Unravelling the role of climate-augmented labour migration in the resilience of the Eastern Ghats region of rural Odisha

A case study of Thuamul Rampur block, Kalahandi

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Foreword

Climate change is increasingly exacerbating existing inequities and undermining the resilience of people, places, and systems across India. In response, human migration has become a critical and widely used strategy for managing both real and perceived climatic and non-climatic risks. However, little is known about the nuanced dynamics of climate-induced migration. These include its interactions with rural and urban livelihoods and transitions, patterns of urban growth, and the capacity of cities to integrate migrants in equitable and sustainable ways. There is also limited insight into the broader connections and feedback loops involving consumption, energy systems, just transitions, and climate-resilient development. To address these gaps, the PopulationCouncil Consulting and Indian Institute for Human Settlements are co-leading a project on climate-induced migration in India. The project aims to develop a comprehensive, forward-looking, and impactful research agenda, supported by a robust and evolving body of evidence.

One of the focus areas of this project is to generate micro-level insights through strategically selected case studies. These case studies aim to elucidate the on-the-ground drivers, mechanisms, dynamics, and perceptions and experiences, that create and sustain climate-induced migration within India. To this end, the project commissioned a series of case studies with organizations across the country. Two such case studies, conducted by the Centre for Migration and Inclusive Development and Gram Vikas, examine the role of climate-compounded labour migration in shaping the resilience of the Eastern Ghats region of rural Odisha, home to several indigenous communities whose livelihoods are closely tied to natural resources.

Through in-depth qualitative exploration in Odisha's Thuamul Rampur development block in Kalahandi district, and Rayagada development block in Gajapati district, the studies highlight the localized impacts of climate change and their implications for resilience. They show that while climate change is one of the several drivers of labour migration, migration itself has become a key adaptation strategy for many households in these areas. These findings underscore the inequitable nature of ongoing transitions and call for more deliberate, targeted interventions to support just and inclusive transitions.
On behalf of Indian Institute for Human Settlements and PopulationCouncil Consulting Private Limited, I congratulate the authors, the Centre for Migration and Inclusive Development, and Gram Vikas for their valuable contributions.
I hope you find these reports insightful.

Niranjan Saggurti, PhD.
Director
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Acknowledgements

Climate change has been a key deterrent to Odisha's development, impacting the livelihoods of the most vulnerable. Predominantly rural, the Eastern Ghats region of Odisha is home to a substantial proportion of Odisha's indigenous population. Highly vulnerable to the impact of climate change, the region has been experiencing almost all the climate risks confronted by the state, except those unique to the coastal areas. Gram Vikas has been working with the village communities in the region since 1979, promoting a sustainable and dignified quality of life. The organisation has observed the evolution of migration for work as an intermediate livelihood option, aiding the transition from a society predominantly dependant on the primary sector to a more diversified one, more so with the evolving climate change. Gram Vikas and CMID have been working together to understand and address the challenges faced by migrant workers and their families through the Safe and Dignified Migration Programme, collectively launched in 2019. We conducted a series of empirical studies during 2019-2025, across various blocks in the region, the findings of which endorse the pivotal role played by labour migration in the economy and human development. This study complements a quantitative study we had conducted, profiling migration from Thuamul Rampur block in Kalahandi district during 2019-2020.

We express our sincere gratitude to the PopulationCouncil Consulting Private Limited for providing us with an opportunity to understand in depth, the impact of climate change in Thuamul Rampur and how labour migration has contributed to the overall resilience of the communities. We also acknowledge the support of the UK Government and the UNDP, enabling us to conduct the sample survey in Thuamul Rampur during 2020, which provided the quantitative estimates of migration and its impact used in this report. Our sincere thanks to Niranjan Saggurti, Director, PopulationCouncil Consulting for guiding us through this study. We also acknowledge the support provided by the colleagues from PopulationCouncil Consulting, including Anil Paul, Ashita Munjral, Deepak Gupta, Deepshikha Sharma, Sunita Dash and Reshmi Vasudevan. We are grateful to Chandni Singh, Lead Practice, the Indian Institute for Human Settlements, for mentoring us throughout the study. Thanks to Divyanshi Vyas and Aysha Jennath of the IIHS for their technical support in the preparation of the maps and the rainfall data analysis. We have benefited from the master classes by Jarnail Singh, Deputy Director (India), MacArthur Foundation, Chetan Choithani, Assistant Professor, National Institute of Advance Studies, and Upasna Sharma, Associate Head, School of Public Policy, IIT Delhi.

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Executive Summary

This qualitative research, conducted during the period from January to May 2025, explores the role of climate-augmented labour migration in the resilience of Thuamul Rampur block, Kalahandi district, in the Eastern Ghats region of Odisha. The findings reveal that Thuamul Rampur, situated in a chronic drought-prone zone, continues to be on the margins of the society with historically slow advancement in human development. Characterised by poor land quality and the absence of any major active irrigation projects, agricultural practices in Thuamul Rampur are traditional even in 2025, with a near-universal prevalence of shifting cultivation. Beyond consumption, agriculture does not contribute significantly as a major means of livelihood. However, there are not many other livelihood avenues. Lives and livelihood opportunities have been further constrained by the notification of Karlapat Wildlife Sanctuary as a protected area and the allocation of mining blocks within and nearby Thuamul Rampur. The displacement and the loss of agricultural land and livelihoods caused by the Upper Indravati Hydroelectric Project compounded the precarity for many. Households in Thuamul Rampur, however, have by and large been resilient to such shocks to which they have constantly and historically been exposed to. Such resilience stemmed primarily from keeping the expenses minimal and following a subsistence way of life.

Beyond livelihoods, climate change has impacted the food security of some of the most marginalised households in Thuamul Rampur. Delayed and erratic rain, increased summer heat, and warmer and shorter winter have been the three key changes that have impacted people, deepening the existing inequalities. While everyone has been impacted directly or indirectly, people whose livelihoods were nature based, particularly the Scheduled Tribes, were severely impacted. Farmers and agricultural labourers were some of the most vulnerable groups impacted, with an overwhelming majority being women, who also had to bear the brunt of the cascading and gendered impacts. Overall, the income, negotiation capacities and food security of people whose livelihoods were nature based were severely impacted. The resilience of households varied by a host of factors such as ethnicity, landownership and irrigation status, farming practices, access to PDS, NREGS and other social security measures, presence of migrants in the household, etc. Migration for work, taking advances/loans and leveraging other locally available work were the three key coping strategies adopted by households. Labour migration has been the most important coping strategy for households impacted by climate change. Most migrants were young single men who moved to Kerala. Long-term circular migration which ensured regular cash flow was the dominant form of migration. Migration helped households in Thuamul Rampur to come out of their poverty/indebtedness, strengthen their asset base/savings, diversify income sources, enhance agriculture, improve their housing and support their children's education. The monthly remittances to Thuamul Rampur during 2019-20 amounted to ₹23 million which played a pivotal role in the overall resilience of the block. Migration not only reduced overall surplus labour but also generated employment opportunities locally, directly and indirectly.

The youth in Thuamul Rampur are increasingly mindful of the risks involved in agriculture and the low returns it offers. Given the low local wages and irregular employment, they, particularly young men and boys, made use of their unprecedented access to information and social networks to leverage labour migration as the quickest path to intergenerational social mobility. This was much easier, faster and far less complicated compared to pursuing higher education and securing a regular job locally, navigating the complex structural barriers. While households from all ethnic backgrounds have benefited from such migration, those from relatively advantageous communities were able to better leverage migration to diversify income and save more, compared to those from the Scheduled Tribes, whose moves were more ad hoc and part of subsistence. Labour migration has been the single most important contributor to the acceleration of human development in Thuamul Rampur block, complementing the government interventions. It has also been one of the crucial poverty interrupters for households in the block. While climate change is not the prime driver of migration from Thuamul Rampur, migration has been the most important coping strategy for households severely impacted by climate change, augmenting labour migration from Thuamul Rampur. Such migration can play a pivotal role in catalysing Thuamul Rampur's transition from an agrarian society to a much more diverse and climate-resilient society.

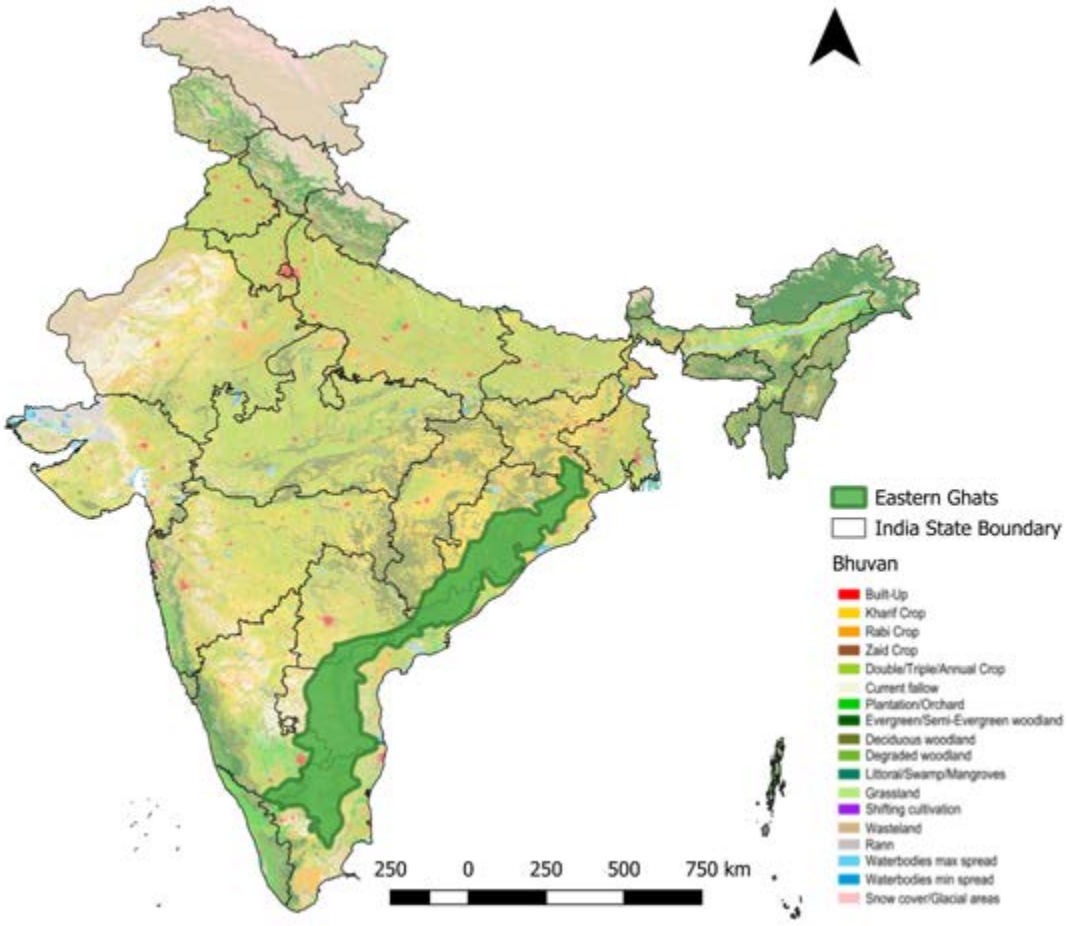
Introduction

The Eastern Ghats

Older than the Himalayan ranges, the Eastern Ghats are a discontinuous range of mountains along India's eastern coast. Spread over 75,000 sq. km from northern Odisha to Tamil Nadu through Andhra Pradesh, Telangana and Karnataka, the Eastern Ghats extend over 1700 km.[1] Ecologically sensitive and rich in biodiversity, the Eastern Ghats are sanctuary to several rare, endemic, and endangered taxa.[2] It holds several sanctuaries, biosphere reserves and wetlands of international importance. Although forests occupy a large part of the Eastern Ghats, the region has been subjected to substantial forest degradation[3,4]. There are several large dams in the area, and given the rich mineral resources, the region is also subjected to heavy mining, both of which have resulted in the displacement of local communities.[5]

Deforestation, loss of biodiversity, changing hydrology, drought and desertification, pollution, floods, landslides, soil erosion, human-animal conflicts and climate change have been some of the key environmental challenges faced by the Eastern Ghats region.[6] These environmental changes have adversely affected its biodiversity and led to the extinction of several species. About 40 plants and rare categories of mammals, reptiles and bird species from the region are listed in the IUCN Red List.[7] Home to an indigenous population of over five million from nearly 60 ethnic groups, the region has also been experiencing threat to food security.[8,9] Poverty, low level of literacy, social exclusion, poor access to services, exploitation by moneylenders, etc. have been some of the challenges faced by the tribal populations in the Eastern Ghats region.[10] Over the years, migration for work from the region has substantially increased.[11]

Figure.1: Eastern Ghats region map with land use land cover (LULC), 2023



Base layer (1:250,000 scale) from Bhuvan, National Remote Sensing Centre (NRSC), ISRO (2004–2023)[12]

Climate change and the Eastern Ghats region of Odisha

Situated in the eastern part of the country, the Indian state of Odisha shares nearly five per cent of the country's land mass. More than 90 per cent of the workers in Odisha are engaged in informal labour. With four in every five persons residing in rural areas, rainfed agriculture has been a key source of livelihood. Over 75 per cent of the population depend on climate-sensitive, natural-resource-based livelihoods.[13] Small and marginal farmers accounted for about 93 per cent of the total holdings and 75 per cent of the total operational area. Climate change has been a key deterrent to Odisha's development, impacting the livelihoods of the most vulnerable. The state has been exposed to recurrent natural disasters, severely impacting the lives and livelihoods of people. Projections reveal that Odisha's urbanisation process will be slow and even by 2036, the state will continue to be predominantly rural. Low level of educational attainment, fluctuating agricultural production, recurrent natural disasters and extreme poverty have been pushing people to look outside their native place for employment. However, like most of the source states in India, Government of Odisha also views such labour migration as a problem rather than an adaptation strategy.

Odisha has been one of the first few Indian states to evolve and roll out a State Action Plan on Climate Change (SAPCC) for the period 2010-2015, almost immediately after the National Action Plan on Climate Change was drawn in 2008.

Also, Odisha is perhaps the first Indian state to have a revised plan (2021-2030), indicating the importance the state gives to climate resilience. The frequent exposure of the state to recurring disasters has also substantially improved its preparedness. From several thousand lives lost to climate events in the past decades, the state has been able to bring down the casualties quite significantly, as is evident from the recent cyclone Fani.[14] However, interventions to improve climate-resilient livelihoods within the state are still at a nascent stage.

Known as the Northern Eastern Ghats, the Eastern Ghats region of Odisha is spread over 19 districts in the state covering Simlipal, Garhjat, Gandhamardan, Kandhamal, Niyamgiri, Deomali and the Mahendragiri hills.[15] The majority of Odisha's mineral wealth comes from this region including 95 per cent of its bauxite reserves.[16] As a result, the area has several places subjected to heavy mining, which has altered the hydrology of the region, impacting water availability. The Eastern Ghats region of Odisha harbours Chilika, the first Indian Ramsar site and the second largest coastal lagoon in the world.[17] Also, two-thirds of the notified eco-sensitive zones in the Eastern Ghats region fall under Odisha.[18] The Mahendragiri hills on the Eastern Ghats are of immense cultural and archaeological significance. Predominantly rural, the Eastern Ghats region of Odisha is home to a substantial proportion of Odisha's indigenous population, including several Particularly Vulnerable Tribal Groups (PVTGs) such as Bondo, Didayi, Kutia Kondha, Saura and Lanjia Saura.[19] The Eastern Ghats are home to a significant proportion of Odisha's Scheduled Castes also.

The frequent exposure to recurring disasters has substantially improved Odisha's preparedness

The markers of climate change have been prominent in the region. The Eastern Ghats region of Odisha is highly vulnerable to and has been experiencing almost all climate risks confronted by the state, except those which are unique to the coastal areas. Independent empirical studies by CMID and Gram Vikas in six development blocks in Odisha revealed that agriculture is fading as a means of income in the region. Besides, over 80 per cent of the households that practised agriculture reported that they were negatively impacted by climate change.[20] The studies also revealed significant labour migration from the region. This study, through a qualitative research

Two-thirds of the notified eco-sensitive zones in the Eastern Ghats region fall within Odisha

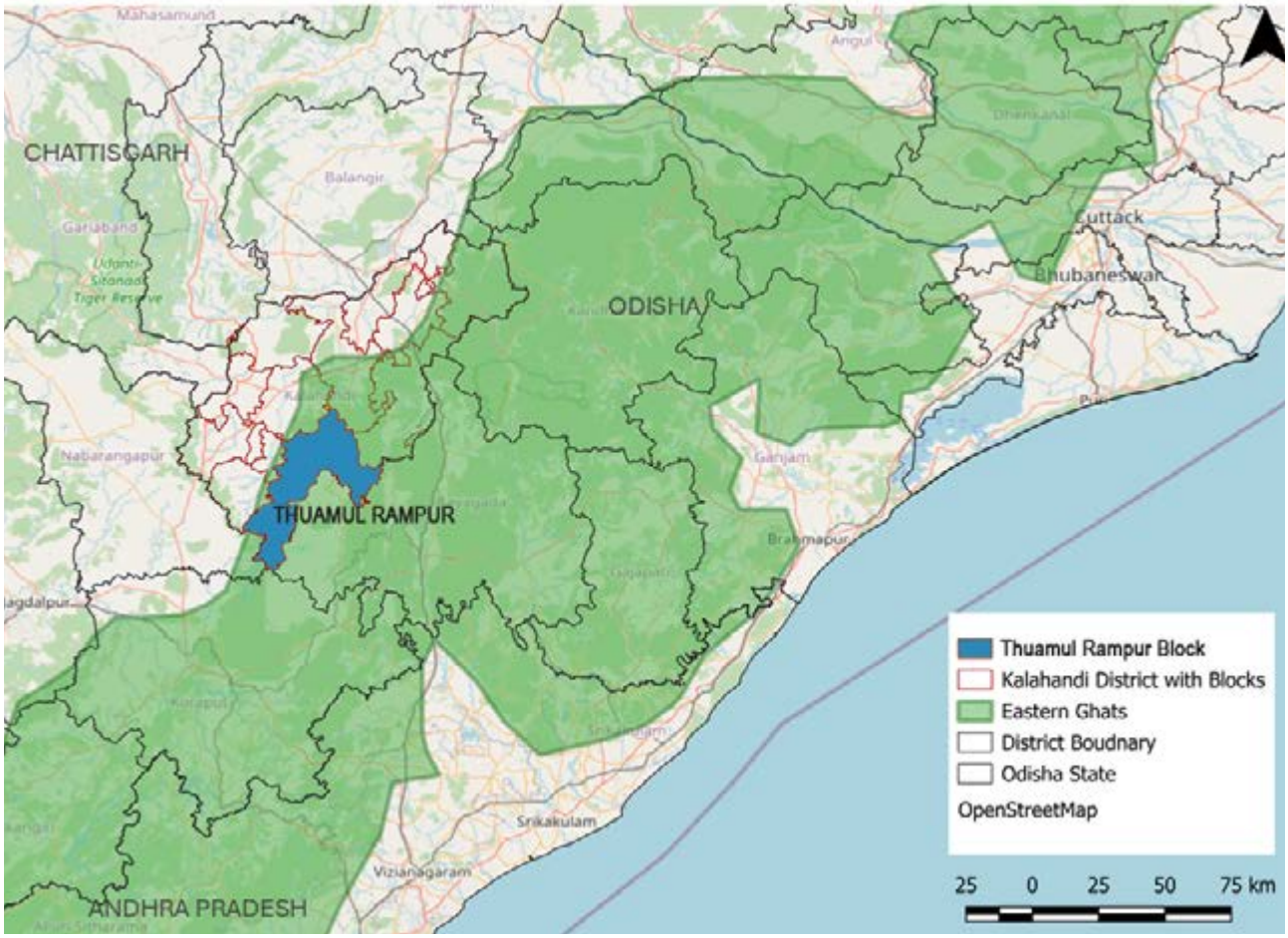
and synthesising the available secondary evidence, including the empirical survey conducted jointly by Gram Vikas and CMID, during 2019-2020, examines how labour migration, compounded by the impact of climate change, plays a pivotal role in the overall resilience of Thuamul Rampur community block in the Eastern Ghats region.

