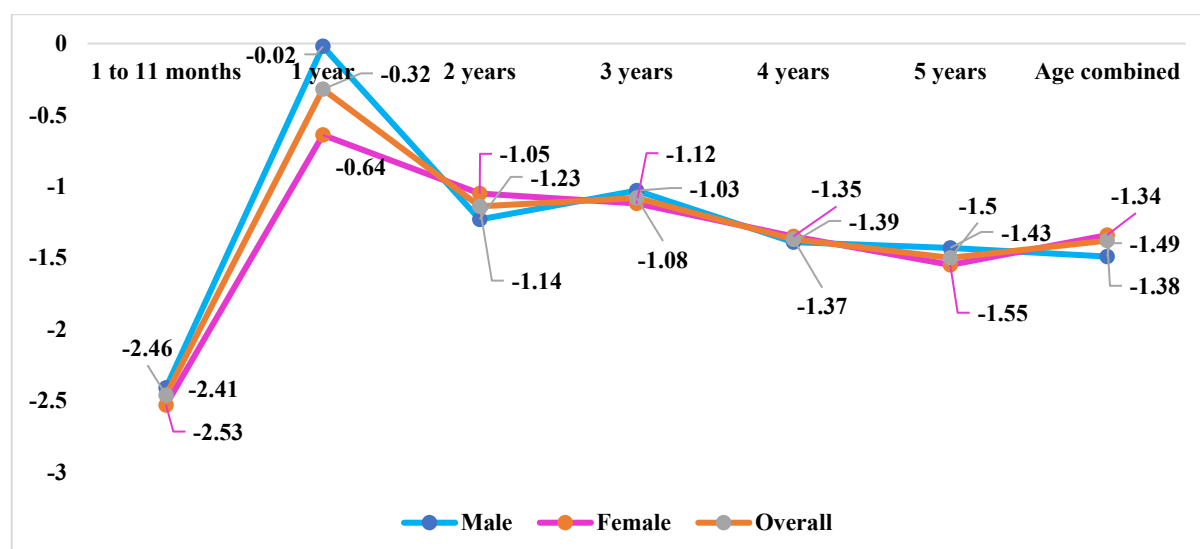


Figure 6.2.2.1.3: Height-for-Age Z-score among the preschool children

Table 6.2.2.1.3 and Figure 6.2.2.1.3 present the analysis of mean Height-for-Age Z-scores (HAZ) among preschool children, revealing important insights into growth patterns and nutritional status across age groups and sexes. Overall, the data suggest that stunting, an indicator of chronic malnutrition, is prevalent in this population, with mean HAZ scores consistently below the WHO reference standard of 0.

Among infants aged 1 to 11 months, the mean HAZ is alarmingly low at -2.46, indicating a high prevalence of stunting beginning in early life. This trend improves markedly at 1 year of age, with the overall mean rising to -0.32, suggesting a possible period of catch-up growth. However, this improvement is not sustained, as the HAZ declines again from age two onwards. Notably, children aged 2 to 5 exhibit negative mean HAZ values ranging from -1.08 to -1.50, underscoring persistent growth faltering.

Gender-wise, both boys and girls show similar trajectories, though there are minor variations. For instance, in the youngest group (1 to 11 months), females exhibit a slightly lower mean HAZ (-2.53) than males (-2.41), albeit with less variability (SD 0.71 vs 1.93). Interestingly, at age 1, boys show a significantly higher mean HAZ (-0.02) compared to girls (-0.64), indicating a possible gender disparity in early nutritional outcomes or growth support. However, these differences narrow with age, with both sexes exhibiting nearly parallel declines in mean HAZ by age 5.

The combined-age mean HAZ scores of -1.49 for males and -1.34 for females reinforce the widespread burden of stunting, though females show a marginally better overall status. High standard deviations across most age groups reflect considerable variability in individual growth patterns, possibly linked to socioeconomic disparities.

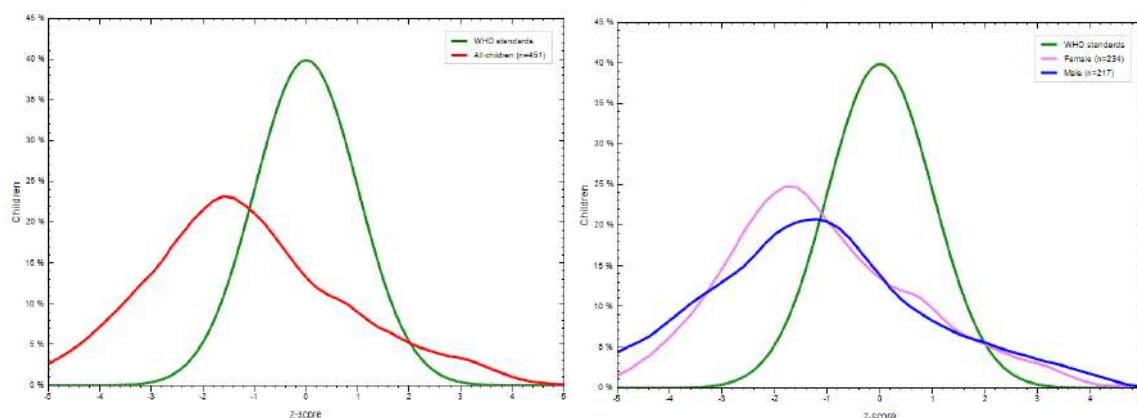


Figure 6.2.2.1.3.a: Distribution of Height for age Z-score of PVTGs preschool children

Figure 6.2.2.1.3.b: Gender specific distribution of Height for age Z-score of PVTGs preschool children

The findings from Figure 6.2.2.1.3. a and 6.2.2.1.3.b and the associated z-score distribution figures offer compelling evidence that the growth patterns of preschool children in the studied population significantly diverge from the WHO 2006 reference standards. The mean height-for-age z-score (HAZ) of -1.38, corresponding to approximately the 8.38th percentile, reflects a high prevalence of stunting and indicates chronic undernutrition. This substantial deviation from the normative reference confirms that the growth trajectory of these children falls well below what is expected in a healthy population. Gender-specific analysis reveals that although the mean HAZ values for male and female children are relatively similar, the underlying distributions differ in shape. Both distributions are largely symmetrical, suggesting a lack of skewness; however, the female distribution is nearly mesokurtic, implying a typical peak and concentration around the mean, whereas the male distribution is platykurtic, reflecting a flatter curve and greater variability. This broader spread among males may indicate a more heterogeneous experience of growth-related challenges, possibly influenced by differential exposure to environmental, nutritional, or health-related factors. Collectively, these patterns highlight the urgent need for targeted interventions to address the persistent and widespread issue of early childhood stunting in the population.

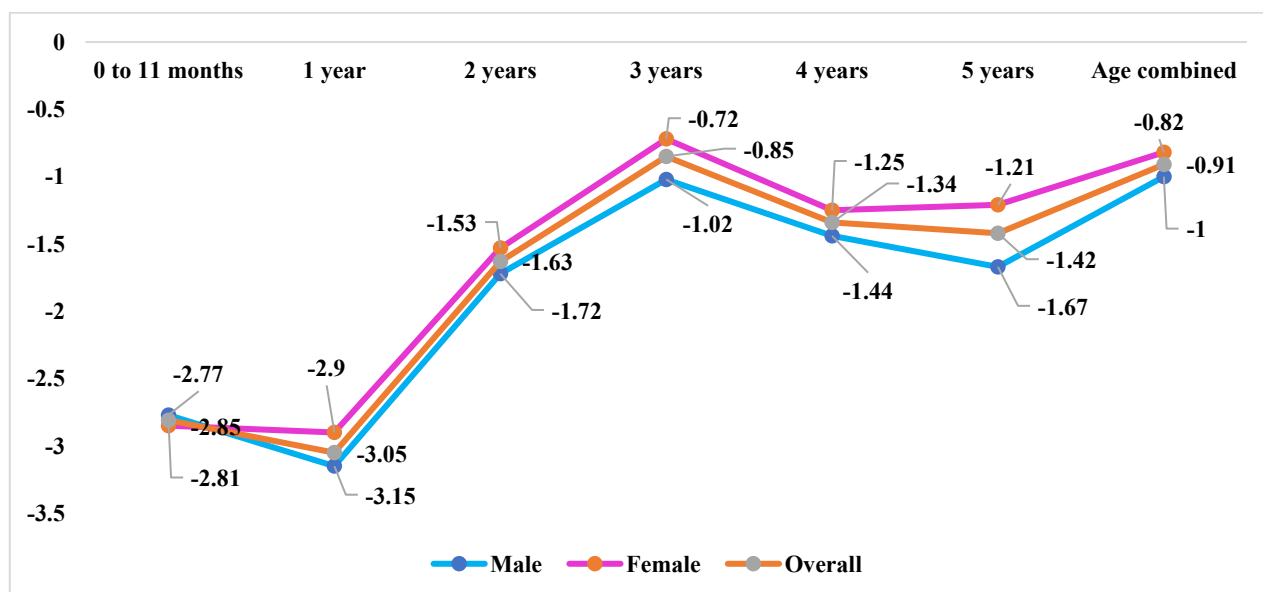


Figure 6.2.2.1.4: BMI-for-Age Z-score among the preschool children

The data from Table 6.2.2.1.4 and Figure 6.2.2.1.4 offer valuable insights into preschool children's nutritional health by examining BMI-for-age Z-scores (BAZ), a key marker of thinness or wasting. The overall average BAZ for all age groups is -0.91, which is significantly below the WHO 2006 reference population's standard of 0, signaling undernutrition among these children. The youngest age groups show the lowest mean BAZ values, especially infants aged 0 to 11 months (-2.81) and 1-year-olds (-3.05), reflecting severe nutritional deficiencies during this critical growth and development phase.

A gradual improvement in mean BAZ is observed from age two onwards, peaking at age 3 with a relatively better overall mean of -0.85, before declining slightly in the older age groups (ages 4 and 5). This pattern suggests some catch-up growth after infancy, possibly due to changes in diet, reduced vulnerability to infections, or improved caregiving practices. However, the improvements remain insufficient to bring the mean values close to the reference standard, indicating persistent mild to moderate undernutrition.

Males and females generally exhibit similar trends by gender, with females typically having slightly higher BAZ scores across most age groups. For example, at age 3, females have an average BAZ of -0.72, compared to -1.02 in males, indicating marginally better nutritional health. When considering all ages together, females show a higher mean BAZ (-0.82) than males (-1.00), although both are below the healthy threshold. The standard deviations are relatively large across all age groups, especially among the youngest children, indicating significant variability in individual nutritional outcomes. This variability may be affected by factors such as household food security, feeding practices, illness, and socioeconomic status.

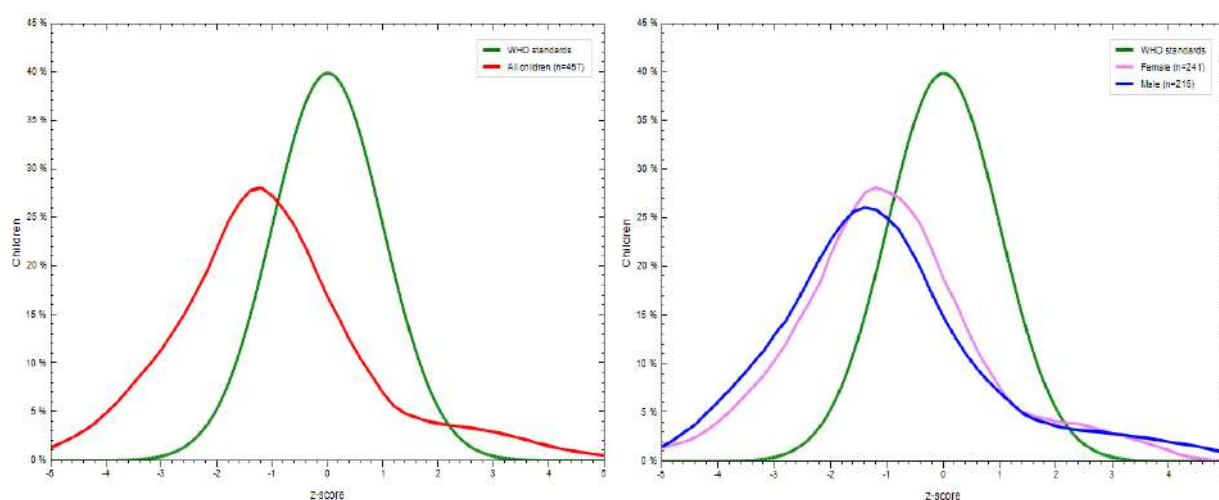


Figure 6.2.2.1.4.a: Distribution of BMI for age Z-score of PVTGs preschool children

Figure 6.2.2.1.4.b: Gender specific distribution of BMI for age Z-score of PVTGs preschool children

The z-score distributions for BMI-for-age (BAZ) in Figures 6.2.2.1.4.a and 6.2.2.1.4.b clearly show that the nutritional status of preschool children in the studied population remains significantly different from the WHO 2006 reference standards. While the overall mean BAZ of -0.91 is closer to zero than the height-for-age indicators, it still falls around the 8.38th percentile, indicating that many children are undernourished, especially those who are thin or wasted. The distribution curves for boys and girls are mostly symmetrical, indicating that the data are evenly spread around the mean and show a balanced distribution of low and high BAZ values within each gender. Notably, girls tend to have slightly higher mean BAZ values than boys across most ages, but these differences are small,

suggesting comparable nutritional status between sexes. The distributions show that both male and female curves are nearly mesokurtic, with a normal peak and moderate tails, indicating a typical spread of BAZ scores around the mean. This mesokurtic pattern suggests that extreme values are rare, and that most children's BMI-for-age z-scores are close to the average. These features point to a persistent yet somewhat improved nutritional situation compared to height-for-age, with generally symmetrical and normally dispersed data. However, the ongoing deviation from the WHO standard emphasises the importance of regular nutritional monitoring and interventions, especially in early childhood when growth and body composition are most vulnerable to dietary and environmental influences.

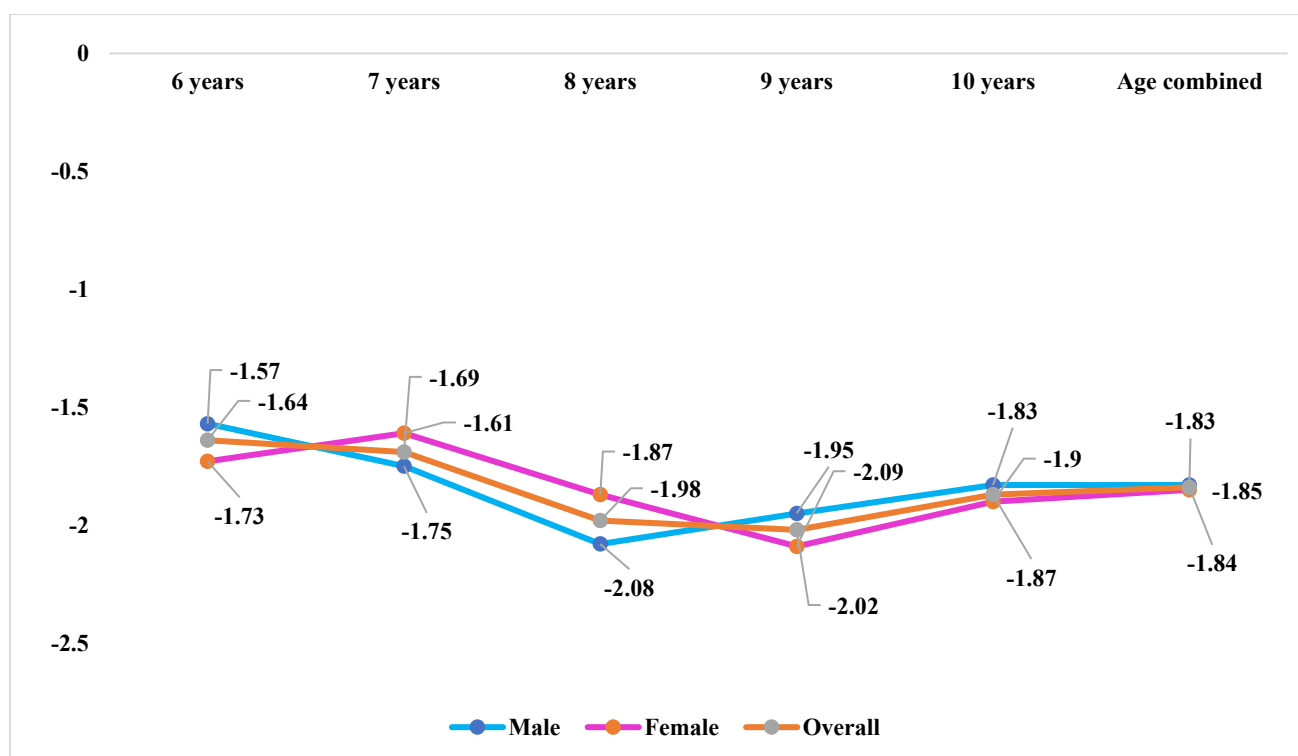


Figure 6.2.2.2.1: Weight-for-Age Z-score among the school-going children

The data presented in Table 6.2.2.2.1 and Figure 6.2.2.2.1 reveal important trends in the nutritional status of school-age children, as measured by mean weight-for-age Z-scores across age groups and genders. Overall, the mean Z-score for the entire cohort of 638 children is -1.84 (SD $\pm$ 1.33), indicating a general trend of underweight status relative to the WHO growth standards. Both boys and girls show similar mean Z-scores, with males averaging -1.83 (SD $\pm$ 1.38) and females at -1.85 (SD $\pm$ 1.28), suggesting negligible gender disparity in weight-for-age undernutrition.

A deeper look into the age-wise distribution shows a consistent pattern of moderate undernutrition across all age groups, with the most severe deficit observed at age 8 for males (-2.08) and at age 9 for females (-2.09). These findings may point to critical periods of nutritional vulnerability, particularly in the middle years of primary schooling, possibly due to increased energy demands, poor dietary intake, or infection-related weight loss.

Interestingly, the highest standard deviation is seen among 7-year-old males (SD $\pm$ 1.58), implying greater variability in nutritional status within this group. At the same time, 6-year-old females exhibit the lowest variability (SD $\pm$ 1.00), indicating a more uniform, yet still suboptimal, weight status.

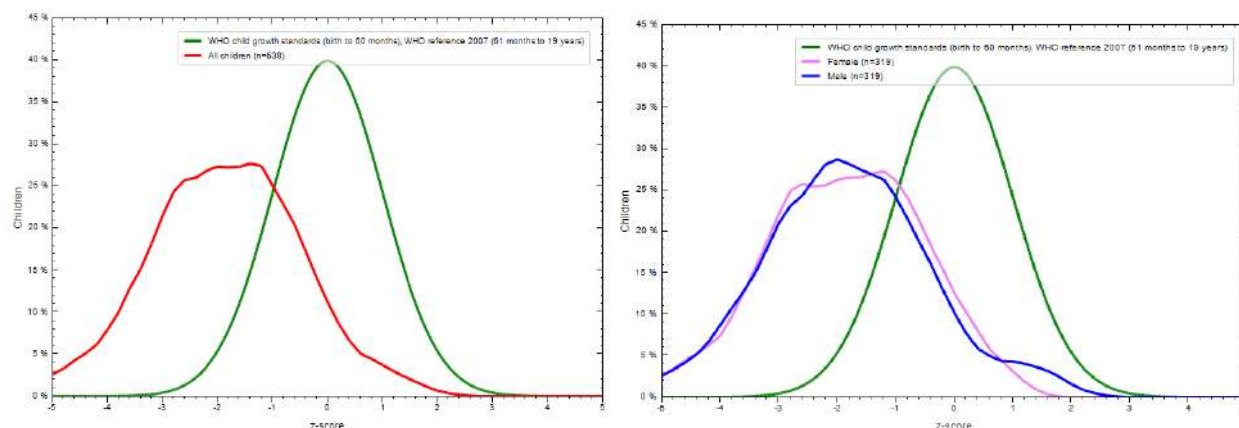


Figure 6.2.2.2.1.a: Distribution of Weight for age Z-score of PVTGs School-going child

Figure 6.2.2.2.1.b: Gender specific distribution of Weight for age Z-score of PVTGs, School-going child

The Kernel density plots provide a visual representation of the distribution of weight-for-age Z-scores (WAZ) among school-age children by gender and reinforce the findings from Table 6.2.2.2.1. The plots demonstrate a significant deviation of the observed Z-scores from the WHO 2006 reference standard, with an ideal mean of zero. In this dataset, the overall mean Z-score is -1.84, corresponding to approximately the 3.29th percentile of the reference population, indicating a high prevalence of undernutrition (Figure 6.2.2.2.1.a). The density curves reveal that the distributions are asymmetrical for both males and females, suggesting skewness in nutritional status, possibly influenced by socio-economic, dietary, or health-related factors (Figure 6.2.2.2.1.b). Notably, the mean Z-score for females closely mirrors that of males, confirming minimal gender disparity in nutritional deficit. Furthermore, the curves for both genders appear nearly mesokurtic, indicating that the distributions have a similar peak and spread to a normal distribution, albeit centred significantly below the expected mean. This reinforces the conclusion that undernutrition is widespread and uniformly affects both boys and girls in this population, highlighting the urgent need for comprehensive nutritional interventions.

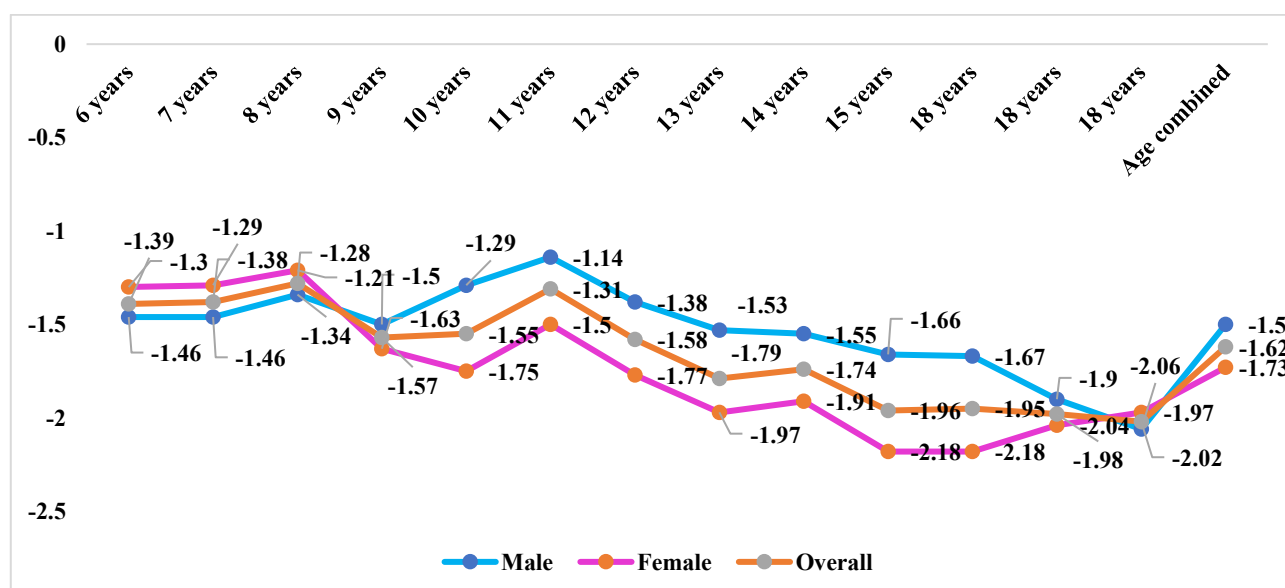


Figure 6.2.2.3.1: Height-for-Age Z-score among children aged 6 to 18 years

Table 6.2.2.3.1 and Figure 6.2.2.3.1 present the age- and gender-specific mean Height-for-Age Z-scores (HAZ) among children and adolescents aged 6 to 18 years, revealing a concerning pattern of chronic undernutrition, commonly associated with stunting. The overall mean HAZ score of -1.62 ($SD \pm 1.24$) indicates a significant departure from the WHO 2006 reference standard, pointing to widespread linear growth faltering within the population. Gender-wise, females exhibit a slightly more negative mean HAZ (-1.73) compared to males (-1.50), suggesting a marginally higher burden of stunting among adolescent girls.

A closer look at age-wise trends reveals a progressive decline in mean HAZ scores with increasing age, especially notable from age 13 onward, where both sexes show sharp reductions in height-for-age. The most pronounced deficits are observed at ages 15 to 18, with mean HAZ values dropping to nearly -2.0 , indicating moderate to severe stunting by WHO classification. Specifically, 15-year-old females register the lowest average HAZ of -2.18 ($SD \pm 0.82$). At the same time, males of the same age have a mean of -1.66 ($SD \pm 1.03$), reflecting a critical stage of nutritional vulnerability during adolescence, particularly found among girls.

Standard deviations across age groups suggest increasing variability in HAZ among younger children (ages 6–12), which decreases somewhat in later adolescence. This may reflect divergent growth trajectories influenced by genetic, nutritional, and environmental factors, including differences in pubertal timing and catch-up growth opportunities. Overall, the data emphasises a persistent and age-amplified burden of stunting, with adolescent girls appearing particularly disadvantaged. Standard deviations across age groups indicate increasing variability in HAZ among younger children (ages 6–12), which narrows somewhat in later adolescence. This may reflect different growth pathways influenced by genetic, nutritional, and environmental factors, including variations in pubertal timing and opportunities for catch-up growth. Overall, the data highlights a persistent and age-related burden of stunting, with adolescent girls appearing to be especially disadvantaged.

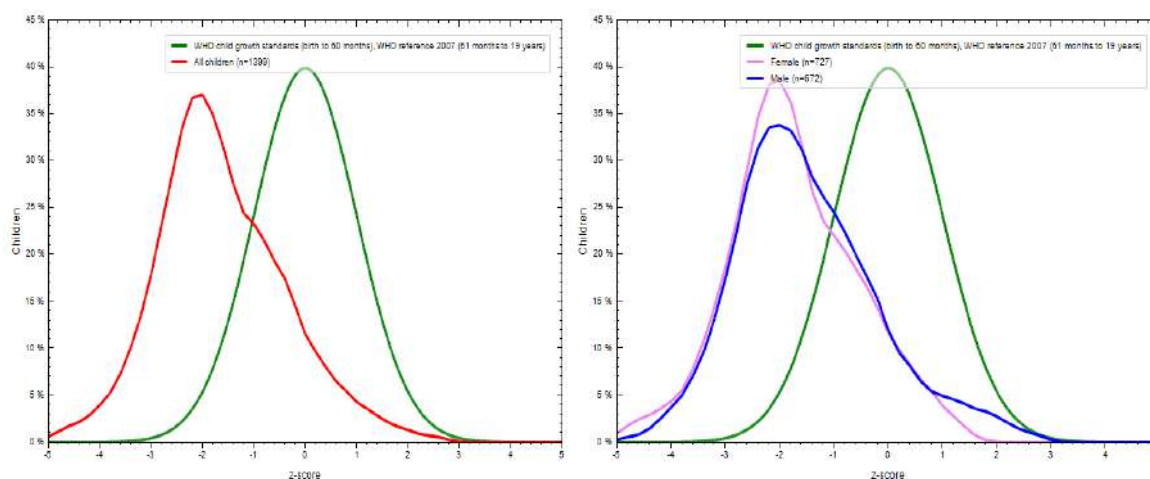


Figure 6.2.2.3.1.a: Distribution of Height for age Z-score of PVTGs 6-10 years' child & adolescent

Figure 6.2.2.3.1.b: Gender specific distribution of Height for age Z-score of PVTGs 6-10 years' child & adolescent

The Kernel density plots corresponding to the Height-for-Age Z-score (HAZ) data provide clear visual evidence of a significant deviation from the WHO 2006 reference population. The mean HAZ value of -1.62 , which corresponds to approximately the 5.26th percentile, confirms a marked shift to the left of the standard distribution, indicating widespread chronic undernutrition and stunting among children

and adolescents (Figure 6.2.2.3.1.a). This considerable distance from the reference median ($Z = 0$) highlights the compromised linear growth patterns prevalent in the population under study. Notably, the z-score distributions for males and females are largely symmetrical, suggesting a balanced spread of HAZ values around the respective means. The average z-score values for both genders are relatively close, implying minimal gender disparity in chronic undernutrition. However, a more nuanced observation reveals that the male distribution curve is nearly mesokurtic, with a moderate peak and moderate tail thickness. In contrast, the curve for females is slightly leptokurtic, indicating a sharper peak and thinner tails (Figure 6.2.2.3.1.b). This suggests that female HAZ scores are more tightly clustered around the mean, reflecting less variability in stunting status among girls compared to boys.

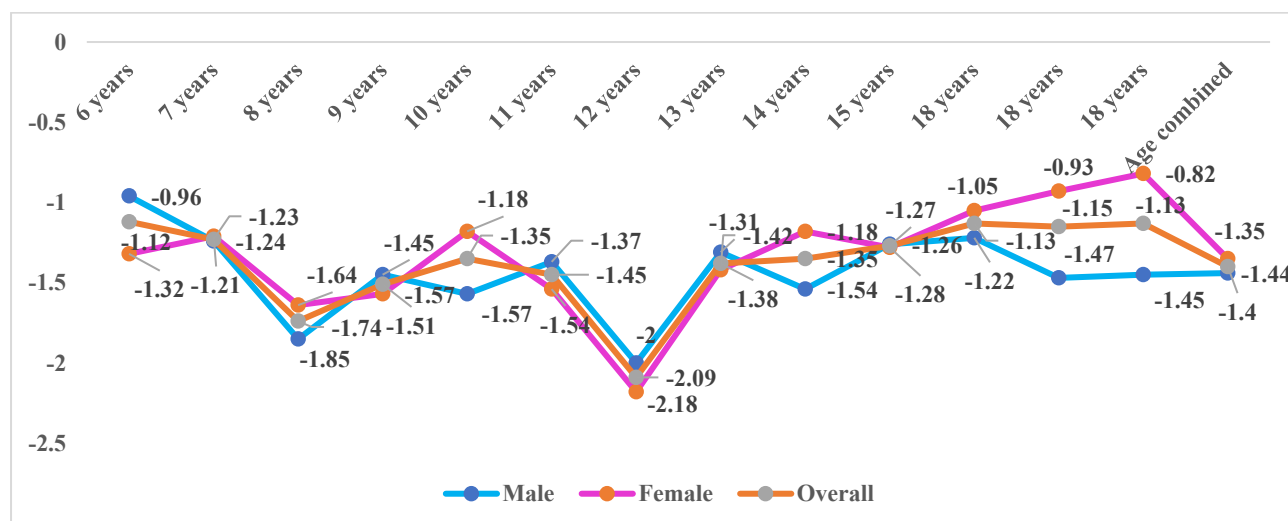


Figure 6.2.2.3.2: BMI-for-Age Z-score among the 6 to 18-year-old children

Table 6.2.2.3.2 and Figure 6.2.2.3.2 illustrate the age and gender-specific mean Body Mass Index-for-Age Z-scores (BAZ) among children and adolescents aged 6 to 18 years, revealing a consistent trend of undernutrition across both sexes. The overall mean BAZ score is -1.40 ($SD \pm 1.48$), indicating that a significant proportion of the population falls below the healthy BMI range according to the WHO 2006 reference standards. This suggests a high prevalence of thinness and potential energy deficiency among the surveyed group.

Gender-wise, males exhibit a slightly more negative mean BAZ score (-1.44) than females (-1.35), although the difference is marginal, indicating a relatively uniform distribution of nutritional stress across genders. However, closer examination reveals age-specific fluctuations in nutritional status. For instance, the most severe mean deficits occur at age 12 for males (-2.00) and females (-2.18), highlighting early adolescence as a particularly vulnerable period, possibly due to increased physiological demands during the pubertal growth spurt and insufficient nutritional intake.

Notably, the BAZ scores begin to improve slightly in later adolescence, particularly among females aged 18 and 18, who show higher mean scores (-0.93 and -0.82 , respectively) compared to earlier years. This may reflect late catch-up growth or behavioural and dietary changes during older adolescence. Standard deviations remain relatively high across all age groups, especially among younger children and early adolescents, suggesting substantial variability in BMI-for-age, which differences could influence physical activity, household food security, and health conditions.

Overall, the data underscores a persistent pattern of undernutrition throughout childhood and adolescence, with early adolescence (ages 11–13) emerging as the most critical period for nutritional intervention. The findings highlight the need for age- and gender-responsive nutritional programs focused on preventing and correcting growth faltering to support healthy physical development.

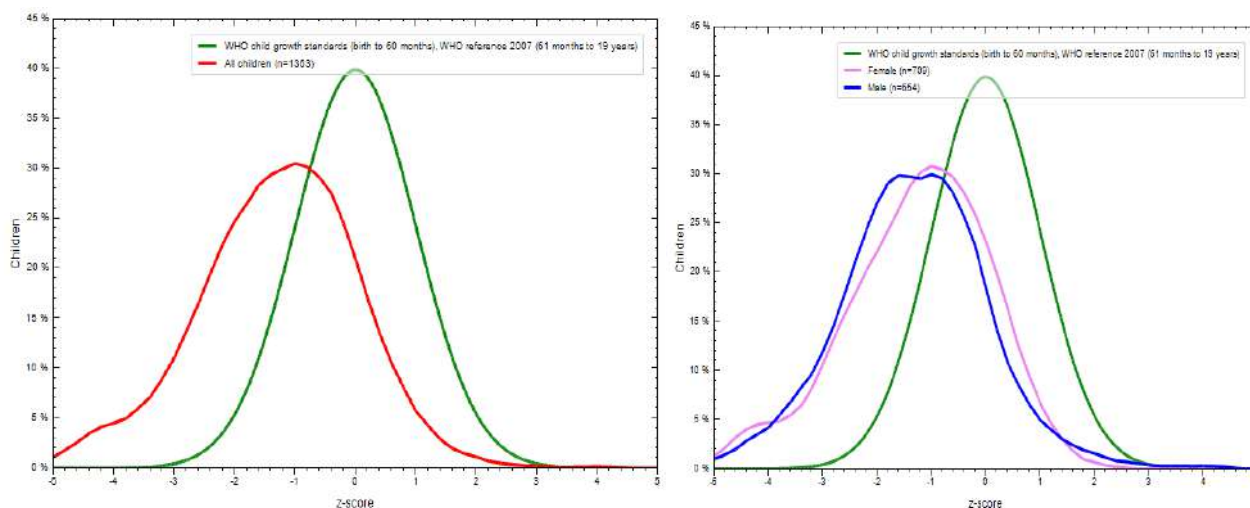


Figure 6.2.2.3.2.a: Distribution of BMI for age Z-score of PVTGs 6-18 years' child & adolescent
Figure 6.2.2.3.2.b: Gender specific distribution of BMI for age Z-score of PVTGs 6-18 years' child & adolescent

The Kernel density plots for the BMI-for-Age Z-score (BMIZ) data show a significant departure from the WHO 2006 reference population, reinforcing the quantitative findings in Table 6.2.2.3.2. With an overall mean Z-score of -1.40, corresponding to approximately the 8.08th percentile, it is evident that a large proportion of the child and adolescent population is experiencing varying degrees of thinness, which is an indicator of undernutrition and potential energy imbalance (Figure 6.2.2.3.2.a). This substantial deviation from the reference median ($Z = 0$) confirms that most individuals fall well below the expected norm for healthy growth. The BMIZ distributions for males and females are largely symmetrical, suggesting that the spread of BMI scores around the mean is balanced and not heavily skewed in either direction (Figure 6.2.2.3.2.b). Furthermore, the mean BMIZ values for males (-1.44) and females (-1.35) are closely aligned, indicating minimal gender disparity in BMI-related nutritional status. This symmetry, combined with the similar means, underscores a uniform pattern of nutritional deficiency across both sexes. The distribution curves appear nearly mesokurtic for both genders, indicating that the peak and tails resemble those of a standard curve, albeit centred significantly below the ideal reference. This suggests that while the general shape of BMI distribution is typical, the entire population is shifted leftward, highlighting a systemic issue rather than isolated nutritional failures.

