

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

A case study of Rayagada block, Gajapati



Unravelling the role of climate-augmented labour migration in the resilience of the Eastern Ghats region of rural Odisha: A case study of Rayagada block, Gajapati

Authors: Benoy Peter¹, Baishali Goswami¹, Liby Johnson², Vidya S. Chandran³, Beena Sivan¹, Joel Jose² and Pradeep Kumar Amarseth²

1. Centre for Migration and Inclusive Development
2. Gram Vikas
3. GMDC-RUSA, Wayanad

June 2026

ISBN: 978-81-685609-1-8 (ebk)

ISBN: 978-81-685609-3-2 (pbk)

Reviewer: Chandni Singh, Indian Institute for Human Settlements

Editor: Vidya S. Chandran, GMDC-RUSA, Wayanad

Suggested citation: Peter, B., Goswami, B., Johnson, L., Chandran, V.S., Sivan, B., Jose, J., Amarseth, P.K. (2025). Unravelling the role of climate-augmented labour migration in the resilience of the Eastern Ghats region of rural Odisha: A case study of Rayagada block, Gajapati. Centre for Migration and Inclusive Development.

Design and Layout: beyond design studio | b.yonddesignstudio@gmail.com

Images: Ajaya Behera, **Cover image:** Benoy Peter

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Centre for Migration and Inclusive Development

📍 PMC.XX/1229, Near Town Hall,
Perumbavoor, Kerala - 683542, India

📞 +91-484-2595256

🌐 cmid.org.in ✉ contact@cmid.org.in

Gram Vikas

📍 Plot No. 72/B, Forest Park,
Bhubaneswar, Odisha - 751009, India

📞 +91-674-2596366

🌐 gramvikas.org ✉ info@gramvikas.org

PopulationCouncil Consulting Private Limited

📍 Plot 19A, First Floor, Film City, Sector 16A,
Noida - 201301, Uttar Pradesh, India

🌐 popcouncilconsulting.com ✉ info@pccconsulting.co.in

**Unravelling the role of climate-augmented
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**Benoy Peter, Baishali Goswami, Liby Johnson, Vidya S. Chandran,
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**Gram Vikas
Population Council Consulting
Centre for Migration and Inclusive Development**

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 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

PopulationCouncil Consulting

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 the quantitative study we had conducted, profiling migration from Rayagada block, in Gajapati district, during 2020.

We express our sincere gratitude to 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 in conducting the sample survey in Rayagada during 2020, which provided the quantitative estimates of migration and its impact used in this report. Our sincere thanks to Niranjana 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 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 Advanced Studies, and Upasna Sharma, Associate Head, School of Public Policy, IIT Delhi.

We appreciate the valuable contributions of Jobin Chacko, Joel Jose, Alex Sam Thomas, Manjary S., Pradeep Kumar Amarseth, Narayan Pradhan and other colleagues from Gram Vikas who facilitated the fieldwork, and Ajaya Behera who captured the images. We are grateful to Minati Gamango and Suchitra Mandal, who provided assistance with the data collection. We are thankful to Beena Sivan, CMID, for the support in the documentation of the case studies. Sincere thanks to Vidya S. Chandran, Assistant Professor, GMDC-RUSA, Wayanad, Kerala, for documenting the case studies and also copy-editing the report. Our gratitude to Bijoy Jacob for the design and layout of the report. We thankfully acknowledge the contributions of Joby Joy and team at CMID for managing the operations. Sincere thanks to the officials of various departments of the Government of Odisha, the elected representatives of various gram panchayats, village elders and other community leaders, representatives of CSOs and other entities, and the people of Rayagada, who provided pivotal insights by participating in and contributing to the group discussions, key informant interviews and the case studies.

Liby Johnson
Executive Director
Gram Vikas

Baishali Goswami
Director-Knowledge Management
CMID

Benoy Peter
Executive Director
CMID

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Executive Summary

This qualitative research, conducted during the period from November 2024 to May 2025, explores the role of climate-augmented labour migration in the resilience of Rayagada block of Gajapati district, in the Eastern Ghats region of Odisha. The study complements the quantitative survey conducted by Gram Vikas and CMID in 2020, profiling labour migration from the block. The findings reveal that erratic rain, increased summer heat and more frequent cyclones have been the most important changes that have impacted the lives and livelihoods of people, deepening the existing inequalities. While everyone has been impacted, people whose livelihoods were nature based, particularly the indigenous populations, were severely impacted. Farmers, agricultural labourers and those who depended on NTFPs were some of the most vulnerable groups, with an overwhelming majority being women who also had to bear the brunt of the cascading gendered impacts. Climate change impacted the income, negotiation capacities and food security of people whose livelihoods were nature based, accentuating their vulnerabilities. The resilience of households varied by a spectrum of factors such as gender, age, ethnicity, type of house, and ownership and irrigation status of land. Migration for work has been the most prominent coping strategy for households in Rayagada.