Thuamul Rampur block

Situated on a plateau at the Northern Eastern Ghats, Thuamul Rampur block is in Kalahandi district in southwestern Odisha. Spread through the Niyamgiri and Kandhamal hill ranges of Eastern Ghats, Kalahandi is known for the highest forest fire incidence in the region.[21] Part of the KBK region, Kalahandi is one of the most disadvantaged districts in Odisha in terms of human development. Kalahandi is home to 46 Scheduled Tribe communities with Kandha, Banjara, Bhottada, Bhunjia, Binjhal, Dal, Gond, Mirdha, Munda, Paroja and Shabar constituting the majority.[22] Historically known for a series of severe droughts, Kalahandi is one of the severely food-insecure districts in Odisha. Bhawanipatna subdivision of Kalahandi, of which Thuamul Rampur block is a part, is identified as one of the chronic drought-prone zones.[23] One of the two Scheduled Areas in Kalahandi district, with a significant proportion belonging to Scheduled Tribes, Thuamul Rampur is one among the 500 blocks in India identified by the NITI Aayog as significantly underdeveloped and in need of substantial investments to catalyse development.[24,25]

The block comprises 24 gram panchayaths consisting of 268 villages.[26] With nearly four in every five households below poverty line in 2011, Thuamul Rampur has the highest incidence of poverty among the community development blocks of Kalahandi district.[27] The block also has the largest proportion of the Scheduled Tribes and the lowest level of literacy among the community development blocks in Kalahandi.[28] Characterised by poor land quality and a near absence of any major active irrigation project, agricultural practices in Thuamul Rampur are basic, with a historical prevalence of shifting cultivation further degrading topsoil fertility. The block has the lowest share of land-owning families in the district.[29]

Figure.2: Thuamul Rampur block within Kalahandi district, Odisha, overlaid on the Eastern Ghats region



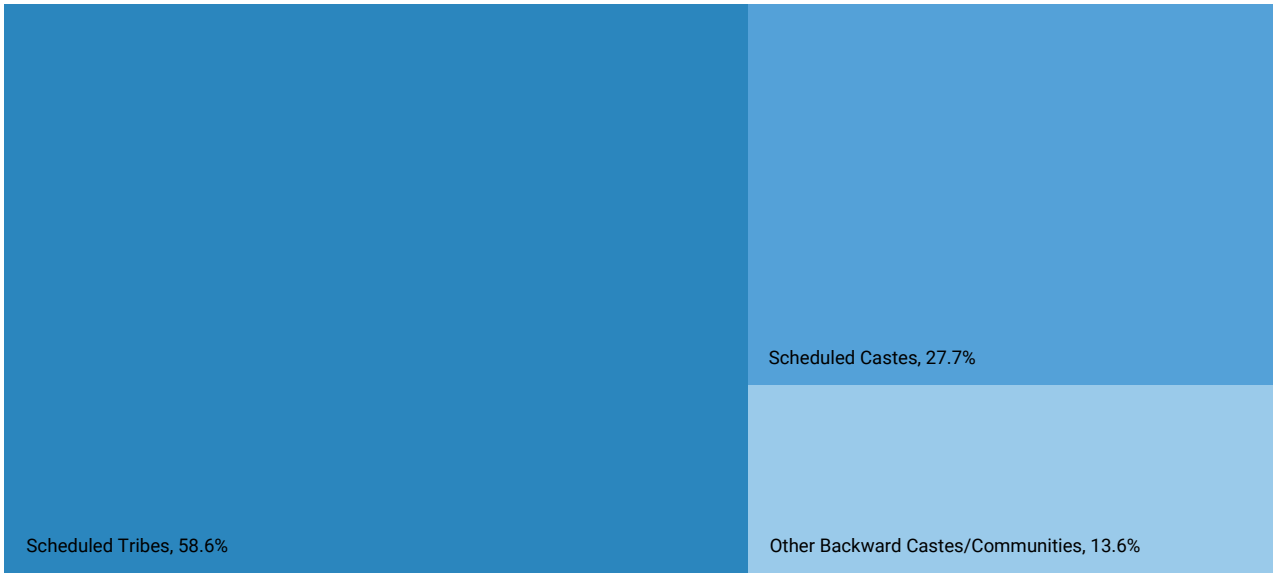
Base map Source: OpenStreetMap contributors[30]

Climate in Thuamul Rampur is sub-tropical with hot and dry summer, cold winter and erratic rainfall during monsoon. Although among the blocks in Kalahandi, Thuamul Rampur receives the highest rainfall and the river Indravati also originates from the block. Thuamul Rampur is susceptible to climate hazards like drought, flood, landslides, heat waves and also to epidemics of waterborne diseases. Over the years, increasing frequency of droughts and erratic monsoon has exerted severe adverse consequences on the lives and livelihoods of the communities across the block. The notification of Karlapat Wildlife Sanctuary, the commissioning of the Upper Indravati Hydro-electric Project and the allocation of bauxite mining projects in Baphlimali and Sijimali have further complicated this.

Household characteristics

Predominantly rural, the entire population of the block belongs to socially disadvantaged communities, with the majority being the Scheduled Tribes. Almost three out of every five households in Thuamul Rampur belonged to the Scheduled Tribes and the block is home to PVTGs like Kutia Kondhs.[31] The Scheduled Castes (SC) constituted about 28 per cent and 14 per cent belonged to the Other Backward Castes/ Communities (OBC) (Figure.3). Some of the prominent tribes in the block are Kandha, Paroja and Kuttia Kondh.[32] Except about less than one per cent of the households who reported Christianity as their religion, all followed Hinduism.

Figure.3: Percentage distribution of households in Thuamul Rampur by ethnicity, 2019-20, N:440



Source: Labour migration from remote rural Odisha: Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

The average household size was four. The highest educational attainment of any member in the household, on average, was five years. Eight out of every ten households had Priority Household (PHH) ration cards and seven per cent households had Antyodaya Anna Yojana (AAY) cards for the ultra-poor. The reported median monthly income prior to lockdown during 2019-20 was ₹3000 which ranged from ₹3000 for the Scheduled Tribes to ₹4500 for the households from the Scheduled Castes/ Communities. Nearly two-thirds of the households in Thuamul Rampur had kachha dwelling units.

Table.1: Select characteristics of households in Thuamul Rampur block by ethnicity, 2019-20

Indicator	Ethnicity			Total
	SC	ST	OBC	
Median number of members	4.0	4.0	4.0	4.0
Median educational attainment (years) of person with highest attainment	9.0	5.0	6.5	5.0
Median monthly household income	₹4500	₹3000	₹4250	₹3000
Percentage with PHH/AAY ration cards	84.3	95.4	95.0	92.3
Percentage of pukka houses	47.5	33.3	33.3	37.3
Percentage using wood as cooking fuel	96.7	99.6	100.0	98.9
Percentage electrified	95.1	96.5	100.0	96.6
Percentage with access to water through pipes/hand pump/ public tap	71.3	69.4	68.3	69.7
Percentage with functional toilets	46.7	46.1	68.3	48.6
Percentage with mobile phone connectivity in village	68.9	58.9	75.0	63.9
Percentage with bank/post office accounts	92.6	91.5	90.0	91.6
Percentage with membership in SHGs	50.0	47.3	58.3	49.5
Median distance to nearest bank (km)	12	12	20	12
Median distance to nearest functional health facility (km)	12	12	20	12
Median distance to nearest high school where education is free (km)	5.0	4.0	3.5	4.0
Median distance to nearest available public transport	3.0	5.0	3.5	4.0
Number	**122**	**258**	**60**	**440**

Source: Labour migration from remote rural Odisha: Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Seven out of every ten households have access to water through pipes/hand pump/public tap. Nearly half of the households had a functional toilet. Most households were electrified and used wood as cooking fuel. Nine out of every ten households had at least one person with a bank/post office account. Half of the households had persons with membership in Self Help Groups (SHGs). Nearly two-thirds of the households had mobile phone connectivity in their villages. The distance to the nearest functional health facility and to the nearest bank was around 12 km. The average distance to the nearest high school offering free public education was four km.

Livelihoods

Two-fifths of the households in Thuamul Rampur do not own any land. Non-agricultural daily wage labour is the primary occupation of about 60 per cent of all households. Agriculture as the primary family occupation was reported by only 30 per cent of the households. One-third of the households from the Scheduled Tribes and the Other Backward Castes/Communities were engaged in agriculture.

People cultivated their patta landholdings which were typically less than one acre in size. Many cultivated forest land or leased land. Engagement in farming was historically low among households other than the Scheduled Tribes. Most households from the Scheduled Castes/Communities and

the Other Backward Communities were never engaged in agricultural activities. Over half of the households owned cattle, and nearly three-fifths of the households owned poultry. About 30 per cent of the households owned goats/sheep. Most households that owned livestock belonged to the Scheduled Tribes. While two-thirds of the households in Thuamul Rampur had NREGS cards, only 15 per cent of the households in the block benefited from the scheme during 2019-20. Over three-fourths of the households with NREGS card, predominantly from the tribal communities, did not get benefit from the scheme.

Table.2: Select livelihood characteristics of the households in Thuamul Rampur block by ethnicity, 2019-20

Variable/Category	Ethnicity			Total
	SC	ST	OBC	
Current family occupation				
Agriculture	20.5	33.3	33.3	29.8
Agricultural labour	0.8	7.4	1.7	4.8
Other daily wage labour	65.6	56.6	65.0	60.2
None	1.6	1.6	0.0	1.4
Other	11.5	1.2	0.0	3.9
Access to NREGS				
Percentage with NREGS cards	68.0	62.8	68.3	65.0
Percentage benefited from NREGS in 2019	22.1	11.6	18.3	15.5
Ownership of patta land				
No Land	47.5	41.5	28.3	41.4
Less than 1	19.7	15.9	26.7	18.4
1 to 5	29.5	37.2	43.3	35.9
More than 5	3.3	5.4	1.7	4.3
Median land owned	0.0	0.0	0.6	0.0
Ownership of livestock (percentage)				
Cows/bulls/buffaloes	35.2	58.5	46.7	50.5
Goat/sheep	21.3	33.7	35.0	30.5
Poultry	52.5	62.4	45.0	57.3
Number	**122**	**258**	**60**	**440**

Source: Labour migration from remote rural Odisha: Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Agriculture in Thuamul Rampur

Agriculture is the primary source of income for only less than one-third of the households in Thuamul Rampur. However, nearly half of the households were engaged in agriculture during 2019-20. Nine in every ten households engaged in agriculture used the produce primarily for household consumption. It is the Scheduled Tribes who are primarily engaged in farming. Most of them are small and marginal farmers with less than five acres of land. People cultivate own patta land as well as forest land. Very few people cultivate leased land or pursued sharecropping. Most farming is subsistence oriented. Location and topography limit scope for investments and hence there is limited modernisation of agriculture. With agriculture being mainly rainfed, people mostly

grow only Kharif crop and primarily depend on streams for irrigation. Land is still ploughed using bullocks. Some cultivate during Rabi also. The second crop depend on the availability of rain/water. There is a minority of farmers with irrigation facility who cultivate throughout the year. Majority do not use fertilisers.

Agricultural patterns in Thuamul Rampur differ by terrain. Shifting cultivation, locally known as *donger chas* has been a traditional practice on the hill slopes. Land patches where vegetation is cleared and burned for *donger chas* are universally seen in the block. Land is cleared by felling trees and clearing bushes. Subsequently, it is set on fire. Low maintenance crops are planted generally through broadcasting. Weeding is primarily taken care of by women. A temporary hut is set up to guard the crops from wild animals. In *donger chas* people cultivated various cereals, pulses, spices and oil seeds such as mandya (ragi), kosala (little millet), biri (black gram), kandhul (pigeon pea), judung (barnyard millet), kating (a form of indigenous dal), kangu (foxtail millet), jena (pearl millet), alasi (niger) and mustard. Shifting cultivation has resulted in deforestation and soil erosion, impacting the fertility of the soil as reported by the key informants. Despite substantial social forestry and agroforestry interventions of the Government of Odisha and Gram Vikas, *donger chas* remains widely prevalent even in 2025. "People do not have land. They do not have options, so they do *donger chas*, can't blame them", explained a local leader. Cashew, although seen here and there, is not a major crop in Thuamul Rampur. According to the key informants, the climate does not favour cashew plantations. The open grazing from January to July in Thuamul Rampur hinders farming. Cattle and goats are set free to graze anywhere making planting trees difficult. Collecting mahua flowers and seeds, chahar (chironjee seed), amla (gooseberry), harida (myrobalan), tamarind, mango, kandha (tubers), jungle chatu (wild mushroom), siali leaves, sal leaves and sal seeds and other NTFP is prevalent among the Scheduled Tribes.

In the *phota* land (midland), people cultivate rice, corn, banana, millets, pulses and vegetables.

Terrace cultivation is practiced in the case of paddy. The vegetables cultivated include brinjal, cabbage, potato, radish, and onion. Mango is the major fruit-bearing tree and people cultivate various varieties of mangos. Mango orchards are seen across the block. Other fruits cultivated include jackfruit, guava, lychee and coconut. In Kaniguma, there is a coffee plantation by the government. There are patches of sunflower cultivation also in the block. Of late, the barren land has been planted with eucalyptus, supplying softwood to the paper mill in Rayagada district. With the switch to rice, the 'mainstream diet', water-intensive paddy has remained a major crop in the fertile *beda* (lowland). In some areas such as Maligaon, sweet corn is cultivated near the catchment area of Indravati dam. Many of those who have *beda* land are slowly widening such land manually or engaging excavators. Near the catchment area of the dam, fishing is also a key occupation.

Despite substantial social forestry and agroforestry interventions of the Government of Odisha and Gram Vikas, *donger chas* remains widely prevalent even in 2025

The farmers sell the produce during weekly *haats* or rely on buyers/intermediaries who come to villages to buy their produce from Bhawanipatna, the district headquarters. For mango, buyers even come from Kolkata and Raipur. These buyers/intermediaries give advances to farmers and make a fortune while the latter get a very low price. There is no cold storage facility for perishable agricultural products. While people, especially the Scheduled Tribes, raise livestock, they do not consume milk or egg. They believe that the milk is meant for the offspring of the cattle and eggs should be allowed to develop into chicks rather than consumed by humans. Raising livestock is primarily for ploughing the land, for manure, or as insurance against financial emergencies.

About the research

This qualitative research complements the sample survey Gram Vikas and CMID had conducted during 2019-20 in Thuamul Rampur block, with the support of the UK Government and the United Nations Development Programme (UNDP), to understand the labour migration from the block. Undertaken with the support of PopulationCouncil Consulting Private Limited, the purpose of this study is to gain a deeper understanding of climate change in the area, how such changes have impacted the lives and livelihoods of households and to examine how labour migration has contributed to the overall resilience of the households in Thuamul Rampur.

The study sought answers to the following research questions:

1. What are the significant weather changes over the time in the block?
2. How have these changes impacted people's lives and livelihoods and are these socially differentiated?
3. In what ways do households cope with the effects of climate change and to what extent does migration for work help them?
4. Who are the migrants, and which are the prominent destinations? What lies behind the choice of these destinations?
5. What are the key financial and social remittances involved and how have they contributed to improved resilience in the block?
6. How are women impacted in the entire process?
7. Who are immobile and why? Do we have any lessons to improve resilience from those who do not migrate?

A participatory mapping of the extreme events in the block was done followed by a series of group discussions (GDs) with the farmers, agricultural labourers, non-agricultural labourers, women, and migrants in separate groups. Care was taken to conduct at least two discussions by key variables such as gender, ethnicity, livelihood and migration status. Preference was given to explore the issues with natural groups rather than organising people into groups. A total of 21 group discussions were conducted, out of which 12 were with women's groups. The groups, except women-exclusive groups, were asked if the climate in the area had substantially changed over the years since the

super cyclone that had occurred in 1999. Further, the groups were asked to rank in the order of severity, the three most important changes in climate that impacted the lives and livelihoods of households in the area. The impact of such changes on the local communities, the category of households which were impacted most, and key coping strategies were also elicited. The participants in the discussions were also asked to identify and rank the three most important groups in the community who did not require to migrate for work and the characteristics that made them manage without migration were also elicited. The women-exclusive groups were requested to provide the three most important changes that specifically impacted women and girls in the area. The groups of migrants were also asked two additional questions. They were requested to suggest three important ways in which climate change-related migration from the area can be made safer or prevented. All the GDs were facilitated by a trained research team, led by a postgraduate in Development Studies, supported by two native Odia- speaking graduates, at least one being a woman. The training of the research team was conducted at the Kumudabahal facility of Gram Vikas in Thuamul Rampur during January 25-26, 2025.

To supplement the insights from the GDs, key informants from these blocks were mapped and interviewed to understand various issues in depth. The KIIs were conducted by lead researchers with a PhD in Social Sciences and possessing an in-depth understanding of migration and climate change. The village elders, representatives of local self-governments, farmers, government officials, representatives of CSOs working in the area, resourceful migrants, and relevant others were interviewed till saturation of information was obtained. Over 40 KIIs were conducted in Thuamul Rampur as part of the study. Case studies of individuals, households and communities were prepared as illustrative examples. Most of the qualitative data collection took place from January to May 2025.

The daily rainfall data for Thuamul Rampur block for the period 1988 to 2024 from the Special Relief Commissioner of the Government of Odisha was analysed to understand the trends and patterns across seasons.[33] Additional analysis of the migration data, collected through the sample survey during 2019-20 by CMID and Gram Vikas, was also undertaken to understand the evolution and growth of labour migration from Thuamul Rampur and its linkages to change in climate in the area.

Key Findings

Climate change in Thuamul Rampur block

Thuamul Rampur block has been significantly impacted by changes in the climate. This is very evident from the desk research, secondary data analysis and the qualitative research. Group discussions unanimously triangulated that the community clearly recognises climate change. The three key changes the community highlighted during the group discussions in the order of significance of impact were delayed and erratic rain, increased summer heat and warmer and shorter winter. The women's groups also highlighted these as the most important challenges that impacted them.