6.3.1. Nutritional status among tribal pre-school children

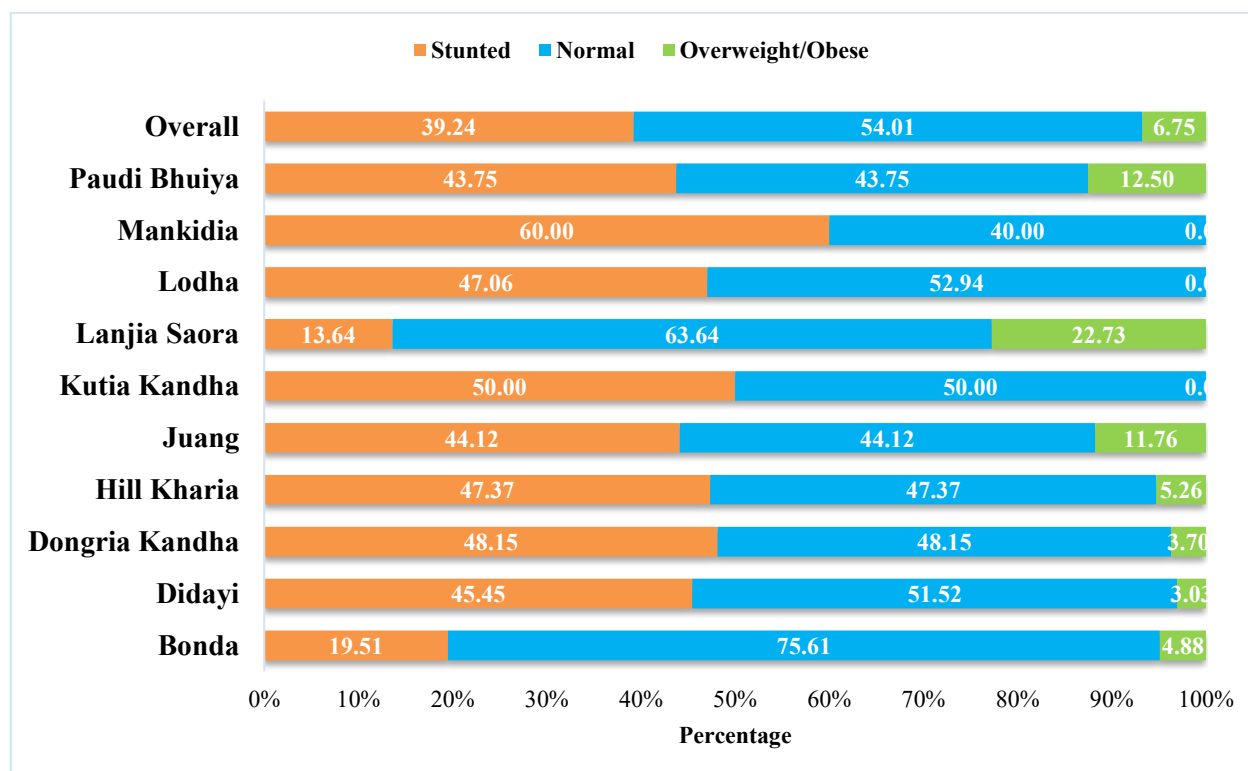


Figure 6.3.1.1: Status of stunting among male preschool goers

Table 6.3.1.1 and Figure 6.3.1.1 present the prevalence of stunting among pre-school male children across the ten PVTGs of Odisha, shedding light on the inter-ethnic disparities in chronic undernutrition. The overall stunting prevalence stands at 39.24%, indicating that nearly two out of every five male children under five are affected by long-term growth faltering. However, the disaggregated data reveal substantial variation among the different PVTGs.

The highest prevalence of stunting is observed among Mankidia children (60.00%), followed closely by Kutia Kandha (50.00%), Dongria Kandha (48.15%), Hill Kharia (47.37%), Lodha (47.06%), and Didayi (45.45%). These rates are alarmingly high and point toward persistent food insecurity, poor maternal health, and limited access to healthcare in these communities. Conversely, Lanjia Saora (13.64%) and Bonda (19.51%) children show comparatively lower stunting rates, suggesting better nutritional conditions or greater community resilience. However, these figures still exceed global acceptable thresholds.

Interestingly, the proportion of children classified as normal for growth is highest among Lanjia Saora (63.64%) and Bonda (75.61%), further supporting the observation of relatively better nutritional status in these two groups. The prevalence of overweight children remains low across most groups, with a few exceptions such as Lanjia Saora (22.73%) and Juang (11.76%), which could reflect emerging dual burdens of under- and overnutrition.

Overall, the data points to a complex landscape of nutritional disparities among PVTG male children in Odisha. While stunting remains a pervasive issue, the heterogeneity among groups suggests the need

for culturally sensitive, community-specific nutritional interventions that consider the unique socio-economic and ecological contexts of each tribe.

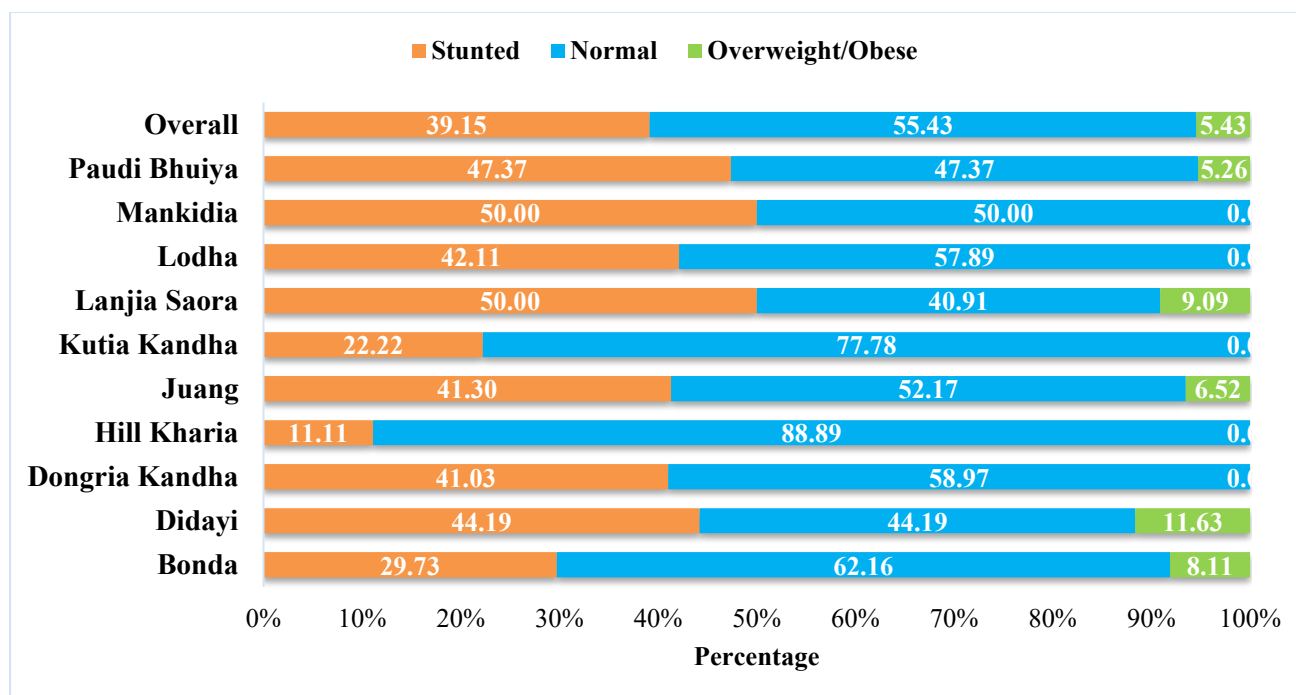


Figure 6.3.1.2: Status of stunting among female preschool goers

Table 6.3.1.2 and Figure 6.3.1.2 both present the prevalence of stunting among pre-school female children across ten PVTGs of Odisha, highlighting the continuing challenge of chronic undernutrition in early childhood. The overall stunting rate among female children is 39.15%, nearly identical to that of their male counterparts (39.24%), pointing to a widespread and persistent issue that transcends gender within these marginalised communities.

Nevertheless, the data highlight significant differences among ethnic groups. The highest rates of stunting are seen in Lanjia Saora and Mankidia girls (both at 50.00%), closely followed by Paudi Bhuiyan (47.37%), Didayi (44.19%), and Dongria Kandha (41.03%). These figures indicate severe chronic malnutrition, likely caused by a mix of factors such as limited dietary diversity, poor maternal health, insufficient healthcare access, and socio-economic deprivation. Conversely, Hill Kharia shows the lowest prevalence of stunting among girls (11.11%), with Kutia Kandha at 22.22% and Bonda at 29.73%, suggesting comparatively better growth outcomes in these groups.

The normal nutritional status category shows encouraging trends for some groups, particularly Hill Kharia (88.89%), Kutia Kandha (77.78%), and Juang (52.18%), suggesting potential protective factors at play, such as improved weaning practices, better sanitation, or relatively stronger community support systems. The prevalence of overweight individuals remains low across most groups, with slight elevations observed in Didayi (11.63%), Lanjia Saora (9.09%), and Bonda (8.11%), which may indicate emerging nutritional transitions or disparities within households.

Overall, the data underscores that stunting remains a serious concern among pre-school girls across Odisha's PVTGs, with vast inter-tribal differences. These findings call for targeted, tribe-specific nutritional interventions that address the root causes of growth retardation in early childhood, particularly in high-burden groups, while also promoting protective practices observed in better-

performing communities. Gender-sensitive programming that prioritises maternal and child health, community-based nutrition education, and food security is essential to breaking the intergenerational cycle of undernutrition among tribal populations.

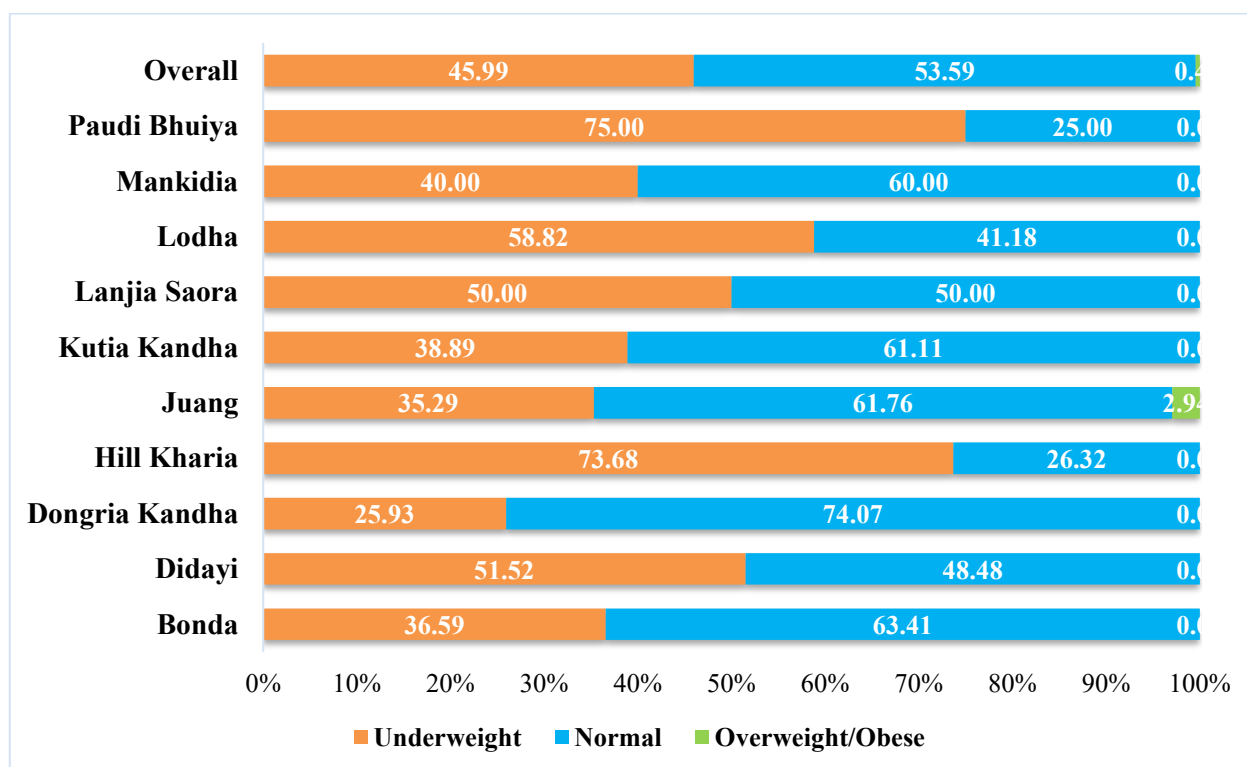


Figure 6.3.1.3: Status of underweight among male preschool goers

The table and figure 6.3.1.3 present the prevalence of underweight among pre-school male children across ten PVTGs in Odisha, highlighting the widespread burden of acute and chronic undernutrition in this population. The overall prevalence of underweight stands at 45.99%, meaning nearly half of all male children under five are below the expected weight for their age, reflecting both current and long-term nutritional deficiencies.

Significant disparities are visible across different ethnic groups. The highest rates are reported among Paudi Bhuiyan (75.00%) and Hill Kharia (73.68%) male children, highlighting severe food insecurity, inadequate child feeding practices, or a high disease burden in these communities. Lodha (58.82%), Didayi (51.52%), and Lanjia Saora (50.00%) also show high levels of underweight, indicating critical nutritional vulnerabilities. In contrast, Dongria Kandha reports the lowest prevalence (25.93%), followed by Juang (35.29%) and Kutia Kandha (38.89%), pointing to relatively better nutritional status among these groups.

The proportion of children in the “normal” weight-for-age category is highest among Dongria Kandha (74.07%) and Juang (61.76%), hinting at comparatively more favourable environmental or dietary conditions. Overweight prevalence is negligible across all groups, with only Juang reporting a minimal 2.94%, reaffirming that the primary nutritional concern in these communities is undernutrition, not overnutrition.

The data reveal a troubling scenario in which underweight is highly prevalent among PVTG male children, with significant inter-tribal differences reflecting complex socio-cultural and ecological factors. These findings underscore the urgent need for targeted, community-based nutritional interventions to improve early childhood nutrition, disease prevention, and maternal health, especially in high-burden groups such as the Paudi Bhuiyan and Hill Kharia.

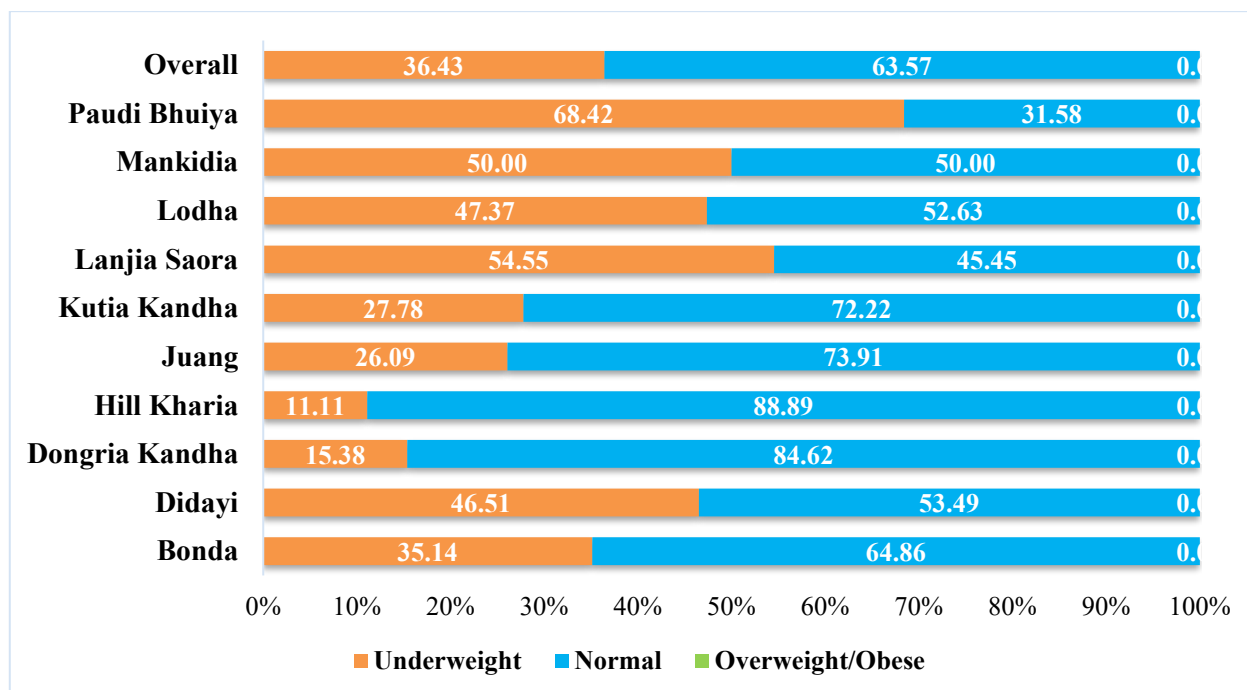


Figure 6.3.1.4: Status of underweight among female preschool goers

Table 6.3.1.4 provides insight into the prevalence of underweight among pre-school female children across ten PVTGs in Odisha, revealing a concerning yet variable picture of early childhood undernutrition (Figure 6.3.1.4). The overall underweight prevalence among female children stands at 36.43%, indicating that more than one-third of girls under five suffer from weight deficits relative to their age, which is an indicator of both acute and chronic nutritional stress.

The data reveal marked disparities across ethnic groups. The highest prevalence of underweight is observed among Paudi Bhuiyan girls (68.42%), followed by Lanjia Saora (54.55%), Mankidia (50.00%), and Lodha (47.37%). These figures suggest critical levels of nutritional deficiency and likely reflect a combination of food insecurity, inadequate maternal and child health services, and socio-economic marginalisation. On the other hand, relatively lower underweight rates are seen among Hill Kharia (11.11%) and Dongria Kandha (15.38%), which may indicate better access to food, stronger community health practices, or relatively supportive caregiving environments.

The proportion of girls categorised as having “normal” weight-for-age is encouragingly high among Dongria Kandha (84.62%) and Hill Kharia (88.89%), suggesting that certain tribes may possess protective factors such as better dietary practices, maternal education, or healthcare outreach, which all contribute to healthier growth. Notably, no cases of overweight were reported among any of the groups, reinforcing that the primary public health concern in these populations remains undernutrition rather than overnutrition.

Overall, the data emphasise the persistent challenge of underweight among tribal female children, with considerable inter-group variation that points to the need for nuanced, culturally grounded nutritional programming. High-burden groups such as Paudi Bhuiyan and Lanjia Saora urgently require targeted interventions to improve food security, maternal nutrition, disease prevention, and access to early childhood care. At the same time, lessons from better-performing groups like Hill Kharia can inform best practices to promote healthy child growth across other tribal communities in Odisha.

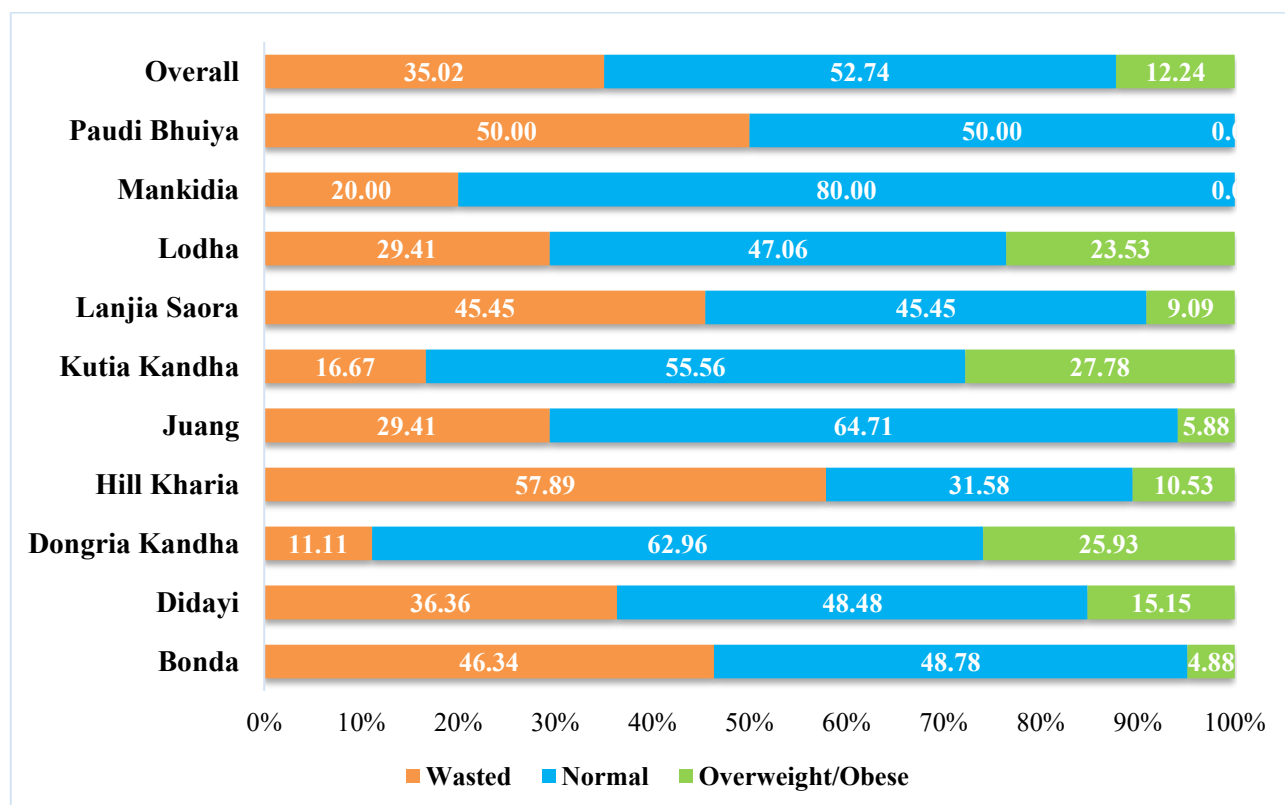


Figure 6.3.1.5: Status of wasting among male preschoolers

Table 6.3.1.5 and Figure 6.3.1.5 present the prevalence of wasting among pre-school male children across ten PVTGs in Odisha, offering critical insight into the acute malnutrition status in this population. Wasting, which reflects recent and severe weight loss often due to illness or acute food shortage, affects 35.02% of male children overall, significantly higher than the World Health Organisation's emergency threshold of 15%, indicating a public health crisis.

Marked inter-tribal differences highlight the uneven distribution of this nutritional burden. Alarming high levels of wasting are observed among Hill Kharia (57.89%), Paudi Bhuiyan (50.00%), Bonda (46.34%), and Lanjia Saora (45.45%), suggesting acute nutritional stress possibly driven by food insecurity, poor sanitation, seasonal scarcities, or limited access to curative health services. In contrast, Dongria Kandha (11.11%) and Kutia Kandha (18.67%) report considerably lower rates, reflecting relatively better resilience to acute nutritional shocks in these communities.

The normal category is most prominent among Mankidia (80.00%), Juang (64.71%), and Kutia Kandha (55.56%), indicating more favourable recent health and nutrition conditions in these groups. Meanwhile, the proportion of male children categorised as overweight remains low but notable in specific communities, especially Dongria Kandha (25.93%), Kutia Kandha (27.78%), and Lodha (23.53%).

Overall, the data highlights the gravity of acute malnutrition among tribal male children, with many ethnic groups showing critically high levels of wasting. This situation requires urgent nutrition-specific actions, including community-based management of acute malnutrition (CMAM), emergency feeding programmes, and improved infection control measures. At the same time, long-term strategies to improve food security, healthcare access, and water and sanitation infrastructure are essential to prevent recurrent acute malnutrition, particularly among high-burden groups such as Hill Kharia, Paudi Bhuiyan, and Bonda.

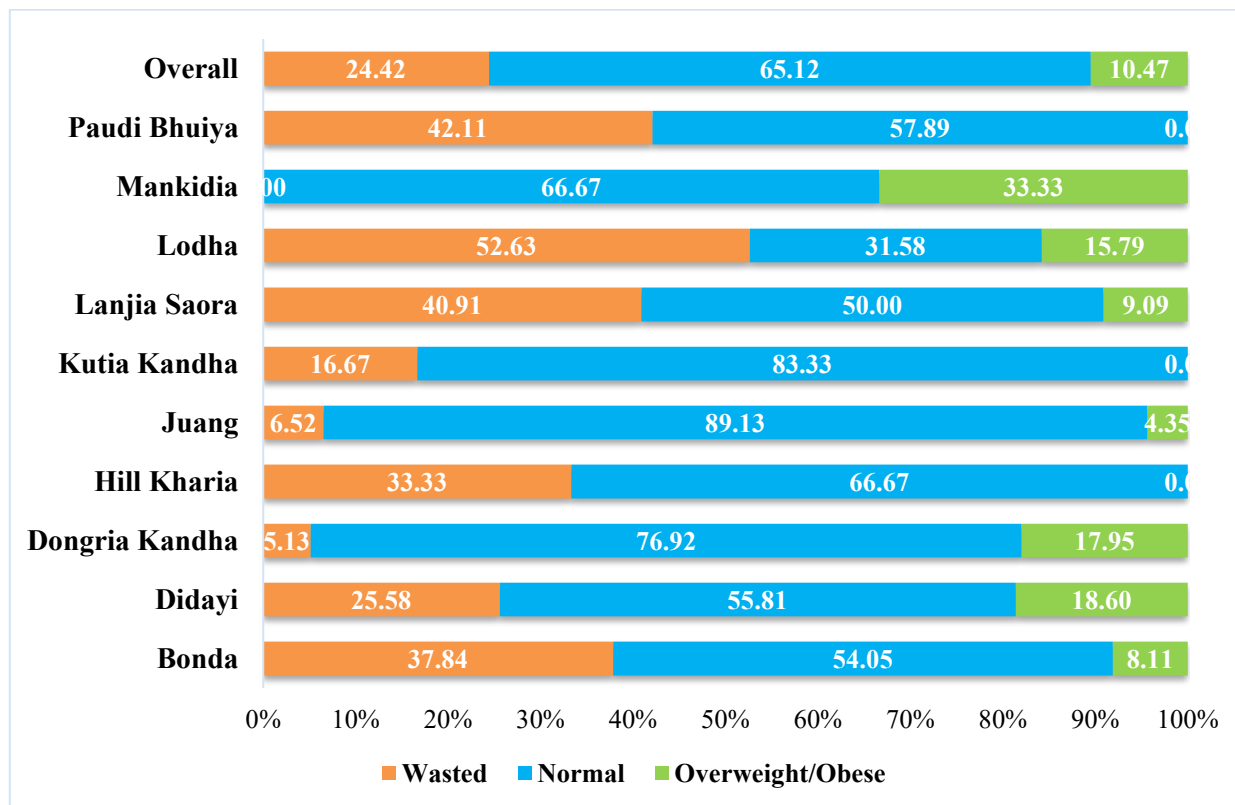


Figure 6.3.1.6: Status of wasting among female preschoolers

Table 6.3.1.6 and Figure 6.3.1.6 illustrate the prevalence of wasting among pre-school female children across ten PVTGs in Odisha, shedding light on the extent of acute malnutrition: a condition characterised by rapid weight loss and often linked to recent illness or inadequate dietary intake. The overall prevalence of wasting among girls is 24.42%, significantly above the WHO's critical threshold of 15%, indicating a serious public health concern.

The data reveal substantial inter-group variation, with the highest levels of wasting observed among female children of Lodha (52.63%), Paudi Bhuiyan (42.11%), Lanjia Saora (40.91%), and Bonda (37.84%). These figures indicate acute nutritional stress and likely reflect systemic vulnerabilities. In contrast, some groups, such as the Dongria Kandha (5.13%) and Juang (6.52%), exhibit notably lower wasting rates, suggesting better short-term nutritional and health status, possibly due to more stable food environments or effective community-based health practices.

The proportion of girls in the "normal" nutritional category is encouragingly high among the Juang (89.13%), Kutia Kandha (83.33%), and Dongria Kandha (76.92%), suggesting protective factors warranting further investigation and potential replication in more vulnerable communities. Meanwhile, the prevalence of overweight among a small percentage of children (10.47% overall), with higher rates

in Dongria Kandha (18.95%) and Didayi (18.60%), may reflect either early signs of a nutrition transition or minor sample effects and anthropometric measurement variability.

Overall, the findings from Table 6.3.1.6 highlight that acute malnutrition remains a significant challenge among tribal girls, with particularly high-burden groups requiring urgent, targeted nutrition interventions. High levels of wasting among Lodha, Paudi Bhuiyan, and Lanjia Saora female children demand immediate attention through community-based treatment of acute malnutrition (CMAM), improved disease management, and timely nutritional supplementation. At the same time, long-term investments in food security, maternal education, and public health infrastructure are essential to reduce the recurring cycles of wasting and build resilience among these vulnerable populations.

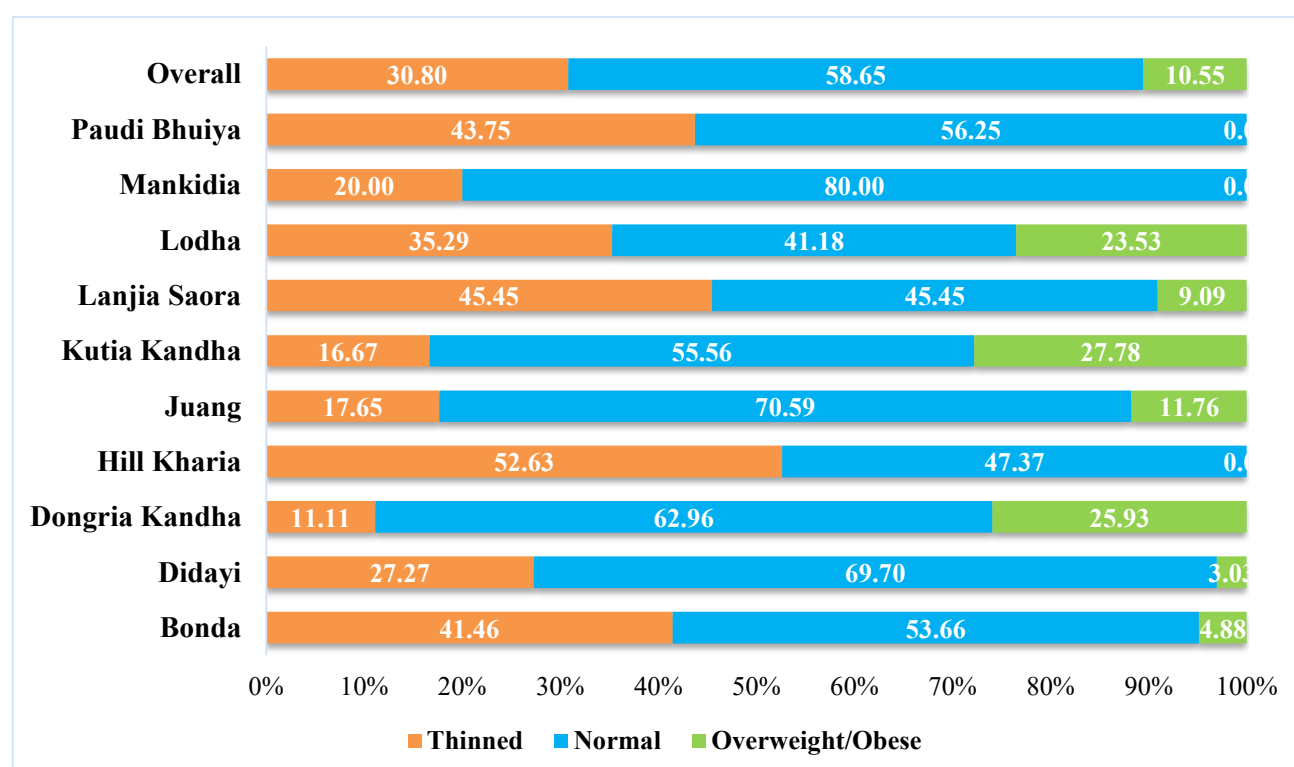


Figure 6.3.1.7: Status of thinness among male preschool goers

Table 6.3.1.7 and Figure 6.3.1.7 depict the prevalence of thinness among pre-school male children across ten PVTGs in Odisha. Thinness, defined by low BMI-for-age, is an important indicator of acute undernutrition, particularly when linked to energy deficiency and recurrent infections. The overall prevalence of thinness in this demographic is 30.80%, indicating that nearly one in three male children is acutely undernourished, an alarming figure that exceeds acceptable public health thresholds and signals chronic nutritional deprivation.

A closer examination reveals significant inter-ethnic disparities. The highest prevalence of thinness is recorded among the Hill Kharia (52.63%), Paudi Bhuiyan (43.75%), Lanjia Saora (45.45%), and Bonda (41.46%) groups. These elevated figures reflect a deep-rooted vulnerability resulting from factors such as limited dietary diversity, poor access to healthcare services, food insecurity, and low socioeconomic status. Such high rates also indicate short-term nutritional shocks and longer-term deprivation that hinder proper growth and development.

Conversely, ethnic groups like Dongria Kandha (11.11%), Juang (18.65%), and Kutia Kandha (18.67%) exhibit relatively lower levels of thinness, suggesting comparatively stable nutritional environments or community-level resilience, possibly due to better agroecological practices or support from welfare schemes. However, the presence of overweight individuals within groups such as the Dongria Kandha (25.93%), Kutia Kandha (27.78%), and Lodha (23.53%) suggests emerging signs of a nutritional transition or anomalies due to measurement or reporting variability. This coexistence of under- and over-nutrition within the same communities suggests a dual burden of malnutrition, increasingly observed in marginalised populations undergoing lifestyle and dietary shifts.

The findings underscore the need for tribal-specific interventions to reduce thinness through targeted nutrition programs, regular growth monitoring, and community engagement. Efforts should focus on improving food access, disease prevention, and early childhood care. Additionally, context-sensitive strategies must address the observed inter-group disparities, ensuring that, particularly at-risk communities like Hill Kharia and Bonda, are prioritised in public health planning and resource allocation.

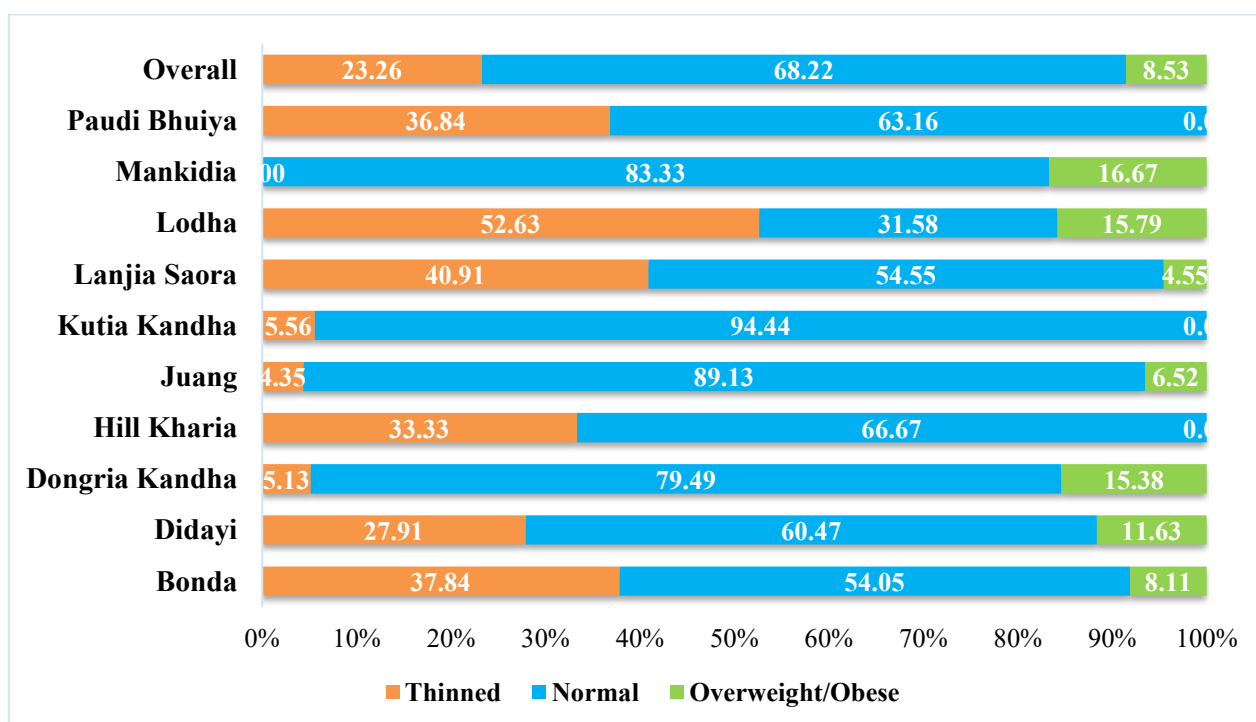


Figure 6.3.1.8: Status of thinness among female preschool goers

Table 6.3.1.8 and figure 6.3.1.8 provide insight into the prevalence of thinness among pre-school female children across ten PVTGs in Odisha, highlighting acute undernutrition through BMI-for-age indicators. The overall prevalence of thinness is 23.26%, suggesting that nearly one in four preschool girls is affected by acute nutritional deficiency. This significant public health concern underscores the urgent need for gender-sensitive nutritional interventions in these tribal populations.