A host of government and civil society interventions to promote social forestry and agroforestry in the region have substantially reduced shifting cultivation in the area. The transition to low-maintenance plantation crops freed up household labour to seek work elsewhere. While people shifted to plantation crops, they were well aware that with more frequent cyclones like Titli, relying exclusively on income from trees is suicidal. This realisation, coupled with the improvement in transportation and connectivity and the existing social capital from seasonal migration, resulted in more frequent and long-term circular migration for work from the block. The youth in Rayagada, with their improved access to education, are increasingly mindful of the low returns and risks involved in 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 to intergenerational social mobility. This was much easier, faster and far less complicated compared to securing a regular salaried job locally, navigating the complex structural barriers.

Migration helped households in Rayagada overcome their poverty/indebtedness, enhance the asset base and savings and diversify their income sources. Migration also helped households improve their agriculture and housing to become more climate resilient and support the education of their children. 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 Rayagada, enhanced access to social and mass media and universalised digital payments. While people from all ethnic backgrounds have benefited from such migration, those from relatively advantageous communities were able to better leverage it compared to those from the Scheduled Tribes whose moves were more ad hoc, short term and part of subsistence. Labour migration has been the single most important contributor in accelerating human development in Rayagada block, complementing the government interventions. It has also been one of the crucial poverty interrupters. While climate change is not the prime driver of migration from Rayagada, migration has been the most important coping strategy for households severely impacted by climate change, augmenting labour migration from Rayagada. Such migration can play a pivotal role in catalysing Rayagada's transition from an agrarian society to a much more diverse and climate-resilient society.



Introduction

The Eastern Ghats

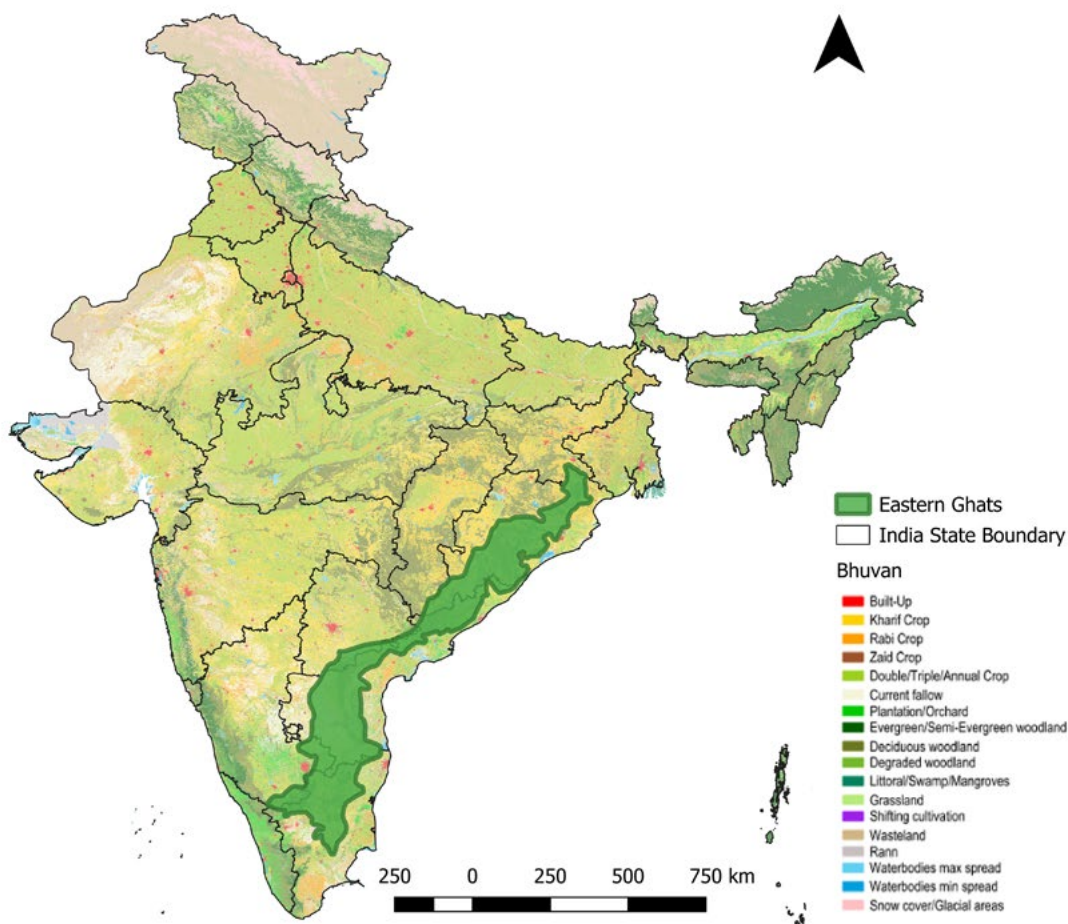
Older than the Himalayan ranges, the Eastern Ghats are a discontinuous range of mountains along India's eastern coast. Spread over 75000 km from northern Odisha to Tamil Nadu through Andhra Pradesh, Telangana and Karnataka the Eastern Ghats extend over 1700 km.¹ Ecologically sensitive and rich in biodiversity, 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 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 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 avian fauna, mammals, reptiles and bird species from the region are included in the IUCN-Red List.⁷ Home to over five million indigenous populations 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

The Eastern Ghats are home to an indigenous population of over five million from nearly 60 ethnic groups



Figure.1: Eastern Ghats region map with land use and 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 workers in Odisha are engaged in informal work. 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 depends 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 evident from the strides it has made during 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 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 Mahendragiri Hills on the Eastern Ghats are of immense cultural and archaeological significance. Predominantly rural,

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

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.