Table.3: Three most important climate changes that impacted households in Thuamul Rampur

Rank	Change in climate
1	Delayed and erratic rain
2	Increased summer heat
3	Warmer winter

Source: Primary data from group discussions, 2025

According to the people of Thuamul Rampur, of late, the rain arrives delayed and has become unpredictable. It does not rain when required and untimely rain damages crops. Summer is now hotter making agriculture difficult. Winter has become warmer and shorter, impacting the Rabi crop. Drought and reduction in rainfall were the two other key changes highlighted during the group discussions. At Silet panchayat, which is a remote area, people also mentioned that the summer heat got reduced which also impacted lives and livelihoods. During the period 2000-2024, several extreme events impacted Thuamul Rampur. In addition to COVID, the extreme events included severe pest attacks, heavy rain, floods, landslides, hailstorms, lightning and outbreaks of waterborne diseases. The key extreme events that impacted the lives and livelihoods of people in Thuamul Rampur are listed here (Table.4).

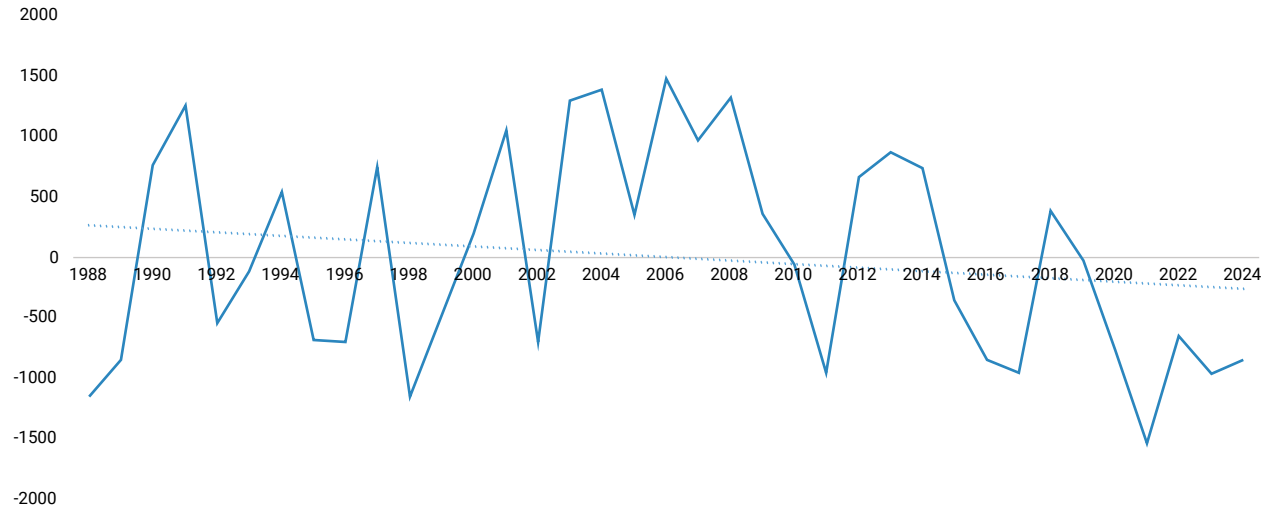
Table.4: Extreme events that impacted Thuamul Rampur block during 2000-24

Year	Extreme Events
2024	Diarrhoea outbreak, pest attack
2023	Lightning
2021	Lightning
2020	COVID, hailstorm
2019	Diarrhoea outbreak, pest attack
2018	Diarrhoea outbreak, heavy rain, landslide
2016	Diarrhoea outbreak
2013	Cold wave, hailstorm, lightning
2004	Flood, heavy rain
2002	Diarrhoea outbreak, lightning
2001	Lightning

Source: Primary data from group discussions, 2025

A macro analysis of the seasonal rainfall data in Thuamul Rampur during the period 1988- 2024 reveals that while the overall average annual rainfall declined during Kharif in Thuamul Rampur, it has been highly erratic. Unseasonal rain has also been evident (Figure.4).

Figure 4: Rainfall anomalies (in mm) during Kharif (June- September), Thuamul Rampur, 1988-2024



Source: Computed by authors from daily rainfall by block, Kalahandi, 1988-2024, Special Relief Commissioner, Govt. of Odisha

Impact of climate change on lives and livelihoods

Climate change has directly or indirectly impacted the lives and livelihoods of almost every household in the block. Delayed and reduced rainfall as well as drought significantly reduced the availability of water not only for agriculture but also for domestic consumption. This led to crop damage, poor yield and loss of employment, reducing income. Scarcity of water also led to compromises in hygiene and sanitation. Using polluted water for domestic purposes resulted in waterborne diseases among communities, even killing people. Households without water connections were more vulnerable. Livestock also suffered due to scarcity of water. Heavy rain damaged crops, houses and other infrastructure. People with kachha houses suffered more. Thuamul Rampur mostly has kachha houses. Floods and landslides, as a result of heavy rain, damaged crops. Pest attacks due to changes in climate resulted in severe crop loss. Excessive heat impacted everyone, particularly those who worked outdoors. Frequent lightning resulted in loss of life of humans and livestock and damage to vegetation and property. Hailstorms damaged crops and also the roofs of the houses. There were also cold waves which killed livestock. People whose livelihoods were nature based, particularly farmers, agricultural labourers and women, were the three key populations severely impacted by climate change in Thuamul Rampur. A public health expert from the area mentioned that, over time, Malaria cases have increased during summer which was not the case earlier. She also added that climate change has an overall negative impact on the health of the people in Thuamul Rampur.

Climate change has directly or indirectly impacted the lives and livelihoods of almost every household in Thuamul Rampur

Table.5: Key changes in climate in Thuamul Rampur and impact

Climate change	Impact	Who is impacted
Reduced rain	▶ Reduced water availability for agriculture and domestic purposes ▶ Farming affected, shifting cultivation disrupted ▶ Reduced farming activities ▶ Reduced employment opportunities locally ▶ Increased pest attacks ▶ Midland and lowland crops such as paddy and millets severely impacted ▶ Reduced yield, poor harvest ▶ Reduced grain stock, food security impacted ▶ Reduced negotiation capacities ▶ Lower income from agriculture	▶ Small landholders without irrigation – dependent on rainfed farming ▶ Farmers, including women, engaged in shifting cultivation and midland farming ▶ Farmers dependent on seasonal crops ▶ Landless labourers, particularly women
Delayed/Untimely Rain	▶ Drying up of borewells ▶ Affected paddy and millet cultivation ▶ Shifting cultivation and midland farming affected ▶ Seeding impacted ▶ Led to water scarcity, affecting drinking, bathing and irrigation needs ▶ Pest attacks ▶ Crop damage, especially for paddy, vegetables, millets and pulses ▶ Land damage, soil erosion, reduced soil fertility ▶ Poor yield, especially in paddy cultivation ▶ Crop failure in the case of paddy, pulses and mustard ▶ Skin infections ▶ Water contamination, increased prevalence of waterborne diseases such as diarrhoea ▶ Reduced yield/poor harvest leading to financial instability and food insecurity	▶ Households in hilly areas, mostly the Scheduled Tribes, depending on rainfed agriculture ▶ Farmers and agricultural labourers including women and girls engaged in shifting cultivation, paddy and millet farming ▶ Farmers without irrigation facilities ▶ Sharecroppers with small landholdings who rely on seasonal rainfall ▶ Midland farmers, as they depend heavily on paddy farming ▶ Poor households relying on agricultural labour ▶ Pregnant women, face nutritional deficiencies due to crop failure ▶ Pregnant women, mothers with infants and small children, elderly women and adolescent girls, due to scarcity of water for household needs

Climate change	Impact	Who is impacted
Increased summer heat	▶ Drying up of water sources, including streams from the hills and borewells ▶ Shortage of water for drinking, irrigation, and daily needs such as bathing and cooking ▶ Farming disrupted ▶ Reduced paddy cultivation ▶ Soil loses fertility ▶ Labourers including women in shifting cultivation bear a heavier workload ▶ Leafy vegetables, chili, and tomatoes dry up ▶ Poor yield, reduced harvest, with crops maturing slower ▶ Reduced employment opportunities in agriculture ▶ Lower negotiating capacities during sale of produce ▶ Food security impacted ▶ Excessive heat causes dehydration, fatigue, and increased health risks while working in farms, women impacted more ▶ Livestock struggle for drinking water, loss of livestock ▶ More forest fires ▶ Shortage of drinking water, people forced to drink unclean river water resulting in waterborne diseases such as diarrhoea outbreaks ▶ Health issues such as headaches, cough, fever, skin infections ▶ Difficulty in fetching drinking water, longer trips for women and girls	▶ Farmers including women, especially in shifting cultivation ▶ Paddy farmers ▶ Daily wage labourers ▶ Poor labourers affected due to heat stress and lack of water ▶ Households with livestock ▶ Households without stable income ▶ Households without water connections ▶ Elderly persons, pregnant women, children who go to school and those who work in open fields ▶ Older women, pregnant women, mothers of young children and young girls who are responsible for fetching water
Cloudiness	▶ Crop damage in the maturity stage, especially for pulses ▶ Vegetable farming affected by pests	▶ Daily wage labourers who depend on agricultural work ▶ Vegetable farmers
Drought	▶ Water sources dry up, ▶ Agriculture and seed germination impacted ▶ Crop failure impacting food security ▶ Borewells fail, forcing people to drink pond water ▶ Longer travel required for fetching water, leading to physical exhaustion	▶ All households engaged in farming, with households engaged in cultivating water-intensive crops like paddy at higher risk ▶ Households dependent on borewells for water ▶ Elderly, women, pregnant women, and adolescent girls (especially during menstruation), due to increased burden of travelling longer for fetching water

Climate change	Impact	Who is impacted
Warmer and shorter winter	▶ Flowering of crops affected impacting agriculture ▶ Increased pest attacks on vegetables, pulses and paddy ▶ Poor vegetable growth, finger millet also impacted ▶ Crop discoloration for cabbage and pigeon pea ▶ Decline in agricultural production, particularly paddy and vegetable production affecting food supply, nutrition and income ▶ Poor vegetable quality due to lack of proper skin formation ▶ Lower yields and crop damage resulting in income loss ▶ Lower prices for agricultural products, poor negotiation capacity of farmers and reduced income ▶ Reduced demand for agricultural labour, impacting earnings ▶ Increased poultry mortality ▶ Increased health issues such as fever and cough	▶ Households engaged in farming ▶ Small farmers due to lower income from sale of vegetables ▶ Farmers including women engaged in vegetable cultivation, particularly those growing kandul (pigeon pea), kating (a type of dal), and biri (black gram) crops ▶ Farmers practicing shifting cultivation, midland farmers and paddy farmers ▶ Landless and petty sharecroppers with no alternative income sources ▶ Agricultural labourers, particularly women ▶ Children and elderly – health issues ▶ Increased poultry mortality impacts women's income from backyard farming
Decreased summer heat (Silet)	▶ Shifting cultivation affected as trees do not fall easily ▶ Mango drying process affected ▶ Paddy yield impacted ▶ Food insecurity ▶ More infections such as Malaria	▶ Farmers engaged in shifting cultivation ▶ Small children and pregnant women

Source: Primary data from group discussions, 2025

Key populations impacted

The three key populations impacted by climate change were farmers, agricultural labourers and women in general, with a cascading impact on everyone else and on the village economies. The majority of the households impacted were engaged in nature-based livelihoods, particularly agriculture.

Impact on farmers

Households engaged in agriculture, irrespective of their ethnicity, were severely impacted by climate change as evident from the qualitative research. Among them, the Scheduled Tribes were severely impacted as their livelihoods were primarily nature based. Nearly half of the Scheduled Tribe households in Thuamul Rampur had small landholdings and were primarily into rainfed agriculture. With rains becoming erratic, their livelihoods have been significantly impacted.

The qualitative research explored how agriculture was affected by climate change. It was found that the reduced rain resulted in reduced water availability for agriculture. Reduced green cover due to *donger chas* increased the rate of rain water run-off. This disrupted farming, particularly *donger chas*. It also resulted in increased pest attacks, leading to poor yield or crop loss. Midland and lowland crops such as paddy and millets were affected. Delayed rain and drought hardened the soil demanding increased efforts in land preparation and sowing. The water sources, including borewells used for irrigation and the small streams that provided water for paddy went dry. Seed germination was crippled and delayed planting affected crop growth. Pest attacks further complicated it. Plants died or provided reduced yield. Everyone who was into agriculture was impacted, particularly those who cultivated paddy, vegetables, millets, pulses and oil seeds. Increased

summer heat also resulted in the drying up of the water sources for agriculture, disrupting farming, delaying crop maturation and eventually resulting in poor yield and reduced harvest. This severely impacted paddy cultivation. Cultivation of green leafy vegetables, chillies and tomatoes was also affected. Households with livestock struggled to find water for them and many lost livestock.

Untimely and intense rain resulted in crop damage, particularly in the case of paddy and millets. Intense rain resulted in soil erosion, impacting soil fertility, and damaged the flowers, impacting yield. This had a long-term impact on agriculture. Untimely rain during the harvesting time resulted in heavy losses to paddy farmers. Prolonged cloudiness reduced the exposure of plants to sunlight, impacting nutrition. This also led to increased pest attacks and crop damage at the maturity stage for pulses. Vegetable cultivation was severely impacted. Warmer and shorter winter impacted flowering of crops. There was increased pest attack on paddy, pulses and vegetables. Cabbage and pigeon pea got discoloured. Paddy and vegetable production declined. For some vegetables, the quality was affected due to lack of proper skin formation. Potato, onion, leafy greens, pigeon pea, kating (a form of dal), and biri (black gram) were severely affected. Warmer winter also resulted in increased poultry mortality, impacting women who depended on backyard farming. In Silet, which is a remote area, reduced summer heat impacted farmers engaged in *donger chas*, as trees would not fall easily. It also impacted the mango drying process. Paddy yield was also adversely affected.

Climate change in Thuamul Rampur resulted in reduced quantity and quality of yield for those households engaged in agriculture. This affected their ability to negotiate while selling the produce, resulting in lower prices and reduced earnings from agriculture. Climate change impacted the food supply and nutrition for those who cultivated for domestic use. Among people who were engaged in agriculture, those who relied exclusively on income from agriculture were the worst affected. Farmers engaged in *donger chas*, those who cultivated small landholdings, those who did not have irrigation facilities, those who did not have bulls and hence had to hire a tractor, those who cultivated lowland and midland areas, those who cultivated paddy, pulses, millets, mustard and vegetables, farmers who had taken trade credit/ loans, those engaged in sharecropping/leased land farming, farmers who raised livestock and poultry, etc. were among the most vulnerable. For many engaged in agriculture, multiple factors from these were applicable, complicating their precarity.

The community ranked *donger chas*, and the cultivation of millets, vegetables and paddy as the practices with the highest climate risk, followed by cultivating lowland and midland areas (Table.6). Raising livestock was another practice with multiple climate risks according to the community. At the same time, owning livestock was also highlighted as a coping strategy as the households can sell them during financial crises.

Table.6: High climate risk practices in agriculture according to the community

Practice	Climate risks that impact the practice
Donger chas	Reduced rain, delayed rain, untimely rain, increased summer heat, drought, warmer and shorter winter
Millet cultivation	Reduced rain, delayed rain, untimely rain, increased summer heat, drought, warmer and shorter winter
Vegetable cultivation	Delayed rain, untimely rain, increased summer heat, drought, increased cloudiness, warmer and shorter winter
Paddy cultivation	Reduced rain, delayed rain, untimely rain, increased summer heat, drought
Cultivating lowland	Reduced rain, delayed rain, untimely rain, increased summer heat, drought
Cultivating midland	Reduced rain, delayed rain, untimely rain, drought, warmer and shorter winter
Rearing livestock	Increased summer heat, drought

Source: Primary data from group discussions, 2025

Impact on households that depended on agricultural/other daily wage labour

Only about five per cent households in Thuamul Rampur were depending on agricultural labour as family occupation during 2019-20. This itself reveals the diminished opportunities for agricultural labour in the block. Since most of the farmers had small landholdings, they did not require labour from outside the households. Besides, most households practised agriculture for domestic use and hiring agricultural labourers was not a viable option. Also, since most land was not irrigated, agricultural labour was only a seasonal opportunity. Not many farmers had sufficient income to pay the labourers. Since the labourers wanted cash, agricultural labour was not a great employment option in Thuamul Rampur. With *donger chas* and paddy cultivation being the main agricultural practices in Thuamul Rampur, opportunities for labour outside the household were limited. During 2019-20, only less than one per cent of the households engaged in agriculture in Thuamul Rampur depended exclusively on labourers from outside the household. Three-fifths of the households managed with members from within the households and about two-fifths of the households engaged some labourers in addition to the household members. Paddy harvesting was one opportunity for seasonal agricultural labour. However, the daily wage, which was low, varied from ₹150 to ₹200, much less than the minimum wages prescribed for agricultural labour in Odisha.

Changes in climate like delayed, reduced and untimely rain, increased summer heat, drought, and warmer and shorter winter impacted agriculture negatively and reduced employment opportunities for people who depended on agricultural labour. The labourers who worked in the open fields were affected by increased summer heat. They suffered from dehydration, fatigue and associated health risks. Due to poor yields, many farmers were not in a position to pay for agricultural labour. Hence, rather than engaging the labourers, the household members took care of such work. This resulted

> Since most of the farmers in Thuamul Rampur had small landholdings, they did not require labour from outside their households

in diminished livelihood opportunities for people who depended on agricultural labour. Even when agricultural labourers were hired, the farmers were unable to pay in cash on a regular basis. As a result, for cash, they had to look for opportunities for work outside agriculture. However, such work was also hard to come by and was not regularly available. Given the district's unique livelihood challenges, in Kalahandi, the government had pegged NREGS workdays from the annual 100

The road widening in Thuamul Rampur used heavy equipment requiring minimal manual labour

days to 300 days per households since 2020. But wages were low, and payments were delayed by months. Hence, it did not help in resolving the immediate requirement for cash. In Thuamul Rampur, during 2024-25, the average number of days of work availed per person employed under NREGA was 51 days only.[i] Road widening and other construction work for improving irrigation facilities are happening on a large scale in Thuamul Rampur block. However, these work, outsourced to contractors through competitive bidding, utilised heavy equipment and machinery reducing the employment opportunities.

The reduction of employment opportunities in agricultural labour/other daily wage labour due to changes in climate primarily impacted the Scheduled Tribes and the landless labourers from all ethnic backgrounds. Women, who formed the majority of such workers, were severely impacted. The landless households that exclusively depended on agricultural labour were severely impacted as they did not have any food grains for domestic consumption and were dependent on the grains from public distribution system.

Impact on women

Women have been significantly impacted by climate change both directly and indirectly. Women's income is almost exclusively spent on family requirements and hence a reduction in such income has a significant negative impact on households which depended on nature-based livelihoods. In Thuamul Rampur, changes in climate that impacted women were not different from the issues that impacted the community at large. Women, primarily from the indigenous communities, were engaged in agriculture which was impacted by climate change, resulting in reduced food security and income. Reduced food at the households impacted the consumption of women. Crop failures also resulted in nutritional deficiency among women, particularly pregnant women.