A detailed analysis reveals considerable inter-group variations. The highest rates of thinness are observed among Lodha (52.63%), Lanjia Saora (40.91%), Bonda (37.84%), and Paudi Bhuiyan (36.84%). These figures reflect persistent socio-economic and dietary vulnerabilities within these groups, potentially exacerbated by limited healthcare access, low maternal education, and food

insecurity. The high prevalence among Lodha and Lanjia Saora girls is particularly alarming and warrants focused nutritional and public health outreach.

In contrast, Dongria Kandha (5.13%), Juang (4.35%), and Kutia Kandha (5.56%) exhibit notably lower prevalence of thinness, which may be attributed to relatively better community practices in nutrition, health-seeking behaviour, or support from existing welfare schemes. However, caution must be exercised, as such low prevalence may sometimes also reflect measurement challenges or short-term fluctuations.

Interestingly, the data also indicates the presence of overweight individuals in some groups, notably Dongria Kandha (15.38%), Lodha (15.79%), and Mankidia (18.67%). This dual burden of under- and over-nutrition among marginalised communities suggests a complex nutritional transition, possibly influenced by changing lifestyles, uneven food access, or the growing availability of low-nutrient, energy-dense foods.

Overall, the observed 23.26% prevalence of thinness among female children, though slightly lower than that of males (30.80%), remains a critical public health issue. The coexistence of malnutrition extremes further emphasises the need for integrated, culturally-tailored strategies that address both under- and over-nutrition. Programs must prioritise community engagement, maternal education, and local food security initiatives, especially for high-risk groups such as Lodha, Bonda, and Lanjia Saora, to ensure healthier growth trajectories for young tribal girls in Odisha.

6.3.2. Nutritional status among school-going children

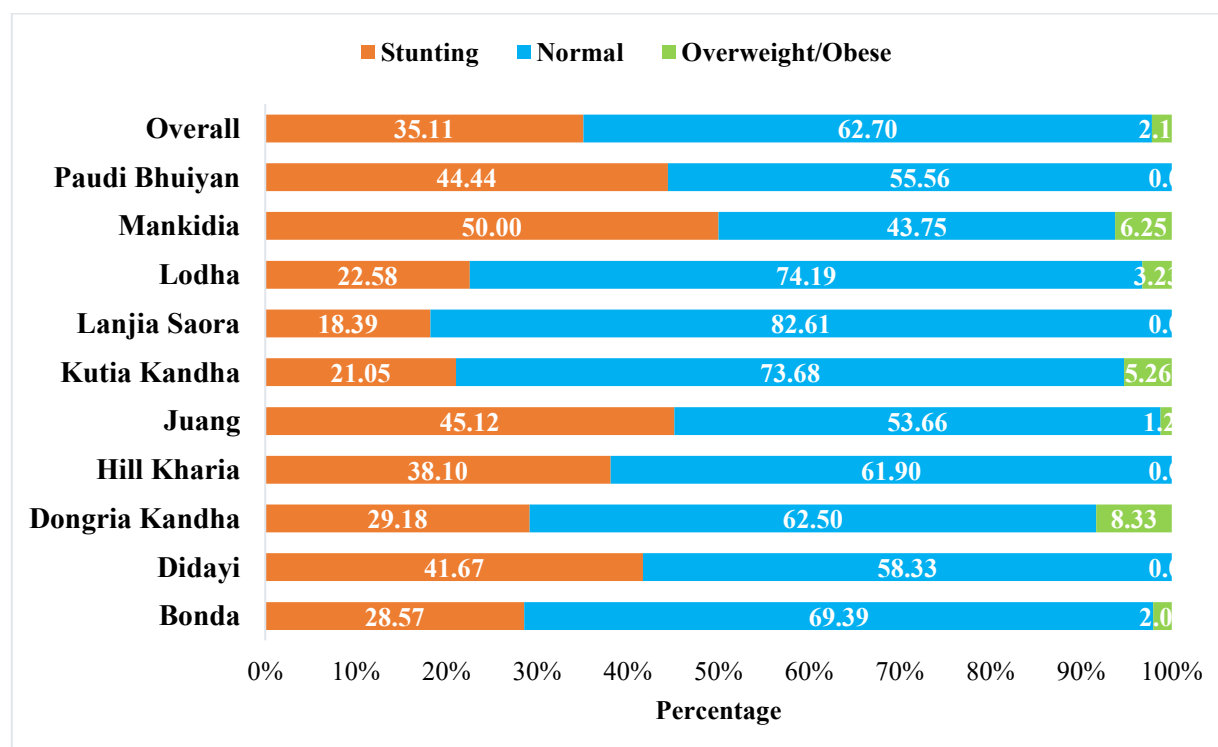


Figure 6.3.2.1: Status of stunting among male school-going children

Table 6.3.2.1 and Figure 6.3.2.1 present the prevalence of stunting among school-age male children across 10 PVTGs in Odisha, offering a critical snapshot of chronic undernutrition as reflected in height-for-age (HAZ) indicators. The overall prevalence of stunting in this demographic is 35.11%, indicating that over one-third of the boys in these tribal communities are affected by impaired linear growth, which is an outcome of sustained nutritional deprivation and socio-economic hardships during early childhood.

Significant inter-ethnic variation is evident in the data. The highest rates of stunting are observed among boys from Mankidia (50.00%), Juang (45.12%), Paudi Bhuiyan (44.44%), and Didayi (41.67%). These alarming figures point to entrenched issues related to food insecurity, limited access to health services, poor maternal nutrition, and recurrent infections, all of which compromise child growth over time. Such persistently high levels of stunting reflect systemic challenges and call for targeted interventions, particularly among these high-burden communities.

Conversely, comparatively lower prevalence is observed among Lanjia Saora (18.39%), Kutia Kandha (21.05%), and Lodha (22.58%), suggesting that some communities may benefit from better nutritional practices, greater food diversity, or access to supportive government schemes. These differences underscore the importance of contextualising nutrition programs based on localised needs and strengths.

Most children in the overall sample fall within the normal growth range (62.70%), which is encouraging yet insufficient when benchmarked against national and global targets for child health. Notably, a small proportion (2.19%) is categorised as overgrown (above +2 SD), possibly reflecting early signs of nutritional transition or anthropometric variation within the populations, though this segment remains minimal.

In sum, this data set reveals that stunting remains a substantial public health issue among school-going tribal boys in Odisha, particularly among certain high-risk groups like Mankidia, Juang, and Didayi. Addressing this challenge requires a multisectoral approach that integrates nutrition-specific interventions (e.g., school meal programs, micronutrient supplementation) with nutrition-sensitive strategies (e.g., sanitation, education, livelihood support). Culturally informed, community-driven efforts are essential to break the intergenerational cycle of malnutrition and foster healthier futures for tribal children.

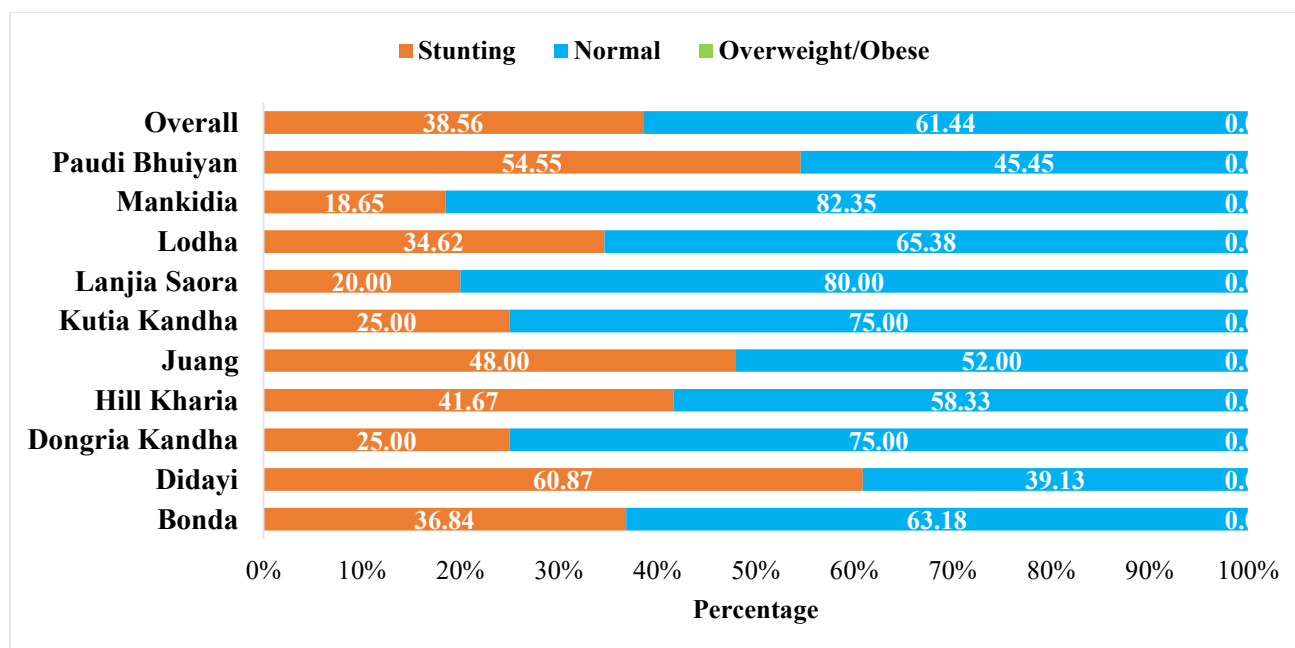


Figure 6.3.2.2: Status of stunting among female school-going children

Table 6.3.2.2 and Figure 6.3.2.2 provide critical insights into the prevalence of stunting among school-age female children across 10 PVTGs in Odisha. The data paints a concerning picture, with an overall stunting rate of 38.56%, indicating that nearly two out of every five girls are affected by chronic undernutrition, as reflected in low height-for-age Z-scores. This condition impairs physical development and carries long-term consequences for cognitive function, educational attainment, and future maternal health.

The highest stunting prevalence is found among Didayi (60.87%), Paudi Bhuiyan (54.55%), and Juang (48.00%) girls, suggesting significant nutritional vulnerability in these communities. These figures signal deep-rooted socio-economic disadvantages, such as food scarcity, poor sanitation, limited access to maternal and child healthcare, and early childhood deprivation. Notably, the Didayi girls, with stunting rates surpassing 60%, are among the most nutritionally at-risk, requiring urgent, community-specific interventions.

In contrast, the lowest stunting rates are observed in Mankidia (18.65%), Lanjia Saora (20.00%), and Kutia Kandha (25.00%), indicating relatively better nutritional status and possibly more effective household or community-level coping mechanisms. These variations highlight the importance of ethnographic and ecological contexts in shaping child nutrition outcomes and underscore the need for tailored, culturally sensitive programs rather than one-size-fits-all solutions.

While most of the girls in the sample fall into the normal growth category (61.44%). Notably, there are no cases of overgrowth among girls in any of the PVTG communities, underscoring the absence of overnutrition and emphasising the continued relevance of undernutrition as the primary public health concern.

Overall, this analysis reveals a high burden of stunting among school-going tribal girls, especially in certain ethnic groups like Didayi, Paudi Bhuiyan, and Juang, demanding targeted nutrition strategies. Holistic, gender-sensitive approaches integrating nutrition education, school-based health programs,

adolescent supplementation, and empowerment initiatives for tribal girls and mothers are vital to closing the growth gap and fostering healthier, more resilient tribal populations.

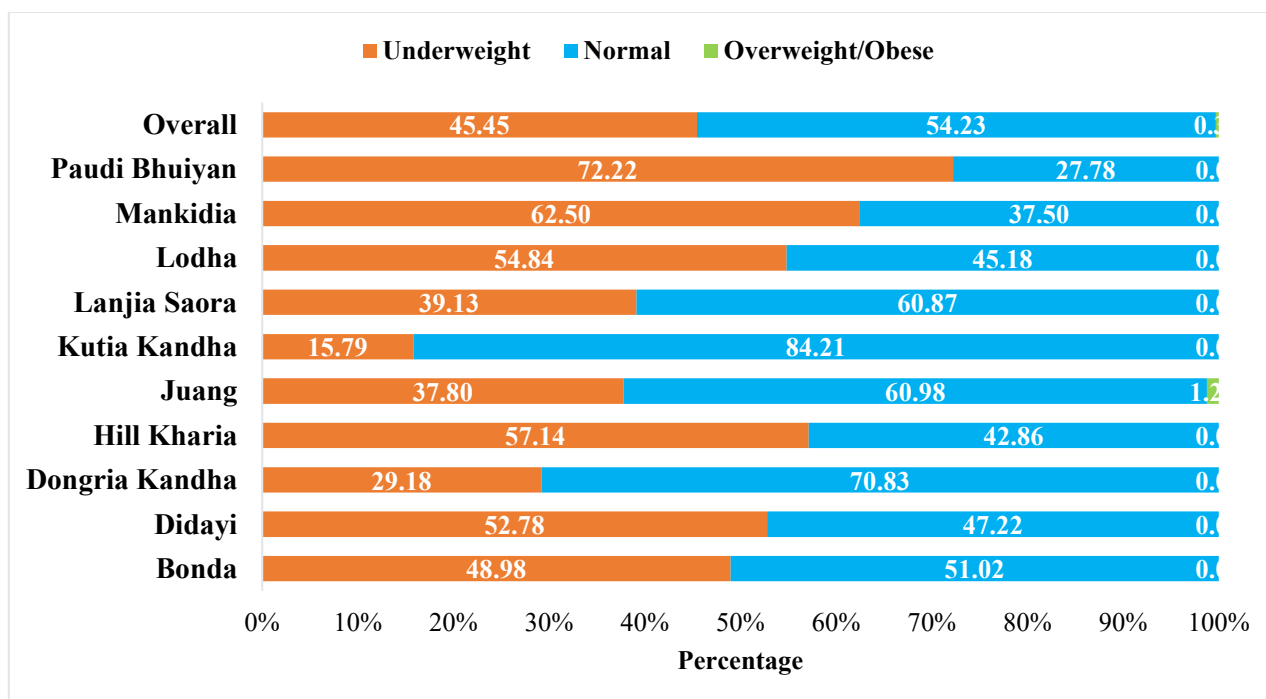


Figure 6.3.2.3: Status of underweight among male school-going children

The analysis of Table 6.3.2.3 and Figure 6.3.2.3, which present the prevalence of underweight among school-aged male children from ten PVTGs in Odisha, reveals a significant burden of undernutrition in these communities. The overall prevalence of underweight stands at 45.45%, indicating that nearly one in two boys suffers from low weight-for-age, a critical indicator of both chronic and acute malnutrition. This alarming statistic reflects long-term food insecurity, recurrent infections, and poor childcare practices within these marginalised tribal populations.

Among the ethnic groups, Mankidia (72.22%), Paudi Bhuiyan (62.50%), Hill Kharia (57.14%), and Lodha (54.84%) report the highest rates of underweight, highlighting severe nutritional stress in these communities. These high prevalence rates align with broader trends of vulnerability seen in their preschool counterparts, suggesting ongoing malnutrition across age groups, likely due to poor dietary diversity, inadequate healthcare access, and persistent poverty.

Conversely, Kutia Kandha (15.79%) and Dongria Kandha (29.18%) have the lowest underweight rates, suggesting some level of resilience or better access to nutrition and health services during the school years. Relatively better nutritional status among boys in these communities may be attributed to localised intervention programs.

Notably, the normal weight category comprises 54.23% of the total, indicating that just over half of the boys maintain an adequate weight-for-age. However, this proportion varies significantly among different groups. Furthermore, the incidence of overweight is negligible, with only one case (0.31%) reported among all ten PVTGs, underscoring the predominance of undernutrition as the primary public health challenge rather than obesity-related concerns.

The data emphasise the urgent need for age- and ethnicity-specific nutrition interventions among school-aged boys in tribal Odisha. Priority attention should be directed toward high-risk groups such as Mankidia, Paudi Bhuiyan, and Hill Kharia, where underweight prevalence exceeds 50%. Integrated programs focused on school meals, health check-ups, deworming, nutrition education, and community-based food security initiatives can play a crucial role in improving the nutritional landscape of these vulnerable populations.

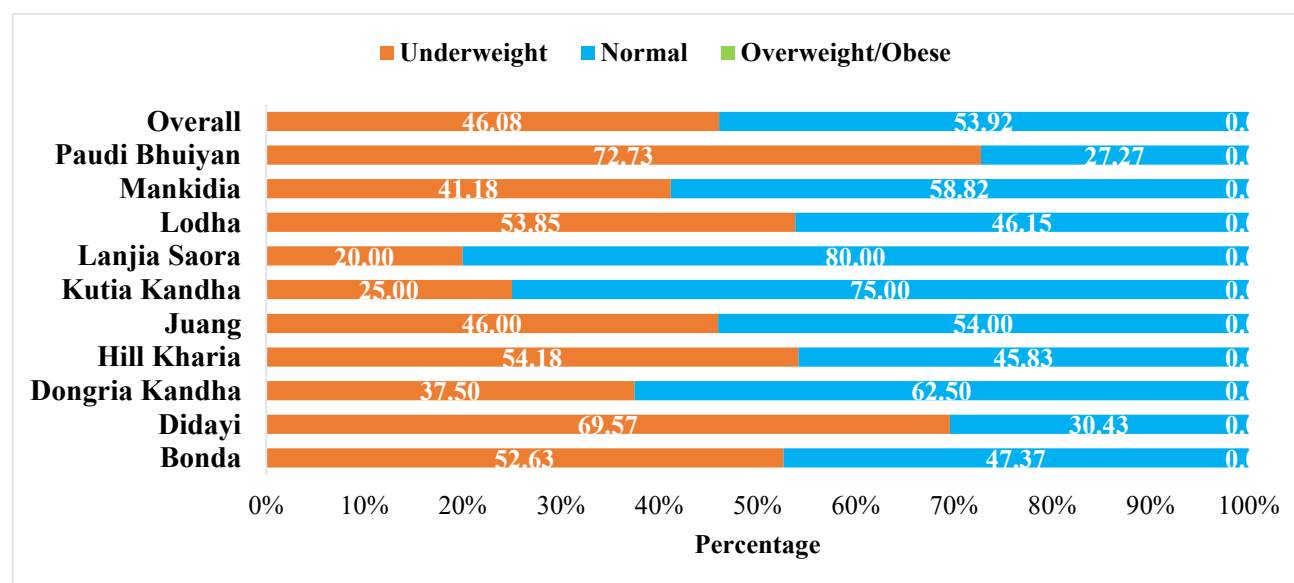


Figure 6.3.2.4: Status of underweight among female school-going children

Table 6.3.2.4 and Figure 6.3.2.4 present a concerning picture of undernutrition among school-going female children from the ten PVTGs of Odisha, with an overall underweight prevalence of 46.08%. This statistic reflects the nutritional challenges faced by male counterparts as well, highlighting a widespread issue of inadequate weight-for-age that affects nearly half of the girls in this vulnerable demographic. The data suggest not only insufficient dietary intake but also deeper socioeconomic and health disparities, such as limited access to nutrient-rich foods, poor healthcare infrastructure, and gender-based neglect in specific contexts.

Among the PVTGs, the Paudi Bhuiyan (72.73%), Didayi (69.57%), and Bonda (52.63%) girls are the most affected, with more than half of the female children underweight. These communities seem to be trapped in a cycle of chronic food insecurity and inadequate public health support, making them priority targets for nutritional intervention programs. The Hill Kharia (54.18%) and Lodha (53.85%) groups also show high underweight prevalence, indicating that undernutrition is widespread rather than confined to isolated groups.

In contrast, communities such as Lanjia Saora (20.00%) and Kutia Kandha (25.00%) report significantly lower levels of underweight among girls, suggesting greater nutritional resilience. This may be due to diverse food sources, community support mechanisms, or functioning government schemes, such as school feeding programs and Integrated Child Development Services (ICDS) centres.

Interestingly, no cases of overweight were reported in any of the communities, indicating that overnutrition is not currently a public health concern among PVTG girls. While 53.92% of the total sample demonstrates a normal nutritional status, this positive statistic is overshadowed by stark

disparities across different ethnic groups. In conclusion, the findings underscore a gender-inclusive nutritional crisis among school-age children in tribal Odisha. The high prevalence of underweight girls, particularly among the Paudi Bhuiyan, Didayi, and Bonda groups, calls for immediate, culturally sensitive, and community-specific interventions. Strategies should include midday meals, regular growth monitoring, iron and micronutrient supplementation, and nutrition education, with a focus on adolescent girls, whose health directly influences future maternal and child health outcomes in these vulnerable populations.

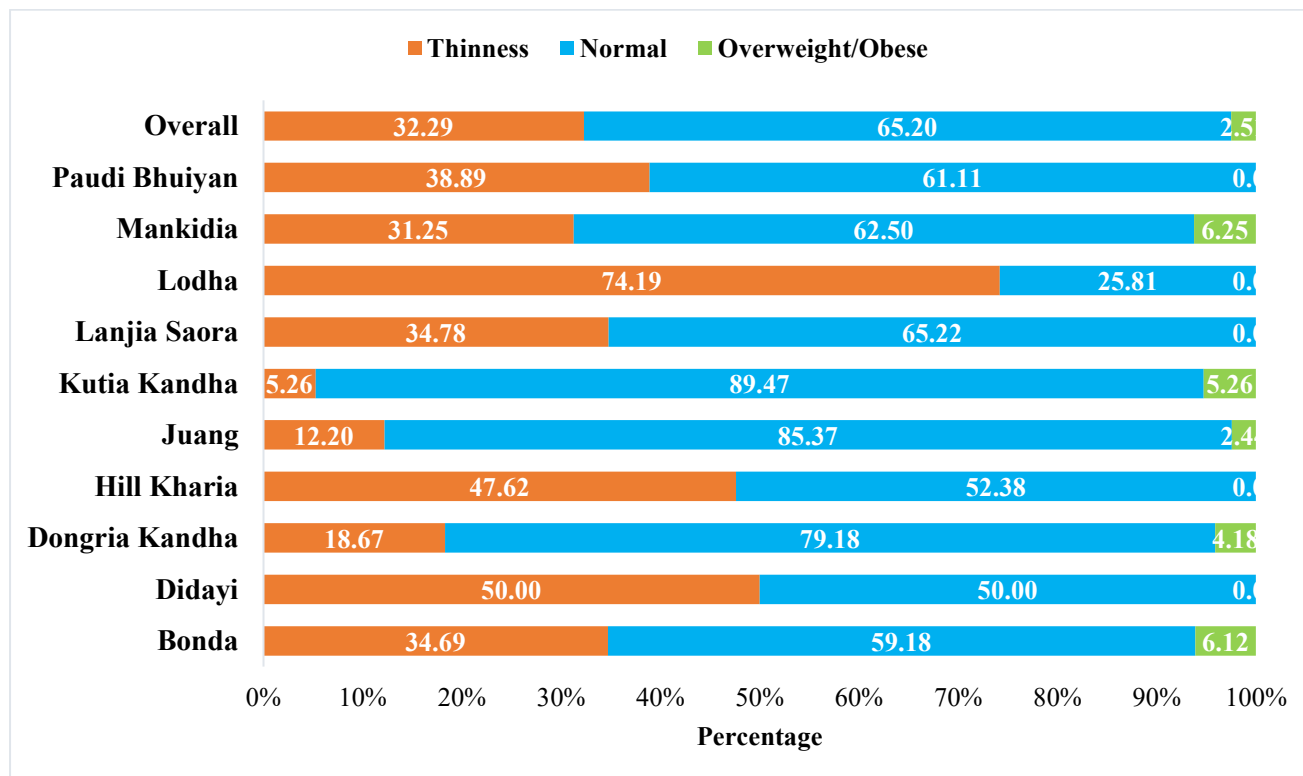


Figure 6.3.2.5: Status of Thinness among male school-going children

The table and figure 6.3.2.5 provide a detailed overview of thinness (low BMI-for-age) among school-age male children from the ten PVTGs in Odisha. The overall prevalence of thinness is 32.29%, suggesting that nearly one in three boys suffers from chronic energy deficiency and undernutrition. Although this figure is slightly lower than the prevalence of underweight, it still represents a significant public health concern, indicating poor body mass in relation to age often linked to inadequate caloric intake, infections, or prolonged malnutrition.

A closer examination reveals notable differences among the groups. The Lodha community shows an alarmingly high thinness rate of 74.19%, followed by the Didayi (50.00%), Hill Kharia (47.62%), and Bonda (34.69%) groups, all of which have significantly higher rates than the overall average. These figures suggest severe nutritional deprivation, likely exacerbated by remote geography, limited access to health services, and food insecurity. Such high rates of thinness may also reflect seasonal food shortages of diseases that impact growth and body mass.

Conversely, ethnic groups such as the Juang (12.20%), Kutia Kandha (5.26%), and Dongria Kandha (18.67%) display relatively low levels of thinness, potentially indicating better dietary practices, effective utilisation of welfare schemes, or better access to health and educational infrastructure. These

variations warrant context-specific research into protective factors that could be replicated in more affected communities.

Notably, overnutrition was observed, with 2.51% of boys classified as overweight, and the highest prevalence was 6.25% in this category. This emphasises that malnutrition among tribal boys is primarily a problem of deprivation rather than excess, reinforcing the need for targeted interventions that address undernutrition, focus on growth monitoring, ensure adequate school meals, and promote health education.

In summary, the data highlights a persistent burden of thinness among school-age boys from PVTGs, particularly in the Lodha and Didayi groups. The stark community-level differences call for tailored, localised policy responses that emphasise sustainable nutrition security, community-based monitoring, and integrated health and education services to reverse the trend of thinness and secure the well-being of future generations.

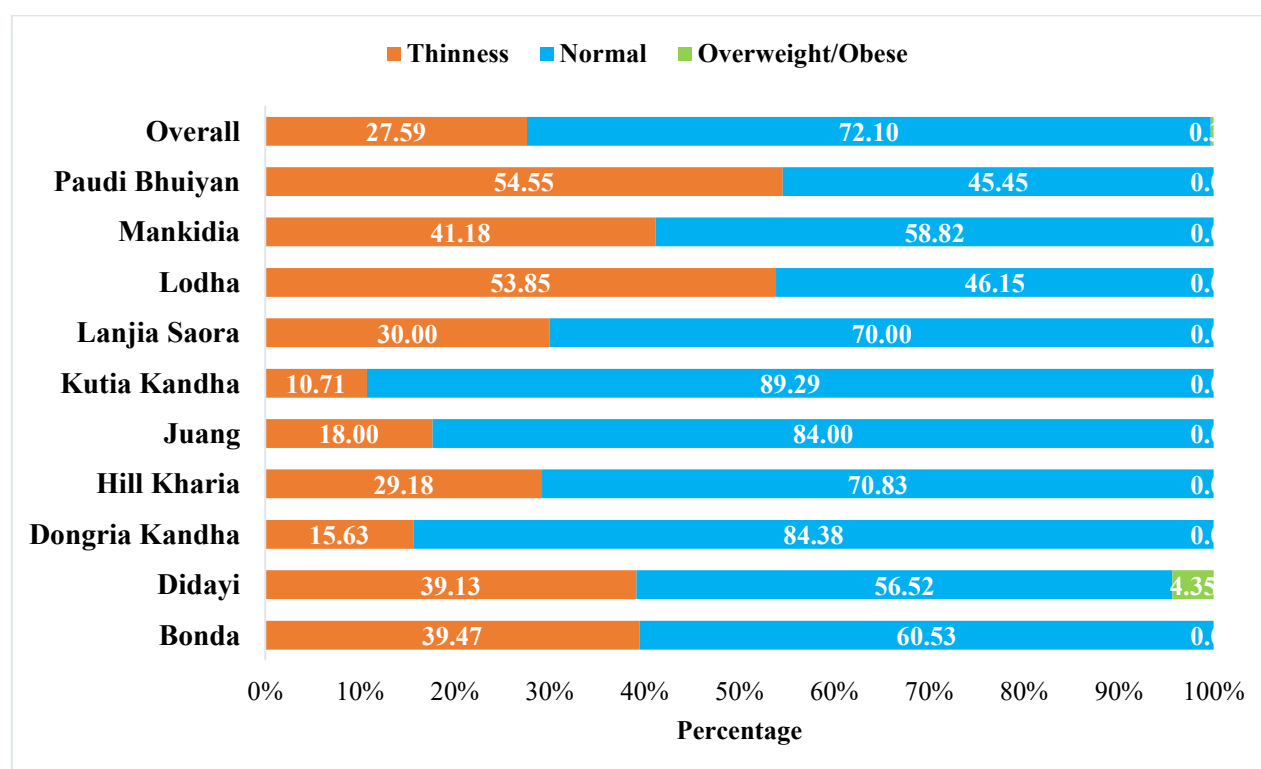


Figure 6.3.2.6: Status of thinness among female school-going children

Table 6.3.2.6 and figure 6.3.2.6 illustrate the prevalence of thinness (low BMI-for-age) among school-going female children from ten PVTGs in Odisha. The overall prevalence of thinness is 27.59%, indicating that more than one in four girls experiences chronic energy deficiency. This reflects inadequate nutritional intake, recurrent illness, or prolonged undernutrition during critical growth periods. While this percentage is slightly lower than that of their male counterparts (32.29%), it still raises significant concerns about nutritional vulnerability among tribal girls.

A closer examination reveals alarmingly high rates of thinness in the Lodha (53.85%), Paudi Bhuiyan (54.55%), and Bonda (39.47%) communities. These figures suggest that girls from these groups face severe nutritional disadvantages, likely linked to socio-economic deprivation, cultural food taboos,

gender-based disparities in household food distribution, and limited access to quality mid-day meals and health services. Additionally, the Didayi (39.13%) and Lanjia Saora (30.00%) communities report high levels of thinness, underscoring deep-rooted structural issues in food security and healthcare. Conversely, communities such as Dongria Kandha (15.63%), Juang (18.00%), and Kutia Kandha (10.71%) show lower levels of thinness.

In conclusion, the findings from this table highlight the critical nutritional challenges faced by school-going girls in tribal communities, particularly among the Lodha, Paudi Bhuiyan, and Bonda groups. The data call for targeted, gender-sensitive interventions focusing on providing nutritious mid-day meals, regular health screenings, community-based nutrition education, and addressing the socio-cultural determinants of female malnutrition. These measures are essential to safeguard the health and development of tribal girls in Odisha.

6.3.3. Nutritional status among tribal adolescents

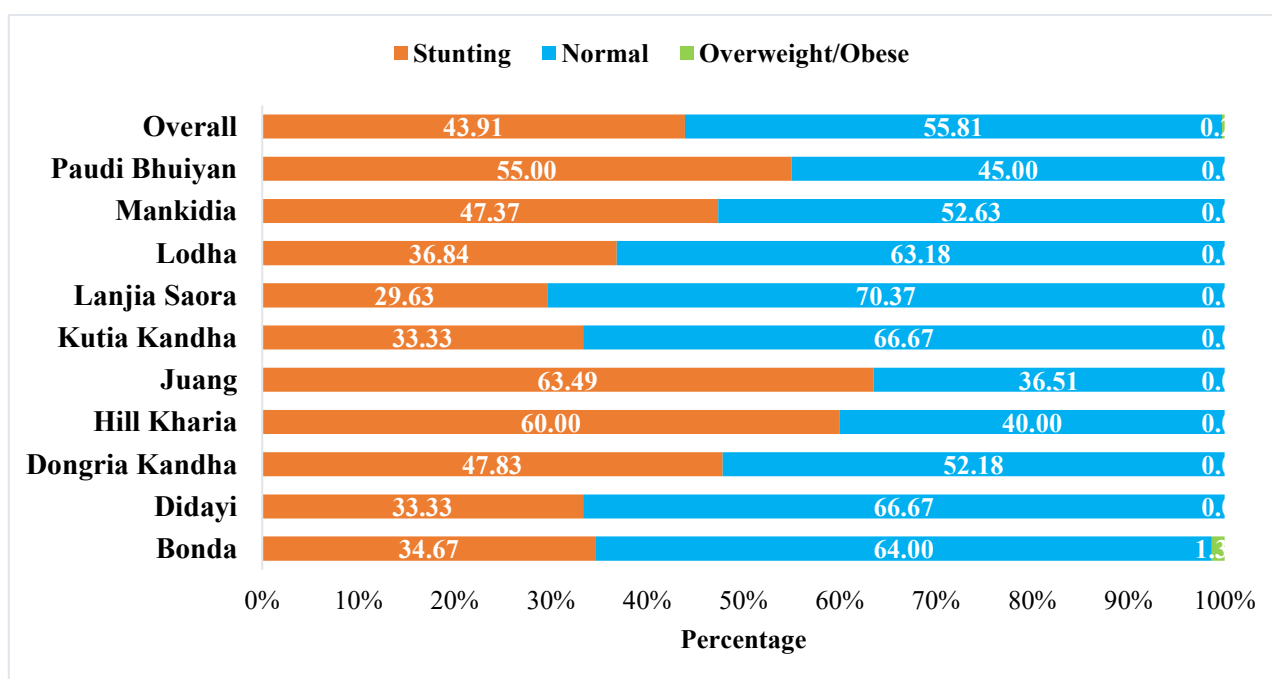


Figure 6.3.3.1: Status of stunting among male adolescents

The table and figure 6.3.3.1 provide a detailed overview of stunting prevalence among male adolescents across ten PVTGs in Odisha. The data reveal that 43.91% of the total male adolescents are stunted, a staggering figure that reflects chronic undernutrition and long-term deprivation during crucial years of physical and cognitive growth. This widespread stunting indicates persistent food insecurity, poor dietary diversity, inadequate health services, and socio-economic challenges in tribal regions.

Among these tribal groups, Juang (63.49%) and Hill Kharia (60.00%) boys exhibit the highest rates of stunting, which is a cause for serious concern. These percentages far exceed national rural averages and suggest deep-rooted issues related to intergenerational poverty, delayed growth spurts, and insufficient adolescent nutrition programs. Similarly, Dongria Kandha (47.83%) and Mankidia (47.37%) report that almost half of their male adolescent populations are stunted, reinforcing the need for focused, community-specific interventions.

In contrast, lower stunting rates are observed in groups such as Lanjia Saora (29.63%), Didayi (33.33%), and Kutia Kandha (33.33%), although these rates are still significant.

In summary, the data on male adolescent stunting across the PVTGs of Odisha paints a concerning picture, particularly for groups such as Juang, Hill Kharia, and Dongria Kandha. This situation underscores an urgent need for adolescent-specific nutritional programs, including iron and micronutrient supplementation, regular health check-ups, food fortification, and educational initiatives that promote better dietary and hygiene practices. Addressing adolescent stunting is critical not only for individual well-being but also for breaking the intergenerational cycle of poverty and undernutrition in these vulnerable communities.

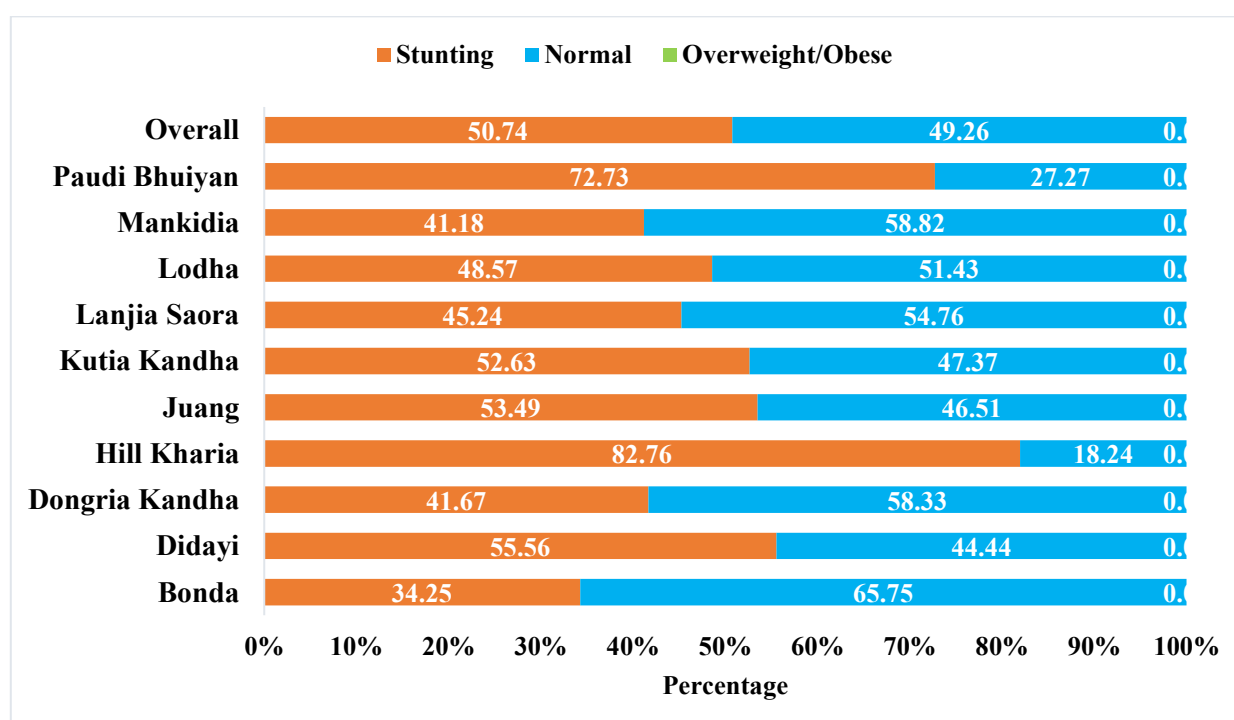


Figure 6.3.3.2: Status of stunting among female adolescents

The alarming prevalence of stunting among female adolescents across ten PVTGs in Odisha is concerning (see Table 6.3.3.2 and Figure 6.3.3.2). The overall prevalence is 50.74%, indicating that more than half of all female adolescents in the surveyed PVTG communities are affected by chronic undernutrition. This figure is even higher than that of their male counterparts. This highlights a significant gender dimension of nutritional inequality, likely linked to cultural norms, biases in food distribution, reproductive health challenges, and limited access to adolescent health services.

Among these groups, the Hill Kharia show the highest stunting prevalence at 82.76%, a distressing figure that signifies a critical public health emergency. Following closely are the Paudi Bhuiyan at 72.73% and Juang at 53.49%, where more than half of the adolescent girls are stunted, suggesting long-standing nutritional deprivation during their formative years. These statistics point to an urgent need for targeted interventions focused on adolescent girls, including school-based nutrition programs, anaemia control measures, and reproductive health education.

Other groups, such as the Didayi (55.56%), Kutia Kandha (52.63%), and Lanjia Saora (45.24%), also report stunting rates well above the national average, indicating that undernutrition is systemic across tribal regions. Interestingly, the Dongria Kandha (41.67%), Lodha (48.57%), and Mankidia (41.18%), although showing relatively moderate rates, still exceed the threshold of public health concern.

In conclusion, the overall stunting rate of 50.74% among female adolescents in these PVTGs is a stark indicator of ongoing gendered nutritional deficits, necessitating immediate and strategic action. This includes nutrition supplementation, gender-sensitive food security programs, menstrual hygiene management, adolescent-friendly health services, and empowerment initiatives to equip girls with knowledge and resources. Without targeted interventions, this hidden crisis among adolescent girls could perpetuate intergenerational cycles of poor health, educational dropout, early marriage, and maternal undernutrition in tribal communities.

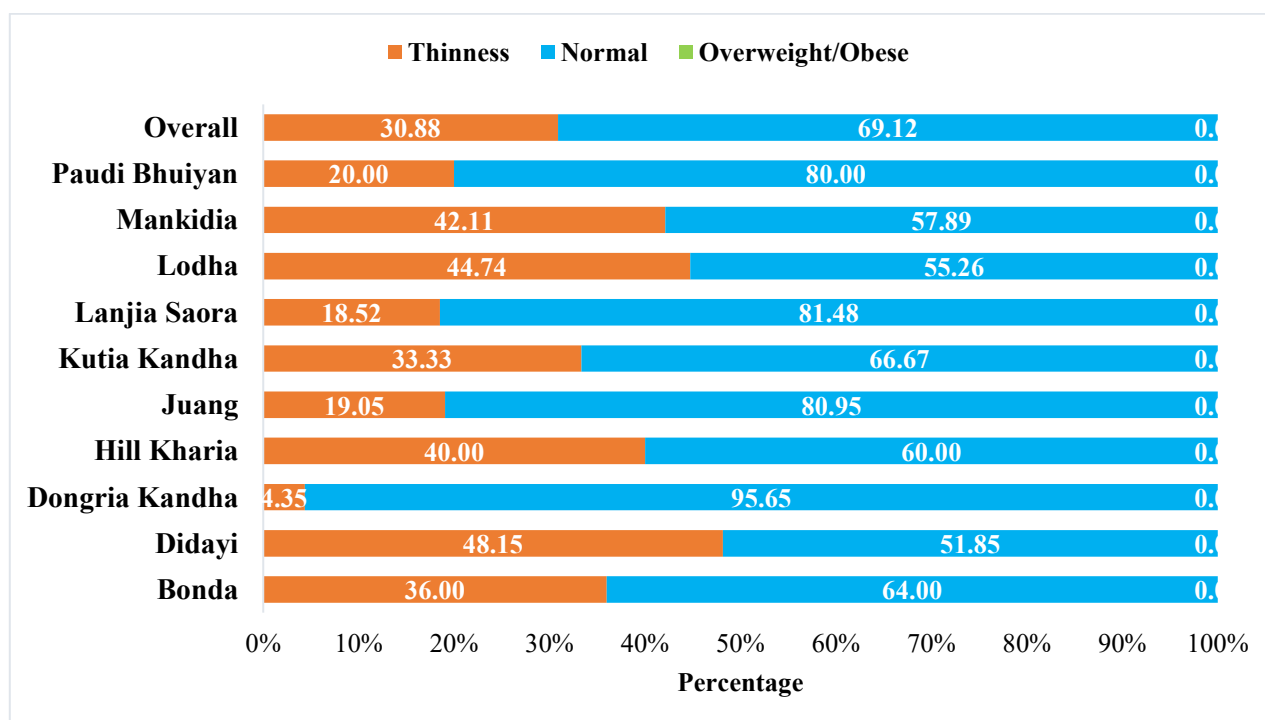


Figure 6.3.3.3: Status of thinness among male adolescents

A recent analysis of male adolescents across ten PVTGs in Odisha presents a troubling picture of nutritional inadequacy. The overall prevalence of thinness, indicative of acute undernutrition, is 30.88%. This statistic suggests that nearly one in three male adolescents is affected by poor nutritional status, likely due to chronic food insecurity, erratic dietary habits, and limited access to adolescent health services in tribal areas.

Among the tribal groups, the Didayi (48.15%), Lodha (44.74%), Hill Kharia (40.00%), and Bonda (36.00%) show alarmingly high rates of thinness, highlighting widespread acute malnutrition. These communities urgently need nutritional interventions, especially adolescent-specific meal programmes and active nutritional monitoring. The Mankidia group also displays a concerning trend, with a thinness rate of 42.11%, underscoring the vulnerability of nomadic or semi-nomadic tribal populations, who often lack consistent access to health and nutrition programmes.

In contrast, the Dongria Kandha group displays the lowest thinness prevalence at 4.35%. Similarly, the Juang (19.05%) and Paudi Bhuiyan (20.00%) groups show lower thinness rates, although these still indicate undernutrition among about one-fifth of their adolescent male population.

The 30.88% thinness rate reflects a public health crisis requiring tailored adolescent health policies. These should focus on school feeding programs, iron and micronutrient supplementation, education on balanced diets, and improved accessibility to healthcare services. Without such interventions, male adolescents in these PVTGs face increased risks of poor physical development, weakened immunity, and diminished cognitive and academic performance, which could hinder their transition into healthy, productive adulthood.

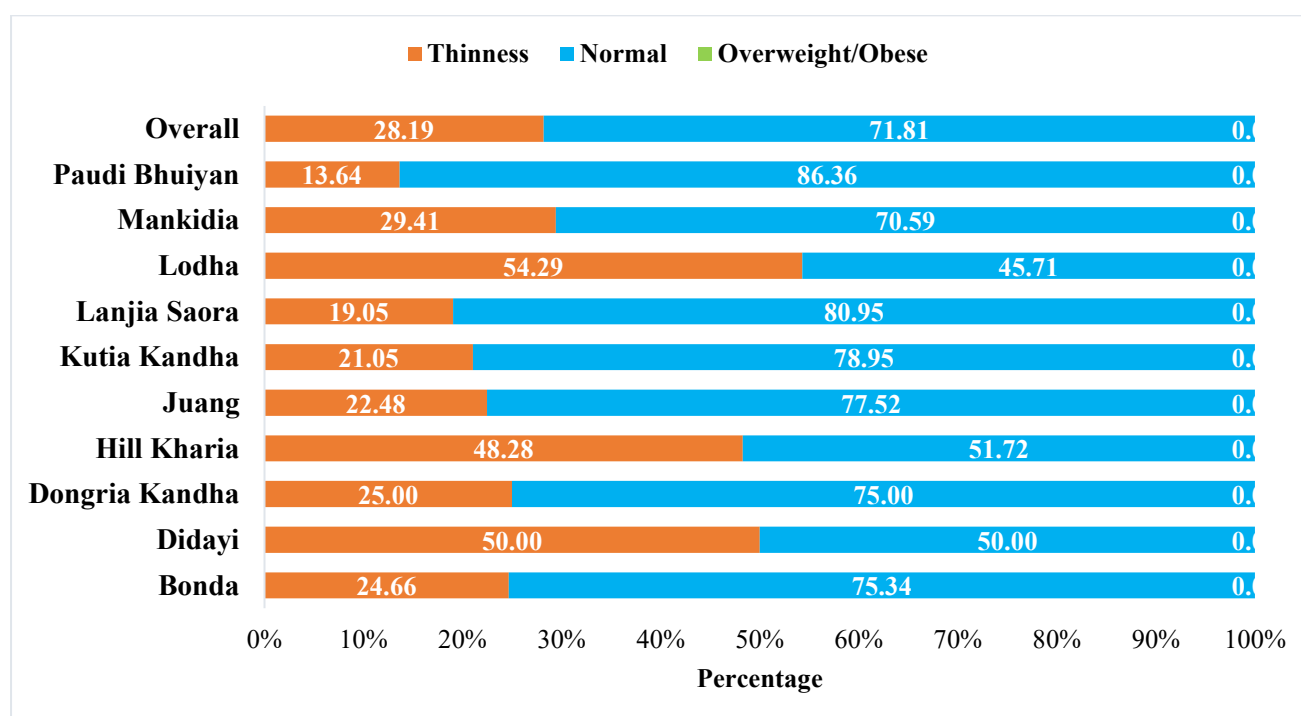


Figure 6.3.3.4: Status of thinness among female adolescents

Table 6.3.3.4 and Figure 6.3.3.4 indicate a significant prevalence of thinness (acute undernutrition) among female adolescents in the ten PVTGs of Odisha, with an overall rate of 28.19%. This means that more than a quarter of adolescent girls are acutely undernourished, which increases their risk of stunted growth, weakened immunity, poor reproductive health outcomes, and reduced cognitive capacity, which are critical concerns during this crucial stage of life.

Among the different ethnic groups, Lodha (54.29%), Didayi (50.00%), and Hill Kharia (48.28%) display particularly high rates of thinness, highlighting chronic deficiencies in energy and micronutrient intake. These communities urgently require targeted health and nutrition interventions for adolescents, such as fortified mid-day meals, iron and folic acid supplementation, and community-based awareness campaigns focused on the dietary needs of adolescent girls.

In contrast, the Paudi Bhuiyan (13.64%), Kotia Kandha (21.05%), and Juang (22.48%) have relatively lower rates of thinness, but still demonstrate significant vulnerability. Dongria Kandha (25.00%) and Bonda (24.66%), show moderate levels of thinness. This could indicate the positive impact of recent governmental or non-governmental nutrition initiatives in those regions.

Overall, these findings highlight the necessity for comprehensive and culturally sensitive nutrition programs that address the unique physiological needs of adolescent girls, especially as they approach reproductive age. Strengthening school-based health services, improving access to diverse diets, and integrating adolescent health into tribal development policies will be essential to reversing undernutrition trends among female adolescents in these vulnerable communities.

6.4.1 Anthropometric findings on adults from the slected PVTG communities

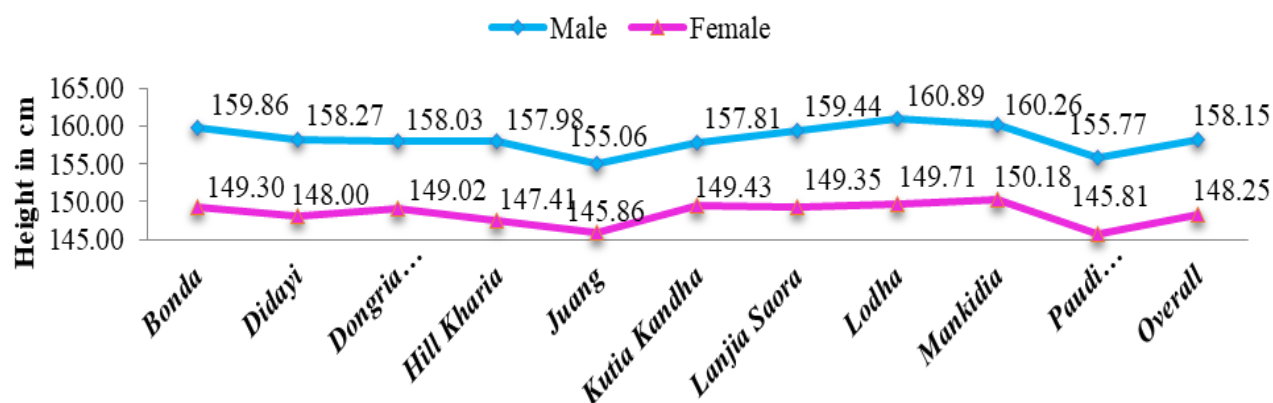


Figure 6.4.1.1: Status of Height/Stature among adult PVTGs

Table 6.4.1.1 and Figure 6.4.1.1 present the mean height distributions for adult males and females across the 10 PVTGs in Odisha. This highlights the variations in physical growth likely influenced by nutritional status, genetic traits, and environmental factors. The overall average height for males is 158.15 cm, while for females it is 148.25 cm, revealing a consistent gender-based difference of approximately 10 cm. This trend is a common biological characteristic, but may also indicate disparities in nutrition and workload burdens.

Among adult males, the highest average heights are recorded among the Lodha (180.89 cm), Mankidia (180.26 cm), and Bonda (159.86 cm) groups. In contrast, Juang (155.06 cm) and Paudi Bhuiyan (155.77 cm) have the lowest average heights. These variations could reflect differences in food access, livelihoods, exposure to healthcare, and traditional diets. For example, communities like the Lodha and Mankidia may have better protein intake through forest-based foods or occasional access to wage labour.

In adult females, the tallest average heights are found among the Mankidia (150.18 cm), Lodha (149.71 cm), and Kutia Kandha (149.43 cm), with the Dongria Kandha (149.02 cm) and Lanjia Saora (149.35 cm) close behind. At the lower end, Juang (145.86 cm) and Paudi Bhuiyan (145.81 cm) females display the shortest average heights, suggesting chronic undernutrition and possibly gender-specific vulnerabilities in these groups, which require targeted interventions.

The relatively low standard deviations (SD), ranging from 4.86 cm to 6.55 cm for both sexes, indicate limited intra-group variation. This suggests that the observed height patterns likely reflect long-standing, community-wide factors rather than individual differences.

Overall, this anthropometric data reveals physiological trends and highlights structural inequalities in health, nutrition, and socio-economic well-being among the PVTGs. Addressing height as an indicator of cumulative nutrition and health stress, particularly for women in lower-performing groups like the Juang and Paudi Bhuiyan, will be critical in designing targeted and equitable tribal welfare programs encompassing early-life interventions and adult health support.

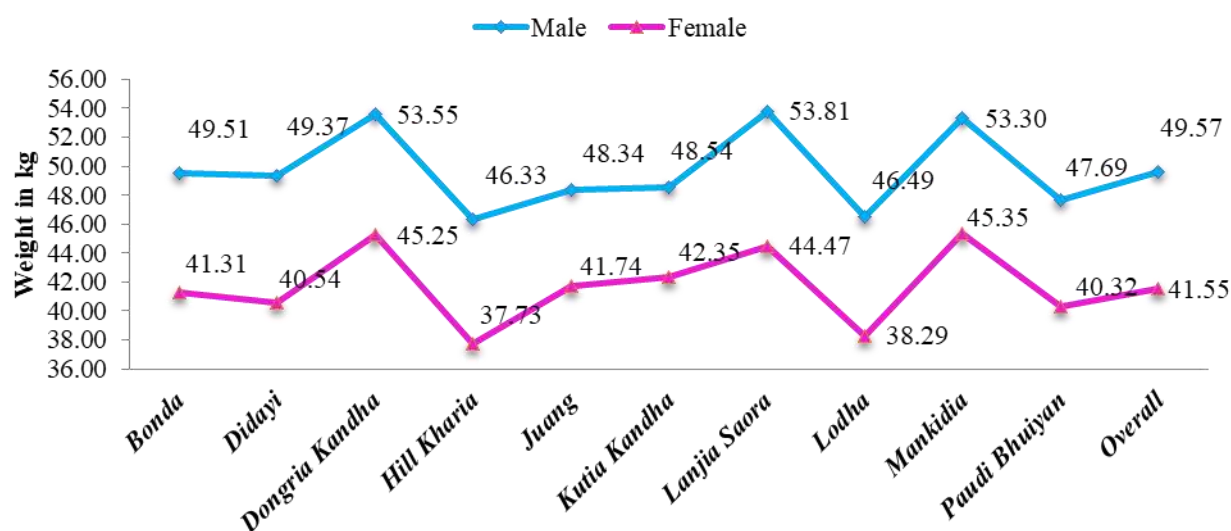


Figure 6.4.1.2: Status of body weight among adult PVTGs

Table 6.4.1.2 and Figure 6.4.1.2 present the average body weight of adult males and females across ten PVTGs in Odisha. This information sheds light on these communities' nutritional health, energy reserves, and potential livelihood stressors. The overall average weight is 49.57 kg for males and 41.55 kg for females, reflecting not only the typical physiological differences between the sexes but also a broader issue of undernutrition, particularly among women.

Among males, the highest average weights are recorded for the Lanjia Saora (53.81 kg), Dongria Kandha (53.55 kg), and Mankidia (53.30 kg) groups. In contrast, the Hill Kharia (46.33 kg), Lodha (46.49 kg), and Paudi Bhuiyan (47.69 kg) groups show lower average weights.

For females, the average weight is notably low across all groups, highlighting a significant gender-based nutritional gap. The Dongria Kandha (45.25 kg), Mankidia (45.35 kg), and Lanjia Saora (44.47 kg) groups have relatively higher body weights. In comparison, the Hill Kharia (37.73 kg), Lodha (38.29 kg), and Paudi Bhuiyan (40.32 kg) groups record the lowest weights. This suggests that maternal nutrition, workloads, and limited access to protein-rich foods may disproportionately affect female health.

The standard deviation (SD) values for both sexes range from 5.22 to 8.94 kg, indicating moderate group variability that may be influenced by individual health, age, or occupation type. However, the low average weights, especially among females, emphasise the critical need for nutrition-specific interventions, such as supplementary feeding, behaviour change communication, and anaemia-reduction programs tailored to tribal settings.

This dataset highlights the chronic underweight condition prevalent among adult PVTG populations, with women facing the most significant deprivation. Bridging this weight gap and enhancing body

mass through community-driven health and nutrition strategies should be a key focus of tribal welfare and public health policy in Odisha.

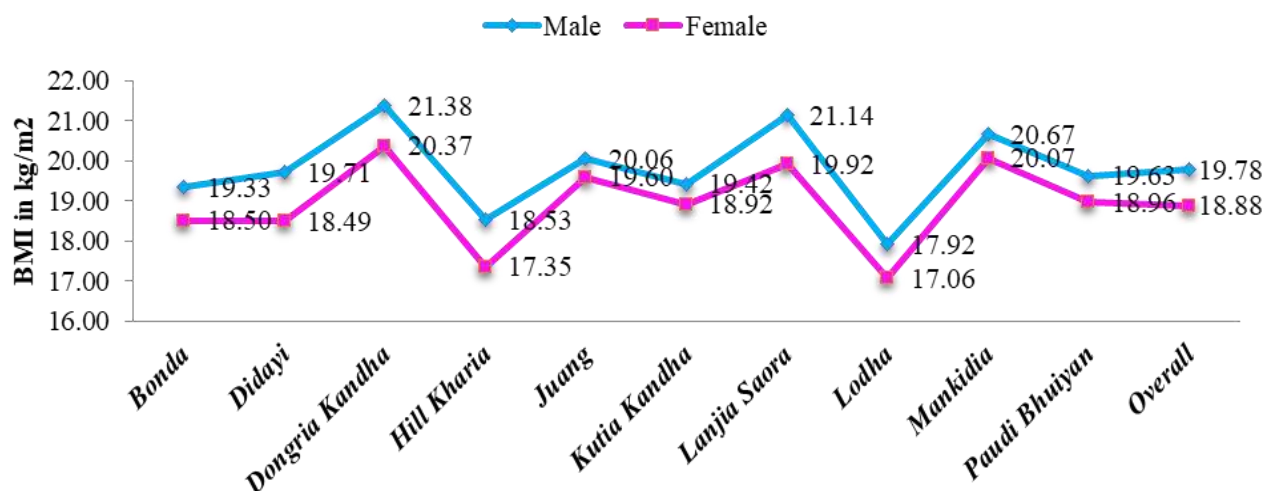


Figure 6.4.1.3: Status of Body Mass Index (BMI Kg/m²) among adult PVTGs

The mean Body Mass Index (BMI) of adult males and females from the ten PVTGs in Odisha provides valuable insight into their nutritional well-being and the impact of chronic energy deficiency in these marginalised communities (see Table 6.4.1.3 and Figure 6.4.1.3). The overall average BMI is 19.78 kg/m² for males and 18.88 kg/m² for females, both of which fall at or just below the lower end of the normal BMI range (18.5–24.9 kg/m²) as defined by the World Health Organisation (WHO). This indicates widespread undernutrition, particularly among women.

Among males, the Dongria Kandha (21.38 kg/m²) and Lanjia Saora (21.14 kg/m²) groups exhibit the highest mean BMIs, placing them comfortably within the healthy range and suggesting better nutritional intake or a more balanced lifestyle. In contrast, the Lodha (18.92) and Hill Kharia (18.53) groups show BMI values below the normal range, highlighting a higher prevalence of chronic energy deficiency and underweight status within these communities. Similarly, among females, the Dongria Kandha (20.37), Mankidia (20.07), and Lanjia Saora (19.92) groups present relatively better BMI averages, while the Lodha (18.06) and Hill Kharia (18.35) again emerge as nutritionally vulnerable.

The standard deviation (SD) ranges from 2.00 to 3.14, indicating moderate intra-group variation in BMI. These variations may be attributed to differences in food access, the intensity of physical labour, seasonal food availability, or gender-based disparities in food allocation and healthcare access.

The consistently lower BMI among females across nearly all groups reflects deep-rooted gender inequities in nutritional status, likely exacerbated by maternal responsibilities, dietary restrictions, and sociocultural norms that prioritise male nutrition. The data paints a concerning picture of chronic undernutrition in adult tribal populations, particularly among women and communities like Lodha and Hill Kharia, who desperately need nutritional interventions.

Overall, the BMI distribution highlights the urgent need for targeted health and nutrition programs, including micronutrient supplementation, awareness campaigns, and livelihood support, to combat the dual issues of poverty and malnutrition among Odisha's PVTGs.

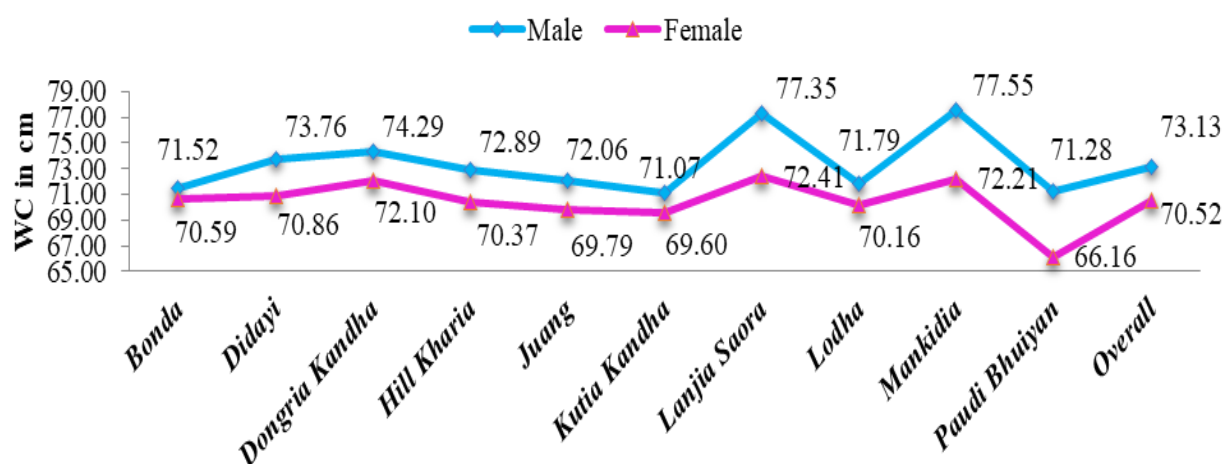


Figure 6.4.1.4: Status of Minimum Waist Circumference (WC) among adult PVTGs

Tables 6.4.1.4 and figures 6.4.1.4 present the mean waist circumference (WC) of adult males and females across the ten PVTGs of Odisha. This data provides insights into central adiposity and the associated metabolic risks within these marginalised communities. The overall average WC is 73.13 cm for males and 70.52 cm for females, both of which fall below the World Health Organization (WHO) thresholds for abdominal obesity (≥ 90 cm for men and ≥ 80 cm for women in Asian populations). These findings suggest a generally low risk of central obesity among adult PVTGs, consistent with earlier BMI trends indicating that undernutrition is a more pressing concern than overnutrition.

Among the males, the Mankidia (77.55 cm) and Lanjia Saora (77.35 cm) groups have the highest average WC, approaching the upper limits of the normal range. This indicates relatively higher energy reserves or body mass. In contrast, the Kutia Kandha (71.07 cm), Paudi Bhuiyan (71.28 cm), and Bonda (71.52 cm) groups exhibit the lowest WC values, reflecting leaner body composition and potentially greater nutritional vulnerability. A similar trend is seen among females, with Mankidia women (77.77 cm) having the highest WC, which is noticeably elevated while still below the risk threshold. On the other end of the spectrum, Paudi Bhuiyan (66.18 cm) and Kutia Kandha (69.60 cm) women show the lowest WCs, suggesting lean physiques and possible chronic energy deficiency.

Overall, when considered alongside BMI and weight metrics, the MWC data reinforces the understanding of predominant undernutrition, with minimal concerns about obesity. However, the rising MWC in certain groups could be early indicators of nutritional transitions, emphasising the need for continued monitoring to prevent future non-communicable diseases. Gender-specific health strategies, particularly for women in tribes such as the Paudi Bhuiyan and Kutia Kandha, are essential for addressing underlying nutritional inequities and promoting holistic health and well-being within these communities.

6.4.2 Selected Physiological and metabolic parameters among tribal adults

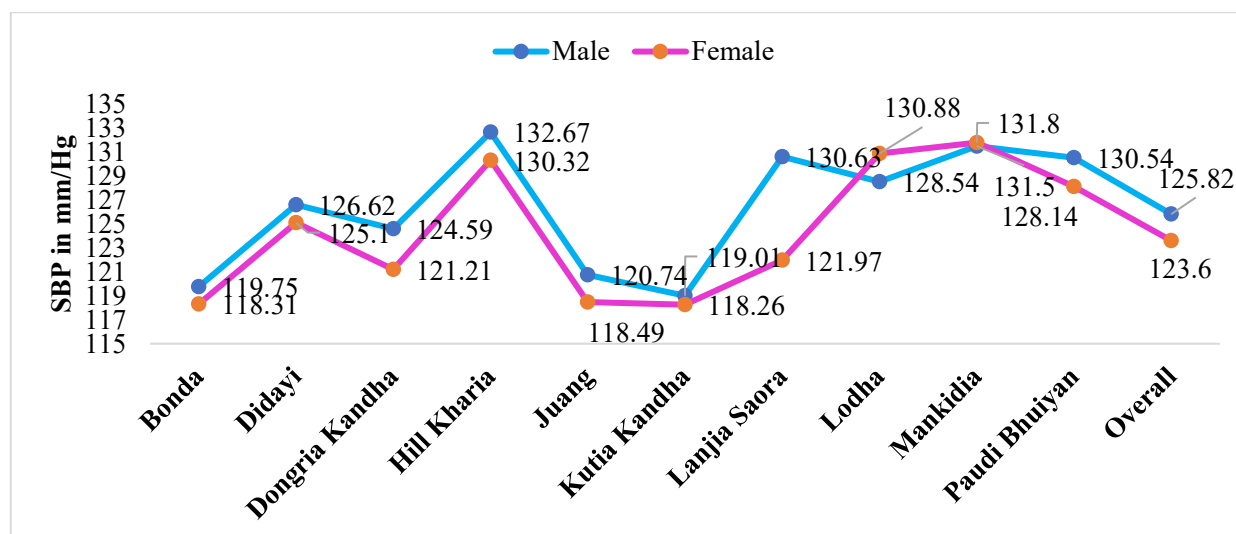


Figure 6.4.2.1: Status of average systolic blood pressure (SBP) among adult PVTGs

Table 6.4.2.1 and Figure 6.4.2.1 present the mean systolic blood pressure (SBP) levels of adult males and females across ten PVTGs in Odisha, providing an important indicator of cardiovascular health. The overall average SBP is 125.82 mmHg for males and 123.60 mmHg for females, both of which are just below the hypertension threshold of 130 mmHg, as defined by the American College of Cardiology/American Heart Association (ACC/AHA) guidelines. This suggests that prehypertension or elevated SBP may be emerging as a health concern in certain tribal areas.

Among males, the highest mean SBP is recorded among the Hill Kharia (132.67 mmHg), Mankidia (131.50 mmHg), Lanjia Saora (130.63 mmHg), and Paudi Bhuiyan (130.54 mmHg), all of which exceed or approach hypertensive levels, suggesting early-onset hypertension or lifestyle-related stressors.

For females, a similar pattern emerges: Mankidia (131.80 mmHg), Lodha (130.88 mmHg), Hill Kharia (130.32 mmHg), and Paudi Bhuiyan (128.14 mmHg) top the list, indicating a growing trend of high SBP among certain tribes.

Notably, the standard deviation (SD) is high across most groups, particularly among Hill Kharia and Lodha females ($SD > 25$), indicating substantial variation within these groups. This variability may reflect differences in diet, stress levels, salt intake, physical activity, or genetic predisposition. The consistently elevated SBP among Lanjia Saora, Mankidia, and Hill Kharia in both sexes suggests that specific health risks may be hidden in broader data but become apparent in community-level analysis.

In summary, this data signals an urgent need for preventive public health action among Odisha's PVTGs to address the growing burden of non-communicable diseases.

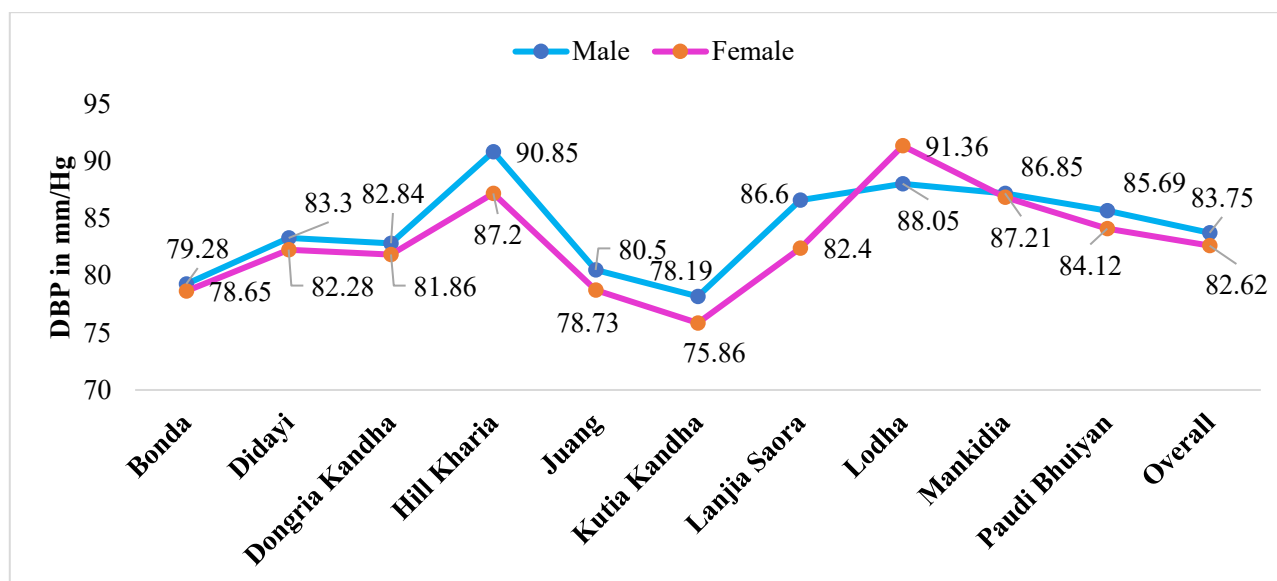


Figure 6.4.2.2: Status of average diastolic blood pressure (DBP) among adult PVTGs

The table and figure 6.4.2.2 illustrate the average diastolic blood pressure (DBP) levels among adult males and females across ten Particularly Vulnerable Tribal Groups (PVTGs) in Odisha. This data provides crucial insights into the vascular resistance and cardiovascular health of these marginalised communities. The overall average DBP is 83.75 mmHg for males and 82.62 mmHg for females, both approaching the threshold for elevated diastolic pressure (≥ 80 mmHg) as defined by the ACC/AHA guidelines, indicating a rising risk of hypertension for both genders.

Among males, the Hill Kharia (90.85 mmHg), Lodha (88.05 mmHg), Mankidia (87.21 mmHg), and Lanjia Saora (86.60 mmHg) groups exhibit notably high DBP values, suggesting significant cardiovascular stress and an increased risk of chronic hypertension and related health complications. A similar trend is observed among females, with the Lodha group showing the highest value at 91.36 mmHg, followed by Hill Kharia (87.20 mmHg), Mankidia (86.85 mmHg), and Paudi Bhuiyan (84.12 mmHg). These figures point to persistent vascular strain, particularly among groups such as the Hill Kharia and the Lodha.