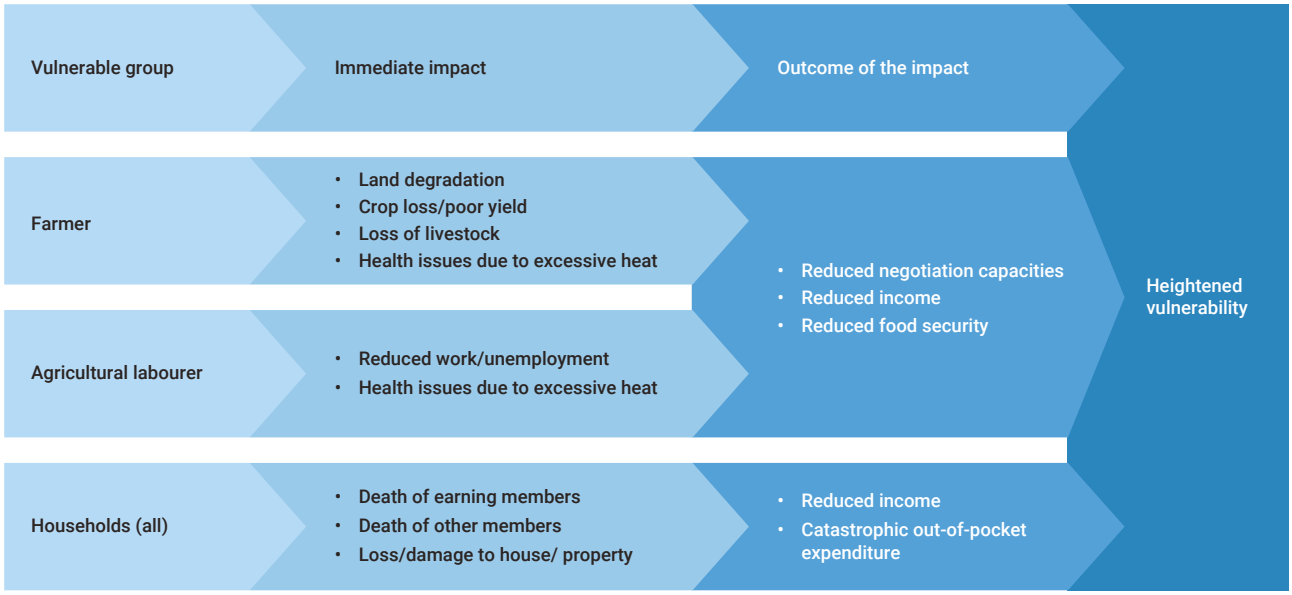
Among the women who were into farming, those engaged in *donger chas*, and those who cultivated paddy, millets and vegetables were severely impacted. Increased poultry mortality during winter impacted women who had backyard

i Computed by the authors based on the data available at https://nreganarep.nic.in/netnrega/citizen_html/demregister.aspx?lflag=eng&page=B&state_name=ODISHA&state_code=24&district_name=KALAHANDI&district_code=2410&block_name=THUAMUL+RAM+PUR&block_code=2410007&fin_year=2024-2025&source=national&Digest=SR8v5kxgnH3Fle1rymceDA

poultry. Climate change reduced the opportunities for paid agricultural labour in Thuamul Rampur which severely affected women who constituted a majority of such labour. This crippled their earning potential. Women labourers from landless households were significantly impacted. Loss of livelihoods due to climate change resulted in men's migration while women stayed behind to look after the family and the crops. The increasing feminisation of agricultural work due to the migration of men exposed women from all ethnic backgrounds to extreme heat. Difficulty to work in extreme heat not only affected their health but also their livelihoods, resulting in reduced income. While some women migrated for work, travelling to distant places was challenging for many.

Irrespective of ethnicity, women and girls were impacted by the delayed rain, drought and extreme summer heat which culminated in the drying up of water sources. The gendered role of fetching water has resulted in women and girls travelling longer distances for water and this has added to their physical and psychological burdens.[ii] Prolonged exposure to high temperature while fetching water resulted in health issues such as fatigue and dehydration as reported by the women. Longer duration of time to fetch water resulted in longer duration of overall unpaid work as other household chores also had to be taken care of. Women whose villages did not have borewells, women from households without water connections, elderly women, pregnant women, women with infants and toddlers, adolescent girls who were menstruating, etc. were some of the groups who were severely impacted. Scarcity of water also made basic activities like washing clothes and bathing difficult, impacting hygiene and overall well-being, particularly for women and girls. Scarcity of water resulted in skin infections too. Furthermore, climate change increased health issues among older women.

Figure.5: Impact of climate change on livelihoods of households in Thuamul Rampur



ii Interventions of the government, CSOs and CSR interventions of mining companies in many places in Thuamul Rampur have helped improve access to drinking water which has helped women gain more leisure time as they do not need to walk far for fetching water

Overall, people who depended on nature-based livelihoods were severely impacted by climate change in Thuamul Rampur. Land degradation, crop loss/poor yield, loss of livestock and loss of livelihoods were the key immediate impacts on the farmers. Reduced availability of work and unemployment were the immediate impacts on the agricultural labourers. Reduced negotiation capacities/agency of these groups, diminished income, and food insecurity were the outcomes.

While these were specific impacts on the vulnerable households, these households also had to confront the general impact of climate change that every household in Thuamul Rampur went through. These included damage to public infrastructure, disruption of communications, limited market access and reduced access to public services. Death and disability of earning/other members, and damage to house and property were some other outcomes.

Other key challenges that impacted the lives and livelihoods of households in Thuamul Rampur

While climate change impacted the lives and livelihoods of households in Thuamul Rampur, the Upper Indravati Hydroelectric Project, notification of Karlapat forest as a protected area (wildlife sanctuary) and approval for bauxite mining in Baphlimali and Sijimali complicated their crises.

Impact of Upper Indravati Hydroelectric Project (UIHP)

Commenced in 1978 and stretching over 110 sq. km, the 600 megawatt Upper Indravati Hydroelectric Project is one of the largest multipurpose projects in India. The project involved the construction of four dams across the Indravati river and its tributaries and diverting the water of the Indravati river in its upper reaches into the Mahanadi valley for power generation and irrigation. Partially commissioned in 1999, the project became fully operational by 2001. With an annual energy output of nearly 1962 gigawatt-hours (GWh), the project substantially bridges the electricity deficit in the Eastern Indian grid. The Odisha Hydropower Corporation Limited claims the project as one of the cheapest and the most environment friendly among the present generation of power projects with a cost of ₹0.65 per kWh.[34] Through trans-basin diversion of water from the Godavari basin to the Mahanadi basin, the project irrigates more than 100,000 hectares of land.

The project submerged over 32,000 acres of land, impacting nearly 90 villages. More than half of the submerged land belonged to Kalahandi district, primarily private land from Thuamul Rampur where the main dam across the Indravati river is constructed. Also, nearly half of the villages submerged by the dam were from Thuamul Rampur block, resulting in the displacement of households, primarily from the Scheduled Tribes and the Scheduled Castes. The dam submerged houses as well as the fertile *beda* land of the people of Thuamul Rampur. There were also other villages in the block which were not submerged but lost their agricultural land. The reservoir cut several villages like Nagi off from the rest of the block. Travelling to the block headquarters became prohibitively expensive and time-consuming for the people of Nagi. For some other villages like Kamalaguda, it blocked direct access to Mukhiguda which was a key market for them. Similarly, people of Maligaon village lost access to an important market as Benakhamar got submerged. Households which got displaced were not optimally compensated. Due to poor rehabilitation measures, the World Bank cancelled the loan for the project.[35] Those who lost their fertile *beda* land had to either stop agriculture or do *donger chas*. Some, who became landless, got into other livelihoods, such as fishing in the catchment area of the dam. People, particularly the youth, migrated to places like Kerala. When households got displaced, the village institutions were also impacted. Households had to move to different places from the villages which got submerged. Extended and joint families broke down into nuclear families. After the displacement, the earnings of households declined to nearly half and overall human development was significantly negatively impacted.[36] Although the dam irrigates over 100,000 hectares of land, households from Thuamul Rampur block are yet to benefit significantly from this.

CASE STUDY

The river of life flows, despite a dam

In India, displacement of rural communities for large development projects like dams is not often accompanied by thoughtful rehabilitation measures. Displacement means not just loss of land for these people, but loss of dignity as well, as resettlement seldom involves restoration of their access to markets, essential services, or opportunities to continue with familiar modes of livelihoods. This leads to a rapid decline in the standard of living, as the rural communities are forced to switch to subsistence mode. Kamalaguda village in Gopinathpur panchayat, in Thuamul Rampur block, lies near the catchment area of the Upper Indravati Hydroelectric Project. The village consists of about 30 households, formerly from Yuvarajpur village, who were displaced as their houses and fertile farmlands were submerged following the construction of the dam. For the villagers, the rising waters signified not just the loss of their land, but a rupture with their traditional means of livelihood rooted in agriculture. It also meant the loss of deep community ties and, above all, identity. For many households in Kamalaguda, migration for work is an alternative means of livelihood which offers them a chance to reclaim the dignified life that they were stripped off in the arduous process of displacement and resettlement.

The large catchment area of the dam, which is around 2630 sq. km, engulfed huge swathes of land. Yuvrajpur, consisting of around 200 households, was one of the villages which was submerged. In the aftermath of the displacement, the entire village got dispersed as they shifted to different locations. A villager recalls that Yuvrajpur panchayat had a school, a police station and a hospital, all of which got submerged.

Displacement has severely affected the livelihoods of the people in Kamalaguda. According to the villagers, the displaced were compensated inadequately. This has resulted in a significant reduction in the landholdings among those who were affected, leading to shifts in livelihood as they could not afford to buy land at the market rates. Sabha Maji of Kamalaguda had more than ten acres of land in Yuvrajpur, which is now reduced to three acres in Kamalaguda. Some of those who were displaced had already land in Kamalaguda, which they could cultivate as they came here. Those who could not afford to buy land had to turn to alternative means of livelihood. The villagers recall that Yuvrajpur village had 200 acres of land where they used to cultivate a variety of crops like mango, jackfruit, jamun, and pineapple. Displacement also forced people to change crops as well, depending on the soil in the new areas. Now they mostly cultivate ragi and corn. Though they live close to the reservoir, only those who are members in the fishing society which oversees fishing in the reservoir can catch fish. Moreover, many households who once had land in Yuvrajpur are now landless. They mostly engage in fishing in the reservoir or work as daily wage labourers.

With agriculture no longer providing a stable income, and other potential options proving less reliable, migration for work has opened new vistas. Kamalaguda, which had all the prospects of slipping into abject poverty, has regained its resilience leveraging migration. This is substantiated by Naranga Majhi, a 31-year-old man from Kamalaguda, who has been working as a cook in a hotel in Thrissur, Kerala, for the last eight years. Naranga Maji, who stays in Kamalaguda for 2-3 months to help with agriculture, testifies that he gets a fairly good amount of ₹900 per day in the hotel where he works. Most of the youth from the village go to Kerala, followed by Tamil Nadu and Andhra Pradesh. Almost 20 households in the village now have migrant members, mostly working outside Odisha. Naranga Majhi says that he will prefer to stay in his native village if a dignified means of livelihood is available. In his opinion, this would require a certain level of industrialisation of the area, like the establishment of factories which would generate more employment opportunities.

Agriculture, which was once productive, is now reduced to mere subsistence in Kamalaguda. Also to reach the nearest Mukhiguda market the villagers need to cross the reservoir. A community which had the daunting task of building everything from scratch is now slowly becoming resilient thanks to the migration of its youth. Though this is also accompanied by new challenges, which affect those who stay home, the steady flow of income is sure to bring in more inclusive development to the village.

Impact of mining

Rich in bauxite deposits, Thuamul Rampur also bears the brunt of mining in the area. While there is no substantial mining happening within Thuamul Rampur block currently, the Baphlimali mining block which is in operation from 2012 onwards, falls mostly in the adjacent Kashipur block in Rayagada district. Mining has impacted the lives and livelihoods of people from many villages in Thuamul Rampur, particularly from Adri, Gopinathpur, Padepadar and Maligaon panchayats at the foothills of Baphlimali. According to the villagers, many have lost their grazing and agricultural land. They report that the already dry situation in the area is complicated as several springs have either diminished water flow or have dried up. Tangiri stream is one among them.

In 2023, the Government of Odisha declared its preferred bidder for mining in the Sijimali bauxite block, located in Rayagada and Kalahandi districts of Odisha. Locally known as Tijimali, the Sijimali mining block is estimated to have 311 million tonnes of bauxite reserves.[37] The mining company plans to extract nine million tonnes of bauxite annually for 31 years. Mining in the 1550-hectare land which includes about 700 acres of forest land, human settlements and elephant habitats, is likely to have severe ecological impacts, as reported. The area under Sijimali mining block covers 18 villages in Thuamul Rampur, primarily inhabited by indigenous populations.[38] It is reported that the implementation of the project is likely to displace 100 families from 18 villages and also affect livelihoods of an additional 500 families.[39] The project, even in August 2025, has not received environmental clearance due to community and ecological concerns. Tension prevails in the areas and people fear that they will lose their homesteads, agricultural land and access to forest resources. In both Baphlimali and Sijimali, many households are getting meagre monthly payments from the mining companies, as reported by villagers. CSR interventions by the mining companies can also be seen in the block. In 2024, an assessment by National Law School of India University, on the human rights and environmental implications of the proposed Sijimali bauxite mine in Odisha, found that the project violated land, autonomy, cultural rights and the right to free, prior and informed consent of *adivasis* and other forest-dwelling communities in the area.[40] The report adds that the project is likely to cause long-term irreversible and irreparable harm to the ecosystem, increased human-animal conflicts and depletion of water sources. It highlighted that the project will result in a skewed distribution of costs on the Scheduled Tribes and other forest- dwelling communities while directing benefits to the state and the project proponent.

In Kerpai village, a lot of women, particularly older women, collect and dry siali leaves and sell it

for ₹20 per kg to make a living. With the mining scheduled to begin in the hills around Kerpai, their livelihoods will be affected.

Impact of Karlapat Wildlife Sanctuary

Notified as a protected area in 1992, the Karlapat Wild Life Sanctuary is spread across various blocks in Kalahandi district. It claims to protect more than 30 species of mammals, 45 species of birds, 17 species of reptiles and many other species of fish, amphibians, invertebrates and precious forest, and serves as a strategic corridor for elephants from Kotagarh Sanctuary in Kandhamal district and Lakhari Valley Sanctuary in Gajapati district.[41] From the initial 148 sq. km, in three decades, the sanctuary has expanded to 194 sq. km in 2023, of which revenue villages consist 18.5 sq. km.[42] Beyond the sanctuary, an Eco-sensitive Zone with a radius of 10 km was proposed in 2019, for regulating activities in the buffer zone.[43] Part of Thuamul Rampur block, Karlapat panchayat has many villages within the sanctuary and also in the buffer zone, predominantly inhabited by the Kondh tribe. Just like any other protected area, notification of Karlapat Wildlife Sanctuary as protected area has impacted lives and livelihoods of people within the sanctuary. Their traditional *donger chas* was curtailed and there have been restrictions on grazing. Many had to give up agriculture in their land due to restrictions as well as human-animal conflicts. People's access to the forest is also regulated and they fear that they are under surveillance with drones buzzing around. With the decline in agriculture, NREGS work is a key resource for the people. However, the delay in payments is universal. Migration for work to Kerala and other southern states has been a key adaptation strategy as explained by people from Badtikiraguda and Jilagaon within the sanctuary.

> The notification of Karlapat Wildlife Sanctuary as a protected area impacted the lives and livelihoods of people in many villages in Karlapat panchayat

People are caught between environmental regulations and the need to sustain their traditional way of life. While forest conservation is essential, the lack of livelihood alternatives, limited recognition of legal rights, and ongoing restrictions have led to economic insecurity and social alienation. The slow progress in the implementation of Community Forest Rights and continued surveillance only add to the community's sense of being left behind.

CASE STUDY

No sanctuary for humans: Karlapat Wild Life Sanctuary and the alienation of the rights of forest-dependent communities

Forest policies in India are sharply skewed towards western models which celebrate a romantic notion of wilderness without human presence. However, indigenous communities in India and around the world have been characterised by the deep connections they have maintained with forests, depending on them for sustenance. Forest governance policies in British India consolidated state ownership over forests which is continued by successive governments after independence. Establishment of national parks and sanctuaries has restricted access of communities living inside/in proximity to forests, affecting their livelihoods. Though the Forest Rights Act of 2006 aimed to undo the historical injustice done to the tribal populations by recognising the rights of forest-dependent communities and encouraging their participation in the management of forests, the forest governance practices are yet to reflect the change optimally. Karlapat Wildlife Sanctuary, notified in 1992, has similarly alienated many from the indigenous Kondhs from the forest which has been their lifeline.

Badtikiraguda village, in Karlapat panchayat, lies inside Karlapat Wildlife Sanctuary. The notification of Karlapat Wildlife Sanctuary has regulated the access of the community which was dependent on the forest for sustenance. They are restricted from grazing their cattle and goats inside the forest and practicing *donger chas* which they had been doing for ages. Collecting forest produce is closely monitored, and there are cameras and watch towers 'everywhere' for surveillance.

The villagers residing in Badtikiraguda were originally from Ghumer, a village which is two km away in the same panchayat. Frequent instances of elephants straying into the village had forced the villagers from Ghumer to relocate to Badtikiraguda prior to Karlapat being notified as a protected area. However, they had continued cultivation in Ghumer. But now Ghumer is in the reserve forest according to the villagers and cultivation is difficult. The villagers have been restricted from going to Ghumer since the notification of the sanctuary. But they conduct annual poojas in the village temple at Ghumer. The villagers allege that the forest department uses drones for surveillance, and they fear being caught if they venture into the forest. The villagers feel that they are alienated from their own land, and what was once a dignified means of livelihood is now criminalized as poaching.

The Kondhs in Badtikiraguda are eligible for the Community Forest Rights envisioned in the Forests Rights Act, 2006. The systemic delay in getting these rights realised has led the forest-dependent communities to explore alternative livelihood options in urban jungles, by migrating for work. The majority of the nearly forty households in Badtikiraguda have migrant members, working in states like Kerala and Tamil Nadu.

Indigenous communities like Kondh nurture profound connections with their lands and prefer to practice agriculture. However, with limited livelihood options at the native place, migration for work has offered people not just a means of survival, but an opportunity to live with dignity.

Coping strategies for climate change

The communities during the group discussions were asked to rank the three most important coping strategies adopted by the households most impacted in the area. In the case of households engaged in agriculture, information was elicited through key informant interviews to learn more about their additional coping strategies.

Major coping strategies

While coping strategies varied by resources of the households, labour migration turned out to be the most important strategy, as emerged from the majority of the group discussions. Out of the nine groups which discussed the issue, seven ranked labour migration as the most important coping strategy and all the nine groups ranked labour migration as one of the three most important strategies. Taking loans was ranked as the second most important coping strategy overall, mentioned by seven groups. Availing other local work was the third most important strategy. Reliance on Public Distribution System, selling the produce at lower prices and reducing expenses were also mentioned as coping strategies.

Table.7: Key coping strategies of the households in Thuamul Rampur most impacted by climate change

Rank	Strategy	Number of groups that rank the strategy among top 3
1	Migration for work	9
2	Availing loans	7
3	Availing other local work	5

Source: Primary data from group discussions, 2025

During 2019-20, almost one-fifth of the households in Thuamul Rampur were indebted with an average outstanding loan of about ₹5000. Most of them had taken loans from informal sources, primarily from relatives/friends. About 20 per cent had taken loans from moneylenders. Although people mentioned taking loans as the second most important strategy, such measures only resolved the immediate crisis and eventually to repay the loans, people had to resort to labour migration unless they had something to liquidate or a good crop to sell in the subsequent year. Even though availing other local work was mentioned as a coping strategy, there were not many alternatives other than NREGS and some construction work.

Households in Thuamul Rampur were conscious of the changes in climate that were impacting agriculture and were adopting pragmatic strategies

While those engaged in agriculture also depended on Public Distribution System (PDS), people who were not engaged in agriculture had to rely solely on PDS. Smaller families were able to cope with subsidised grains from the PDS, but larger families could not do so as it was insufficient for them. As a result, households adopted multiple strategies to cope with the situation. Key informant interviews revealed that households in Thuamul Rampur were conscious about the changes in climate that were impacting agriculture and have been adopting pragmatic strategies. Some of the key strategies adopted are given below.

Key additional adaptation strategies by households engaged in agriculture

Giving up agriculture or reducing the area of cultivation were some of the strategies adopted by agrarian households. Eventually vegetables came to many weekly *haats* (markets) from Bhawanipatna, the district headquarters. Supply of rice through PDS has resulted in reduced reliance on paddy cultivation. Leasing land to others for agriculture and sharecropping were also strategies to reduce risk. Terrace cultivation has been a practice to ensure better utilisation of available water. To prevent cattle from straying into the farm land, many farmers erected boundary walls made of tree branches. Planting eucalyptus was another strategy as the cattle did not eat eucalyptus plants and the plants did not require much maintenance. There was a steady demand for eucalyptus as there was a major paper manufacturing factory in the neighbouring Rayagada district from where agents came. Eventually, roadsides in Thuamul Rampur have given way to eucalyptus jungles.

Organic farming yielded smaller fruits and resulted in less money. Applying fertilisers has been a key strategy to overcome this. *Donger chas* has been difficult, and yield was poor. Women who used

To prevent cattle from straying into the farm land many farmers erected boundary walls made of tree branches

to practice *donger chas* explored newer options such as poultry. Moving away from *donger chas* was another strategy although it impacted the cultivation of millets in the area.

Modernisation of agriculture, by leveraging the government schemes/programmes was another key strategy. However, this depended on the agency and resources of the farmers. Using hybrid/treated seeds, trying new plant varieties including climate- resilient crops, leveraging agricultural loans, accessing free/subsidised schemes for lift/drip irrigation, solar and electric pumps, and other agri-machinery and equipment, digging wells including borewells and tube wells, etc. have been some of them. Leveraging the Minimum Support Price (MSP) for paddy and ragi established by the government was another key strategy. This helped the farmers to sell their produce at reasonable rates rather than depending on intermediaries who offered very low prices. However, leveraging the government schemes was not that easy. Awareness about the schemes, the right connections, documentation of ownership of land, creation of a farmer identity (ID), etc. were some of the requirements. People who cultivated forest land had constraints in accessing such

Planting eucalyptus was another strategy as the cattle did not eat eucalyptus plants and the plants did not require much maintenance. There was a steady demand for eucalyptus as there was a major paper manufacturing factory in the neighbouring Rayagada district.

Key adaptation strategies within agriculture

- Giving up agriculture
- Reducing area of cultivation
- Leasing land to others
- Terrace cultivation
- Sharecropping
- Planting Eucalyptus
- Erecting boundary walls
- Widening the *beda*/low lying land
- Moving away from *donger chas*
- Leveraging the government schemes/programmes
- Using hybrid/treated seeds
- Applying fertilisers
- Leveraging agricultural loans/ subsidies
- Lift/drip irrigation using solar and electric pumps
- Using agri-machinery/ equipment
- Digging wells including borewells and tube wells
- Leveraging the Minimum Support Price (MSP)
- Taking up agricultural /other daily wage labour locally
- Collecting NTFP
- Some members worked as labourers in other farms
- Establishing another steady source of income

schemes. Even in the case of patta land, for a significant number of farmers, particularly from the Scheduled Tribes, the transfer of landownership had not been completed from the names of their parents/grandparents who were no longer alive. Complexities in accessing government support also stem from the fact that many current users belong to joint families, which often limit their individual eligibility. In the absence of relevant documentation, the farmers were unable to avail the benefits. Besides, to avail many subsidies, one also needs to make some initial financial investment, which was difficult for many to mobilise, given their precarities. In many instances, the processing took long that demotivated people from applying for the schemes.

Other than exclusively depending on agriculture, farmers also undertook the collection of forest produce and engaged in agricultural/ other daily wage labour locally in order to improve their resilience. In many households, some members worked on their own land whereas the others did some other work including agricultural or daily wage labour which diversified income sources. This ensured some cash flow. Reducing household expenses has also been a key strategy for farmers and agricultural labourers. They managed with whatever little they had. Some went further to establish another steady source of income to spread the risk rather than exclusively depending on agriculture. Getting into a business or self-employment activity such as running a grocery store, tailoring shop, eatery, etc. along with agriculture also helped people spread the risk beyond agriculture.

Being one of the 29 aspirational blocks in the state, there are substantial additional interventions by the government for the development of Thuamul Rampur, going beyond routine investments. One of the two scheduled areas in Kalahandi, Integrated Tribal Development Project (ITDP) is active in the block. The 100 days of annual employment opportunity for households under NREGS in the country has been enhanced to 300 days in Thuamul Rampur to reduce distress migration.

Supply of hybrid seeds and saplings, setting up Minimum Support Price (MSP) for agricultural produce, providing subsidised equipment and technology including solar and electric lift irrigation pumps, providing weather alerts, saturating villages with mobile connectivity, introducing horticultural, social forestry and agroforestry initiatives to plant trees, improving market linkages through mandis, digging ponds, erecting water tanks, skilling youth for employment, empowering SHGs, promoting cultivation of millets through Millet Mission, etc. have been some of the government initiatives.

Gram Vikas has, for more than four decades, been involved in promoting education through its residential school, improving WASH facilities,

The whole government ecosystem such as departments of agriculture, horticulture, irrigation, forest, tribal development, etc. came together to improve the resilience of those engaged in agriculture

Some of the key government interventions to improve the resilience of people

- NREGS with 300 workdays
- Supply of hybrid seeds/ saplings
- Minimum Support Price (MSP) for produce
- Free and subsidised equipment/technology
- Lift irrigation programmes
- Solar/electric pumps
- Weather alerts
- Improved mobile connectivity
- Social forestry initiatives
- Agroforestry initiatives
- Horticulture initiatives
- Market linkages
- Ponds, stone bunds
- Water tanks, tankers
- Training/skilling programmes including DDUGKY
- Odisha Livelihood Mission
- Mission Shakti
- Millet mission
- Investment of District Mineral Fund
- General infrastructure development

The whole government ecosystem came together to improve the resilience of those engaged in agriculture

and strengthening water security through land and water management initiatives, along with afforestation efforts. It now also supports safe and dignified migration, particularly along the Odisha – Kerala corridor.

With the bauxite mining projects in progress, investments are made from the District Mining Fund (DMF) to improve infrastructure and livelihood opportunities. The two companies that

Borewells with solar pumps by the government have helped many households improve agriculture

CMPD/Benoy Peter

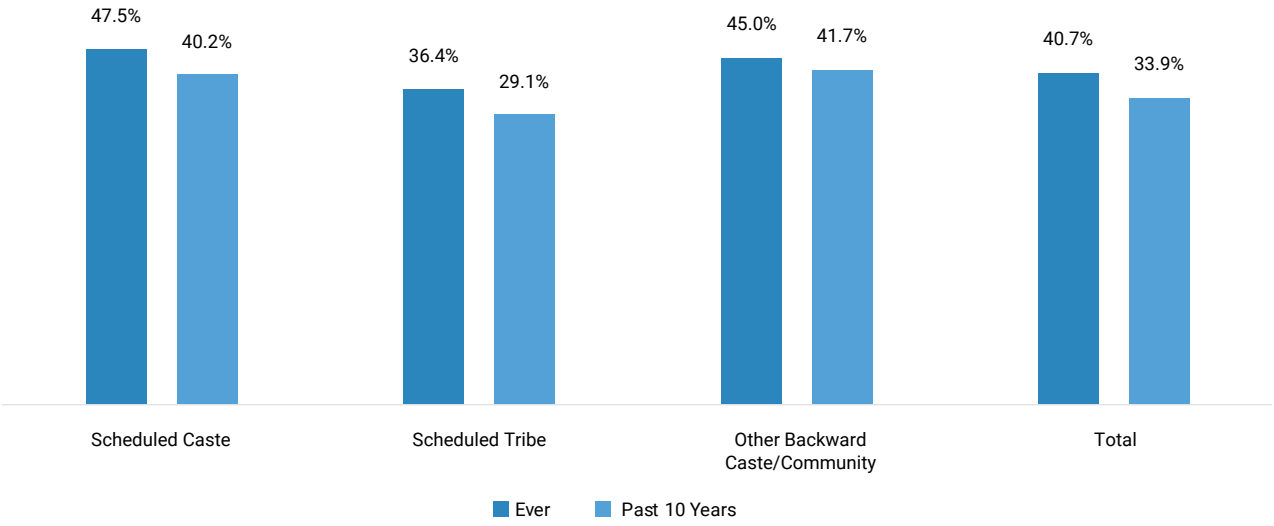
have secured mining approvals also have taken up projects under the Corporate Social Responsibility (CSR) initiatives intended to contribute to improving infrastructure, livelihoods and overall well-being of the community. Community-level meetings are being organised to promote agroforestry and social forestry initiatives under CSR. CSR projects included excavation of ponds, construction of market places and provision of self-employment opportunities for people. Two mega government infrastructure projects are currently under way in Thuamul Rampur. A lift irrigation project to transform the availability of water for agriculture is also in progress with an intake well in the Indravati reservoir in Kamalaguda. With a purification plant in Adri, and overhead tanks spread across various panchayats, a water supply project under *Jal Jeevan Mission*[iii] is progressing to address the shortage of drinking water in the block. Pipes are being laid all over the area in several panchayats. While the government is hopeful of transforming the opportunities for agriculture, given the changes in the climate, the villagers are sceptical about the availability of water in the catchment area of Indravati dam to supply sufficient water to Thuamul Rampur under this project.

Labour migration from Thuamul Rampur

Households in Thuamul Rampur substantially rely on migration for work. The joint survey by Gram Vikas and CMID during 2019-2020 revealed that over one-third of the households had at least one person who had migrated for work outside the district in the past 10 years preceding the survey (Figure.6). While labour migration trends were broadly similar among households from the Scheduled Castes and the Other Backward Castes/Communities, households belonging to the Scheduled Tribes had slightly lower migration rates.

iii A Government of India initiative to provide safe and adequate drinking water through individual household tap connections to all households in rural India

Figure.6: Percentage of households in Thuamul Rampur with a history of inter-district labour migration, 2019-20, N :440

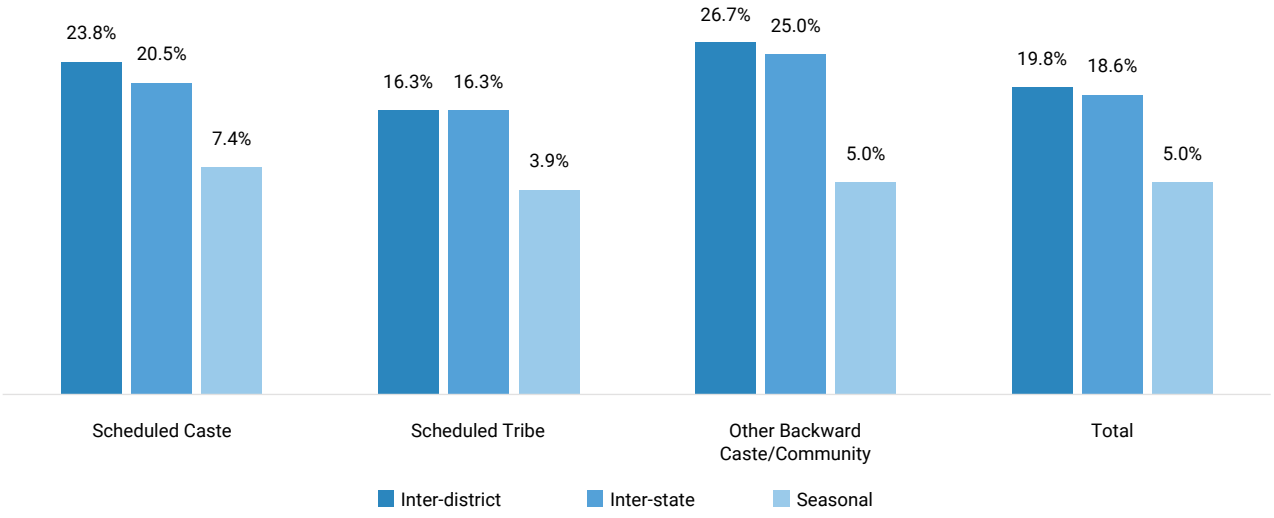


Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Household migration rates

One in every five households in Thuamul Rampur had migrant workers during 2019-20 (Figure.7). Most migrants moved to other states. Seasonal migration for work was not very prominent. Migration rates during 2019-20 were highest for households from the Other Backward Castes/ Communities, followed by the Scheduled Castes and then the Scheduled Tribes. But compared to other ethnic groups, seasonal migration was highest for households from the Scheduled Castes/ Communities. Nearly one-fourth of the households from the Scheduled Castes/Communities had migrant workers and 16 per cent of households from the Scheduled Tribes had migrant workers.

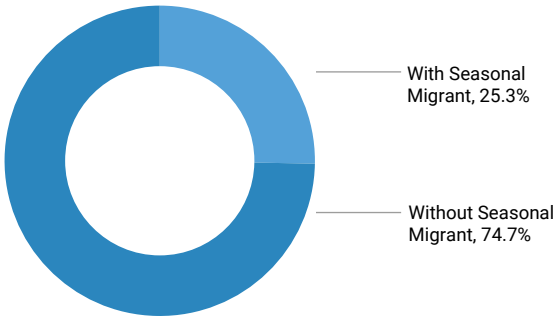
Figure.7: Percentage of households with migrants, 2019-20, N:440



Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Indebted households had much higher migration rates compared to those without debts. Also, those with pucca households had higher migration rates compared to those with kachha households. There was not much difference in the migration rates by family occupation, landownership, engagement in agriculture, type of ration card and access to public transport. People from indebted households, those with land, those who had pucca houses and those who had PHH ration cards travelled longer compared to their counter parts. One-fourth of the households with migrants in Thuamul Rampur had seasonal migrants during 2019-20 (Figure.8). Seasonal migration was more prominent in the case of households with land compared to those without land.

Figure.8: Percentage distribution of households with migrants by seasonality of migration, 2019-20, N:150

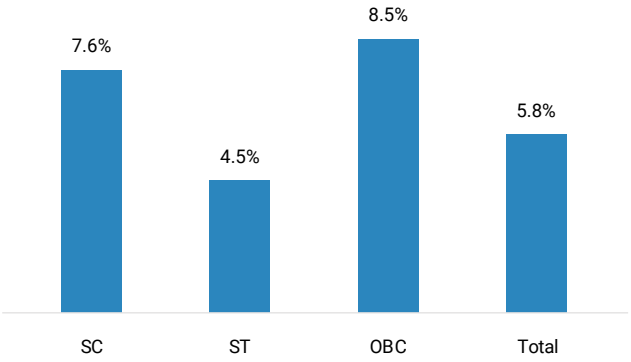


Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Distribution of migrants in the population

During 2019-20 migrant workers constituted about six per cent of the population of Thuamul Rampur. While this proportion was around eight per cent in the case of the Scheduled Castes/Communities and the Other Backward Castes/Communities, it was nearly half of it for the households from the Scheduled Tribes (Figure.9). Out of all migrant workers from Thuamul Rampur, only about three per cent were females.

Figure.9: Percentage of migrant workers to the total population and ethnicity, Thuamul Rampur, 2019-20, N:1763



Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Estimate of migrant workers

A total of 4548 inter-district migrants from Thuamul Rampur worked in various parts of India during 2019-20. Among them, 4415 persons were males. Out of the total migrant workers, 2019 workers belonged to the Scheduled Tribes.

Table.8: Estimate of migrant workers in Thuamul Rampur block by sex and ethnicity

Migrants from Thuamul Rampur	Ethnicity			Total
	SC	ST	OBC	
Male	1416	1976	1029	4415
Female	83	43	0	132
Total	**1499**	**2019**	**1029**	**4548**

Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Key destinations

Most of the workers moved to southern Indian states. Kerala emerged as the most prominent destination, with two-thirds of the migrant workers moving to the state. Tamil Nadu and Telangana were reported as the second and the third most important destinations (Table.9). About six per cent workers moved within Odisha, primarily to Bhubaneswar.

Table.9: Percentage distribution of migrant workers by destination, 2019-20

Destination state	Percentage
Kerala	67.9
Tamil Nadu	10.7
Telangana	6.0
Odisha	6.0
Others	9.4
Total	**100**
Number	**84**

Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Characteristics of migrants

Most of the migrant workers from Thuamul Rampur were young men in their early twenties with a median educational attainment of seven years. However, nearly one-fifth of the workers were illiterate. Over three-fifths of migrant workers from the block were unmarried (Table 10).

Table.10: Percentage of migrant workers by select background characteristics, 2019-20, N:84

Indicator	Value
Median age (years)	22.0
Percentage of men	98.8
Percentage literate	79.8
Median years of education	7
Percentage currently married	41.7

Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Reasons for migration

Two out of every five migrants were unemployed prior to migration and over one-fifth were students. About 30 per cent were agricultural labourers before they had migrated. The primary reason for labour migration was low wages, as reported by two-thirds of the workers. Three out of every ten migrants reported lack of local employment as the primary reason for their move. High wage rates and continuous availability of work were major reasons for choosing the destinations. In Tamil Nadu, the availability of work in the garment sector attracted the migrant workers.

Table.11: Percentage distribution of migrants by select characteristics related to migration, 2019-20

Variable/Category	**Percentage**
Occupation prior to migration	
Unemployed	40.5
Student	22.6
Agricultural labourer	29.8
Other	7.2
Reason for moving out	
Low wage	65.5
Lack of employment	31.0
Other	3.6
Reason for choosing the destination	
High wage rates	75.0
Continuous employment	22.6
Better work environment	2.4
Total	**100**
Number	**84**

Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Work characteristics at destination

Three-fourths of the migrants worked in factories, shops and other establishments. About four-fifths of the workers other than the Scheduled Tribes were engaged in such work. Slightly less than one-fifth of the workers moved with the contractors from one site to another. A little less than 10 cent of the migrants were footloose labourers who operated from labour nakas. Persons from the Scheduled Tribes were found to be more footloose compared to others. Most people worked in hotels/ restaurants or in the construction sector. While over one-third of the workers from the Scheduled Tribes were engaged in construction work, only about one-fourth of the workers from other communities were engaged in this. Over one-fourth of the workers from the Scheduled Castes/ Communities and the Other Backward Castes/ Communities worked in hotels /restaurants. The majority of the workers were either unskilled or semi-skilled. The average monthly income of the workers was ₹12000. The average monthly earnings of migrants from the Scheduled Tribes was ₹3000 less compared to the others who received ₹15000.