These findings reveal a concerning increase in diastolic pressure among many of Odisha's PVTGs, with some groups already exceeding healthy thresholds. This shift suggests transitioning from areas where undernutrition and infectious diseases coexist to those with non-communicable chronic conditions. The insights emphasise the urgent need for routine screening, culturally sensitive health education, and community-level interventions to manage and prevent hypertension and its complications in these vulnerable populations.

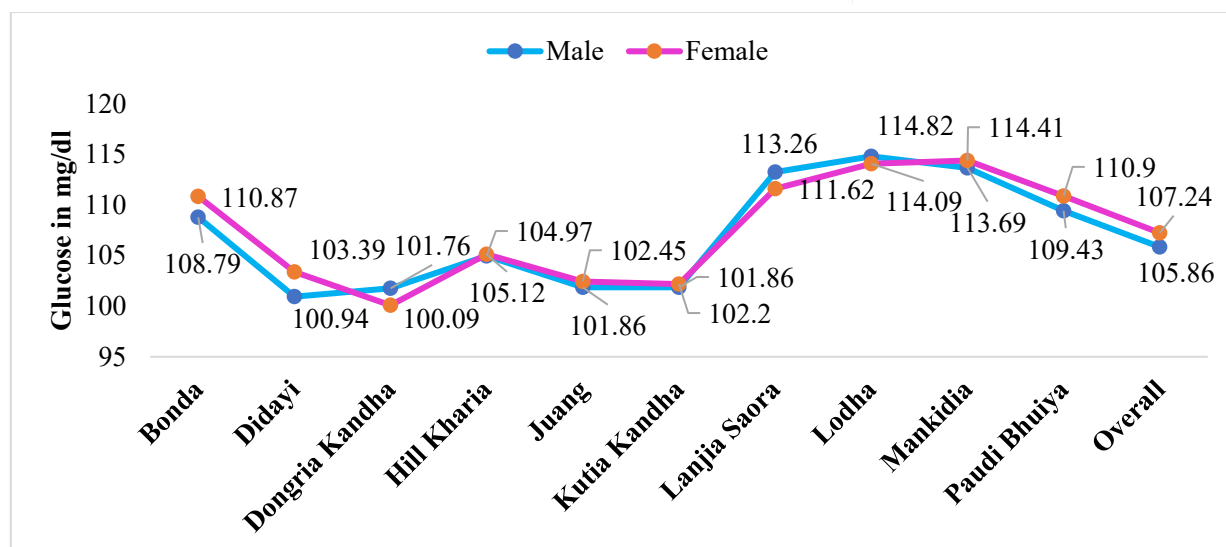


Figure 6.4.2.3: Status of average blood glucose among adult PVTGs

Table 6.4.2.3 and Figure 6.4.2.3 present a comparative overview of average blood glucose levels among adult males and females across ten PVTGs of Odisha. The mean blood glucose is 105.86 mg/dL for males and 107.24 mg/dL for females, approaching the prediabetic threshold (100–125 mg/dL per ADA guidelines). These values indicate a growing metabolic risk and a subtle shift away from traditional dietary practices toward more glucose-elevating lifestyles, perhaps driven by greater market dependence, increased processed food intake, and reduced physical activity.

Among males, the highest mean glucose levels were recorded in Lodha (114.82 mg/dL), Mankidia (113.69 mg/dL), and Lanjia Saora (113.26 mg/dL), all surpassing the lower cutoff for prediabetes. A similar pattern is observed among females, with Mankidia (114.41 mg/dL), Lodha (114.09 mg/dL), and Lanjia Saora (111.62 mg/dL) again exhibiting notably elevated glucose levels, suggesting a shared lifestyle transition or common dietary patterns within these groups. The congruence across sexes in these communities suggests that external environmental and sociocultural factors may be key contributors to altered glycemic profiles.

The standard deviations (SD) are also substantial, especially among Lanjia Saora (SD ~38 in males) and Paudi Bhuiyan females (SD ~34.60), suggesting significant intra-group variation. This variability may arise from factors such as intermittent food insecurity, uneven healthcare access, genetic predispositions, or differences in physical activity levels among individuals within the same ethnic population.

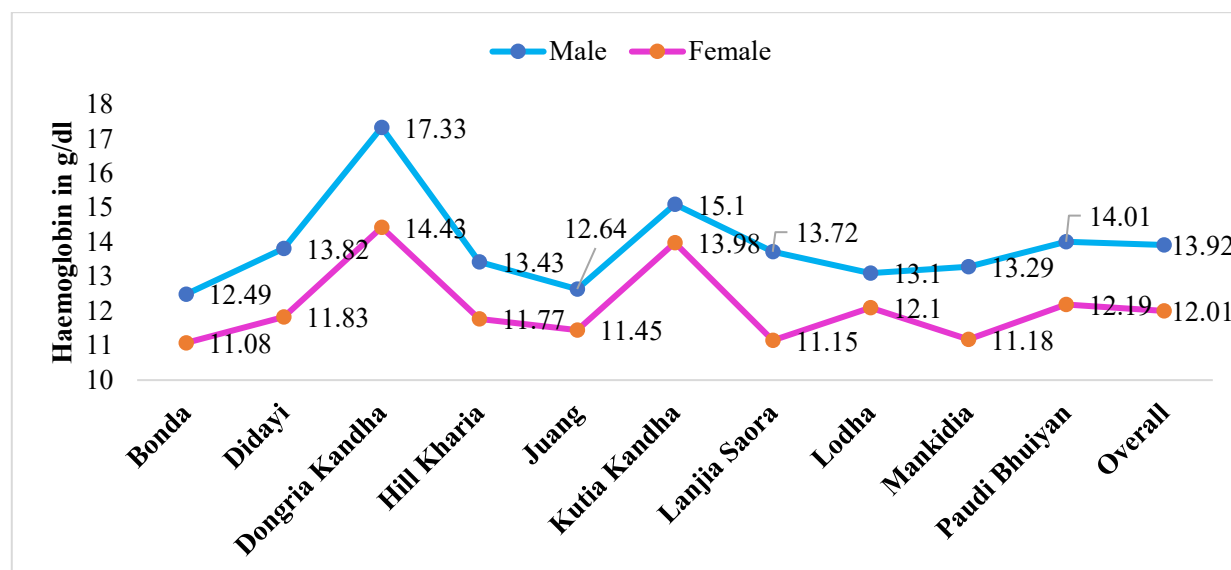


Figure 6.4.2.4: Status of average haemoglobin (Hb) among adult PVTGs

The table 6.4.2.4 and figure 6.4.2.4 provide insights into the average haemoglobin (Hb) levels among adult males and females from ten PVTGs in Odisha. The mean haemoglobin level is 13.92 g/dL for males and 12.01 g/dL for females. This indicates that while males are within the normal reference range (13–18 g/dL), females are near the lower limit of normal (12–15 g/dL) according to WHO guidelines. This suggests a mild to moderate prevalence of anaemia, particularly among women, which is a common nutritional issue in tribal and marginalised populations.

Among males, the Dongria Kandha group exhibits a notably high mean Hb of 18.33 g/dL and a significant standard deviation (SD) of 8.18. Kutia Kandha (15.10 g/dL) and Paudi Bhuiyan (14.01 g/dL), report relatively high average levels, Bonda (12.49 g/dL) and Juang (12.64 g/dL) males display borderline or slightly below-normal values, indicating a high prevalence of mild form of anaemia in these communities.

For females, haemoglobin levels show a more uniform deficiency across the groups, with only Dongria Kandha (14.43 g/dL) and Kutia Kandha (13.98 g/dL) displaying healthier mean levels. The remaining groups fall near or below the normal threshold, particularly Bonda (11.08 g/dL), Lanjia Saora (11.15 g/dL), and Mankidia (11.18 g/dL), which points to a persistent prevalence of anaemia.

The data highlight a gender-based disparity in haemoglobin levels, with females significantly more vulnerable to iron-deficiency anaemia. These findings call for urgent intervention, particularly for women of reproductive age, through promoting iron-rich diets, implementing deworming programs, and facilitating community-based anaemia screening. Strengthening maternal health services and food security, especially in low-Hb groups like Bonda and Juang, could reduce anaemia prevalence and enhance overall health equity among tribal populations.

6.5.1. Prevalence of Chronic Energy Deficiency (CED) among adult PVTGs

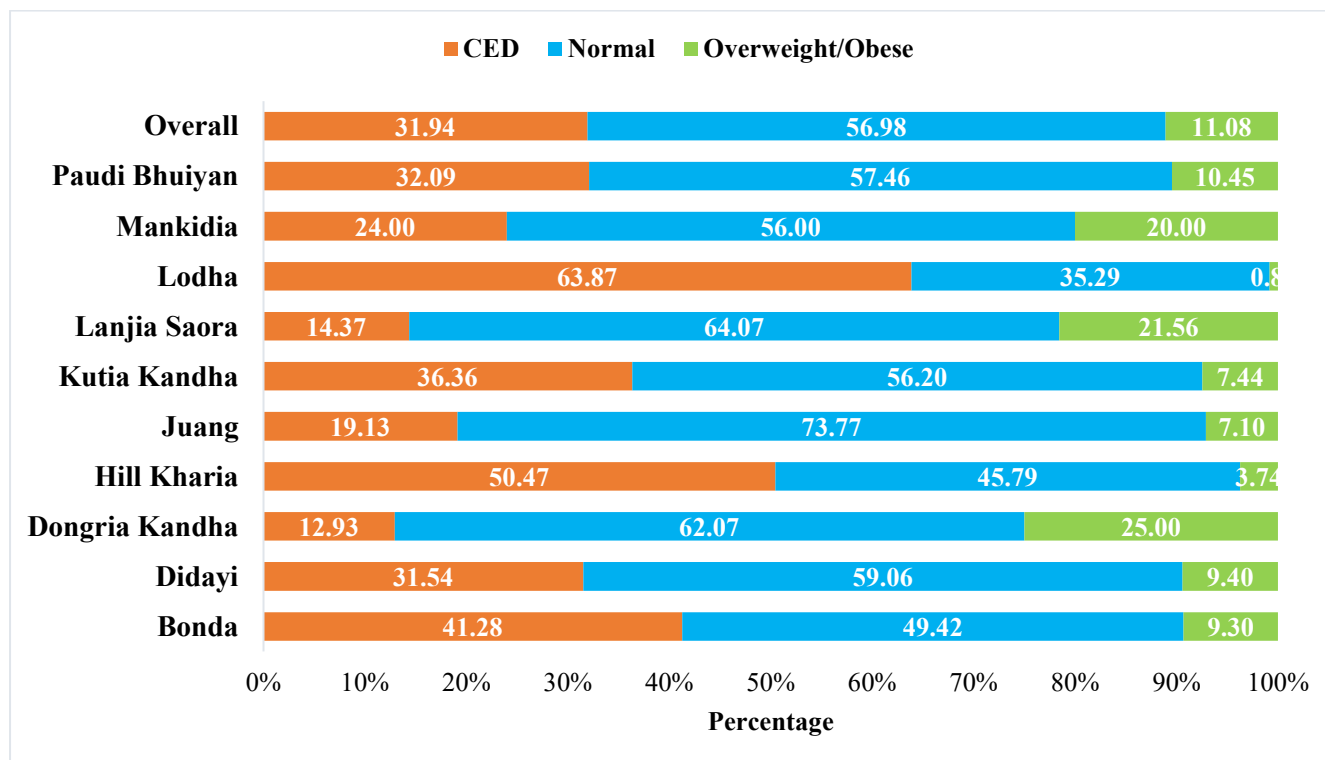


Figure 6.5.1.1: Status of prevalence of CED among adult males

Table 6.5.1.1 and Figure 6.5.1.1 present a detailed breakdown of CED prevalence among adult males from ten PVTGs in Odisha. The findings highlight significant nutritional disparities among these indigenous populations. The overall prevalence of CED among adult males is 31.94%, indicating that nearly one in three individuals is undernourished. This statistic represents a serious public health concern, particularly given the physically demanding lifestyles and limited access to healthcare in tribal regions.

Among the groups, the Lodha males exhibit the highest prevalence of CED at 63.87%, an alarming figure that indicates widespread and chronic undernutrition within this community. Similarly, the Hill Kharia and Bonda groups show high CED rates at 50.47% and 41.28%, respectively, suggesting significant nutritional deprivation. These issues may stem from socio-economic marginalisation, limited dietary diversity, and inadequate public health interventions.

Conversely, tribes like the Dongria Kandha (12.93%), Lanjia Saora (14.37%), and Mankidia (24.00%) demonstrate comparatively lower levels of CED. This may indicate better food security, advantageous cultural dietary practices, or improved access to nutrition and healthcare. Notably, the Dongria Kandha also report the highest proportion of overweight individuals at 25.00%, indicating a shift towards nutritional transition, where parts of the population experience both overnutrition and undernutrition.

Overall, 56.98% of males fall within the normal BMI range, indicating that more than half of the adult male population is not currently experiencing severe nutritional imbalances. However, the prevalence of overweight individuals at 11.08%, particularly among the Lanjia Saora (21.56%), Dongria Kandha

(25.00%), and Mankidia (20.00%) groups, suggests an emerging dual burden of malnutrition. This situation could predispose these populations to future non-communicable diseases (NCDs).

These findings underscore the need for differentiated and culturally sensitive interventions. In communities with high CED prevalence, such as Lodha, Hill Kharia, and Bonda, urgent efforts are required to enhance caloric and nutrient intake through food security programs, livelihood support, and nutrition education. Simultaneously, for groups showing signs of overweight, early preventive health measures and awareness campaigns are essential to prevent the rise of NCDs. Tailored strategies that respect traditional food systems while promoting balanced nutrition are vital to addressing the diverse health needs of Odisha's PVTGs.

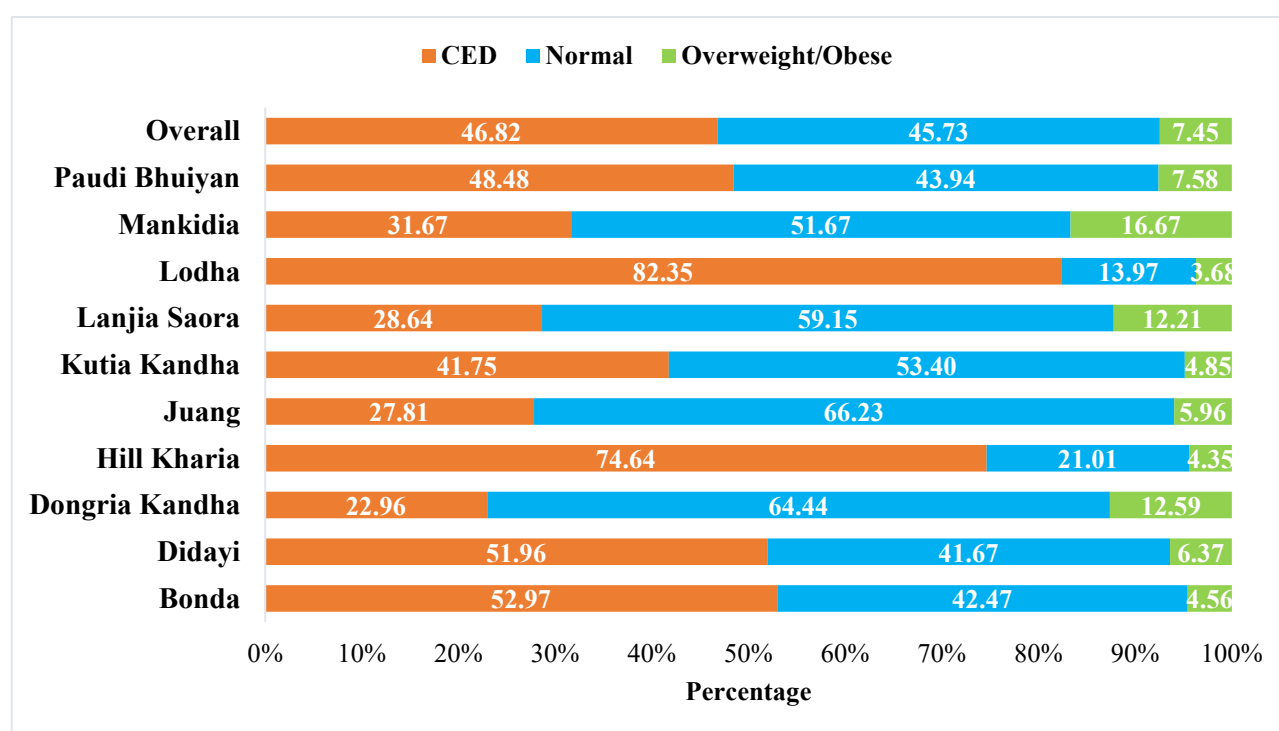


Figure 6.5.1.2: Status of prevalence of CED among adult females

Table 6.5.1.2 and Figure 6.5.1.2 provide a comprehensive overview of Chronic Energy Deficiency (CED) among adult female members of ten PVTGs in Odisha. The data reveal a significant burden of undernutrition within most of these communities. The overall prevalence of CED is 46.82%, indicating that nearly one in every two women experiences chronic undernutrition, which can severely impact maternal health, productivity, and intergenerational nutritional outcomes.

Communities such as the Lodha (82.35%), Hill Kharia (74.64%), Bonda (52.97%), and Didayi (51.96%) exhibit alarmingly high levels of CED, highlighting widespread and persistent nutritional deprivation. Notably, Lodha women are particularly critical, with more than four-fifths affected by CED, emphasising the urgent need for targeted, community-specific nutrition interventions. The Paudi Bhuiyan, with a CED rate of 48.48%, also displays high levels, suggesting a regional pattern of elevated female undernutrition among forest-dwelling tribes in interior and hilly areas.

In contrast, the Dongria Kandha (22.96%), Lanjia Saora (28.64%), and Mankidia (31.67%) show comparatively lower rates of CED, indicating relatively better access to nutrition or food sovereignty,

likely due to their dependence on diverse forest produce and well-preserved traditional food systems. Furthermore, the Dongria Kandha (12.59%) and Lanjia Saora (12.21%) report the highest proportions of individuals who are overweight, suggesting a nutritional transition phase in these communities.

The data highlights the gendered vulnerability of tribal women to CED, particularly in communities like the Lodha and Hill Kharia. Addressing this challenge requires a multi-sectoral approach that integrates nutritional supplementation, women's health services, education, food security, and livelihood enhancement, while ensuring community involvement and respect for indigenous dietary practices. Moreover, early identification and prevention strategies for rising overweight trends are crucial for achieving long-term health equity among Odisha's PVTG women.

6.5.2. Prevalence of central obesity among adults PVTGs

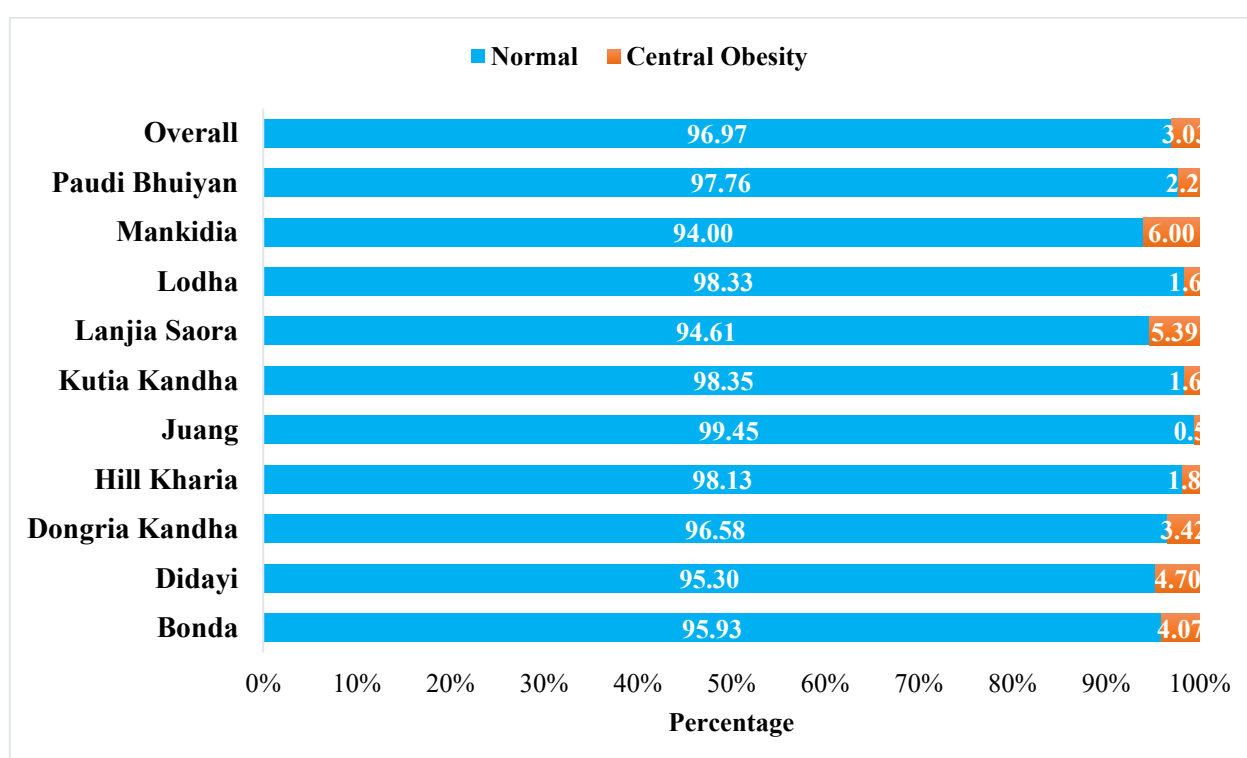


Figure 6.5.2.1: Status of prevalence of central obesity among adult males

The table 6.5.2.1 and Figure 6.5.2.1 illustrate the prevalence of central obesity among adult male members of Odisha's ten PVTGs. The findings indicate that central obesity is relatively low, with an overall prevalence of just 3.03%. This suggests that the vast majority of adult males, 96.97%, within these tribal groups maintain waist circumferences within normal limits. Consequently, central fat accumulation is not a significant public health concern for these populations.

Among the groups, Lanjia Saora (5.39%) and Mankidia (6.00%) show the highest rates of central obesity. Although these figures are modest, they may signal early signs of lifestyle or dietary changes, possibly due to increased exposure to market-based foods, sedentary lifestyles, or socio-economic shifts. Such patterns call for preventive measures, particularly given the strong link between central obesity and metabolic diseases such as type 2 diabetes, hypertension, and cardiovascular disorders.

Other groups, such as Dongria Kandha (3.42%), Didayi (4.70%), and Bonda (4.07%), also show a higher prevalence of central obesity compared to others. This variation may reflect individual differences in fat distribution, despite having relatively lean body mass as indicated by BMI data. In contrast, groups like Juang (0.55%), Kutia Kandha (1.65%), and Hill Kharia (1.87%) demonstrate very low prevalence rates, supporting the idea that many PVTGs still maintain physically active lifestyles and traditional diets, which may offer protective benefits against central fat accumulation.

The data highlights the importance of continuing culturally appropriate nutritional education and promoting physical activity while monitoring early signs of nutritional transition. Although central obesity is not currently widespread among adult male PVTGs, ongoing surveillance is crucial, particularly in communities already showing mild increases, to prevent the emergence of non-communicable diseases in these historically marginalised populations.

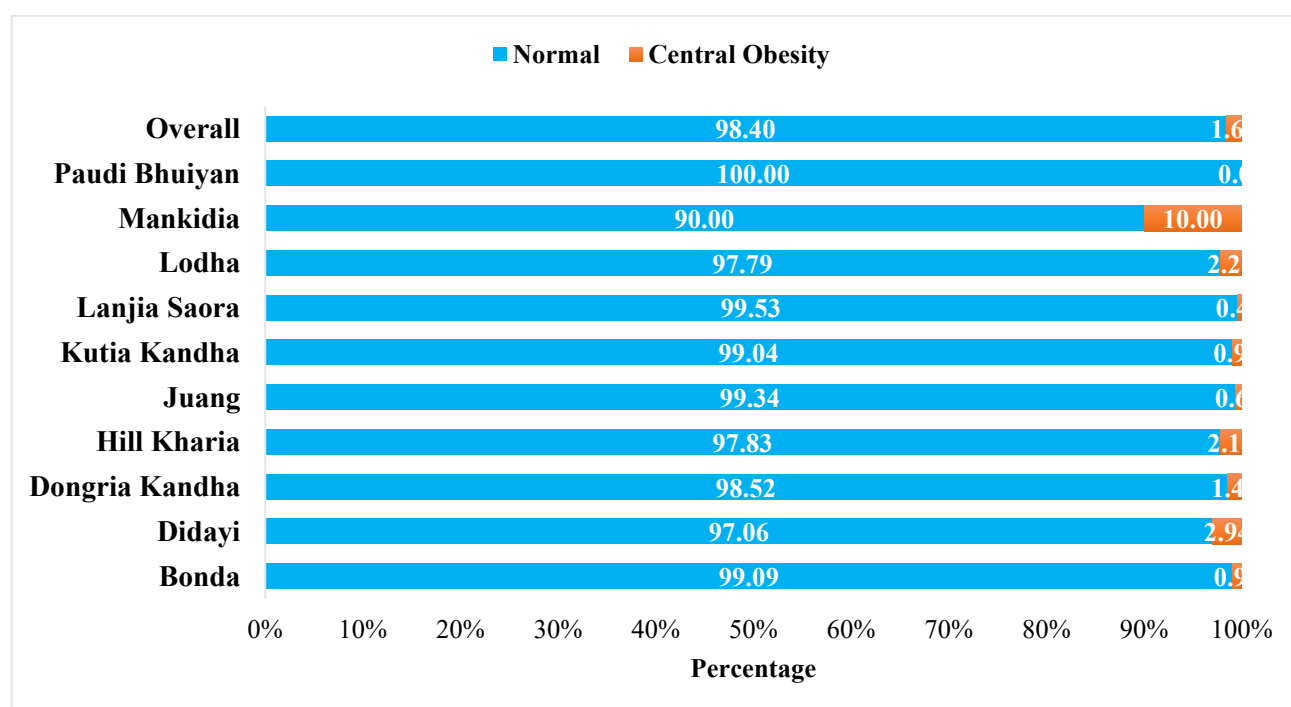


Figure 6.5.2.2: Status of prevalence of central obesity among adult females

Table 6.5.2.2 and Figure 6.5.2.2 illustrate the prevalence of central obesity among 1,560 adult women across ten PVTGs in Odisha, indicating a very low level of abdominal adiposity within the study population. Overall, 40% of women were classified as normal based on waist circumference criteria, with only 1.60% exhibiting central obesity, suggesting a limited spread of obesity-related metabolic risk factors in these communities. However, tribe-specific differences reveal subtle yet significant variations.

Among the Bonda women, central obesity was present in just 0.91%, reflecting a predominantly lean body composition consistent with traditional subsistence lifestyles. A slightly higher prevalence was observed in the Didayi (2.94%) and Hill Kharia (2.18%), indicating modest fat accumulation compared with other groups. The Dongria Kandha (1.48%), Juang (0.66%), and Kutia Kandha (0.96%) exhibited minimal prevalence of central obesity, maintaining near-universal normal waist circumference profiles. The Lanjia Saora recorded one of the lowest proportions (47%).

In contrast, the Lodha (21%) displayed moderate levels of central obesity. Significantly, the Mankidia women had a markedly higher prevalence (10.00%), far exceeding all other groups and the overall estimate.

Overall, these findings highlight that central obesity among adult female PVTGs remains rare, reflecting sustained high physical activity levels and limited exposure to obesogenic environments. These inter-tribal differences emphasise the importance of culturally specific, tribe-focused surveillance systems rather than assuming uniform metabolic protection across PVTGs.

6.5.3. Prevalence of High Blood Glucose among adult PVTGs

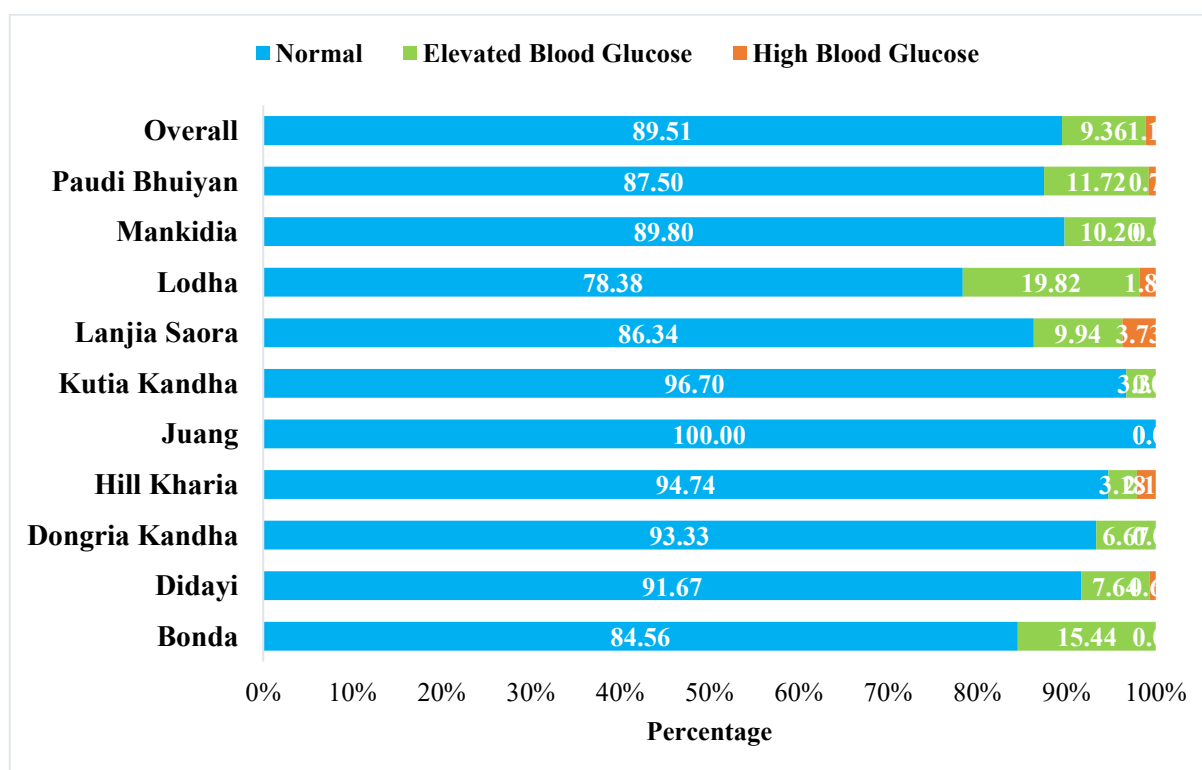


Figure 6.5.3.1: Status of prevalence of High Blood Glucose among adult males

Table 6.5.3.1 and Figure 6.5.3.1 display the distribution of blood glucose levels among adult males across ten PVTGs in Odisha. The data mostly indicate normal blood glucose profiles, though there are variations among tribes. Overall, 89.51% of 1,058 respondents had normal glucose levels, 9.36% had moderate hyperglycemia, and 1.13% had high glucose levels.

However, tribe-specific differences reveal varying metabolic vulnerabilities. For example, among Bonda males, 84.56% were normoglycemic, 15.44% had moderate elevations, and no cases of high glucose were observed, suggesting a moderate metabolic risk. The Didayi displayed better glycemic stability, with 91.67% maintaining normal levels, though 0.69% experienced high glucose. The Dongria Kandha and Hill Kharia primarily had normal glucose levels (93.33% and 94.74%, respectively), but Hill Kharia had 2.11% with high glucose.

The Juang population showed complete normoglycemia, indicating minimal risk. Conversely, the Lanjia Saora and Lodha groups displayed higher vulnerability, with 3.73% and 1.80%, respectively, having high glucose levels, along with significant proportions at the moderate level (9.94% and 19.82%). The Mankidia and Paudi Bhuiyan mostly maintained normal glucose levels (89.80% and 87.50%, respectively), with a few cases of high glucose. These findings imply that, while overt hyperglycemia remains relatively rare among adult male PVTGs, some tribes, particularly Lanjia Saora and Lodha, may be experiencing early metabolic changes, possibly due to shifts in diet, physical activity, or market integration.

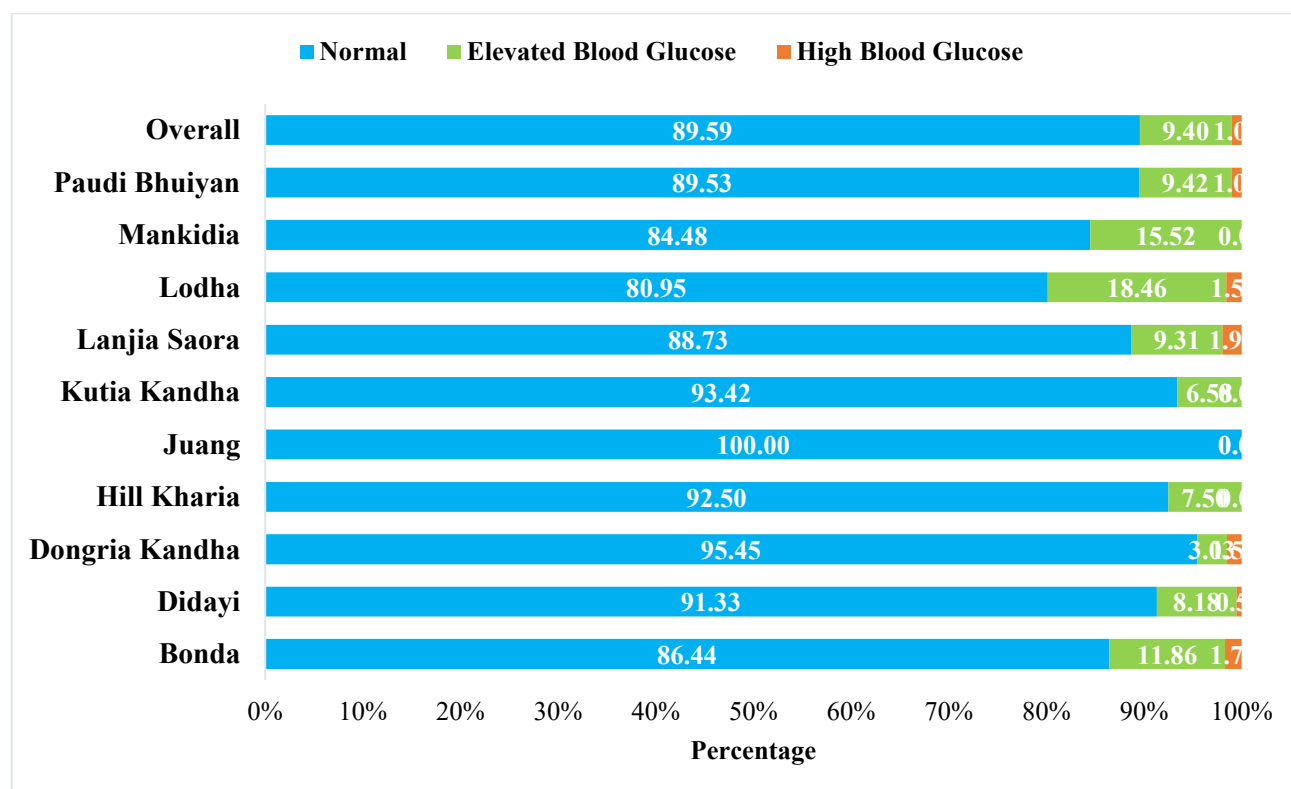


Figure 6.5.3.2: Status of prevalence of High Blood Glucose among adult females

Table 6.5.3.2 and figure 6.5.3.2 delineate the prevalence of blood glucose categories among 1,287 adult females across 10 PVTGs in Odisha, revealing a glycemic distribution pattern broadly comparable to that of males but with subtle gender-specific differences. Overall, 89.59% of women were normoglycemic, 9.40% exhibited moderate blood glucose elevation, and 1.01% were classified under high blood glucose, indicating a generally low burden of overt hyperglycemia.