Table.12: Percentage distribution of migrant workers by select work characteristics and ethnicity, 2019-20

Variable/Category	Ethnicity		Total
	ST	ODC	
Category of Work			
Naka worker	12.2	4.7	8.3
Employee at shop/establishment/factory	68.3	79.1	73.8
Moves with contractor	19.5	14.0	16.7
Domestic worker	0.0	0.0	0.0
Other	0.0	2.3	1.2
Sector of employment			
Construction	34.1	25.6	29.8
Hotel/restaurant	29.3	34.9	32.1
Worker in shop/establishment	0.0	0.0	0.0
Factory worker	9.7	2.3	6.0
Domestic worker	0.0	0.0	0.0
Various other sectors	26.8	37.2	32.1
Skill levels			
Unskilled/semi-skilled worker	90.2	86.0	88.1
Skilled worker	9.8	14.0	11.9
Median income from wages	**12000**	**15000**	**12000**
Total	**100.0**	**100.0**	**100.0**
Number	**41**	**43**	**84**

Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

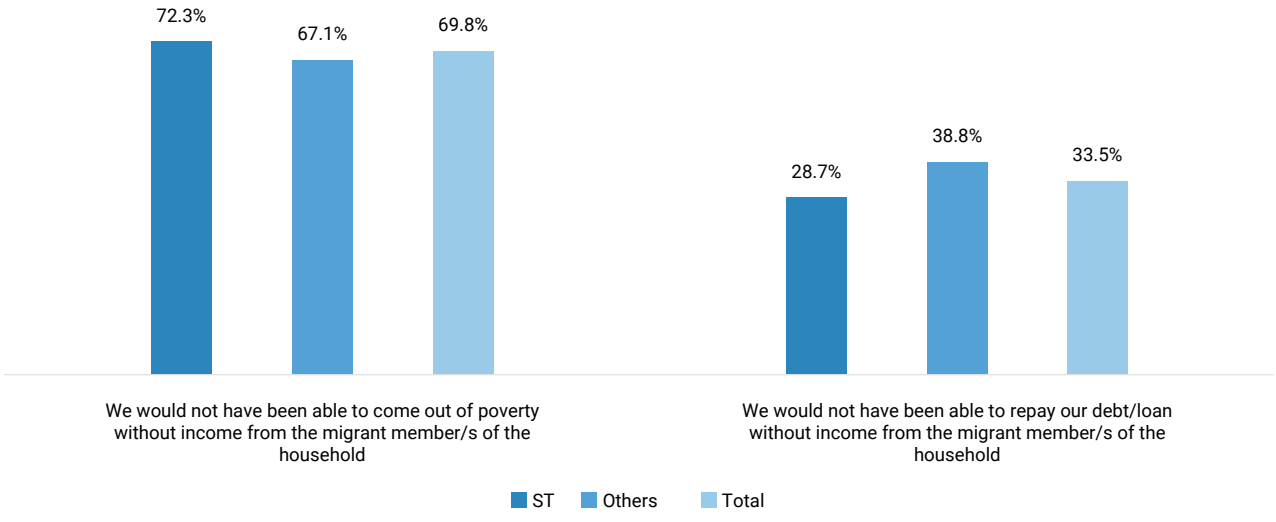
Impact of migration on the resilience of Thuamul Rampur

Historically known for droughts and poverty, Thuamul Rampur by and large depends on traditional agricultural practices. But changes in climate have made agriculture difficult. Displacement and loss of land due to Indravati Hydroelectric project, notification of Karlapat forest as a protected area and allocation of mining blocks which also covers Thuamul Rampur have impacted the lives and livelihoods of people in the block. Migration for work has evolved as a key adaptation strategy for people, particularly the youth of Thuamul Rampur. During 2019-20, Thuamul Rampur received over ₹600 million annually as income from the wages of the migrant workers. The estimated monthly remittances of ₹23 million contributed substantially to the resilience of the households in the block.[44]

Findings from the sample survey (2020)

The impact of labour migration on the resilience of the households in Thuamul was very evident from the Gram Vikas-CMID survey conducted during 2019-20. About half of the households had a history of labour migration. Seven out of every ten households with a history of migration, especially from the Scheduled Tribes mentioned that they would not have been able to come out of poverty without the income from migration (Figure.10). Over one-third of such households also mentioned that they would not have been able to repay their debts/loans without the income from migration.

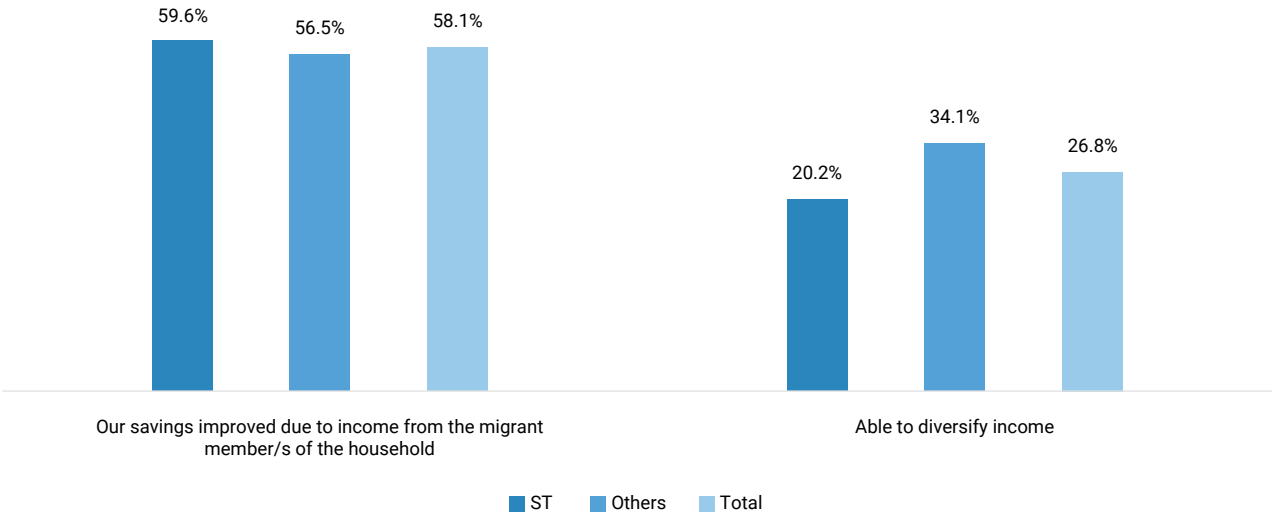
Figure.10: Percentage of households in Thuamul Rampur with migration history by impact on poverty/ indebtedness, 2019-20, N:179



Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

About three-fifths of the households were able to improve their savings with the income accumulated from migration (Figure.11). While the Scheduled Tribes benefited more from migration in overcoming their poverty, the households from other communities were able to leverage migration better for diversifying their income. About one-fifth of households with migrants from the Scheduled Tribe communities were able to diversify their income whereas about one-third of the households from other communities with migrants could do so.

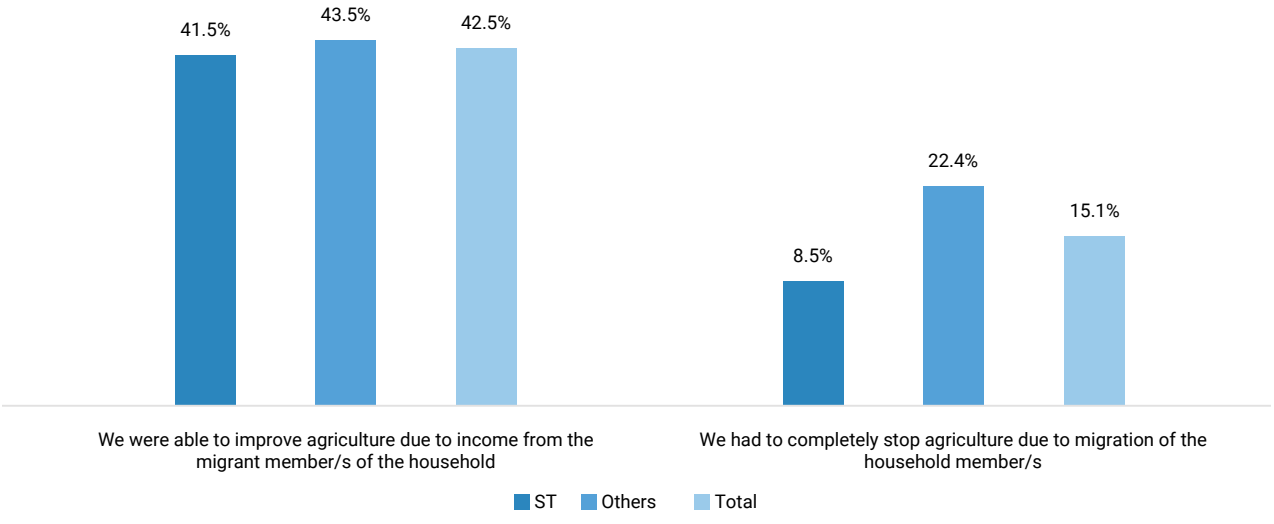
Figure.11: Percentage of households in Thuamul Rampur with migration history that were able to improve savings and diversify income by ethnicity, 2019-20, N:179



Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Over two-fifths of the households in Thuamul Rampur, irrespective of their ethnicity, reported that they were able to improve agriculture with the income earned from migration. There were also households, particularly from communities other than the Scheduled Tribes, which gave up agriculture due to migration (Figure.12).

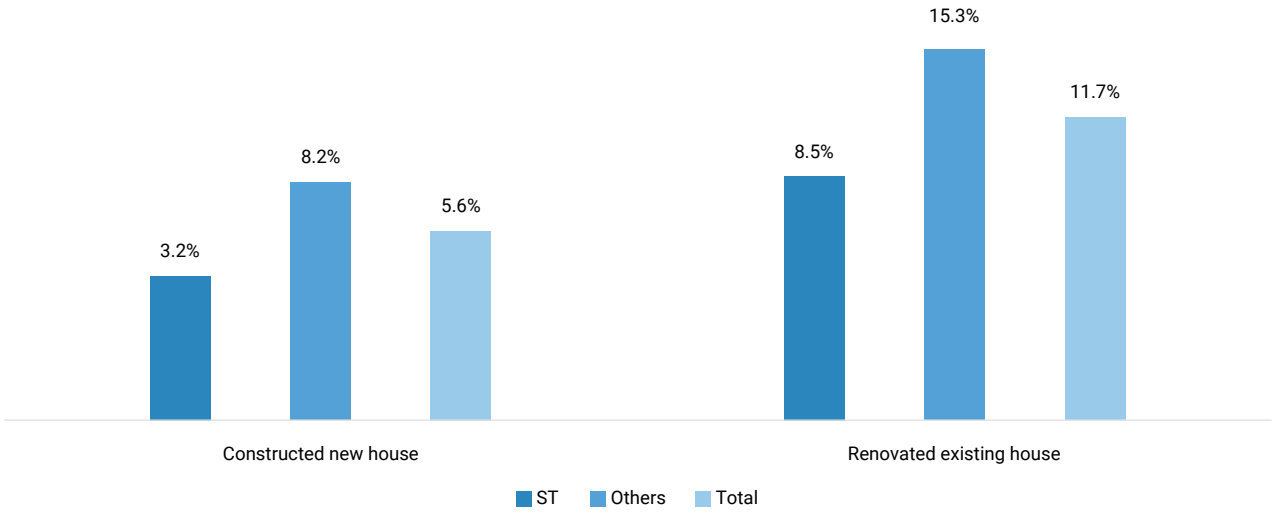
Figure.12: Percentage of households in Thuamul Rampur with migration history by impact on agriculture, 2019-20, N:179



Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

About six per cent of the households with migrants were able to construct a new house with the income from migrant members and about 12 per cent of migrants were able to renovate their existing houses with earnings from labour migration (Figure.13). The households other than those from the Scheduled Tribes were able to better leverage the income from migration to improve their housing.

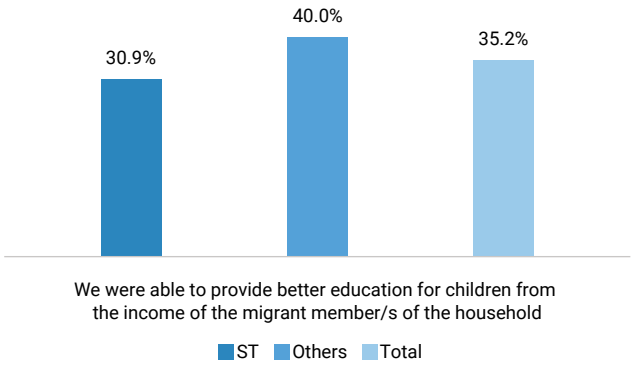
Figure.13: Percentage of households in Thuamul Rampur with migration history by impact on housing in the past 10 years from the exclusive income of migrant members, 2019-20, N:179



Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Migration also helped households to improve their asset base such as mobile phone, jewellery, television and motorcycle. Such assets also came in handy when there was an urgent need for money, as they could be liquidated. Over one-third of the households from Thuamul Rampur with a history of migration were able to provide better education for children with the income from migration (Figure.14).

Figure.14: Percentage of households in Thuamul Rampur with migration history by impact on education , 2019-20, N:179

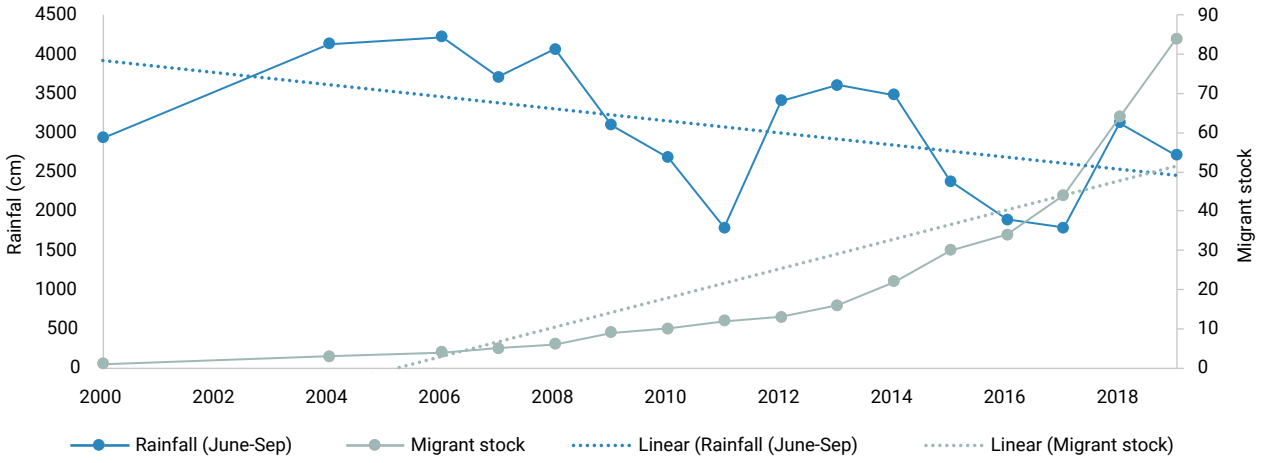


Source: Labour migration from remote rural Odisha, Thuamul Rampur block, Kalahandi, Gram Vikas and CMID, 2020

Migration as a coping strategy

The evolution of labour migration in Thuamul Rampur was traced from the survey data. It was found that the labour migration from Thuamul Rampur started around 2000 and picked up after 2016. Exploration was done to understand if the labour migration has any connection with the seasonal rainfall during Kharif (Figure.15). Rainfall data from 2000 onwards during the period June to September was compared with the migration trends which indicated a negative relationship, although weak, between the seasonal rainfall during Kharif and migration for work.

Figure.15: Trends in seasonal rainfall and labour migration, Thuamul Rampur: 2000-2019



Source: Authors' calculations based on the survey data (2019-20) and the daily rainfall data 2000-2019 from Special Relief Commissioner, Govt. of Odisha

Irrespective of climate change, given the livelihood challenges in Thuamul Rampur, labour migration has been the single most important coping strategy for households in the block that confronted loss of land and livelihoods due to the Upper Indravati Hydroelectric Project, bauxite mining in the area and notification of Karlapat Wildlife Sanctuary as protected area. Three dominant streams of labour migration were observed in Thuamul Rampur.

Table.13: Broad streams of labour migration from Thuamul Rampur, 2025

No	Stream	Reason	Outcome
1	Long-term circular migration	Leverage migration as a long-term strategy	A predictable and regular monthly income for the household
2	Short-term focussed moves	To address an immediate cash requirement	Cash requirement of the household/ individual met
3	Seasonal migration	Leverage work availability when not available locally	Income assured when work is not locally available

Source: Primary data from qualitative research, 2025

Long-term circular migration

Long-term circular migration has been the prominent migration strategy for households in Thuamul Rampur. Since employment opportunities beyond agriculture and NREGS were hardly available in the block, men, particularly young men from all ethnic backgrounds, migrated to the cities in southern Indian states, primarily to Kerala, to work in bars, restaurants and other eateries or in the construction sector. Most of the workers were unskilled/semi-skilled or became skilled while working at the destination, received a steady income and worked throughout the year. Workers visited their native place once or twice a year, staying for one or two months, usually coming home around the *Nuakhai* during August/ September or *Toki Mara* in January. Those who come during *Toki Mara* generally stay until Holi *(March)*.

Short-term focussed moves

People migrated to resolve an immediate cash requirement such as repayment of an advance/ loan, marriage- or death-related expenses, construction/renovation of a house, purchase of land, payment of children's educational expenses, setting up a new business, or buying a smartphone or bike, etc. Such migration occurred at any time during the year, and people returned when their targets were achieved. People travelled longer distances to places in southern India where they got much better wages and regular employment to quickly meet their targets. There were also short-term casual/experimental moves, particularly by youth to visit and work with their friends who were migrants. Many youth went to explore and experience places while working there for a few months. Such people worked primarily in hotels, restaurants and in the construction sector.

Seasonal migration

Seasonal migration from Thuamul Rampur was relatively low. During 2019-20 only about five per cent of the households in the block had seasonal migrants. Seasonal migration was slightly more prominent among the Scheduled Castes/ Communities and the Other Backward Castes/ Communities compared to the Scheduled Tribes. People moved to Bhawanipatna or Bhubaneswar within Odisha and to southern states where a lot of their significant others worked.

Migration from agrarian households

Although agriculture was by and large traditional, rainfed and primarily for household consumption, seasonal migration was not prominent among the farmers in Thuamul Rampur. Only a minority of farmers above 35 years of age migrated for work. There were households which gave up agriculture permanently and depended exclusively on long-term circular migration for livelihood. The households from the Scheduled Castes/ Communities and the Other Backward Castes/ Communities were quicker to make this decision compared to the Scheduled Tribes. Men from agrarian households migrated throughout the year while women stayed behind and took care of the farm and home. Agrarian households with multiple male earning members also spread the risk by some men working in their own land and the rest migrating for work. Remittances from migrant members helped many households to hire agricultural labourers whenever required. Typically, the older persons/parents were engaged in agriculture and young men migrated. People also went with intermediaries who came to the villages to recruit workers for factories in other states. In such cases, there was no preference of destination. People who needed money accepted advances and went to places wherever they were taken to. The typical distress migration, found in some parts of Kalahandi to the brick kilns in Andhra Pradesh, was not prominent in Thuamul Rampur. However, the Scheduled Tribes were more dependent on intermediaries for migration compared to the others.

Since the agricultural wages were around ₹150 and daily wage labour was hard to come by, most men who depended on such labour earlier either moved to non-agricultural daily wage labour or migrated to other states for work. Non-agricultural labour was also not easily available in Thuamul Rampur except NREGS work. Although significant road construction was happening in the block, most of the work used modern equipment and machinery, reducing the scope of physical labour and thereby limiting employment opportunities. As a result, a lot of people remained unemployed. The overall reduction in agricultural/non-agricultural daily wage labour motivated those who depended on such labour to look out for new opportunities. Many such workers opted to migrate for work with the support of social network, influenced by relatives/neighbours/friends/fellow villagers already leveraging and benefitting from migration. However, such migration was mostly limited to men under 35 years of age. During 2019-20, about two-fifths of the migrants from Thuamul Rampur were unemployed and about 30 per cent were agricultural labourers prior to their first migration for work. With the changes in climate, the farmers were unsure of a good crop and substantial income. Hence, people resorted to migration for work as it ensured quick and regular liquid cash.

> The typical distress migration, found in some parts of Kalahandi, was not prominent in Thuamul Rampur. People resorted to migration for work, as it ensured quick and regular access to cash

Since a regular income is hard to come by, people of Thuamul Rampur, irrespective of ethnicity, leverage migration as an adaptation strategy in the event of any substantial out-of-pocket expenditure at home. Such expenses included marriages and deaths in the family, hospital treatment, construction/maintenance of houses, payment of children's educational expenses, etc. Many migrants, using their savings from income earned through migration, set up businesses or self-employment initiatives to permanently return to Thuamul Rampur. Many also used such income to improve their family's agriculture while they continued working outside.

CASE STUDY

Migration and the search for stability

In the heart of Tentulipada, a quiet tribal hamlet in Adri gram panchayat of Thuamul Rampur, 32 years old Rama Majhi's home stands solid and unadorned, built with brick and cement, yet in tune with its surroundings. A shaded verandah opens into a cool interior, where grain sacks lean against the walls. There's little clutter, only the essentials: stored harvest and seed varieties patiently gathered over seasons. The space feels less like a living room and more like the nerve centre of a small, steadily evolving farm.

Born into the Kondh tribal community, Rama studied at his village school before moving to Rampur, 22 km away, where he completed his higher secondary schooling while staying with his sister. He was one among the first students at the Gram Vikas School in Thuamul Rampur.

Rama first left for Kerala in 2018, guided by a friend who helped him secure a job at a petrol pump in Koratty, in Thrissur district. The company offered a place to stay, and with a small space to cook his own meals, he managed to save almost the entirety of his ₹20,000 monthly salary during his six-month stay. In 2020, he returned to the same job, this time earning ₹22,000 per month. Over eight months, he bought a bike and repaid a long-standing loan, critical achievements that gave him both mobility and freedom from debt.

Rama used his savings to start a small kirana shop in the village. It did well for a while, bringing in steady profits. But after he was elected to the panchayat samiti, he decided to close it. As a local leader, he felt it would be hard to ask neighbours to pay back money if they took goods on credit.

After closing the shop, Rama returned to farming, though his responsibilities as a panchayat samiti member left him with little time. He contributes where he can, but much of the daily work is handled by his father. On his seven acres of *phota jamin* (midland), Rama practices rainfed farming, growing paddy on 1.5 acres for household use and cultivating a mix of *mandia* (finger millet), *biri* (black gram), kosala (a minor millet), kating (pearl millet), kandula (toor dal), and brinjal on the rest. Mandia and kosala fetch ₹45 and ₹40 per kg at the mandi. Yields have dropped in recent years due to erratic rainfall, but he continues to grow and sell whatever he can.

He also cultivates 1.5 acres of *beda* land, irrigated for three months each year through a lift irrigation system, though that too is now threatened by the drying up of the Tangiri stream, the only water source for the village. With climate change manifesting as early summers and irregular rains, his brinjal flowers shrivelled this year, resulting in a 60 to 70 per cent crop loss. Rama once practiced *donger chas*, on the nearby hill, but gave it up after Gram Vikas began planting saplings under the social forestry initiative.

Despite the challenges, Rama has continued to expand his farm. The land is enclosed with a bamboo fence, and his family grows a mix of vegetables and onions, some for the market and some for household use. He has also taken up rearing goats, encouraged by others in the village and supported by training from government programs. He now raises 30 goats and plans to sell them when needed. Four bulls are used for ploughing, and the farm continues to run with the help of his family, following traditional practices.

A notable asset is the 100-tree mango orchard, planted with saplings provided by Gram Vikas. The orchard includes Alphonso, Langra, Amrapali, and Banganapalle varieties. Last year, Rama harvested over 2,800 kg of Alphonso mangoes but was disappointed to sell them at just ₹10 per kg. In contrast, Langra and Amrapali fetched ₹30 per kg, while Banganapalle sold for ₹30 to ₹35 per kg. Though the other varieties brought in better prices, returns remain unpredictable and depend heavily on the weather conditions.

This diversification, however, has not been without hurdles. Rama has tried to access solar-powered irrigation but did not make it to the beneficiary lists. Though he paid ₹10,000 to apply for a solar pump, he was told that the current list is full, and he needs to wait.

In the meantime, he invested rupees one lakh, using some savings and credit, to start an event rental business, providing tents, lighting, and sound systems. Though the venture began just six months ago, it already brings in around ₹25,000 a month during the marriage season, and ₹10,000 to ₹15,000 in the off-season. Rama has fully repaid the loan.

His role as a panchayat samiti member earns him ₹9,000 a month and involves coordinating development work, facilitating surveys, and ensuring villagers access their entitlements. For now, he's staying put. But Rama is clear-eyed about the future. "If young people could earn even ₹10,000 here, they wouldn't have to leave," he says. And yet, once his panchayat term ends, he is considering a return to Kerala.

This year, the Tangiri stream is almost dry. For the past seven to eight years, water availability in the Tangiri Naala has declined, and this time, Rama has not been able to irrigate the land properly. As a result, he planted fewer crops. If the stream dries up completely, it will affect 300 households across two villages, he says. Rama attributes the growing water scarcity not just to climate change but also to mining in Baphlimali, which he believes has disturbed the area's natural water systems.

In Rama's life, migration is not an escape but a strategy. His farm is not just a piece of land; it's an experiment in building a life back home.

Youth and labour migration from Thuamul Rampur

Labour migration from Thuamul Rampur is by and large a youth affair. In Thuamul Rampur, for youth with limited formal education, migration is the primary means to seek better earnings. During 2019-20, the average age of migrant workers from Thuamul Rampur was 22 years and age at first migration was 19 years. Only about 14 per cent of migrants from the block were 35 years and above. In Thuamul Rampur, although climate change impacted livelihoods, it did not severely impact the access to education. The access to education has considerably improved both for boys and girls with the availability of government residential schools. Residential schooling for children from socially and economically disadvantaged communities in remote areas has become a universal phenomenon in Odisha. Boys and girls have opportunities for education and as a result the age at marriage of girls in the area has also gone up according to key informants. With the exposure to residential schools, the children and youth from Thuamul Rampur are habituated to migration. Although such residential schools are present across the block, currently they are unable to meet the growing demand. As a result, children are also sent to residential schools in other blocks, districts and even to the state capital Bhubaneswar to study in various government and non-government residential schools, and higher education institutions. Those who can afford to pay send children to private schools/higher education institutions elsewhere. This not only exposed children and youth to migration and the outside world but also has disconnected them from agriculture. Parents also do not want children to pursue agriculture and do not engage them, particularly the boys, in the agricultural activities even when they are at home.

Although access to education improved, aspirations around education were not concrete. Parents who had not gone to school were happy that at least their children were in school. But they were not in a position to guide the children in pursuing higher education. Overcrowded residential schools generally lacked resources to provide the required attention to inspire and mentor the children and groom their aspirations. At the community level there were minimal interventions/ guidance available to mentor children, except the initiatives of organisations such as Gram Vikas. As a result, a substantial number of children dropped out of the education system during their

upper primary or high school. The median years of educational attainment in Thuamul Rampur during 2019-20 was five. The youth found migration a faster opportunity for upward mobility.

Even when remaining unemployed, the unmarried youth who were already disengaged with agriculture were not keen in taking up farming or agricultural labour, although this was not universal. This, coupled with their exposure to the outside world through education, digital and social media, and friends who were already working and earning elsewhere, encouraged them to venture out for work. They were more willing to do odd jobs at distant places where they remained anonymous rather than toiling under the sun in the agricultural field. The desire to explore new places and the adventurous nature of the age group also contributed to migrating for work. Some young people also moved out due to family commitments such as debts/marriage in the family. Once exposed to a regular income, a lot of them continued to remain a migrant.

CASE STUDY

Stirring Kerala curries, dreaming of an Odisha classroom

Upendra Naik is no ordinary boy. A determined 20-year-old young man in crisp, neat dress, he carries himself with the quiet confidence of someone who has stepped beyond the confines of his hamlet and adapted to the demands of a different world. He speaks Malayalam effortlessly and knows Hindi, skills he has picked up during his time in Kerala. Though he carries the weight of family responsibilities and debt, he does so with a calm demeanour and a ready smile.

Upendra hails from Tangiri hamlet in Adri gram panchayat and lives with his parents and three brothers. His elder brother Hemant is married, and his elder sister, who is also married, lives in another village. Upendra studied up to grade eight at a school in Dhansuli, about 25 kilometres from Tangiri. Work in Tangiri is scarce; on average, villagers get only about a week of work in a month. In order to secure money for his sister's marriage, in 2021, he migrated to Kerala with his brother and a few others. In Thrissur, he stayed in a lodge and searched for work.

After much struggle, Upendra found work at Anupama Hotel in Thrissur, where the employer provided free food and accommodation. He started with a monthly salary of ₹9,000. Diligent and observant, he gradually learned all aspects of restaurant work such as cutting, grinding, and cooking. Over time, he became skilled in preparing Kerala food and is now considered an all-rounder. His employer is pleased with his performance. After working steadily at the hotel for four years, Upendra now earns ₹16,500 a month. He sends ₹12,000 home and manages his expenses with ₹3,000 to ₹4,500. Despite a stable income, he has no personal savings.

Upendra's father was also a migrant worker in Thrissur but returned to the village in March 2025. The family owns only 10 cents of land, with no agricultural holdings. His youngest brother is in the primary school, another has completed matriculation and is trying to get into higher secondary while Hemant, the eldest, is associated with Gram Vikas.

The marriage of his elder sister placed a heavy financial burden on the family. They spent about rupees five lakh, of which ₹1.3 lakh came from microfinance loans and two lakh from the family's savings, mostly earned through migration. A bike worth nearly two lakhs was given as dowry to the groom. The down payment was ₹50,000, and the family has been paying a monthly instalment of ₹3,900 for over a year. A portion of the loan is still unpaid.

While in Kerala, Upendra often thought about his elder brother carrying the entire burden of the family's debt. This motivated him to stay back and contribute. At the same time, he holds on to another goal - completing his education. He now plans to enrol again for grade 10. His idea is to divide the year, spending six months working in Kerala and six months studying in Odisha, so that he can appear for the exams and build a future.

Young men who got married experienced increased financial stress and as a result many of them migrated a few months after marriage or after the first child was born. According to a key informant, it was difficult to send kids to school exclusively depending on agriculture. Migration decision-making was easy leveraging the social network and there were peers to travel with, stay together and work with at the destinations. Over two-thirds of the boys moved to Kerala and worked in hotels, restaurants and bars as well as in the construction sector. The not-so-heavy hotel work, with intermittent intervals, was the choice of employment for the youth from Thuamul Rampur. According to the migrants Kerala provides *"Indiare sabse adhik paisa"* (highest wages in India). Also, the climate is good, and employers are friendlier compared to other places. Those who migrated passed on information about the availability of jobs to their friends. Eventually two in every five migrant workers from Thuamul Rampur worked in Thrissur or Ernakulam district of Kerala evolving a labour migration corridor between Kalahandi and these two districts. Although fewer, young girls also migrated to south Indian states to work in the *Suta* companies (garment factories). For many girls, it was a curious attempt to explore the places and earn some money and independence before marriage. They also leveraged their network for such employment. But there were also girls who migrated for work as there were no other earning members in the family.

Unmarried youth, those who were less educated or were school dropouts, unemployed youth, those with skills, youth from households with more than four members, fathers of young children, those who were financing their children's education, those who were married, youth from households with financial constraints or loans, those with food constraints, those in need of short-term earnings, those who were educated but unemployed, youth whose both parents had died, etc. were some of the categories of young persons who migrated. In the case of young women, women and girls from families without earning members, those without siblings, girls without parents, separated and widowed women, etc. were some categories who migrated.

While life was precarious at the destinations, the quick and steady cash flow overwhelmed the youth who migrated. Without long-term aspirations, they began fulfilling their immediate interests such as buying a smartphone or a bike. Migrant youth eventually became the role models in the villages and other youth found migrants 'cool'. With the flow of money, the status of households with migrant members improved in the villages. Such households received priority in receiving loans by local moneylenders as their repayment

capacities were much better compared to those engaged in agriculture. Even in the marriage market, migrants were sought after as grooms. Many youth who got exposed to the urban centres through small migration episodes increasingly found the village life monotonous. The remoteness and lack of mobile connectivity coupled with the low wages and lack of employment resulted in youth resorting to migration as a steady source of income. The youth also found labour migration as an opportunity to move away from caste-based livelihoods and discrimination.

Other impacts of migration in Thuamul Rampur[iv]

The most important impact of migration was that it ensured regular income for households with migrants. This primarily made households resilient to financial and food insecurities in Thuamul Rampur which were compounded by climate change. Remittances also helped households engaged in agriculture to employ labourers which otherwise was not possible. At the same time, agriculture became an affair of the middle-aged or older persons and women including girls. This accentuated the feminisation of agriculture in Thuamul Rampur. When men moved out for work, women's overall burden of work increased. However, it has also improved their role in household-level activities, decision-making and management of domestic affairs. Women from nuclear families whose spouses were migrants lived in fear of thieves or drunk men breaking into the house in the night. They also found it difficult to manage children alone, as the kids would not obey their mothers. Fear of husbands getting into extramarital affairs at the destination was also a concern of married women who stayed behind. Lack of connectivity in some villages also impacted women and older persons as the migrants were generally available in the evening and going out to places with connectivity was difficult in the evening. Older persons also had challenges in accessing healthcare with the sons moving out. It also made fetching firewood hard, as it used to be done by the youth. Diminished labour support at the agricultural field was another challenge for the parents as the sons migrated for work.[45]

While mobility from remote areas substantially improved as migrants used savings to buy motor cycles, such mobility was a privilege of men. At the same time, the mobility of women was also impacted. Women's access to healthcare got reduced as it was difficult to go out when men who used to accompany them moved to the cities. Local transport also improved when households with migrants purchased autorickshaws and other vehicles that plied as shared public transport, taxis or goods vehicles.[46]

> Migration ensured regular income. This made households in Thuamul Rampur resilient to financial and food insecurities, which were compounded by climate change

Doing agriculture is seen as 'traditional' and increasingly risky given the climate constraints. Naturally, farmers in Thuamul Rampur did not want their children to pursue agriculture. They preferred their children to secure salaried regular jobs. As a result, residential schools were highly sought after in Thuamul Rampur. Higher education of children at distance places increased out-of-pocket expenses of households, pushing more people to migrate for work as agriculture alone could not meet such expenses. Also, when children moved to residential schools parents could migrate for work without much worries. Migration of fathers also resulted in emotional deprivation for children.

As migration from Thuamul Rampur picked up, it reduced unemployment locally by reducing the competition for the available work and provided more per capita employment to people who did not/could not afford to migrate. Besides, income from remittances triggered more employment opportunities such as construction/maintenance/

iv This section also synthesises findings from a qualitative study Gram Vikas and CMID conducted in Thuamul Rampur in 2019, see https://cmid.org.in/wp-content/uploads/2012/10/Challenges-of-Migrants-and-Families-Lelft-Behind-Insights-from-Kalahandi-2019-Gram-Vikas-CMID.pdf

expansion of houses. Compared to NREGS work where payments get delayed for months, such work provided quick money and local wages to the non-migrant workers in Thuamul Rampur. This was a great support for non-migrants who were into non-agricultural daily wage labour. When migrants set up businesses, such as buying an autorickshaw or other vehicles for passenger or goods transport, it provided regular employment locally to non-migrants.

A considerable proportion of the migrants got skilled on the job at the destinations and secured a steady income and work throughout the year. From mere suppliers or table cleaners at the hotels, many of them became *Porotta*[v] masters, earning ₹1000 a day or even more. As they got skilled, their wages also went up, improving the overall income of the households. Increase in the household income improved cash circulation locally, improving the village economy. Many migrants returned with better confidence, experience, and skills such as masonry, and introduced new tools and technology to Thuamul Rampur. Toilets and bathrooms are more acceptable in the villages now. More households and people have access to smartphones. This improved their exposure to mass media and even climate alerts. Besides, increased use of smartphone and UPI for remittances popularised UPI services and digital payments in Thuamul Rampur.

v A favourite dish of Keralites

CASE STUDY

"We built it, brick by brick": How a young couple leveraged government-sponsored skill training and migration for resilience

Ugrasen Naik stands behind the counter of their modest kirana store that sells essential grocery items in the dusty hamlet of Tentulipada. Belonging to the Scheduled Caste, 41-year-old Ugrasen and his wife Susila have built not just a livelihood but a layered response to migration, market demands, and the changing climate. Their journey began in 2014, when the couple left their village for Bhubaneswar to undergo a three-month skill-training programme in stitching under the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), the skill development programme of the Ministry of Rural Development, Government of India, promoting regular income for the rural youth who are poor. It was their first step beyond the boundaries of their community. "I learnt to stitch shirts and trousers," Ugrasen says. That skill would soon open doors.

After the training, a chance meeting at Thuamul Rampur led the couple to Bangalore, where they found employment through a referral at a garment manufacturing unit. The company provided training, accommodation, and monthly wages, ₹7,000 for Ugrasen and ₹5,000 for Susila. They worked, learned, and saved. By 2017, they returned home with just enough to invest ₹100,000 in constructing a kirana store. A tailoring unit was also set up beside it. Despite the constraints of the pandemic, their shops remained open during the COVID period, adhering to the local restrictions. Today, the kirana store yields a modest ₹6,000 a month in profit after expenses.