Tribe-wise analysis demonstrates notable heterogeneity. Among the Bonda women, 86.44% were normal, 11.86% showed moderate elevation, and 1.70% had high glucose, suggesting a slightly higher metabolic risk than among their male counterparts. The Didayi and Dongria Kandha females displayed relatively favourable glycemic profiles (above 91% and 95% of normal, respectively), with minimal high-glucose prevalence (0.51% and 1.52%, respectively). The Hill Kharia and Juang women showed a strong predominance of normoglycemia. Among the Kutia Kandha, 93.42% were normal, with no cases of high glucose, while 6.58% were in the moderate category.

In contrast, relatively elevated metabolic vulnerability is observed among the Lanjia Saora and Lodha females, where high glucose prevalence reached 1.96% and 1.59%, respectively, alongside considerable moderate proportions (9.31% and 18.46%). The Mankidia women also exhibited a higher moderate glucose burden (15.52%), although none were classified as having a high glucose burden. The Paudi Bhuiyan maintained a stable normoglycemic majority (89.53%) with a 1.05% prevalence of high glucose. Collectively, these findings indicate that, while overt hyperglycemia remains low among adult female PVTGs, certain groups, particularly Lodha, Lanjia Saora, and Mankidia, are showing early signs of a glycemic transition.

6.5.4. Prevalence of hypertension among adult PVTGs

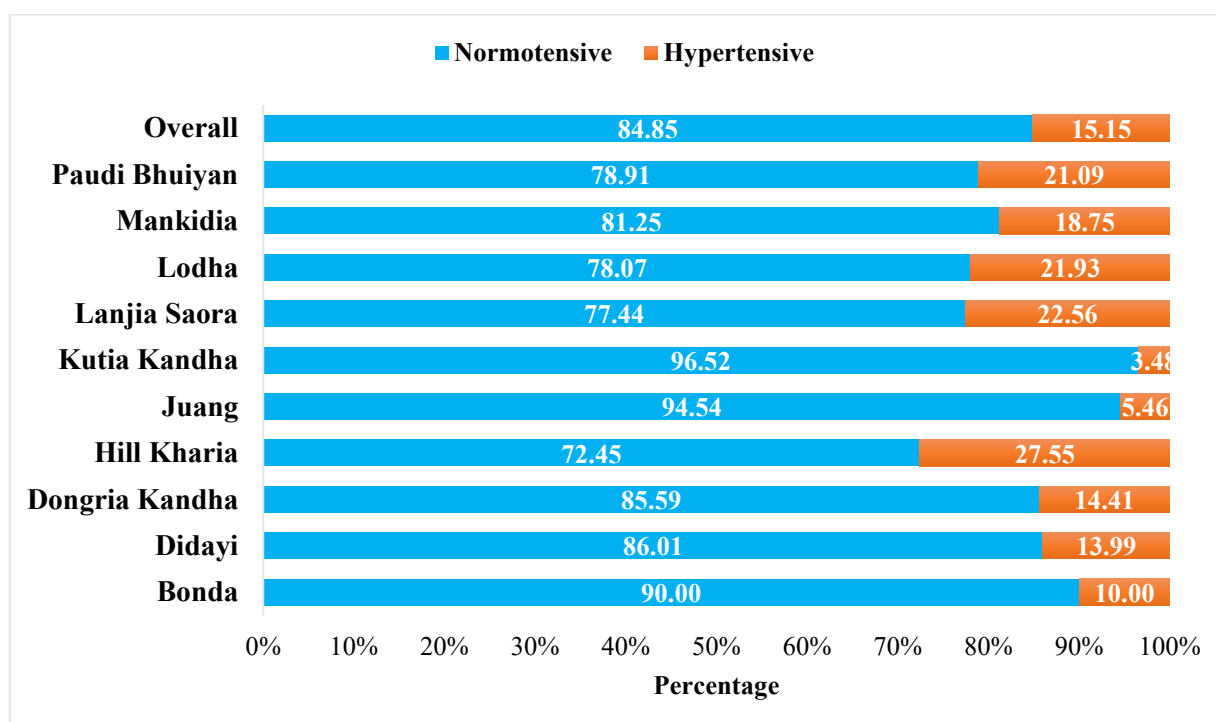


Figure 6.5.4.1: Status of prevalence of hypertension among adult males

Table 6.5.4 and Figure 6.5.4.1 illustrate the prevalence of hypertension among adult male members of the PVTGs in Odisha. The data reveal significant variations among groups and indicate emerging community cardiovascular health challenges. Overall, 15.15% of adult males are hypertensive, while 84.85% maintain normotensive levels. This suggests that, while most of the population has healthy blood pressure, a notable portion is affected by elevated levels.

Among the groups, the Hill Kharia have the highest prevalence of hypertension at 27.55%, followed by the Paudi Bhuiyan at 21.09%, the Lanjia Saora at 22.56%, and the Lodha at 21.93%. These figures highlight clusters of cardiovascular vulnerability. The elevated rates of hypertension may be related to changing dietary habits, increased stress, reduced physical activity, or genetic predispositions, particularly in communities experiencing greater interaction with mainstream society or environmental changes. In contrast, groups such as the Juang (5.46%), Kutia Kandha (3.48%), and Bonda (10.00%) show comparatively low rates of hypertension.

The data underscore the necessity for culturally sensitive screening, early diagnosis, and community-based management of hypertension, particularly in groups with higher prevalence rates. Health education campaigns, increased access to primary care services, and long-term monitoring of blood pressure trends are essential to alleviate the long-term burden of non-communicable diseases among PVTG men. As lifestyle and socioeconomic conditions evolve, preventive strategies must be tailored to the unique contexts and vulnerabilities of each tribal community.

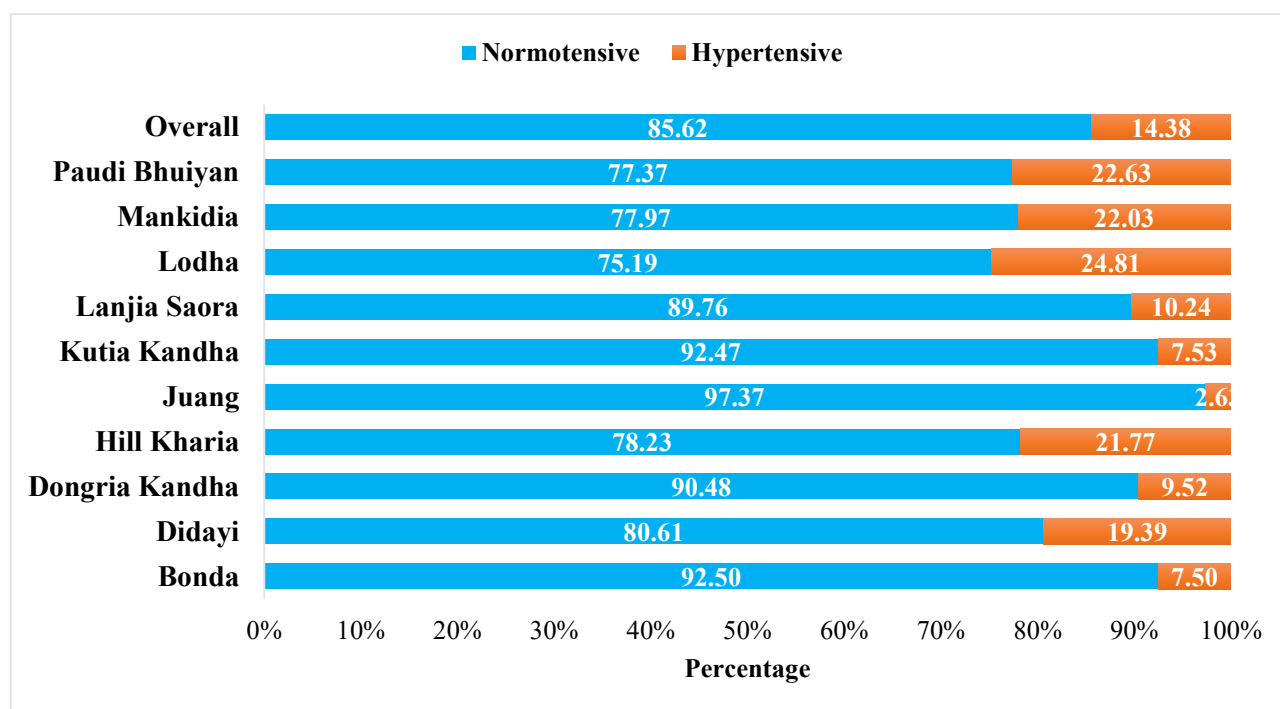


Figure 6.5.4.2: Status of prevalence of hypertension among adult females

Table 6.5.4 and figure 6.5.4.2 provide details on the prevalence of hypertension among adult female members of the PVTGs in Odisha, highlighting a critical gender perspective on the impact of non-communicable diseases in marginalised populations. Among the 1,474 adult women surveyed, 14.38% were found to be hypertensive, while the majority, 85.62%, were normotensive. Although this trend is similar to that observed in males, certain tribal groups show significantly higher rates of hypertension, raising concerns about emerging health disparities.

The women of the Lodha (24.81%), Paudi Bhuiyan (22.63%), Mankidia (22.03%), and Hill Kharia (21.77%) communities show the highest prevalence of hypertension, significantly surpassing the overall average. These patterns may be linked to evolving socio-economic conditions, reduced physical activity, shifts in diet, psychosocial stress, and potential genetic factors. Notably, both the Lodha and Paudi Bhuiyan groups appear similarly vulnerable to hypertension, indicating that systemic or environmental factors may be impacting both sexes within these populations.

Conversely, communities like the Juang (2.63%), Kutia Kandha (7.53%), and Bonda (7.50%) have relatively low rates of hypertension.

Crucially, the data indicate that female members of some tribal groups are as vulnerable, if not more so, to hypertension than their male counterparts, particularly in the Lodha and Paudi Bhuiyan groups. These findings highlight the urgent need for gender-sensitive public health interventions, regular blood

pressure screening, and community outreach programs. Incorporating local knowledge and cultural practices into hypertension prevention strategies will ensure effective, acceptable, and sustainable healthcare delivery for tribal women in Odisha.

6.5.5. Prevalence of anaemia among adult PVTGs

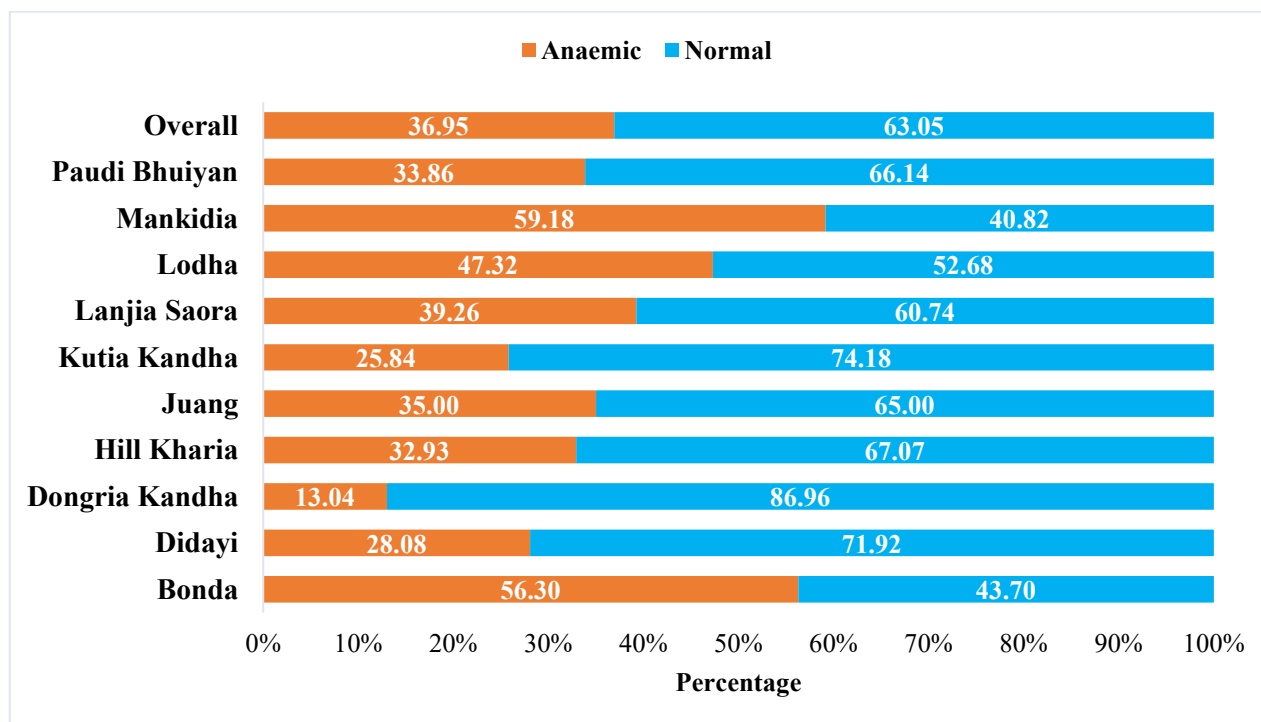


Figure 6.5.5.1: Status of prevalence of anaemia among adult males

The data presented in Table 6.5.5.1 and Figure 6.5.5.1 underscore the high prevalence of anaemia among adult male members of the PVTGs in Odisha, highlighting significant intra-group differences and a moderate overall anaemia burden. Out of 1,015 adult males studied, 36.95% were anaemic, indicating that over one-third of this population suffers from nutritional deficiencies or underlying health conditions that affect their haemoglobin levels.

Among the tribes, the Mankidia (59.18%) and Bonda (56.30%) men exhibit alarmingly high rates of anaemia, significantly surpassing the overall average. This suggests a severe nutritional challenge, potentially linked to limited dietary diversity, poor iron intake, recurrent infections, or parasitic infestations. Additionally, the Lodha (47.32%) and Lanjia Saora (39.26%) males also show elevated levels of anaemia, indicating an urgent need for targeted nutritional interventions and improved access to healthcare. In contrast, tribes such as the Dongria Kandha (13.04%), Kutia Kandha (25.84%), and Didayi (28.08%) display relatively low anaemia prevalence.

Overall, this dataset reveals that anaemia among tribal men poses a significant public health challenge, though its distribution is not uniform across groups. These findings highlight the need for tribe-specific strategies focusing on dietary supplementation, deworming, health education, and enhancing food security. Special attention should be given to high-risk groups such as the Mankidia, Bonda, and Lodha. Anaemia jeopardises individual health and may affect community productivity and resilience.

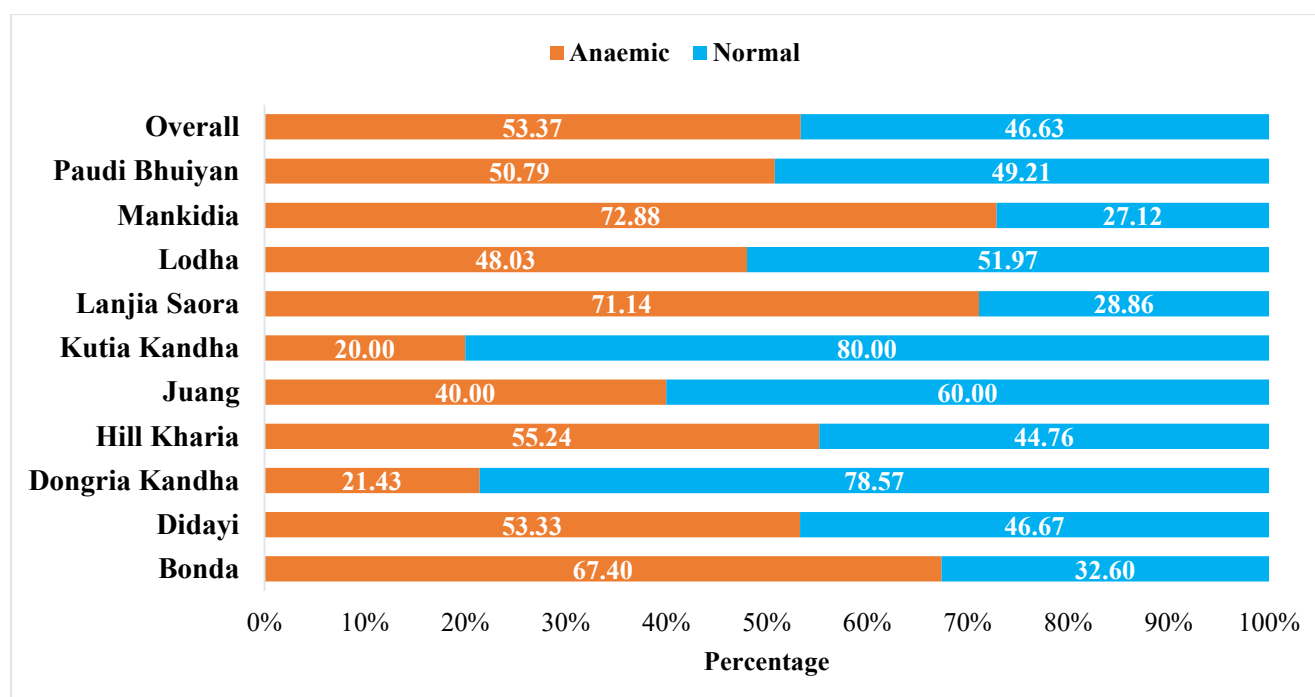


Figure 6.5.5.2: Status of prevalence of anaemia among adult females

The prevalence of anaemoplasms across the ten PVTGs in Odisha, uncovering a widespread and disproportionately high burden (Table 6.5.5.2 and Figure 6.5.5.2). Out of 1,261 women surveyed, 673 (53.37%) were found to be anaemic, revealing that more than half of the adult female PVTG population suffers from reduced haemoglobin levels, posing serious public health concerns.

The Lanjia Saora (71.14%), Mankidia (72.88%), and Bonda (67.40%) women emerge as the most severely affected, with nearly or over two-thirds of their female populations' anaemic. These high figures likely reflect multiple intersecting factors such as inadequate iron intake, heavy reproductive burden, early marriages, frequent pregnancies, and limited access to iron supplementation or antenatal care. The situation is equally worrisome for Hill Kharia (55.24%) and Didayi (53.33%), underscoring that anaemia is not confined to a few tribes; anaemia presents a widespread issue among PVTG women.

On the other hand, Dongria Kandha (21.43%) and Kutia Kandha (20.00%) females report notably lower prevalence. Similarly.

The overall scenario is alarming, especially considering that anaemia in women, particularly of reproductive age, can lead to adverse maternal and child health outcomes, including increased risks of maternal mortality, preterm births, and developmental issues in children. These findings stress the urgent need for tribal-specific health interventions, such as nutritional supplementation (iron, folic acid), improved maternal care services, and community-based awareness programs focusing on women's health. Tailored policies that address the unique socio-cultural and dietary patterns of each tribal group will be essential to combat anaemia effectively and improve the overall well-being of tribal women in Odisha.

Tables

Table 6.2.1.1.1: Age and sex specific median, mean (Standard Deviation) and increment of body length/height

Age in years	Male					Female				
	N	Median	Mean	SD	Increment	N	Median	Mean	SD	Increment
1 to 11 months	27	63.6	63.94	4.34		20	61.1	61.08	2.36	
1 year	23	76	78.11	5.56	14.18	14	80.54	77.81	5.56	18.73
2 years	39	83.2	83.67	5.99	5.56	39	82.2	82.49	6.33	4.68
3 years	57	93.41	92.65	7.38	8.98	76	90.2	90.93	6.95	8.44
4 years	47	97.8	97.52	7.26	4.87	56	97.55	97.21	5.97	6.28
5 years	44	103.81	103.43	6.75	5.91	53	101	102	5.95	4.79
6 years	71	108.8	108.74	5.56	5.31	58	107.9	108.47	6	6.47
7 years	65	113.1	114.05	6.42	5.31	53	114	113.77	6.26	5.3
8 years	63	120.1	119.72	6.78	5.67	60	119.15	119.56	8.63	5.79
9 years	56	121.2	123.58	8.76	3.86	61	121.2	122.51	7.63	2.95
10 years	64	127.7	129.59	8.76	6.01	87	125.7	127.42	8.33	4.91
11 years	51	132.85	135.41	10.55	5.82	44	133.8	135.04	8.49	7.62
12 years	57	135.00	139.32	10.37	3.91	61	139.4	139.11	7.38	4.07
13 years	48	143.05	144.65	9.8	5.33	69	142.1	142.72	6.82	3.61
14 years	54	152.15	151.29	9.55	6.64	59	147.2	146.52	7.72	3.8
15 years	39	157.5	155.97	8.06	4.68	52	147.36	146.71	5.62	0.19
16 years	31	180.5	159.95	4.53	3.98	41	147.7	147.88	5.86	1.18
17 years	19	180.8	180.66	4.26	0.71	26	149.3	149.19	4.81	1.31
18 years	54	181.2	180.75	5.78	0.09	56	150	150.02	6.58	0.83

N = Number, SD = Standard deviation

Table 6.2.1.1.2: Age group and ethnic group specific mean length /height (cm) among males

Age group	Descriptive value	Ethnic groups and age group-specific mean height										Overall
		Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Pre-school children	N	41	33	27	19	34	18	22	18	10	18	237
	Mean	90.72	85.18	85.48	87.73	92.04	80.27	92.98	85.3	88.38	92.03	88.32
	SD	15.07	18.95	18.45	15.73	10.68	19.37	14.71	21.03	7.7	7.18	15.97
School-going children	N	49	36	24	21	82	19	23	31	18	18	319
	Mean	118.44	118.48	119.06	118.94	118.12	122.78	121.5	122.33	118.12	114.24	118.78
	SD	9.69	9.22	14.24	9.3	8.69	12.1	9.53	10.83	13.27	10.71	10.36
Adolescent	N	75	27	23	25	63	36	27	38	19	20	353
	Mean	149.36	152.68	147.6	149.97	144.53	149.4	154.46	153.62	151.5	144.77	149.39
	SD	13.14	14.32	12.77	11.98	13.64	13.51	11.48	10.22	12.59	15.73	13.23

Table 6.2.1.1.3: Age group and ethnigroup-specific mean height (cm) among females

Age group	Descriptive value	Ethnic groups and age group-specific mean height										Overall
		Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Pre-school children	N	37	43	39	9	46	18	22	19	6	19	258
	Mean	90.28	85.92	86.89	95.18	94.42	94.45	84	88.08	91.56	89.18	89.49
	SD	18.14	18.88	18.42	9.69	9.15	10.22	13.71	18.06	19.53	8.58	14.57
School-going children	N	38	23	32	24	100	28	20	26	18	11	319
	Mean	118.65	113.52	118.73	118.93	120.26	121.76	121.7	122.12	123.4	111.29	119.29
	SD	9.43	8.98	10.18	10.33	9.93	12.27	8.87	10.21	8.51	5.9	10.15
Adolescent	N	73	18	24	29	129	19	42	35	18	22	408
	Mean	145.85	144.24	144.35	143.53	142.99	147.26	146.49	143.45	144.25	143.25	144.34
	SD	8.03	9.82	10.97	6.89	7.29	8.94	7.2	10.4	9.97	7.69	8.31

Table 6.2.1.2.1: Age and sex specific median, mean (SD) and increment of body weight

Age in years	Male					Female				
	N	Median	Mean	SD	Increment	N	Median	Mean	SD	Increment
1 to 11 months	27	6.9	6.78	1.47		20	6.19	6.18	1.2	
1 year	23	8	7.9	1.13	1.12	14	7.7	7.62	1.18	1.46
2 years	39	9.8	9.91	1.29	2	39	9.6	9.52	1.62	1.9
3 years	57	12	12.52	2.49	2.62	76	11.95	12.18	2.32	2.66
4 years	47	13	13.11	2.3	0.59	56	12.8	13.03	1.92	0.85
5 years	44	14.2	14.31	2.32	1.2	53	14.2	14.31	1.89	1.28
6 years	71	18.8	18	2.82	2.69	58	18.05	18.02	2.18	1.71
7 years	65	18.4	18.68	3.92	1.68	53	18	18.07	3.23	2.04
8 years	63	20	19.6	3.47	0.93	60	20	19.36	3.54	1.29
9 years	56	20.7	21.96	4.53	2.36	61	20	20.99	4.34	1.63
10 years	64	23.45	24.41	5.18	2.45	87	23.3	24.29	5.2	3.3
11 years	51	26	28.25	7.41	3.84	44	26	27.33	6.33	3.04
12 years	57	26.2	29.15	8.45	0.91	61	28.6	28.57	7.61	1.25
13 years	48	33.5	34.32	8.15	5.18	69	36.2	33.88	8.26	5.31
14 years	54	38.15	38.21	8.63	3.9	59	38.2	37.35	7.24	3.47
15 years	39	43.8	42.74	7.2	4.52	52	37.73	38.18	7.54	0.81
16 years	31	46	46.33	6.42	3.59	41	39	40.18	5.83	2
17 years	19	47.1	47.04	7.48	0.71	26	40	42.35	7.18	2.18
18 years	54	48	47.88	5.92	0.83	56	41.65	43.72	8.03	1.37

N = Number, SD = Standard Deviation

Table 6.2.1.2.2: Age group and ethnic group specific mean weight (kg) of males

Age group	Descriptive value	Ethnic groups and age group-specific mean weight										Overall
		Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Pre-school children	N	41	33	27	19	34	18	22	18	10	18	237
	Mean	11.57	10.55	11.87	10.4	12.77	10.67	11.91	10.93	11.83	11.13	11.44
	SD	3	3.64	3.18	3.1	3.3	3.19	3.78	3.43	2.26	2.28	3.25
School-going children	N	49	36	24	21	82	19	23	31	18	18	319
	Mean	19.54	18.84	21.37	19.7	20.97	22.95	20.6	19.77	19.99	18.93	20.21
	SD	4.07	4.65	6.45	4.74	4.12	4.92	4.49	5.65	5.73	3.65	4.8
Adolescent	N	75	27	23	25	63	36	27	38	19	20	353
	Mean	36.79	38.82	40.86	36.62	35.81	38.55	43.9	38.44	39.47	34.65	37.95
	SD	11.27	10.28	11.04	8.69	9.63	12.4	10.1	8.95	11.35	10.54	10.62

Table 6.2.1.2.3: Age group and ethnic group-specific mean weight (kg) among females

Age group	Descriptive value	Ethnic groups and age group-specific mean weight										Overall
		Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Pre-school children	N	37	43	39	9	46	18	22	19	6	19	258
	Mean	11.23	10.85	12.18	12.44	13.38	12.84	9.72	10.82	13.07	10.6	11.69
	SD	2.66	3.38	3.47	2.7	2.19	2.89	2.52	3.31	4.15	2.06	3.09
School-going children	N	38	23	32	24	100	28	20	26	18	11	319
	Mean	19.12	18.66	20.08	19.08	21.48	21.62	20.49	19.77	21.25	15.49	20.19
	SD	4.4	4.27	4.2	4.73	5.42	5.49	3.77	4.9	4.19	1.8	4.95
Adolescent	N	73	18	24	29	129	19	42	35	18	22	108
	Mean	37.28	32.84	38.67	33.56	35.14	38.9	38.79	32.07	36.34	36.87	35.95
	SD	9.41	11.3	11.1	8.69	7.59	11.77	7.97	8.93	12.25	8.52	9.19

Table 6.2.1.3.1: Age and sex specific median, mean (SD) and increment of BMI (Kg/m²)

Age in years	Male					Female				
	N	Median	Mean	SD	Increment	N	Median	Mean	SD	Increment
1 to 11 months	27	18.62	18.54	3.87		20	18.82	18.65	3.01	
1 year	23	13.26	13.11	2.45	-3.43	14	13.25	12.73	2.37	-3.92
2 years	39	14.23	14.18	1.6	1.07	39	14.1	14	1.94	1.27
3 years	57	14.34	14.56	2.2	0.37	76	14.25	14.7	2.18	0.7
4 years	47	13.7	13.78	1.82	-0.77	56	13.73	13.81	1.85	-0.89
5 years	44	13.48	13.4	1.89	-0.38	53	13.7	13.76	1.59	-0.05
6 years	71	14.24	14.33	1.9	0.94	58	13.48	13.64	1.68	-0.13
7 years	65	13.92	14.31	2.55	-0.03	53	13.67	13.9	1.93	0.26
8 years	63	13.68	13.6	1.54	-0.71	60	13.51	13.46	1.43	-0.44

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9 years	56	14.15	14.25	1.45	0.65	61	13.96	13.86	1.71	0.41
10 years	64	14.21	14.42	1.68	0.18	87	14.59	14.79	1.7	0.93
11 years	51	14.9	15.24	2.52	0.83	44	14.93	14.82	2.27	0.02
12 years	57	14.43	14.83	2.52	-0.42	61	14.38	14.54	2.77	-0.28
13 years	48	15.65	18.18	2.11	1.36	69	18.24	18.48	3.31	1.94
14 years	54	18.4	18.55	2.76	0.37	59	18.58	18.31	2.69	0.83
15 years	39	18.23	18.48	2.25	0.93	52	18.34	18.71	3.25	0.41
16 years	31	18.1	18.08	2.2	0.6	41	18.05	18.1	2.69	0.69
17 years	19	18.6	19.03	2.58	0.11	26	18.39	18.19	3.07	0.62
18 years	54	19.37	19.31	2.09	0.34	56	18.82	18.53	2.57	0.28

N = Number, SD = Standard Deviation

Table 6.2.1.3.2: Age group and ethnic group specific mean BMI (Kg/m²) among males

Age group	Descriptive value	Ethnic groups and age group-specific mean BMI										Overall
		Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Pre-school children	N	41	33	27	19	34	18	22	18	10	18	237
	Mean	14.25	14.54	18.13	13.59	14.9	18.07	13.77	18.32	15.1	13.05	15.01
	SD	2.98	2.64	5.34	2.41	2.41	7.47	3.18	6.3	1.57	1.88	4.1
School-going children	N	49	36	24	21	82	19	23	31	18	18	319
	Mean	14.08	13.49	14.82	13.71	14.94	15.15	13.84	12.97	14.1	13.72	14.19
	SD	1.96	1.76	1.75	1.68	1.76	1.78	1.75	1.51	2.18	1.81	1.89
Adolescent	N	75	27	23	25	63	36	27	38	19	20	353
	Mean	18.12	18.37	18.35	18.03	18.77	18.81	18.13	18.14	18.78	18.2	18.66
	SD	2.96	2.47	2.48	1.99	2	3.31	2.61	2.84	3.07	2.49	2.72

Table 6.2.1.3.3: Age group and ethnic group specific mean BMI (Kg/m²) among females

Age group	Descriptive value	Ethnic groups and age group-specific mean BMI										Overall
		Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Pre-school children	N	37	43	39	9	46	18	22	19	6	19	258
	Mean	14.29	15.19	18.53	13.63	15.05	14.23	13.9	14.15	15.72	13.27	14.8
	SD	4.27	4.62	4.29	1.09	1.9	1.24	2.6	3.52	3.47	1.7	3.5
School-going children	N	38	23	32	24	100	28	20	26	18	11	319
	Mean	13.7	13.59	14.12	13.84	14.61	14.35	13.74	13.08	13.82	12.56	14.01
	SD	1.95	2.1	1.53	2	1.67	1.39	1.39	1.65	1.28	1.54	1.76
Adolescent	N	73	18	24	29	129	19	42	35	18	22	408
	Mean	18.3	15.39	18.24	18.1	18.05	18.64	18.93	15.31	18.99	18.76	18.03
	SD	3.24	4.06	3.95	3.25	2.92	3.83	2.78	2.95	4.09	3.07	3.28

Table 6.2.2.1.1: Ages and gender specific mean weight-for-height Z-score among the preschool children

Age	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
1 to 11 months	27	-1.43	2.15	20	-1.84	2.23	47	-1.63	2.21
1 year	23	-2.04	2.03	14	-2.74	1.99	37	-2.93	1.99
2 years	39	-1.84	1.28	39	-1.62	1.63	78	-1.73	1.46
3 years	57	-1.15	1.76	76	-0.8	1.53	133	-0.95	1.63
4 years	47	-1.62	1.5	56	-1.32	1.4	103	-1.45	1.45
5 years	44	-1.76	1.71	53	-1.26	1.3	97	-1.49	1.51
Age combined	237	-1.88	2.18	258	-1.63	2.64	495	-1.69	2.07

Table 6.2.2.1.2: Ages and gender specific mean weight-for-age Z-score among the preschool children

Age	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
0 to 11 months	27	-2.14	1.3	20	-2.22	1.7	47	-2.18	1.47
1 year	23	-2.29	1.3	14	-1.83	1.57	37	-2.12	1.41
2 years	39	-1.91	1.18	39	-1.7	1.48	78	-1.8	1.33
3 years	57	-1.34	1.64	76	-1.21	1.5	133	-1.27	1.56
4 years	47	-1.86	1.3	56	-1.7	1.12	103	-1.78	1.2
5 years	44	-1.98	1.21	53	-1.79	0.96	97	-1.88	1.08
Age combined	237	-1.84	1.37	258	-1.62	1.36	495	-1.73	1.37

Table 6.2.2.1.3: Ages and gender specific mean Height-for-age Z-score among the preschool children

Age	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
1 to 11 months	27	-2.41	1.93	20	-2.53	0.71	47	-2.46	1.53
1 year	23	-0.02	2.55	14	-0.64	2.81	37	-0.32	2.63
2 years	39	-1.23	1.99	39	-1.05	1.91	78	-1.14	1.94
3 years	57	-1.03	2	76	-1.12	1.83	133	-1.08	1.9
4 years	47	-1.39	1.73	56	-1.35	1.38	103	-1.37	1.54
5 years	44	-1.43	1.45	53	-1.55	1.24	97	-1.5	1.34
Age combined	237	-1.49	2.78	258	-1.34	2.41	495	-1.38	2.59

Table 6.2.2.1.4: Ages and gender specific mean BMI-for-age Z-score among the preschool children

Age	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
0 to 11 months	27	-2.77	1.86	20	-2.85	1.58	47	-2.81	1.76
1 year	23	-3.15	2.35	14	-2.9	2.19	37	-3.05	2.26

2 years	39	-1.72	1.49	39	-1.53	1.79	78	-1.63	1.64
3 years	57	-1.02	1.8	76	-0.72	1.62	133	-0.85	1.7
4 years	47	-1.44	1.54	56	-1.25	1.43	103	-1.34	1.48
5 years	44	-1.67	1.75	53	-1.21	1.19	97	-1.42	1.48
Age combined	237	-1	2.66	258	-0.82	2.19	495	-0.91	2.43

Table 6.2.2.2.1: Ages and gender specific mean weight-for-age Z-score among the school-going children

Age	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
6 years	71	-1.57	1.27	58	-1.73	1	129	-1.64	1.18
7 years	65	-1.75	1.58	53	-1.61	1.3	118	-1.69	1.45
8 years	63	-2.08	1.36	60	-1.87	1.33	123	-1.98	1.34
9 years	56	-1.95	1.38	61	-2.09	1.34	118	-2.02	1.36
10 years	64	-1.83	1.29	87	-1.9	1.36	151	-1.87	1.32
Total	319	-1.83	1.38	319	-1.85	1.28	638	-1.84	1.33

Table 6.2.2.3.1: Ages and gender specific mean Height-for-age Z-score among the 6-18 years children & adolescents

Age in years	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
6 years	71	-1.46	1.13	58	-1.3	1.18	129	-1.39	1.15
7 years	65	-1.46	1.23	53	-1.29	1.15	118	-1.38	1.19
8 years	63	-1.34	1.2	60	-1.21	1.5	123	-1.28	1.35
9 years	56	-1.5	1.46	61	-1.63	1.25	118	-1.57	1.35
10 years	64	-1.29	1.38	87	-1.75	1.3	151	-1.55	1.35
11 years	51	-1.14	1.57	44	-1.5	1.28	95	-1.31	1.44
12 years	57	-1.38	1.89	61	-1.77	1.08	118	-1.58	1.53
13 years	48	-1.53	1.32	69	-1.97	0.98	118	-1.79	1.15
14 years	54	-1.55	1.24	59	-1.91	1.11	113	-1.74	1.18
15 years	39	-1.66	1.03	52	-2.18	0.82	91	-1.96	0.94
16 years	31	-1.67	0.58	41	-2.18	0.86	72	-1.95	0.79
17 years	19	-1.9	0.56	26	-2.04	0.72	45	-1.98	0.65
18 years	54	-2.06	0.77	56	-1.97	1	110	-2.02	0.89
Total	672	-1.5	1.29	727	-1.73	1.18	1399	-1.62	1.24

Table 6.2.2.3.2: Ages and gender specific mean BMI-for-age Z-score among the 6-18 years children & adolescents

Age	Male			Female			Overall		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
6 years	71	-0.96	1.44	58	-1.32	1.28	129	-1.12	1.38
7 years	65	-1.24	1.9	53	-1.21	1.34	118	-1.23	1.67
8 years	63	-1.85	1.48	60	-1.64	1.21	123	-1.74	1.35
9 years	56	-1.45	1.24	61	-1.57	1.32	118	-1.51	1.28

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10 years	64	-1.57	1.35	87	-1.18	1.18	151	-1.35	1.26
11 years	51	-1.37	1.74	44	-1.54	1.6	95	-1.45	1.67
12 years	57	-2	1.78	61	-2.18	1.83	118	-2.09	1.8
13 years	48	-1.31	1.26	69	-1.42	1.94	118	-1.38	1.69
14 years	54	-1.54	1.73	59	-1.18	1.46	113	-1.35	1.6
15 years	39	-1.26	1.27	52	-1.28	1.57	91	-1.27	1.44
16 years	31	-1.22	1.26	41	-1.05	1.25	72	-1.13	1.25
17 years	19	-1.47	1.38	26	-0.93	1.24	45	-1.15	1.31
18 years	54	-1.45	1.02	56	-0.82	1.02	110	-1.13	1.06
Total	672	-1.44	1.51	727	-1.35	1.46	1399	-1.4	1.48

Table 6.3.1.1: Prevalence of stunting among pre-school male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Stunted (%)	19.51	45.45	48.15	47.37	44.12	50	13.64	47.06	60	43.75	39.24
Normal (%)	75.61	51.52	48.15	47.37	44.12	50	63.64	52.94	40	43.75	54.01
Overweight/Obese (%)	4.88	3.03	3.7	5.26	11.76	0	22.73	0	0	12.5	6.75
Total (N)	41	33	27	19	34	18	22	18	10	18	237

% = Percentage, N = Number

Table 6.3.1.2: Prevalence of stunting among pre-school female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Stunted (%)	29.73	44.19	41.03	11.11	41.30	22.22	50.00	42.11	50.00	47.37	39.15
Normal (%)	62.18	44.19	58.97	88.89	52.18	77.78	40.91	57.89	50.00	47.37	55.43
Overweight/Obese (%)	8.11	11.63	0.00	0.00	6.52	0.00	9.09	0.00	0.00	5.26	5.43
Total (N)	37	43	39	9	46	18	22	19	6	19	258

% = Percentage, N = Number

Table 6.3.1.3: Prevalence of underweight among pre-school male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Underweight (%)	36.59	51.52	25.93	73.68	35.29	38.89	50.00	58.82	40.00	75.00	45.99
Normal (%)	63.41	48.48	74.07	26.32	61.76	61.11	50.00	41.18	60.00	25.00	53.59
Overweight/Obese (%)	0.00	0.00	0.00	0.00	2.94	0.00	0.00	0.00	0.00	0.00	0.42
Total (N)	41	33	27	19	34	18	22	18	10	18	237

% = Percentage, N = Number

Table 6.3.1.4: Prevalence of underweight among pre-school female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	

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Underweight (%)	35.14	46.51	15.38	11.11	26.09	27.78	54.55	47.37	50.00	68.42	36.43
Normal (%)	64.86	53.49	84.62	88.89	73.91	72.22	45.45	52.63	50.00	31.58	63.57
Overweight/Obese (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (N)	37	43	39	9	46	18	22	19	6	19	258

% = Percentage, N = Number

Table 6.3.1.5: Prevalence of wasting among pre-school male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Wasted (%)	46.34	36.36	11.11	57.89	29.41	18.67	45.45	29.41	20	50	35.02
Normal (%)	48.78	48.48	62.96	31.58	64.71	55.56	45.45	47.06	80	50	52.74
Over (%)	4.88	15.15	25.93	10.53	5.88	27.78	9.09	23.53	0	0	12.24
Overweight/Obese (%)	41	33	27	19	34	18	22	18	10	18	237

% = Percentage, N = Number

Table 6.3.1.6: Prevalence of wasting among pre-school female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Wasted (%)	37.84	25.58	5.13	33.33	6.52	18.67	40.91	52.63	0.00	42.11	24.42
Normal (%)	54.05	55.81	76.92	66.67	89.13	83.33	50.00	31.58	66.67	57.89	65.12
Overweight/Obese (%)	8.11	18.60	18.95	0.00	4.35	0.00	9.09	15.79	33.33	0.00	10.47
Total (N)	37	43	39	9	46	18	22	19	6	19	258

% = Percentage, N = Number

Table 6.3.1.7: Prevalence of thinness among pre-school male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Thinned (%)	41.46	27.27	11.11	52.63	18.65	18.67	45.45	35.29	20.00	43.75	30.80
Normal (%)	53.66	69.70	62.96	47.37	70.59	55.56	45.45	41.18	80.00	56.25	58.65
Overweight/Obese (%)	4.88	3.03	25.93	0.00	11.76	27.78	9.09	23.53	0.00	0.00	10.55
Total (N)	41	33	27	19	34	18	22	18	10	18	237

% = Percentage, N = Number

Table 6.3.1.8: Prevalence of thinness among pre-school female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Thinned (%)	37.84	27.91	5.13	33.33	4.35	5.56	40.91	52.63	0.00	36.84	23.26
Normal (%)	54.05	60.47	79.49	66.67	89.13	94.44	54.55	31.58	83.33	63.18	68.22
Overweight/Obese (%)	8.11	11.63	15.38	0.00	6.52	0.00	4.55	15.79	18.67	0.00	8.53
Total (N)	37	43	39	9	46	18	22	19	6	19	258

% = Percentage, N = Number

Table 6.3.2.1: Prevalence of stunting among school-going male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Stunting (%)	28.57	41.67	29.18	38.1	45.12	21.05	18.39	22.58	50	44.44	35.11
Normal (%)	69.39	58.33	62.5	61.9	53.66	73.68	82.61	74.19	43.75	55.56	62.7
Overweight/Obese (%)	2.04	0	8.33	0	1.22	5.26	0	3.23	6.25	0	2.19
Total (N)	49	36	24	21	82	19	23	31	18	18	319

Table 6.3.2.2: Prevalence of stunting among school going female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Stunting (%)	36.84	60.87	25.00	41.67	48.00	25.00	20.00	34.62	18.65	54.55	38.56
Normal (%)	63.18	39.13	75.00	58.33	52.00	75.00	80.00	65.38	82.35	45.45	61.44
Overweight/Obese (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (N)	38	23	32	24	100	28	20	26	18	11	319

Table 6.3.2.3: Prevalence of underweight school-going male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Underweight (%)	48.98	52.78	29.18	57.14	37.8	15.79	39.13	54.84	62.5	72.22	45.45
Normal (%)	51.02	47.22	70.83	42.86	60.98	84.21	60.87	45.18	37.5	27.78	54.23
Overweight/Obese (%)	0	0	0	0	1.22	0	0	0	0	0	0.31
Total (N)	49	36	24	21	82	19	23	31	18	18	319

Table 6.3.2.4: Prevalence of underweight among school-going female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Underweight (%)	52.63	69.57	37.50	54.18	46.00	25.00	20.00	53.85	41.18	72.73	46.08
Normal (%)	47.37	30.43	62.50	45.83	54.00	75.00	80.00	46.15	58.82	27.27	53.92
Overweight/Obese (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (N)	38	23	32	24	100	28	20	26	18	11	319

Table 6.3.2.5: Prevalence of thinness among school-going male children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Thinness (%)	34.69	50	18.67	47.62	12.2	5.26	34.78	74.19	31.25	38.89	32.29
Normal (%)	59.18	50	79.18	52.38	85.37	89.47	65.22	25.81	62.5	61.11	65.2

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Overweight/Obese (%)	6.12	0	4.18	0	2.44	5.26	0	0	6.25	0	2.51
Total (N)	49	36	24	21	82	19	23	31	18	18	319

Table 6.3.2.6: Prevalence of thinness among school-going female children

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Thinness (%)	39.47	39.13	15.63	29.18	18.00	10.71	30.00	53.85	41.18	54.55	27.59
Normal (%)	60.53	56.52	84.38	70.83	84.00	89.29	70.00	46.15	58.82	45.45	72.10
Overweight/Obese (%)	0.00	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
Total (N)	38	23	32	24	100	28	20	26	18	11	319

Table 6.3.3.1: Prevalence of stunting among male adolescents

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Stunting (%)	34.67	33.33	47.83	60.00	63.49	33.33	29.63	36.84	47.37	55.00	43.91
Normal (%)	64.00	66.67	52.18	40.00	36.51	66.67	70.37	63.18	52.63	45.00	55.81
Overweight/Obese (%)	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
Total (N)	75	27	23	25	63	36	27	38	19	20	353

Table 6.3.3.2: Prevalence of stunting among female adolescents

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Stunting (%)	34.25	55.56	41.67	82.76	53.49	52.63	45.24	48.57	41.18	72.73	50.74
Normal (%)	65.75	44.44	58.33	18.24	46.51	47.37	54.76	51.43	58.82	27.27	49.26
Overweight/Obese (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (N)	73	18	24	29	129	19	42	35	18	22	408

Table 6.3.3.3: Prevalence of thinness among male adolescents

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Thinness (%)	36.00	48.15	4.35	40.00	19.05	33.33	18.52	44.74	42.11	20.00	30.88
Normal (%)	64.00	51.85	95.65	60.00	80.95	66.67	81.48	55.26	57.89	80.00	69.12
Overweight/Obese (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (N)	75	27	23	25	63	36	27	38	19	20	353

Table 6.3.3.4: Prevalence of thinness among female adolescents

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	

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Thinness (%)	24.66	50.00	25.00	48.28	22.48	21.05	19.05	54.29	29.41	13.64	28.19
Normal (%)	75.34	50.00	75.00	51.72	77.52	78.95	80.95	45.71	70.59	86.36	71.81
Overweight/Obese (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (N)	73	18	24	29	129	19	42	35	18	22	408

Table 6.4.1.1: Average height among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	182	149	118	107	183	121	187	120	50	134	1320
	Mean	159.86	158.27	158.03	157.98	155.06	157.81	159.44	180.89	180.26	155.77	158.15
	SD	6.48	5.60	5.90	6.45	6.08	6.55	5.55	5.62	6.36	5.45	6.24
Female	N	219	204	135	138	152	104	214	136	60	198	1560
	Mean	149.30	148.00	149.02	147.41	145.86	149.43	149.35	149.71	150.18	145.81	148.25
	SD	6.33	4.91	5.18	5.33	5.50	5.23	4.86	5.26	6.10	4.91	5.52

Table 6.4.1.2: Average weight among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	182	149	118	107	183	121	187	120	50	134	1320
	Mean	49.51	49.37	53.55	46.33	48.34	48.54	53.81	46.49	53.30	47.69	49.57
	SD	8.74	8.13	8.55	6.34	6.63	7.83	7.62	6.56	8.94	6.81	8.00
Female	N	219	204	135	138	152	104	214	136	60	198	1560
	Mean	41.31	40.54	45.25	37.73	41.74	42.35	44.47	38.29	45.35	40.32	41.55
	SD	6.78	6.77	6.66	5.94	5.22	5.87	6.58	7.15	7.94	6.47	6.91

Table 6.4.1.3: Average BMI among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	182	149	118	107	183	121	187	120	50	134	1320
	Mean	19.33	19.71	21.38	18.53	20.06	19.42	21.14	18.92	20.67	19.63	19.78
	SD	2.98	3.14	2.80	2.00	2.06	2.35	2.57	2.06	2.69	2.53	2.73
Female	N	219	204	135	138	152	104	214	136	60	198	1560
	Mean	18.50	18.49	20.37	18.35	19.60	18.92	19.92	18.06	20.07	18.96	18.88
	SD	2.51	2.80	2.75	2.51	2.03	2.05	2.64	2.87	3.05	2.86	2.80

Table 6.4.1.4: Average MWC (Minimum Waist Circumference) among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	182	149	118	107	183	121	187	120	50	134	1320
	Mean	71.52	73.76	74.29	72.89	72.06	71.07	77.35	71.79	77.55	71.28	73.13
	SD	9.59	7.69	8.38	7.40	6.26	7.25	6.88	6.22	8.81	8.47	7.97
Female	N	219	204	135	138	152	104	214	136	60	198	1560
	Mean	70.59	70.86	72.10	70.37	69.79	69.60	72.41	70.18	77.77	66.18	70.52
	SD	7.85	9.70	8.49	8.18	5.87	6.57	7.52	8.57	9.70	8.32	8.41

Table 6.4.2.1: Average SBP among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	150	143	111	98	183	115	184	114	48	128	1254
	Mean	119.75	126.62	124.59	132.67	120.74	119.01	130.63	128.54	131.50	130.54	125.82
	SD	18.70	18.88	18.88	22.48	14.01	14.56	20.13	19.87	18.33	21.42	18.78
Female	N	200	196	126	124	152	93	205	129	59	190	1474
	Mean	118.31	125.10	121.21	130.32	118.49	118.26	121.97	130.88	131.80	128.14	123.60
	SD	18.54	21.01	19.45	25.22	12.03	20.47	18.87	25.59	21.42	23.47	20.93

Table 6.4.2.2: Average DBP among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	150	143	111	98	183	115	184	114	48	128	1254
	Mean	79.28	83.30	82.84	90.85	80.50	78.19	86.60	88.05	87.21	85.69	83.75
	Std. Deviation	11.03	11.44	10.39	15.43	9.92	9.94	12.56	13.10	10.44	13.18	12.35
	N	200	196	126	124	152	93	205	129	59	190	1474
Female	Mean	78.65	82.28	81.86	87.20	78.73	75.86	82.40	91.36	86.85	84.12	82.62
	Std. Deviation	10.79	12.12	11.60	12.95	8.86	11.35	10.72	15.22	11.23	13.04	12.48

Table 6.4.2.3: Average Blood Glucose (random) among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiya	Overall
Male	N	136	144	45	95	98	91	181	111	49	128	1058
	Mean	108.79	100.94	101.76	104.97	101.86	101.86	113.26	114.82	113.69	109.43	105.86
	SD	26.98	28.33	25.33	27.89	12.04	21.18	38.19	30.21	22.47	26.88	29.05
Female	N	187	196	66	120	73	76	204	126	58	191	1287
	Mean	110.87	103.39	100.09	105.12	102.45	102.20	111.62	114.09	114.41	110.90	107.24
	SD	26.03	26.82	23.68	21.41	13.48	22.86	27.18	27.04	24.43	34.60	27.46

Table 6.4.2.4: Average Haemoglobin level among adult PVTGs

Sex	Levels	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	Overall
Male	N	135	146	92	82	20	89	183	112	49	127	1015
	Mean	12.49	13.82	18.33	13.43	12.64	15.10	13.72	13.10	13.29	14.01	13.92
	SD	3.65	2.23	8.18	1.89	4.64	2.68	3.68	2.24	3.07	3.72	4.04
Female	N	181	195	112	105	15	75	201	127	59	191	1261
	Mean	11.08	11.83	14.43	11.77	11.45	13.98	11.15	12.10	11.18	12.19	12.01
	SD	1.95	1.72	4.59	2.32	4.06	2.39	1.49	2.03	1.37	2.53	2.58

Table 6.5.1.1: Prevalence of Chronic Energy Deficiency (CED) among adult male PVTGs

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
CED (%)	41.28	31.54	12.93	50.47	19.13	36.36	14.37	63.87	24.00	32.09	31.94
Normal (%)	49.42	59.06	62.07	45.79	73.77	56.20	64.07	35.29	56.00	57.46	56.98
Overweight/Obese(%)	9.30	9.40	25.00	3.74	7.10	7.44	21.56	0.84	20.00	10.45	11.08
Total (N)	182	149	118	107	183	121	187	119	50	134	1318

Table 6.5.1.2: Prevalence of Chronic Energy Deficiency (CED) among adult female PVTGs

Nutritional status	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
CED (%)	52.97	51.96	22.96	74.64	27.81	41.75	28.64	82.35	31.67	48.48	46.82
Normal (%)	42.47	41.67	64.44	21.01	66.23	53.40	59.15	13.97	51.67	43.94	45.73
Overweight/Obese (%)	4.56	6.37	12.59	4.35	5.96	4.85	12.21	3.68	16.67	7.58	7.45
Total	219	204	135	138	151	103	213	136	60	198	1557

Table 6.5.2.1: Prevalence of central obesity among adult male PVTGs

Obesity	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Normal (%)	95.93	95.30	96.58	98.13	99.45	98.35	94.61	98.33	94.00	97.76	96.97
Central Obesity (%)	4.07	4.70	3.42	1.87	0.55	1.65	5.39	1.67	6.00	2.24	3.03
Total (N)	182	149	118	107	183	121	187	120	50	134	1320

Table 6.5.2.2: Prevalence of central obesity among adult female PVTGs

Obesity	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Normal (%)	99.09	97.06	98.52	97.83	99.34	99.04	99.53	97.79	90.00	100.00	98.40
Central Obesity (%)	0.91	2.94	1.48	2.18	0.66	0.96	0.47	2.21	10.00	0.00	1.60
Total (N)	219	204	135	138	152	104	214	136	60	198	1560

Table 6.5.3.1: Prevalence of High Blood Glucose among adult male PVTGs

Blood Glucose Level	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Normal (%)	84.56	91.67	93.33	94.74	100.00	96.70	86.34	78.38	89.80	87.50	89.51

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Moderate Blood Glucose (%)	15.44	7.64	6.67	3.18	0.00	3.30	9.94	19.82	10.20	11.72	9.36
High Blood Glucose (%)	0.00	0.69	0.00	2.11	0.00	0.00	3.73	1.80	0.00	0.78	1.13
Total (N)	136	144	45	95	98	91	181	111	49	128	1058

Table 6.5.3.2: Prevalence of High Blood Glucose among adult female PVTGs

Blood Glucose Level	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Normal (%)	86.44	91.33	95.45	92.50	100.00	93.42	88.73	80.95	84.48	89.53	89.59
Moderate Blood Glucose (%)	11.86	8.18	3.03	7.50	0.00	6.58	9.31	18.46	15.52	9.42	9.40
High Blood Glucose (%)	1.70	0.51	1.52	0.00	0.00	0.00	1.96	1.59	0.00	1.05	1.01
Total (N)	187	196	66	120	73	76	204	126	58	191	1287

Table 6.5.4.1: Prevalence of hypertension among adult male PVTGs

Hypertension	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Normotensive (%)	90.00	86.01	85.59	72.45	94.54	96.52	77.44	78.07	81.25	78.91	84.85
Hypertensive (%)	10.00	13.99	14.41	27.55	5.46	3.48	22.56	21.93	18.75	21.09	15.15
Total (N)	150	143	111	98	183	115	184	114	48	128	1254

Table 6.5.4.2: Prevalence of hypertension among adult female PVTGs

Hypertension	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Normotensive (%)	92.50	80.61	90.48	78.23	97.37	92.47	89.76	75.19	77.97	77.37	85.62
Hypertensive (%)	7.50	19.39	9.52	21.77	2.63	7.53	10.24	24.81	22.03	22.63	14.38
Total (N)	200	196	126	124	152	93	205	129	59	190	1474

Table 6.5.5.1: Prevalence of anaemia among adult male PVTGs

Haemoglobin level	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Anaemic (%)	56.30	28.08	13.04	32.93	35.00	25.84	39.26	47.32	59.18	33.86	36.95
Normal (%)	43.70	71.92	86.96	67.07	65.00	74.18	60.74	52.68	40.82	66.14	63.05
Total (N)	135	146	92	82	20	89	183	112	49	127	1015

Table 6.5.5.2: Prevalence of anaemia among adult female PVTGs

Haemoglobin level	Ethnic groups										Overall
	Bonda	Didayi	Dongria Kandha	Hill Kharia	Juang	Kutia Kandha	Lanjia Saora	Lodha	Mankidia	Paudi Bhuiyan	
Anaemic	122	104	24	58	6	15	143	61	43	97	673
%	67.40	53.33	21.43	55.24	40.00	20.00	71.14	48.03	72.88	50.79	53.37
Normal	59	91	88	47	9	60	58	66	18	94	588
%	32.60	46.67	78.57	44.76	60.00	80.00	28.86	51.97	27.12	49.21	46.63
Total	181	195	112	105	15	75	201	127	59	191	1261

7.1: Conclusion - Ethnography

- I. The geographical distribution of Odisha's PVTGs reveals strong clustering in tribal-dominated districts like Mayurbhanj, Malkangiri, Keonjhar, and Rayagada. Several groups exhibit inter-district and interstate dispersion, indicating seasonal migration, resettlement, and socio-economic outreach across states like West Bengal, Andhra Pradesh, and Jharkhand, reflecting evolving demographic and livelihood dynamics.
- II. The techno-economic transition of Odisha's PVTGs reflects a significant shift from traditional hunting, gathering, and shifting cultivation to settled agriculture, horticulture, and wage labour. Many have diversified into forest-based crafts like rope and leaf-plate making, indicating adaptive livelihoods while retaining some traditional practices for sustenance and supplemental income.
- III. The settlement patterns of Odisha's PVTGs vary by terrain, reflecting adaptation to geography and lifestyle. While linear and two-row village structures dominate plains, scattered and zigzag patterns prevail in hilly regions, indicating communal and individualistic orientations. Temporary, enclosed, or culturally named settlements highlight traditional identity and resilience.
- IV. The housing styles of Odisha's PVTGs reflect ecological adaptation and cultural aesthetics. Structures range from conical leaf huts to rectangular, stone-walled dwellings. Many feature verandahs, fenced enclosures, or artistic wall designs. Materials such as bamboo, mud, wild grass, and stone highlight sustainable, locally sourced architecture suited to the terrain and lifestyle.
- V. The ethno-histories of Odisha's PVTGs reveal rich cultural origins rooted in nature, myths, and local traditions. Many names signify forest-dwelling, earth-emergence, or ancestral practices like leaf-wearing or hunting. These narratives preserve tribal identity, spiritual beliefs, and social distinctions, reflecting deep connections to land, nature, and oral traditions.
- VI. Among Odisha's PVTGs, nuclear families are predominant, reflecting simplicity and self-dependence in household structure. Extended and polygynous families are rare, with few exceptions like the Lanjia Soura. Local terms for families vary culturally, indicating linguistic diversity and the community-specific conceptualisation of kinship and household organisation.
- VII. Marriage practices among Odisha's PVTGs reflect rich cultural diversity, including arranged unions, love marriages, service-based unions, intrusion, and ceremonial capture. Monogamy is prevalent, though polygyny occurs in a few groups. Unique rituals like symbolic gestures or social pressure reflect deep-rooted customs, autonomy in mate selection, and evolving gender dynamics across communities.
- VIII. Bride price among Odisha's PVTGs is a culturally significant practice, involving payments in both cash and kind—typically rice, livestock, liquor, and clothing. Paid mainly through the bride's family, it symbolises social ties, reciprocity, and tribal customs. The practice varies by group, reflecting deep-rooted traditions and localised economic systems.
- IX. Clan systems among Odisha's PVTGs exhibit rich totemic affiliations, often derived from animals, plants, or natural elements, reflecting their ecological connections and lineage identity. Most tribes follow patrilineal systems, with clans regulating marriage and social conduct. Notably, Lanjia Soura lacks a formal clan structure, which highlights cultural uniqueness within tribal diversity.

- X. Birth rituals among Odisha's PVTGs are culturally rich, involving purification ceremonies typically on the 7th or 21st day. Name-giving practices vary, with roles assigned to maternal uncles, fathers, grandparents, or community elders. These rituals reflect strong kinship bonds, ancestral reverence, and deep-rooted customs tied to familial and tribal identity.
- XI. Death rituals among Odisha's PVTGs reflect deep spiritual and ecological traditions. Pollution periods vary from 2 to 15 days, involving symbolic purifications like "Sudhi Kriya," "Haldi," or "Mahania." Rituals such as "Guar" and "Karjya" emphasise ancestor worship, while burial grounds and ceremonial offerings maintain cultural continuity and social cohesion.
- XII. Magico-religious practices among Odisha's PVTGs are deeply rooted in nature worship and ancestral reverence. They follow polytheistic traditions, worshipping deities like the Sun, the Earth, and village spirits. Ancestral worship, clan gods, and nature-linked deities highlight their spiritual connection with ecology, community identity, and the cyclical rhythm of life and death.
- XIII. Among Odisha's PVTGs, magico-religious leadership is diverse and gender-inclusive, involving priests, shamans, astrologers, and healers. Male and female specialists like Dehuri, Jani, Beju, and Kudan Bai perform rituals, heal illnesses, and mediate with ancestral and village deities, preserving traditional belief systems and communal spiritual well-being through sacred practices.
- XIV. Dormitory systems among Odisha's PVTGs once played crucial roles in youth socialisation, cultural transmission, and courtship. While tribes like Bonda, Juang, and Dongria Kandha maintain them as guest houses or matrimonial spaces, others have discontinued their use. This reflects changing socio-cultural dynamics and modernisation influences within tribal communities.
- XV. Traditional political organisations among Odisha's PVTGs are decentralised, clan-based systems led by village elders, priests, or heads like Pradhan, Naik, or Gomango. Assisted by messengers and ritual specialists, these structures manage social order, conflict resolution, and rituals, blending governance with spirituality to uphold tribal autonomy and cultural integrity.
- XVI. The primary economic activities of Odisha's PVTGs showcase deep ecological knowledge and sustainable livelihood practices, combining shifting cultivation, forest-based crafts, horticulture, and seasonal foraging. Their diverse subsistence economies—built on millet farming, forest produce, and wage labour—highlight resilience, cultural adaptation, and ongoing dependence on natural resources for both sustenance and income.
- XVII. The dietary patterns of Odisha's PVTGs reveal a millet- and rice-based subsistence system enriched with pulses, vegetables, forest produce, and seasonal non-vegetarian items. Traditional local foods like *Mandikudu*, *Sunasag*, and *Uaabukul* highlight indigenous culinary diversity, nutritional adaptation, and the intimate connection between food, ecology, and tribal culture.
- XVIII. Alcohol consumption is culturally embedded among Odisha's PVTGs, with each community producing traditional brews from rice, mahua flowers, sago palm, fruits, and forest products. Beverages like *Handia*, *Mahuli*, *Landa*, and *Kalu* reflect indigenous fermentation knowledge, seasonal resource use, and socio-ritual functions deeply rooted in their ecological and cultural landscapes.
- XIX. The traditional attire and ornaments of Odisha's PVTGs showcase rich cultural identity and craftsmanship. Distinctive garments like *Ringa*, *Lanjia*, and *Urmali*, along with ornate accessories—earrings, bangles, anklets, nose rings, and necklaces—reflect tribal aesthetics, social roles, and ritual practices, deeply intertwined with local resources, gender, and generational customs.
- XX. The diverse festivals of Odisha's PVTGs reflect deep agrarian, ecological, and spiritual ties. Celebrations like *Parab*, *Dakina*, and *Lajab* revolve around sowing, harvesting, ancestral

worship, and communal rituals. These events preserve traditional knowledge, strengthen social cohesion, and reinforce reciprocal relationships with nature, land, deities, and community.

- XXI. Women of Odisha's PVTGs actively participate in household, agricultural, and forest-based economies, with varying levels of autonomy and status. While tribes like Dongria Kandha, Kutia Kandha, and Lanjia Soura uphold women's high socio-cultural roles, others like Lodha and Hill Kharia reflect gender disparities, now slowly transforming through SHGs and livelihood programs.
- XXII. Dance and music are integral to the cultural identity of Odisha's PVTGs, with each tribe showcasing distinct performances and instruments. While dances like Dhemsa, Changu, and Kariya reflect communal life and rituals, musical expressions feature a range of indigenous drums, flutes, cymbals, and folk instruments rooted in tradition and seasonal celebration.
- XXIII. Sacred spaces among Odisha's PVTGs serve as spiritual anchors within their settlements, often located at village centres or forest edges. These places—like Sindibur, Hundi, Jahira, and Edital—are vital for rituals, ancestral worship, and community cohesion, symbolising deep-rooted ecological reverence and the cultural sanctity of indigenous belief systems.

7.1.1: Conclusion - Ethnic Language

- I. The IPA analysis of house names among Odisha's PVTGs reveals rich phonological diversity, including alveolar taps (/ɾ/), aspirated plosives (/gʱ/), affricates (/dʒ/), and nasals (/ɲ/, /ŋ/). These features reflect varied linguistic roots, Austroasiatic, Dravidian, and Indo-Aryan, highlighting each tribe's distinct cultural identity and phonetic legacy.
- II. IPA transcription of family terms among Odisha's PVTGs reveals phonetic richness shaped by linguistic heritage. Key features include labiovelar approximants (/w/), alveolar taps (/ɾ/), aspirated plosives (/gʱ/), and open vowels, reflecting Austroasiatic, Dravidian, and Indo-Aryan roots, underscoring deep cultural-linguistic diversity in familial nomenclature and social structure.
- III. IPA analysis of marriage terms among Odisha's PVTGs reveals phonetic diversity shaped by cultural practices, featuring affricates (/dʒ/, /tʃ/), aspirated stops (/bʱ/, /dʱ/), nasals (/ŋ/), and vowel-rich syllables. These phonological patterns reflect Austroasiatic, Dravidian, and Indo-Aryan roots, capturing the linguistic depth of tribal matrimonial customs and identities.
- IV. IPA transcriptions of bride price terms among Odisha's PVTGs reveal rich phonological diversity—featuring nasals (/n/, /ŋ/), affricates (/dʒ/), retroflexes (/ɖ/, /ɟ/), and vowel harmony. These terms, rooted in Austroasiatic, Dravidian, and Indo-Aryan languages, encapsulate kinship-driven exchanges, economic symbolism, and profound cultural continuity across tribal matrimonial systems.
- V. IPA transcriptions of PVTG clan terms in Odisha unveil rich phonetic textures, nasals (/ŋ/, /n/), aspirates (/kʰ/, /bʱ/), affricates (/tʃ/), retroflexes (/ɖ/, /ɟ/), and long vowels (/ɑ:/, /u:/). These sound patterns, rooted in Dravidian, Austroasiatic, and Indo-Aryan languages, reflect ecological symbolism, kinship systems, and diverse sociolinguistic identities.
- VI. IPA analysis of PVTG birth rituals in Odisha reveals phonetic richness marked by aspirated stops (/tʰ/, /kʰ/), long vowels (/ɑ:/, /u:/), diphthongs (/ɔɪ/, /æ/), and retroflexes (/ɾ/, /ɟ/). These linguistic patterns reflect ritual diversity, ancestral reverence, and kinship roles embedded in culturally distinct name-giving traditions.
- VII. IPA-based analysis of PVTG death rituals in Odisha reveals phonological complexity, with frequent use of aspirates (/gʱ/, /tʰ/), long vowels (/ɑ:/, /u:/), nasalisation (/ŋ/), and affricates (/dʒ/, /tʃ/). These patterns mirror linguistic diversity and encode socio-cultural meanings tied to pollution, purification, and ancestral reverence across tribal groups.

- VIII. IPA analysis of PVTG religious terms in Odisha reveals linguistic diversity through aspirated stops (/p^h/, /t^h/), long vowels (/a:/, /e:/), and retroflex consonants (/ɖ/, /ʈ/). Polytheistic pantheons often use compound words, e.g., /'ma:pa:rabu:/, reflecting reverence for nature, ancestors, and village spirits across Indo-Aryan and Dravidian phonologies.
- IX. IPA-based findings reveal consistent use of long vowels (/a:/, /e:/) and retroflex consonants (/ɖ/, /ʈ/, /ɳ/) in naming spiritual specialists like /'de:həri/, /'dʒa:nɪ/, /'gɒnɪa:/, and /be:'dʒu:ni/. Lexical patterns indicate gendered forms and compound structures, reflecting nuanced socio-religious roles and phonological variation across Odisha's PVTG priesthoods.
- X. IPA-based findings show widespread use of retroflex (/ɖ/, /ʈ/, /ɳ/), aspirated (/ɖ^h/, /k^h/), and long vowel sounds (/a:/, /e:/) in dormitory names like /'ɖ^həŋgri/, /'sɛla:nɪɖɳ/, and /'məndəg^hər/. The gendered naming conventions and semantic pairing (e.g., /'ɖ^həŋga:r/ vs. /'ɖ^həŋgri/) reflect sociolinguistic patterns in tribal adolescence rites.
- XI. IPA-based findings highlight frequent use of retroflex consonants (/ɖ/, /ʈ/, /ɳ/), aspirated stops (/ɖ^h/, /k^h/), and syllabic structure with long vowels (/a:/, /e:/) in leadership roles like /'mɒ.k^hi.ja:/, /'prə.ɖ^ha:n/, and /'ɖe:.^hu.ri/. These phonological features mirror hierarchical and ceremonial order in tribal governance terminology.
- XII. IPA-based findings reveal consistent retroflex sounds (/ɖ/, /ʈ/, /ɳ/), aspirated plosives (/p^h/, /k^h/, /ɖ^h/), and long vowels (/a:/, /u:/, /e:/) across economic terms, reflecting phonological unity in agro-ecological knowledge. Terms like /'klu:n.ɖa:/, /'bi.la:/, and /'pʌn.ɖa:/ showcase semantic specificity rooted in terrain, crop, and craft practices.
- XIII. IPA analysis of staple food terms among Odisha's PVTGs reveals phonetic richness marked by retroflex plosives (/ɖ/, /ʈ/), aspirates (/b^h/, /ɖ^h/), and long vowels (/a:/, /u:/), indicating cultural-linguistic continuity. Words like /'mʌn.ɖi.ku.ɖu/ and /'ʊ.a:bu.kul/ encapsulate dietary identity shaped by terrain, tradition, and agro-ecology.
- XIV. IPA renderings of PVTG beverages showcase phonetic diversity rooted in indigenous linguistics, with aspirates (/h/, /k^h/), retroflexes (/ɖ/, /ʈ/), and vowel prolongations (/a:/, /i:/) dominating. Terms like /'hʌn.ɖi.a:/, /'sa:guɾ/, and /'ʌ.bʌ.sʌl/ reflect cultural-linguistic continuity, preserving ethnobotanical knowledge through oral tradition and regional articulation.
- XV. IPA analysis of PVTG attire and ornament terms reveals rich phonological diversity marked by retroflexes (/ʈ/, /ɖ/), aspirates (/h/, /k^h/), geminates (/kk/, /pp/), and syllabic complexity. These patterns encapsulate deep-rooted socio-linguistic identity, with oral traditions preserving ethnocultural heritage through distinctive articulatory features and localised phonemic systems.
- XVI. The IPA forms of PVTG festivals reflect diverse phonetic systems, marked by retroflex stops (/ɖ/, /ʈ/), breathy aspirates (/b^h/, /p^h/), and syllabic variation. Recurrent stress on /'pa:rəb/, /'da.kɪ.na/, and /'pu.ɖʒa/ underscores ritual centrality, revealing how sound structures encode sacred, seasonal, and cultural expressions across tribes.
- XVII. The IPA transcriptions of tribal dances and instruments reveal rich phonotactic diversity, showcasing aspirated stops (/ɖ^h/, /t^h/), retroflexes (/ɖ/, /ʈ/), nasals (/ŋ/), and syllabic variety. Frequent disyllabic stress patterns (e.g., /'na.tʃa/, /'tʃʌn.gu/) reflect rhythmic alignment with performance, underscoring embodied oral-musical traditions across Odisha's PVTGs.
- XVIII. IPA analysis of sacred place names among Odisha's PVTGs reveals consistent use of retroflex stops (/ɖ/, /ʈ/, /ɖ/), aspirates (/h/, /b^h/), and trisyllabic to quadrisyllabic structures (e.g., /'mʌ.fɪ.pɾʌ.b^hʊ/). The syllabic symmetry mirrors spatial-cultural logic, emphasising centrality or liminality in village ritual landscapes.
- XIX. IPA-based findings reveal Odisha's tribal anatomical lexicons feature retroflex (/ɖ/, /ʈ/), aspirated (/h/, /b^h/), and nasalised (/ɳ/, /ɳ̃/) phonemes. Syllabic elongation (/a:/, /i:/, /e:/) and compound structures (e.g., /pa: da: me:/, /ba:da: a:ŋgath^hi/) reflect phonological richness shaped by ecological, cultural, and kinship-based oral traditions.