The next chapter of their entrepreneurship unfolded in 2022. With support from the CSR initiative of a company engaged in mining in the nearby Baphlimali hills, they started a second shop. This time selling utensils at the local market in Adri. Ugrasen manages the utensils store while Susila continues to run the kirana store. The tailoring shop was eventually shut down, and the machine was handed over to Susila's sister.

The utensil shop sees peak sales during the wedding season, bringing in ₹10,000 to ₹15,000 per month. In off-peak months, earnings are lower. Ugrasen pays ₹500 in rent for the shop, opening it as needed on non-market days. He sources utensils from wholesale markets in Junagarh, about 60 kilometres away.

Farming remains a vital part of their livelihood. They cultivate 4.5 acres of their own land, three acres of *phota* and 1.5 acres of *beda*, growing paddy, kandula, lemon, and ragi. Last year, they had harvested 10 quintals of ragi; this year, due to unpredictable weather, the yield fell to just four quintals. "There was no water when the crop was maturing, and then it rained intensely during harvest," Ugrasen says. He adds that they never had to face this kind of a problem prior to 2017. Their income from agriculture is supplemented by 10 goats and two cows. They hire tractors at ₹1,100 per hour for ploughing and land preparation. Recently, They have leased out 10 acres of *phota* land at ₹3,000 per acre. They are planning to cultivate maize and sweet corn on the leased land.

The family follows a careful savings strategy. They deposit ₹1,000 every month under the Sukanya Samriddhi Yojana for each of their two daughters, totalling to ₹2,000. In addition, they save another ₹1,000 per child each month through schemes of the Life Insurance Corporation of India. His elder daughter is studying in an English-medium school in Tikri, staying with Susila's sister. Her school fee is ₹1,400 per month.

Land and property remain central to the family's long-term plans. Two years ago, they purchased land for ₹60,000 and dug a well at the cost of ₹45,000. They are currently constructing a two-storeyed house combined with a shop along the roadside, with an investment of rupees five lakh so far. Once completed, they plan to relocate the utensil store there. The family estimates that another one lakh rupees is needed to finish the construction.

In the story of Ugrasen and Susila, there are no shortcuts - only small steps, careful planning, and steady determination. Set against the backdrop of migration, climate stress, and rural constraints, their journey reflects resilience, clarity, and quiet courage.

There have also been significant social and cultural changes due to migration. The migration for studies disconnected children from agriculture. Some village elders felt that migration is "not good" as it is driving youth away from agriculture. They also felt that the youth are given "less dignified jobs" and riskier jobs at destinations. While they agreed that money came, they were concerned that sometimes dead bodies also came (*"Paisa aata hei, par kabhi kabhi body bhi aata hei"*). At the same time, they also agreed that youth will not stick to agriculture and low paid work in the villages and will inevitably migrate accelerating migration from Thuamul Rampur. According to the village elders, the urban influence is percolating through migration. They find that with more money, the lifestyle of the youth has changed. They have become "lavish" in their spending. According to them, instead of making sustainable investments, the youth spend it on bikes and alcohol. Migration and remittances have resulted in overall increased spending. Dowry has gone up, and "lavish" weddings and birthday parties are now common. While such lavish weddings have increased employment and business opportunities in Thuamul Rampur, it also has a demonstration effect on others to spend lavishly, pushing them to migrate for such money. Migration has also increased the concerns of panchayats and village elders as they have only limited information about where people are and how safe they are. They want the migrants to give their details at the panchayat so that in case of a crisis they can be contacted. The intergenerational transfer of indigenous languages has also been impacted. Most children from the Kondh tribe, particularly those who went to residential schools, neither understand nor speak Kui which has pushed it towards extinction.

Information about jobs, skill training for better employment and salary, contacts of good potential employers, improving access to banking, train ticket bookings and other digital services through establishing Customer Service Centres (CSCs) in nearby areas etc. were some of the suggestions of the migrants for making migration from Thuamul Rampur safer. Other suggestions included establishing a train ticket reservation counter in Thuamul Rampur, ensuring the availability of confirmed train tickets, direct trains to Kerala from Bhawanipatna, direct transportation facilities from villages to Kerala, provision of economic family accommodation at the destinations and timely payment of wages by employers. Establishing factories/industries in Thuamul Rampur, improving the irrigation system, timely payment of wages for local work, ensuring local employment for at least 15 to 20 days in a month etc. were some of the suggestions of the migrants for preventing migration from the area. Other suggestions included ensuring payment of a minimum wage of ₹400, establishing technical institutions for skilling, skill training for local work and promoting government employment.

Who are resilient without migration?

In order to understand the characteristics of people in Thuamul Rampur who are resilient without labour migration, in the 21 group discussions, the groups were asked to rank in the order of resilience, three key population segments that are resilient to climate change without labour migration. Government employees and people with regular jobs/salaries emerged as the most resilient group in Thuamul Rampur, as their income was steady. All group discussions highlighted this segment of the population as the most resilient.

Table.14: Key population groups in Thuamul Rampur resilient without migration

Rank	Immobile group	Number of GDs ranking the group among top 3
1	Government employees/people with regular jobs/salaries	21
2	Self-employed /those into businesses	21
3	People with skills	7

Source: Primary data from qualitative research, 2025

All the 21 groups also mentioned that those who were self-employed or into petty businesses are an equally resilient group. This included people who ran shops, engaged in business in weekly *haats* (markets), owned autos or other taxis, contractors and those engaged in other businesses. People with skills such as drivers, electricians, etc. were also highlighted by seven groups. Farmers who had mango orchards, and farmers with large landholding and market connections were also mentioned as resilient by one or two groups. While these were the most resilient groups, households in Thuamul Rampur, particularly the Scheduled Tribes, were by and large resilient to climatic shocks as they have been constantly and historically exposed to such hardships. A key way of doing this was through keeping the expenses minimal and following a subsistence way of life. Government social security schemes such as PDS and NREGS also contributed to their resilience. The team came across a Kondh family, which ensures that all their daughters have access to quality education, primarily relying on the collection of NTFP, agriculture and agricultural labour for their livelihood.

CASE STUDY

Lives that flourish out of mahua seeds: The story of Kabita and her sisters

The room was dim and heavy with the scent of mahua seeds. Sacks of them were stacked against the mud-plastered walls, and some spread under a wooden cot. A large bamboo storage container sat beside them, filled with paddy. The air was dense, soaked in the sweet-sour perfume of mahua, an unmistakable marker of the season and the family's toil.

This is the home of 25 years old Kabita Majhi, a young woman from Amathaguda hamlet, Karlapat Gram Panchayat of Thuamul Rampur. Kabita's village, surrounded by dense greenery, lies in the Eco-Sensitive Zone of the Karlapat Wildlife Sanctuary.

Kabita, a member of the Kondh tribal community, lives here with her parents and four sisters. Her parents are traditional farmers, who also work on the land of others as labourers when needed. The family owns more than 300 mahua trees on a patch of jungle land that sustains their livelihood. During the season, Kabita, and her sisters, with their father, gather flowers and seeds diligently. The seeds are now stored, awaiting buyers or barter. If bartered, one kilogram of mahua flowers fetches them one kilogram of rice. The collection and sale of mahua have long supported the household.

Kabita's mother played a key role in using the income to educate her daughters. Her steady efforts ensured that school and college expenses could be managed. Kabita completed her schooling at the Gram Vikas School and went on to earn a bachelor degree in commerce. One sister completed Bachelor of Social Work from the Kalinga Institute of Social Sciences. Another sister is in the second year of her degree, while the two younger ones are still studying at the Gram Vikas school.

With weather patterns growing unpredictable, however, the yield is no longer steady. Kabita says the trees are flowering less each year. The villagers have jungle jameen patta, or community forest land rights, but are no longer practicing *donger chas*. Gathering forest produce, migration, and schemes like NREGS provide fragmented support.

Kabita herself works as a Gram Rozgar Sevak under NREGS, responsible for supporting job card holders in her panchayat. But when we met her, she, like many others, had not been paid for the last several months. The irregularity of income casts a long shadow over her efforts. Still, the scheme is vital; it offers the possibility of work when agriculture does not.

Amathaguda sees frequent migration. Men leave for cities, returning months later with their earnings. But much of this hard-earned money is lost, often spent on alcohol, leaving families no better off than before. Yet, within her home, Kabita holds ground. She rides a scooter, a rare possession for a young woman in her village. She bought it for ₹1.25 lakhs on loan and has since repaid the full amount. It helps her commute for work and errands and quietly signals a shift in mobility and independence for women in the village.

CMID/Benoy Peter

Key predictors of climate resilience in Thuamul Rampur

The key predictors of climate resilience in Thuamul Rampur are summarised in Figure.16.

Figure.16: Key predictors of climate resilience in Thuamul Rampur

Parameter	Resilient										Vulnerable
Worker age group	Young		Middle age								Old
Gender	Men										Women
Ethnicity	General	OBC				SC					ST
Ration card	Has ration card										No ration card
House type	Pucca										Kaccha
Land ownership	Irrigate land						Land without irrigation				No Land
Farming	Cash crops	Integrated				Food crops					Monocrop
Farmer ID	With farmer ID										No farmer ID
Crop	Eucalyptus	Mango					Millets	Vegetables			Paddy
Cultivation	Regular										*Donger*
Farm boundary wall	With boundary wall										No boundary wall
Terrain	*Phota*		*Beda*								*Donger*/Jangal
Livestock						With livestock					Without livestock
Access	Connected										Remote
Occupation	Govt/other	Regular job/salary		Self-employment/business	Skilled work		Other daily wage labour	NTFP Collection	Agriculture		Agricultural labour
Income sources	Diverse										Single
NREGS	Has access										No access
Advances/Loan	Without debt/trade credit										With debt/trade credit
Earning members	Multiple										None
Youth in the household	Youth present										Youth not present
Drinking water	With water connections to household.		Borewell								Streams/ponds
Family size	Small										More than four members
Impact-mining	Not in mining area									Near mining area	Within mining area
Impact-dam	Not affected by dam						Lost agricultural land by dam				Lost homestead and agricultural land by dam
Impact-sanctuary	Away from eco-sensitive zone						Within eco-sensitive zone				Inside sanctuary
Migrant in the household	With long-term circular migrant						Seasonal migrant				No migrant

Source: Primary data collection, 2025

Summary of findings

With four in every five persons residing in rural areas, rainfed agriculture has been a key source of livelihood in the Indian state of Odisha. Over 75 per cent of the population depends on climate-sensitive, natural resource-based livelihoods. Climate change has been a key deterrent to Odisha's development, impacting the livelihoods of the most vulnerable. This qualitative research conducted from January 2025 to May 2025 complements the quantitative survey conducted by Gram Vikas and CMID during 2019-2020 and explores the role of climate-augmented labour migration in the resilience of Thuamul Rampur block in Kalahandi district in the Eastern Ghats region of Odisha. Findings reveal that Thuamul Rampur block, almost entirely consisting of socially disadvantaged communities, has been severely impacted by climate change. The community recognises the climate change. Delayed and erratic rain, increased summer heat and warmer and shorter winter have been the most important changes that have impacted the lives and livelihoods of people in Thuamul Rampur, deepening the existing inequalities. While everyone has been impacted directly or indirectly, people whose livelihoods were nature based, particularly the Scheduled Tribes were severely impacted. Farmers and agricultural labourers were some of the most vulnerable groups impacted, with an overwhelming majority being women who also had to bear the brunt of the cascading and gendered impacts.

Climate change resulted in land degradation, poor yield, crop loss, loss of livestock and health issues for farmers. For the agricultural labourers, it resulted in reduced work or unemployment. They were also impacted by extreme summer heat. Overall, the income, negotiation capacities and food security of people whose livelihoods were nature based, were impacted. The resilience of households varied by a host of factors such as ethnicity, occupation, landownership, nature of the terrain, irrigation status of farm land, farming practices, crop cycles followed, etc. Source of drinking water, ownership of livestock, income sources, access to PDS, NREGS and other social security measures, and indebtedness were also

factors that decided the resilience of households. The number of earning members in the household, and the presence of youth and migrants were also associated with resilience. Resilience also depended on whether they were impacted by mining, construction of Upper Indravati Hydroelectric Project or the notification of Karlapat Wildlife Sanctuary. Migration for work, taking advances/loans and availing other locally available work were the key coping strategies for households. Reliance on Public Distribution System, selling the produce at lower prices and reducing expenses were also coping strategies.

Labour migration has been the most important coping strategy for those impacted by climate change. Migration not only reduced overall surplus labour but also generated employment opportunities locally, both directly and indirectly

Labour migration has been the most important coping strategy for those impacted by climate change. Most migrants were single men who moved to southern Indian cities, particularly in Kerala. Nearly six per cent of Thuamul Rampur's population worked elsewhere outside the district during 2019-20. While most of them were from the Scheduled Tribes, households from the Scheduled Castes/Communities and the Other Backward Castes/Communities had larger proportion of migrant workers. Very low wages and lack of employment opportunities were the key reasons for moving out. High wage rates and regular employment attracted people to their current destinations. Long-term circular migration, short-term focussed moves to address an immediate cash requirement and seasonal migration to leverage work availability elsewhere when work is not locally available, were the three broad streams of migration from Thuamul Rampur. People were employed in less skilled jobs in bars, restaurants or hotels or in the construction sector and earned an average monthly income of ₹12,000 during 2019-20. They also got on the job skilling opportunities which enhanced their income and negotiation abilities. Migration helped households in Thuamul Rampur come out of their poverty/indebtedness, enhance their asset base and savings, diversify income sources, improve their agriculture and housing, and support the education of their children. The monthly remittances to Thuamul Rampur amounted to ₹23 million during 2019-20 which played a pivotal role in the overall resilience of the block. Migration not only reduced overall surplus labour but also generated employment opportunities locally, directly and indirectly. It also resulted in newer self-employment initiatives by households with migrants and return migrants. Migration improved smartphone penetration in Thuamul Rampur, improved access to social and mass media and universalised digital payments among the youth.

Conclusions

Situated in the chronic drought-prone zone in Kalahandi district, Thuamul Rampur continues to be on the margins of the society with historically slow advancement in human development. Characterised by poor land quality and absence of any major active irrigation project, agricultural practices in Thuamul Rampur are traditional even in 2025 with near universal prevalence of shifting cultivation. Beyond consumption, agriculture does not significantly contribute as a major means of livelihood in Thuamul Rampur. However, there were not many other livelihood avenues in Thuamul Rampur beyond agriculture. Lives and livelihood opportunities have been further constrained by the notification of Karlapat Wildlife Sanctuary as a protected area and the allocation of mining blocks within and nearby Thuamul Rampur. Displacement and loss of agricultural land and livelihoods caused by the Upper Indravati Hydroelectric Project, which were not adequately compensated, compounded the precarity for many. Households in Thuamul Rampur however, have by and large been resilient to such shocks to which they have constantly and historically been exposed to. Such resilience stemmed primarily out of keeping the expenses minimal and following a subsistence way of life. Diversifying income sources beyond agriculture to agricultural and non-agricultural daily wage labour and collection of forest produces were the key coping strategies till 2000. Government social security schemes such as PDS and NREGS also contributed to their resilience.

Beyond livelihoods, climate change has impacted the food security of some of the most marginalised households in Thuamul Rampur. Agriculture has become all the more unviable. The government is trying to revolutionise irrigation in the block with water from Indravati dam reservoir. But it is subject to the availability of water in the reservoir. Although migration has been the major coping strategy for households impacted by climate change, it is noted that there has neither been a significant distress migration of entire households/people middle-aged and above, nor a surge in seasonal migration for work. Over the past three decades, long-term circular migration of young men has evolved as a key adaptation strategy and a regular source of income for households in Thuamul Rampur. Migration ensured income predictability for households.

Overall improvement in literacy and targeted interventions of the government have significantly improved the access to education for children in Thuamul Rampur. In the process, the children, particularly boys, have got emotionally disconnected from agriculture. Parents also do not pressurise their children to pursue agriculture. The youth are increasingly mindful about the risks involved and the low returns from agriculture. Given the low local wages and irregular employment, they, particularly young men and boys made use of their unprecedented access to information and social networks to leverage labour migration as the quickest path for intergenerational social mobility. This was much easier, faster and far less complicated compared to pursuing higher education and securing a regular job locally, navigating the complex structural barriers. While households from all ethnic backgrounds have benefited from such migration, those from relatively advantageous communities were able to better leverage migration to diversify income and save more compared to those from indigenous populations whose moves were more ad hoc and part of subsistence. Labour migration has been the single most important contributor in accelerating human development in Thuamul Rampur block, complementing the government initiatives. It has also been one of the crucial poverty interrupters. While climate change is not the prime driver of migration from Thuamul Rampur, migration has been the most important coping strategy for households severely impacted by climate change, augmenting labour migration from Thuamul

Rampur. Such migration can play a pivotal role in catalysing Thuamul Rampur's transition from an agrarian society to a much more diverse and climate-resilient society.

Insights from the study indicate that the quality of life and the right to live with dignity of people of Thuamul Rampur block have been compromised due to the impact of the Karlapat Wildlife Sanctuary, the Upper Indravati Hydroelectric Project and the mining in Baphlimali. The allocation of Sijimali mining block looms large as a threat to the ecology and natural habitats. However, when compared to the state and the other key stakeholders who have immensely benefited or will be benefitted from these projects or the larger interventions that are taking place, globally, in India or even within the state of Odisha towards a just transition, the benefits have not yet percolated significantly to the area, comprising mostly climate change-impacted socially and economically disadvantaged communities, primarily relying on nature-based livelihoods, indicative of the very unjust nature of the current transition.

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PopulationCouncil Consulting (PCC), established by the Population Council Inc., delivers evidence-based solutions to governments, non-profits, and multilateral agencies across Asia, Africa, and Latin America. Its services include strategic advisory, evidence synthesis, programme design, research, evaluations, professional development, and technology-enabled solutions. PCC prioritises advancing understanding of climate-induced population outcomes. Using a systems lens at the intersection of climate change, natural resource management, and social systems, PCC offers actionable insights for policy, planning, and practice, especially on vulnerable populations.

Gram Vikas is a community development organization working in Odisha and Jharkhand since 1979. Gram Vikas works with rural poor and tribal communities to help them lead a dignified life, by building capacities, strengthening community institutions and mobilising resources. We focus on issues around water, livelihoods, sanitation and hygiene, habitat and technologies, education, and mitigating the effects of natural disasters. Lives of more than 600,000 people in 1700 villages have benefitted from the partnership with Gram Vikas. The Safe and Dignified Migration Programme was launched in 2019 as part of the Gram Vikas Decade Five programmatic framework.

Centre for Migration and Inclusive Development.

The Centre for Migration and Inclusive Development is an independent non-profit that advocates for and promotes social inclusion of migrants in India. Established in 2016, CMID's priorities include designing, piloting and implementing programmes for mainstreaming as well as improving the quality of life of migrants. CMID's work also includes technical support in the formulation, refinement and implementation of strategies, policies and programmes that promote inclusive and sustainable development, working with diverse state and non-state actors.

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