- XX. IPA-based findings reveal extensive phonetic diversity in tribal fauna terms, with frequent use of aspirated (/b^h/, /k^h/), retroflex (/ɖ/, /ʈ/), and nasal (/ŋ/, /ɳ/) sounds. Variations like /gisu/ (dog), /bubu/ (snake), and /piri/ (bird) reflect simplification, lengthening, and substrate influence, showcasing deep ethno-linguistic ties to ecology and identity.
- XXI. The IPA-based findings reveal systematic phonological variations among Odisha's PVTGs, marked by aspirated plosives (/b^h/, /g^h/), retroflexion (/ɖ/, /ʈ/), and nasal codas (/ŋ/, /ɳ/). Patterns include syllabic elongation (e.g., /pi:ri/), vowel harmony, and simplification (e.g., /bubu/), reflecting deep ethno-linguistic layering and ecological symbolism.
- XXII. IPA-based findings reveal significant lexical and phonetic divergence across tribal languages in Odisha, marked by vowel elongation (/a:/), consonant simplification (/ɾ/ for /ɖ/), and agglutinative formations. Variants like /ʈʃisuleɪg/ (onion) and /dəra/ (wood) reflect deep Dravidian-Austroasiatic substrata, showcasing complex morpho-phonemic adaptations shaped by ecological intimacy.
- XXIII. IPA-based findings reveal robust phonological diversity in tribal terms for clothing and ornaments, marked by retroflex-to-palatal shifts (/ɖ/→/ɖʒ/), vowel reductions (/a:/→/ʌ/), and compound constructions like /ʈʌŋkʌɪnʌ/ for "bindi." Lexical retention (e.g., /sʌnʌ/ for gold) contrasts with deep morpho-phonemic innovation, illustrating distinct ethno-linguistic identities.
- XXIV. IPA-based findings reveal tribal religious lexicons diverge through vowel centralisation (/ɔ/→/ʌ/), consonantal simplification (e.g., /pr/→/dʌ/), and cluster reduction (/ɾʰ/→/ɾ/ or omission). Austroasiatic tribes favour monosyllabic forms (e.g., /penu/), while Indo-Aryan-influenced groups retain Odia-like phonemes, reflecting deep-rooted phonological innovation and cultural-linguistic contact zones.
- XXV. IPA-based findings reveal diverse numeral phonologies among Odisha's tribal languages, marked by diphthongisation (/e/→/ui/), pre-nasalisation (/d/→/mb/), and affixation (e.g., /tini/→/tini gʌtʌ/). Retroflexion, vowel lengthening, and syllabic expansion (e.g., /ʈʃari/→/gʌndʌ mi/) reflect Austroasiatic and Dravidian phonological influence and deep linguistic divergence.
- XXVI. Kinship terms among Odisha's PVTGs reveal profound linguistic diversity, with phonetic variations like nasalisation (/ja:ŋ/ for "mother") and vowel elongation (/gu:n/ for "son"). Distinctive forms such as /kan.se.lən/ (daughter, Juang) and /a: ba/ (father, Dongria) highlight Dravidian, Munda, and Indo-Aryan linguistic interplay shaping tribal social identities.

7.2: Conclusion - Socio-Demography & Economy

- I. The demographic analysis reveals a young population among Odisha's tribal communities, with over half (53.3%) aged 0–19 years, indicating possible high birth as well as death rates. The population pyramid exhibits an expansive shape, with balanced gender distribution at overall level (sex ratio: 1,022 females per 1,000 males). A strong working-age group (45.4%) offers economic potential, though this demands targeted education, healthcare, and employment planning. The elderly population remains modest (9.4%) but shows a sharp female dominance in older age groups, underscoring the need for gender-sensitive elderly care and health policies.
- II. Children under 11 years account for about 24% of both male and female populations, highlighting the need for early childhood care and educational infrastructure. Adolescents (11–18 years) form a key transitional group, with higher representation among males (18.6%) and

notable concentrations in Bonda, Juang, and Mankidia tribes. This underscores the need for targeted interventions in secondary education and vocational training.

- III. The working-age group (18–59 years) dominates the population, comprising 51.6% of males and 52% of females. This segment represents the economic backbone, with the highest proportions in Paudi Bhuiyan and Lanjia Saora communities. Elderly individuals (60+ years) remain a smaller segment—7.8% of males and 11.1% of females. However, some tribes like Mankidia and Dongria Kandha show higher elder concentrations, signalling emerging needs for geriatric care and social support.
- IV. The age composition of the ten PVTGs in Odisha reveals a predominantly working-age population (58.19%), with significant child (32.39%) and elderly (9.42%) segments. The working-age group dominates among males, while high child proportions in tribes like Dongria Kandha, Bonda, and Hill Kharia indicate strong fertility. Elderly males are more in Mankidia and Paudi Bhuiyan. Among females, the largest share is also of working-age, with notable fertility in Juang and Dongria Kandha, and higher elderly presence in Dongria Kandha and Kutia Kandha.
- V. The overall child sex ratio (909.85) is below the natural range, with notably low ratios in Bonda and Hill Kharia, indicating possible female child neglect or higher mortality. In contrast, Juang, Mankidia, and Kutia Kandha show higher child sex ratios, suggesting better gender parity. The working-age sex ratio (1,031.04) reflects near balance, with higher female representation in Dongria Kandha, Kutia Kandha, and Paudi Bhuyan, indicating strong female roles in tribal economies. However, Lodha and Juang show male-dominant ratios, hinting at gendered workforce patterns or female out-migration. Among the elderly, a very high sex ratio (1,454.80) indicates longer female life expectancy, with Dongria Kandha showing an extreme ratio (2,875.00).
- VI. The dependency indicators revealing diverse demographic pressures among Odisha's PVTGs. Dongria Kandha shows the highest Young Age Dependency Ratio (69.18) and overall Age Dependency Ratio (89.29), indicating a substantial burden on its limited working-age population and the need for child-focused interventions. In contrast, Lanjia Saora and Paudi Bhuyan have lower YDRs and ADRs, reflecting a stronger workforce base. The Working Age Population (WAP) ratio is highest in Paudi Bhuyan (65.84), while Dongria Kandha lags with only 52.83%, limiting its economic potential. The Old Age Dependency Ratio is highest in Kutia Kandha (21.00), and the Index of Ageing peaks in Paudi Bhuyan (41.70), increasing elderly care needs.
- VII. The analysis of household size among PVTGs in Odisha reveals a clear shift from traditional joint families to smaller, nuclear households. The average household size is 5.1, with notable variations: Dongria Kandha has the largest (6.3) and Mankidia has the smallest (around 4.1). Nearly half of all families (49.58%) are small (less than four members), particularly among the Mankidia, Hill Kharia, and Paudi Bhuiyan, suggesting increasing individualisation driven by economic pressures, migration, and modernisation. Medium-sized families (5–6 members) make up 34.35% and are more common among Kutia Kandha, Dongria Kandha, and Lanjia Saora, reflecting transitional family structures. Large families (over seven members) are rare (18.07%), with Dongria Kandha, Kutia Kandha, and Lanjia Saora maintaining traditional joint living.

- VIII. The educational status of the PVTGs in Odisha reveals significant disparities and persistent challenges, particularly in literacy and higher education access. While early childhood education through Anganwadi centres is limited, with overall participation at only 8.1%, communities like the Juang show relatively higher enrollment. However, non-literacy remains alarmingly high, 38.97% overall, with Juang, Lodha, and Kutia Kandha showing the worst figures. Although 28.32% of PVTGs reach Class X, dropout rates spike thereafter, with only 2.69% completing higher secondary and a mere 1.99% attaining graduation or diploma. Post-graduation participation is negligible at 0.32%. These trends underscore systemic barriers such as poverty, poor school infrastructure, cultural constraints, and limited awareness, hindering sustained educational progress among PVTGs.
- IX. Gender parity in education among PVTGs in Odisha remains a critical concern, with girls facing significant barriers at every educational level. While Anganwadi participation shows near gender parity, disparities across tribes highlight uneven progress. Female non-literacy is alarmingly high, and the gender gap widens further through primary, secondary, and higher education levels. Dropout rates for girls increase due to socio-cultural norms, early marriage, economic pressures, and lack of gender-sensitive infrastructure. Female representation in tertiary education is minimal or absent in most groups.
- X. The crude and effective literacy rates among Odisha's PVTGs reveal substantial educational deprivation and stark gender disparities. While the crude literacy rate is 61.51%, and adequate literacy is 55.95%, male literacy significantly surpasses female literacy in all tribes. The widest gender gaps are found in the Dongria Kandha and Juang communities. Tribes like Didayi, Bonda, and Paudi Bhuiyan show relatively higher literacy rates. Lower-performing tribes, especially Mankidia, Lodha, and Hill Kharia, require urgent attention to improve female literacy.
- XI. The Working Population Rate (WPR) among Odisha's 10 PVTGs stands at 50.49%, revealing that nearly half of the population remains outside the workforce, with notable gender and tribal community level disparities. Male WPR (57.71%) significantly exceeds female WPR (43.31%), highlighting structural and cultural barriers that limit women's economic participation. While tribes like Mankidia and Lodha show higher overall WPR, Didayi and Juang reflect the lowest participation. In contrast, extremely low female WPR was observed in Didayi and Juang.
- XII. The data on housing, ration card distribution, and sanitation among Odisha's Particularly Vulnerable Tribal Groups highlight stark socio-economic disparities. Many households still live in poor kuccha or semi-pucca houses, with only 12.79% residing in pucca structures, indicating limited access to durable housing. Most households hold AAY or BPL ration cards, reflecting widespread poverty and food insecurity, especially among Dongria Kandha, Hill Kharia, and Mankidia. Although 67.81% of households report not practising open defecation, sanitation gaps persist, particularly among Hill Kharia, Didayi, and Dongria Kandha.
- XIII. The analysis of basic amenities among Odisha's PVTGs reveals significant disparities in access to essential resources. While 73.76% of households report the presence of piped drinking water sources, communities like Dongria Kandha and Lanjia Saora rely heavily on unsafe sources. Electrification has reached 82.90% of households, but groups such as Lodha, Hill Kharia, and Juang lag behind due to infrastructural barriers. Around 60.71% of households have a separate

kitchen, with Didayi, Bonda, and Paudi Bhuiyan showing better housing conditions, while Dongria Kandha and Lodha remain underserved. Alarming, 93.78% of households still use firewood for cooking, with only minimal adoption of cleaner fuels like LPG, mainly among Bonda and Dongria Kandha.

- XIV. Assessing mosquito net usage and housing space among Odisha's PVTGs reveals progress and persistent challenges. A promising 86.38% of households report using mosquito nets, reflecting growing health awareness and the success of preventive interventions, with Mankidia and Didayi showing near-universal adoption. However, usage remains low among the Dongria Kandha (65.05%) and Kutia Kandha (74.50%), exposing these groups to a higher risk of vector-borne diseases due to gaps in awareness, accessibility, and infrastructure. Regarding housing, only 35.91% of households have three or more rooms, while 26.95% live in single-room dwellings, indicating severe space constraints. Tribes like Lodha, Juang, and Hill Kharia face significant overcrowding, impacting privacy, hygiene, and respiratory health. In contrast, Dongria Kandha, Lanjia Saora, and Kutia Kandha benefit from more spacious housing, suggesting uneven progress.

7.3: Conclusion - Reproductive & Child Health

- I. The reproductive health of Odisha's PVTGs reflects complex influences of nutrition, culture, and socio-economic conditions. Menarche averages 13.2 years, with variable rituals that often reinforce taboos. Menstrual hygiene is poor, with low sanitary napkin use and inadequate cleaning practices. Early childbirth, high fertility (averaging about three live births), and maternal-child health challenges persist due to limited healthcare access, traditional practices, and malnutrition.
- II. The average age at menarche among tribal women in Odisha's PVTGs is 13.2 years, with variations influenced by nutrition, genetics, and socio-economic factors. Early onset in Juang and Mankidia may reflect environmental stressors, while later onset in Kutia Kandha and Didayi points to malnutrition and delayed growth.
- III. Menarche in Odisha's tribal communities is traditionally marked by seclusion, purification rituals, and community celebrations, symbolising a girl's transition to womanhood. However, only 22% of PVTG respondents reported practising such rituals, with significant variation across groups. While these customs reflect cultural identity, they may reinforce menstrual taboos and hinder girls' access to education and healthcare.
- IV. Menstrual knowledge among Odisha's PVTG women is primarily passed down by mothers (59.79%), with minimal teacher input (0.97%), reflecting strong familial and cultural influence. Friends and sisters serve as secondary sources, while fathers remain largely uninvolved. This dependence on informal, tradition-based channels perpetuates taboos and misinformation.
- V. While 89.68% of Odisha's PVTG women report regular menstruation, certain groups like Kutia Kandha (31%) and Dongria Kandha (18.57%) show high irregularity. Menstrual taboos, poor hygiene, and inadequate sanitation further exacerbate health risks.

- VI. Only 18.94% of PVTG women in Odisha use sanitary napkins, with 83.06% relying on cloth or traditional materials due to financial constraints, poor access, and cultural norms. Usage is lowest among Lodha, Dongria Kandha, and Kutia Kandha, while modest adoption is seen among Mankidia and Lanjia Saora. Despite government efforts, penetration remains low.
- VII. Among PVTG women in Odisha, 59.86% use soap and water to clean reusable menstrual materials, while 22.15% rely solely on water, risking poor hygiene and infections. Groups like Dongria Kandha and Lanjia Saora show better practices, while Lodha, Bonda, and Didayi face significant gaps. Cultural stigma, water scarcity, and limited soap access hinder safe cleaning.
- VIII. Among PVTG women in Odisha, the average age at first childbirth is 20.45 years, and at last childbirth is 26.65 years, reflecting early motherhood and a relatively short reproductive span. Groups like Mankidia and Juang began and ceased childbearing earlier, while Kutia Kandha and Lanjia Saora showed delayed and extended fertility patterns. These trends highlight socio-cultural diversity and disparities in reproductive health access.
- IX. Tribal women in Odisha, especially PVTGs, have higher conception rates due to early marriage and limited family planning. Didayi (3.70 conceptions), Bonda (3.54), Kutia Kandha (3.34), and Paudi Bhuiya (3.23) show higher conceptions, while Juang (2.45), Mankidia (2.66), and Dongria Kandha (2.96) have lower rates. The average first conception age is 18.83 years; Didayi (21.26) and Lanjia Saora (20.18) conceive later. Reproductive span averages 6.28 years, with Didayi (7.67) and Bonda (7.33) having longer spans.
- X. Tribal women in Odisha have an average of about three live births (Mean = 2.96, SD = 2.02), higher than the national average due to early marriage, high fertility, and limited family planning access. Fertility varies widely among groups: Didayi (3.80) and Lodha (3.34) have the highest live births, reflecting cultural preferences for larger families and possibly high infant mortality. Juang (2.15) and Mankidia (2.48) have the lowest, suggesting emerging shifts towards smaller families or socio-economic constraints. Other groups like Bonda, Dongria Kandha, Hil-Kharia, and Paudi Bhuiya show moderate fertility, balancing traditional norms and increased reproductive health awareness.
- XI. Among Odisha's PVTGs, antenatal check-up completion varies widely, Juang (97.8%), Dongria Kandha (91.25%), and Kutia Kandha (88.89%) show high rates, while Paudi Bhuiya (57.69%), Lanjia Saora (65.04%), and Bonda (67.42%) lag. Intake of iron/folic acid and calcium tablets, plus TT immunisation, follows similar trends, with Paudi Bhuiya showing the lowest compliance, indicating healthcare access and cultural barriers.
- XII. Immunisation among PVTG children in Odisha remains uneven despite 84.54% DPT coverage. Dongria Kandha (96%) and Paudi Bhuiya (95.35%) show high uptake, while Bonda (65.45%) and Hill Kharia (80%) lag due to access, awareness, and cultural barriers.
- XIII. Breastfeeding among Odisha's tribal and Particularly Vulnerable Tribal Groups (PVTGs) varies widely. Immediate breastfeeding rates are highest among Juang (97.8%), Lanjia Saora (91.87%), and Paudi Bhuiya (91.54%), but lower in Dongria Kandha (61.25%), Lodha (72.18%), and Kutia Kandha (75.55%). Continued breastfeeding after six months is common, with Bonda (87.88%), Lanjia Saora (87.8%), and Paudi Bhuiya (83.85%) leading, while Didayi (51.55%) and Mankidia (58%) show lower rates. Awareness of colostrum's benefits is highest among Juang (78%), Lanjia Saora (73%), and Bonda (70%), but low among Hill Kharia (59%) and Mankidia (56%).

- XIV. Home deliveries remain prevalent at 58.73%, especially among Juang (83.52%) and Lanjia Saora (66.67%), while Dongria Kandha (63.75%) and Didayi (49.48%) show higher institutional births. Traditional birth attendants assist in 41% of cases, with mothers-in-law heavily involved among Kutia Kandha (79.49%) and Lanjia Saora (75%). Expected vaginal delivery dominates (95.94%), highest in Hill Kharia (98.56%) and Paudi Bhuiya (98.39%), whereas Juang records the highest C-section rate (18.75%).
- XV. Among tribal women in Odisha, expected vaginal delivery (NVD) overwhelmingly predominates, accounting for 95.94% of births. The Hill Kharia (98.56%), Paudi Bhuiya (98.39%), and Kutia Kandha (98.15%) communities show the highest rates of standard delivery. In comparison, the Juang community has a notably lower rate (81.25%) and the highest cesarean section (C-section) rate (18.75%), likely due to better access to institutional care or medical complications. A low overall C-section rate (4.06%) was observed among tribal populations .
- XVI. Maternal health complications during and after delivery pose significant risks among tribal women in Odisha, driven by limited healthcare access, traditional practices, and socio-economic challenges. Common issues include prolonged labour, postpartum haemorrhage, infections, anaemia, and sepsis, often worsened by home births with untrained attendants. The complication rate is 13.7%, with higher rates in communities like Juang and Bonda. Premature delivery affects 5.32% of tribal births, notably among Bonda and Dongria Kandha. Strengthening prenatal care, institutional deliveries, and culturally sensitive awareness programs are crucial to reducing maternal and neonatal health risks.
- XVII. PVTGs in Odisha face significant maternal health challenges. The Bonda report the highest stillbirth rate (0.35 per mother) and high miscarriage rates (0.18), while Didayi mothers have the highest average miscarriages (0.20) and abortions (0.04). Kutia Kandha also show elevated miscarriage (0.18), abortion (0.04), and stillbirth (0.11) rates. These disparities highlight urgent needs for improved prenatal care, nutrition, reproductive health education, and culturally sensitive healthcare interventions to reduce maternal and infant risks.
- XVIII. PVTGs in Odisha show an average of 2.86 pregnancies per mother, highest among Kutia Kandha (3.24), Didayi (3.19), and Paudi Bhuiya (3.01). Juang (2.42), Mankidia (2.54), and Dongria Kandha (2.76) report fewer pregnancies. The average surviving children per mother is 2.27, with Didayi (2.61), Lodha (2.35), and Kutia Kandha (2.31) highest. Gaps suggest child mortality risks, urging improved maternal-child healthcare and family planning services.
- XIX. The average birth weight among PVTG children in Odisha is 2.47 kg, below the standard threshold of 2.5 kg, indicating widespread low birth weight (LBW). The Bonda have the lowest mean (2.36 kg) and highest LBW prevalence, with 50% categorised as very low birth weight (VLBW). Similarly high VLBW rates occur in Didayi (51.13%) and Lodha (40.80%). In contrast, Dongria Kandha, Kutia Kandha, and Mankidia show better birth weights.
- XX. Awareness level of family planning among PVTGs was an average of 68.06%, with notable disparities across groups.
- XXI. Among PVTGs, ASHAs are the primary family planning advisors (55.5%), followed by ANMs (22.3%) and family members (18.9%).

7.3: Conclusion - Growth, Nutritional Status and Health

- I. A notable pubertal spurt was observed in males aged 13–15 years, while females plateaued after 14 years. Ethnic variations showed that Lanjia Saora, Juang, and Lodha boys were tallest among all PVTG groups in adolescence, whereas Hill Kharia and Juang girls had better early growth. Paudi Bhuiyan and Didayi children consistently showed lower height averages across age groups.
- II. Weight patterns revealed rapid gains during infancy, moderate increases through childhood, and distinct adolescent spurts—earlier in females. Among males, Lanjia Saora and Kutia Kandha had higher weights; Paudi Bhuiyan consistently lagged. Among females, Juang, Mankidia, and Kutia Kandha showed better outcomes, while Didayi and Lodha girls had lower adolescent weights.
- III. BMI trends mirrored these patterns, with early declines during post-infancy; pubertal increases more prominent in males. Kutia Kandha and Dongria Kandha had consistently better BMI values, whereas Paudi Bhuiyan and Lodha reflected chronic under-nutrition.
- IV. Z-score analyses confirmed widespread nutritional deficits. The average weight-for-height Z-score (WHZ) was -1.69, indicating moderate acute malnutrition, especially in 1-year-olds, with males slightly worse off. The weight-for-age Z-score (WAZ) averaged -1.73, reflecting chronic undernutrition, again more severe in males and most pronounced in infants and toddlers. Height-for-age Z-score (HAZ) patterns revealed persistent stunting, beginning as early as infancy (mean HAZ = -2.46), with males showing slightly worse scores overall.
- V. The nutritional and growth status of PVTG children and adolescents reveals pervasive undernutrition and growth faltering across key anthropometric indicators. Among preschool children, the mean height-for-age Z-score (HAZ) of -1.38 indicates a high prevalence of stunting and chronic undernutrition, with similar values for males and females. However, males show greater growth variability, underscoring the need for targeted early childhood interventions. The BMI-for-age Z-score (BAZ) in this group averages -0.91, reflecting mild to moderate undernutrition, with the most severe deficits observed in infants under one year. Although some catch-up growth occurs post-infancy, BAZ values remain below WHO standards, particularly in males.
- VI. School-age children exhibit widespread underweight status, with a mean weight-for-age Z-score (WAZ) of -1.84 and minimal gender differences. Nutritional deficits peak around ages 8 to 9, underscoring the importance of comprehensive nutritional support during these formative years. Among children and adolescents, stunting worsens with age, as shown by a mean HAZ of -1.62, with adolescent girls slightly more affected than boys. The decline is especially pronounced after age 13, reaching severe levels by late adolescence. BMI-for-age Z-scores average -1.40, indicating persistent thinness; deficits peak around age 12 but show modest improvement in late adolescence, particularly among females.
- VII. Stunting affects nearly 39% of preschool children, with the highest rates observed in Mankidia, Kutia Kandha, Dongria Kandha, Lanjia Saora, and Paudi Bhuiyan tribes. Underweight prevalence is also high, 46% among boys and 36% among girls, with Paudi Bhuiyan and Hill Kharia children most affected. Wasting (acute malnutrition) surpasses WHO emergency

thresholds, particularly among males (35%) and females (24%), with significant variation across tribes. Thinness (low BMI-for-age) is prevalent, especially in the Hill Kharia, Paudi Bhuiyan, Lanjia Saora, and Bonda tribes. Some tribes show emerging overweight trends, signalling a dual burden of malnutrition.

- VIII. Stunting remains widespread (35% boys, 39% girls), with the highest prevalence among Mankidia, Juang, Paudi Bhuiyan, and Didayi tribes. Underweight rates exceed 45% in both boys and girls, particularly in Mankidia, Paudi Bhuiyan, Hill Kharia, and Lodha tribes. Thinness is also a significant concern, especially among boys in the Lodha and Didayi tribes and girls in the Paudi Bhuiyan and Lodha. Over-nutrition is minimal, highlighting malnutrition as primarily a deficiency problem. These results underline the urgent need for targeted, gender-inclusive nutrition programs incorporating school meals, micronutrient supplementation, and health education to break the cycle of malnutrition. Female adolescents show notably higher stunting rates, emphasising gender disparities.
- IX. Adult tribal men average about 158 cm in height and weigh around 50 kg, while women average 148 cm and 42 kg, revealing a consistent gender gap in stature and weight. Height and weight vary by tribe, with Lodha, Mankidia, and Bonda men being the tallest, while Juang and Paudi Bhuiyan are the shortest. Women from Mankidia and Lodha are taller than women from other groups. Body Mass Index (BMI) averages are low for both sexes, around 19.8 for men and 18.9 for women, indicating chronic undernutrition, especially among women. Waist circumference values remain below obesity risk levels, though some tribes like Mankidia and Lanjia Saora show slightly higher measures, possibly reflecting lifestyle differences.
- X. Average systolic blood pressure (SBP) among adults is 126 mmHg for men and 124 mmHg for women—with the highest values in Hill Kharia, Mankidia, Lanjia Saora, and Paudi Bhuiyan tribes. Diastolic blood pressure (DBP) similarly approaches elevated ranges, particularly among Hill Kharia, Lodha, and Mankidia. Blood glucose averages are in the high-normal range (~106–107 mg/dL), especially elevated in Lodha, Mankidia, and Lanjia Saora, suggesting a shift toward NCD-associated risks. Haemoglobin levels show notable gender disparities, with women averaging 12.01 g/dL, indicating widespread anaemia. Tribes like Dongria Kandha and Kutia Kandha have comparatively better haemoglobin counts, while Bonda, Lanjia Saora, and Mankidia females show the lowest values.
- XI. CED is a significant public health issue among adult PVTGs, affecting nearly one-third of men (31.94%) and almost half of women (46.82%). The Lodha, Hill Kharia, and Bonda tribes show the highest prevalence, reflecting deep-rooted undernutrition linked to socio-economic marginalisation and limited healthcare access. Conversely, groups like Dongria Kandha, Lanjia Saora, and Mankidia have lower CED rates, possibly due to better food security and traditional diets. Emerging overweight trends among some tribes indicate the coexistence of undernutrition and rising overnutrition, calling for balanced interventions.
- XII. About 15% of adult males and females have hypertension, with significant variation across tribes. Hill Kharia, Lodha, and Paudi Bhuiyan communities. Notably, some female groups show equal or higher hypertension prevalence than males, highlighting gender-specific vulnerabilities. Factors may include dietary shifts, sedentary lifestyles, stress, and genetic predispositions.

- XIII. Anaemia remains widespread, affecting 37% of men and over half (53%) of women in PVTGs. The highest prevalence occurs among the Mankidia, Bonda, and Lanjia Saora tribes. Women's anaemia is likely worsened by reproductive health challenges such as frequent pregnancies and poor maternal care.

Recommendations

Recommendations- Socio-cultural perspectives

1. Preserve and Revitalise Cultural Heritage

Document and safeguard myths, rituals, dormitory traditions, and oral histories to protect intangible cultural heritage while promoting cultural tourism and intergenerational transmission.

2. Enhance Housing and Settlement Support

Encourage context-sensitive housing schemes that combine traditional architectural practices with modern materials for resilience against climate and environmental risks.

3. Documentation of Traditional food systems Promote Food and Nutritional Security

Strengthen millet-based diets and traditional fermentation practices (e.g., *Handia*, *Mahuli*) through community nutrition programs while integrating modern health and hygiene education.

4. Support Inclusive Education

Revitalise youth institutions by incorporating dormitory-style community learning centres that integrate tribal language, cultural values, and formal schooling to reduce alienation.

5. Safeguard Marriage and Kinship Practices

Recognise customary systems, such as bride price and service unions, while ensuring that women's rights and autonomy are respected in evolving socio-legal contexts.

6. Strengthen Traditional Governance Systems

Empower village elders, priests, and clan-based councils through participatory governance frameworks that integrate customary law with Panchayati Raj structures.

7. Promote Gender-sensitive Development

Support women's roles as ritual specialists, cultivators, and artisans by enhancing access to credit, training, and leadership opportunities.

8. Sustain Ecological Knowledge

Encourage documentation and community-led conservation of traditional farming systems, seed banks, herbal medicine, and sacred groves to reinforce ecological stewardship.

9. Integrate Magico-religious Beliefs in Health Outreach

Develop culturally sensitive health interventions that respect local healing traditions while promoting preventive healthcare and biomedical services.

10. Facilitate Migration-sensitive Policies

Recognise inter-district and interstate migration patterns by ensuring access to entitlements, education, and health services across settlement areas.

11. Promote Festivals and Performing Arts

Provide platforms for tribal dance, music, and festivals to reinforce identity, engage youth, and foster broader intercultural dialogue.

Recommendations

Recommendations- Ethnic Language

1. Comprehensive Documentation

Systematically record PVTG languages using IPA-based phonetic transcriptions, audio archives, and annotated lexicons to preserve endangered oral traditions.

2. Community-driven Language Preservation

Involve native speakers, storytellers, ritual specialists, and elders in documentation projects to ensure authenticity and intergenerational knowledge transfer.

3. Integration of Linguistics with Ethnography

Link phonological analysis with cultural practices (marriage, rituals, festivals, governance) to capture the socio-cultural contexts of language use.

4. Creation of Tribal Language Resource Centres

Establish district-level centres equipped with digital archives, IPA-based dictionaries, and learning materials for PVTG languages.

5. Educational Integration

Develop bilingual/multilingual curricula in primary schools incorporating PVTG languages alongside Odia and regional lingua francas to reduce dropout rates.

6. Support for Oral Literature and Performance

Record, transcribe, and publish folk songs, myths, and ritual chants to preserve the phonological richness associated with festivals, rituals, and youth dormitories.

7. Digital Archiving and Technology Use

Employ mobile apps, audio databases, and AI-driven transcription tools for IPA-based preservation and accessibility of PVTG linguistic heritage.

8. Linguistic Revitalisation through Cultural Platforms

Promote PVTG languages at community festivals, in theatre, in music, and in local governance, encouraging active use in public spaces.

9. Interdisciplinary Collaboration

Encourage collaboration between linguists, anthropologists, ecologists, and tribal communities to study how phonology encodes ecological and cultural symbolism.

10. Policy Recognition

Advocate for state and national recognition of PVTG linguistic diversity within endangered-language protection schemes to secure funding and institutional support.

11. Capacity Building of Youth

Train tribal youth in IPA transcription, language documentation, and digital tools to foster ownership of linguistic preservation.

12. Comparative Linguistic Research

Conduct cross-tribe and cross-regional phonological studies to explore contact phenomena among Austroasiatic, Dravidian, and Indo-Aryan influences.

Recommendations - Demography and Socio-economic perspectives

1. Demographic and Social Development

- Introduce youth-focused skill training and vocational programs to leverage the large under-19 population as a future workforce.
- Establish gender-sensitive elderly care programs, particularly for widows and female-headed households.
- Promote awareness campaigns against child neglect and gender bias to address skewed child sex ratios.

2. Education

- Expand mother-tongue-based multilingual education (MTB-MLE) at primary levels to reduce dropout rates.
- Provide scholarships, residential schools, and digital learning tools for tribal children, emphasising girls' education.
- Strengthen post-secondary pathways (skill training, bridge courses, tribal colleges) to counter the steep decline after Class X.

3. Economic Empowerment

- Diversify livelihoods beyond agriculture and forest produce by promoting micro-enterprises, SHGs, and cooperatives.
- Ensure land rights and secure tenure for landless tribes by implementing the FRA (Forest Rights Act).
- Expand access to credit, markets, and entrepreneurship support, especially for women engaged in seasonal or low-paying work.

4. Strengthen Livelihood Diversification with skill development

- Promote eco-friendly income opportunities, such as agroforestry, non-timber forest products (NTFP) value chains, handicrafts, and sustainable horticulture, to balance traditional knowledge with modern market access.

5. Infrastructure and Basic Services

- Prioritise housing upgrades (from kuccha to pucca) with culturally sensitive designs.
- Ensure universal access to safe drinking water, sanitation, and electricity in all PVTG settlements.
- Improve healthcare outreach, including mobile health units and maternal-child health programs, aligned with tribal needs.

6. Gender Inclusion

- Strengthen women's SHGs and cooperatives to enhance income opportunities and bargaining power.
- Provide capacity-building programs for women leaders in community governance and resource management.
- Address maternal health and nutrition through targeted interventions (supplementary feeding, anaemia control).

7. Policy and Governance

- Develop tribe-specific development plans, recognising variations across groups in landholding, education, and workforce participation.
- Institutionalise participatory planning, engaging traditional leaders and tribal councils in decision-making.
- Establish monitoring frameworks for PVTG welfare programs to ensure transparency, accountability, and impact assessment.

Recommendations

Recommendations - Reproductive & Child health

1. Adolescent Health and Menstrual Hygiene

- Launch tribe-specific adolescent health programs addressing early/late menarche and nutrition gaps.
- Expand menstrual hygiene education and supply chains (low-cost sanitary napkins, cups, community distribution points).
- Promote awareness campaigns to reduce taboos and stigma through school-based and community-led interventions.

2. Marriage and Fertility Regulation

- Strengthen awareness on delaying marriage and first childbirth, integrating local leaders and SHGs.
- Provide access to adolescent-friendly reproductive health services, including counselling and contraception.
- Encourage small family norms with culturally sensitive family planning outreach and incentives.

3. Maternal and Child Health

- Strengthen antenatal, intranatal, and postnatal services through tribal health centres and mobile outreach units.
- Train and integrate traditional birth attendants into safe delivery practices.
- Promote institutional deliveries by enhancing maternity waiting homes, transport schemes, and financial incentives.
- Ensure universal immunisation coverage, neonatal care, and breastfeeding support to reduce infant mortality.

4. Safe Motherhood and Delivery Care

- Promote institutional deliveries by strengthening tribal birthing centres, transport facilities, and maternity incentives.
- Train and integrate traditional birth attendants (TBAs) into the formal health system for safe delivery practices.
- Provide emergency obstetric care units in tribal blocks with referral linkages to district hospitals.

5. Infant and Child Survival

- Address low birth weight through maternal nutrition, deworming, and anaemia reduction programs.
- Implement neonatal care initiatives (kangaroo mother care, newborn care corners, SNCU linkages).
- Promote exclusive breastfeeding and complementary feeding practices with culturally adapted IEC materials.

6. Policy and Governance

- Formulate tribe-specific reproductive health action plans recognising variations in fertility, mortality, and service uptake.
- Strengthen PVTG health monitoring systems, with disaggregated data on maternal and child outcomes.

Recommendations - Growth, Nutritional States and Health

1. Nutrition and Growth Monitoring

- Establish community-based growth monitoring systems using WHO z-scores, with regular camps.
- Scale up supplementary feeding programs for under-5 children, schoolchildren, and pregnant/lactating mothers.
- Promote nutri-gardens, backyard poultry, and millet-based diets to improve household food security.
- Introduce tribe-specific nutrition action plans, addressing inter-tribal disparities in stunting and wasting.

2. Anaemia and Micronutrient Deficiency

- Ensure universal iron-folic acid (IFA) supplementation for women, adolescents, and children.
- Introduce fortified staples (rice, oil, salt, flour) through ICDS and PDS networks.
- Conduct mass deworming drives and malaria-prevention campaigns to reduce anaemia burden.

3. Prevention and Management of Non-Communicable Diseases (NCDs)

- Initiate early screening for hypertension, prediabetes, and anaemia at tribal health centres.
- Build the capacity of frontline health workers in NCD prevention and counselling.
- Promote healthy traditional diets, physical activity, and reduced alcohol/tobacco consumption through community campaigns.
- Establish NCD surveillance systems in tribal districts to track emerging risks.

4. Policy, Governance, and Research

- Develop tribe-specific health policies recognising variations in fertility, nutrition, and disease risks.
- Encourage community participation in health governance, integrating tribal councils into decision-making.
- Promote research on traditional food systems and ethnomedicine for possible integration with modern health programs.
- Conduct longitudinal studies on nutrition transitions, reproductive health, and NCD emergence among PVTGs.

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