Two-thirds of the notified eco-sensitive zones in the Eastern Ghats are located in Odisha

The markers of climate change have been prominent in the region. The Eastern Ghats region of Odisha is highly vulnerable and has been experiencing almost all the 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 and synthesising the available secondary evidence, including the empirical survey conducted jointly by Gram Vikas and CMID in 2020, examines how labour migration, compounded by the impact of climate change, plays a pivotal role in the overall resilience of Rayagada community block in the Eastern Ghats region.

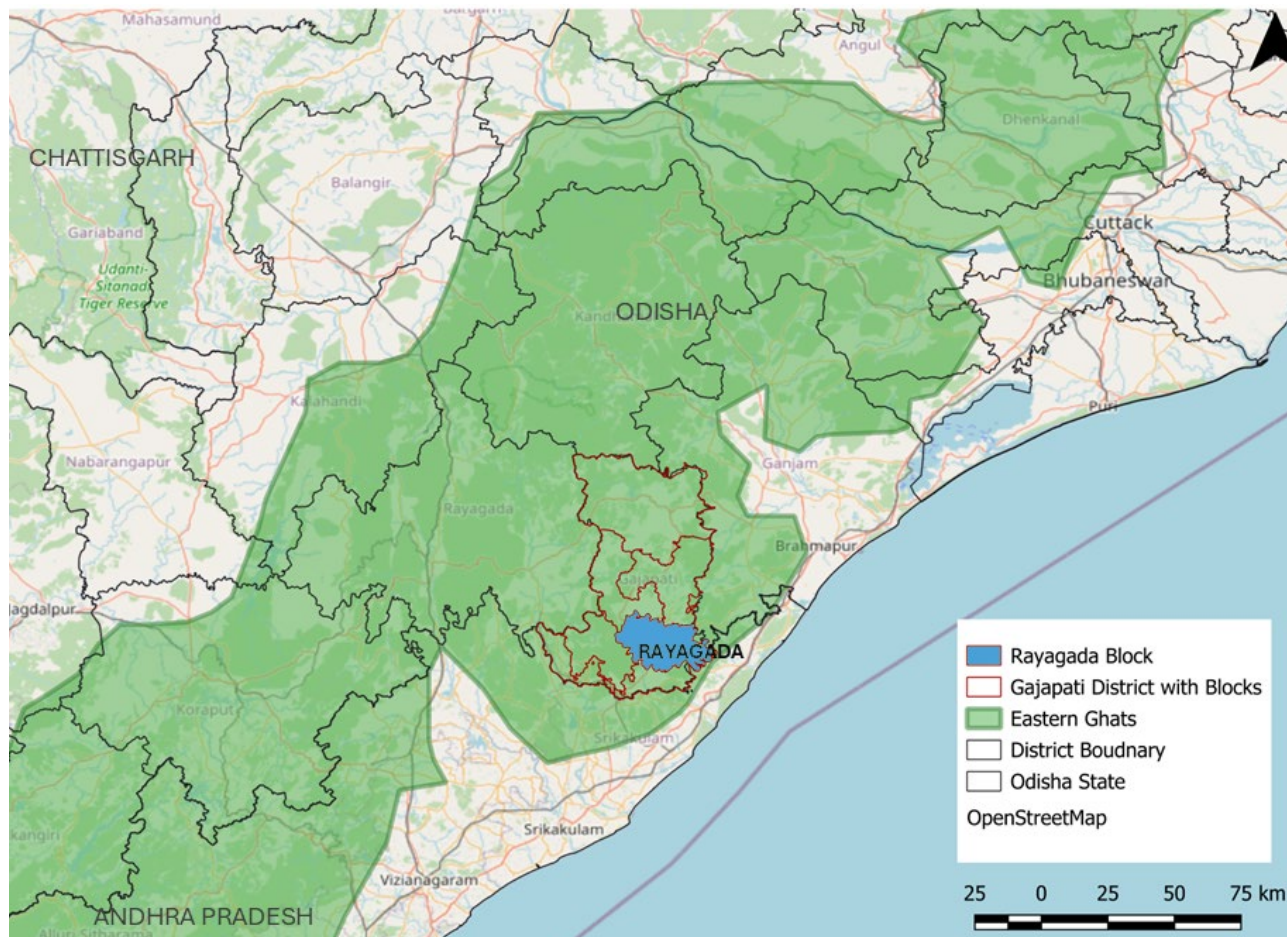
Rayagada block

Predominantly rural, with over three-fifths of its land in the hilly terrain, Gajapati district in the south-eastern Odisha is primarily inhabited by the Scheduled Tribes. Second largest in area, the Rayagada block is situated in the southern part of Gajapati district, sharing its boundary also with Srikakulam district of Andhra Pradesh. The block is divided into 21 gram panchayats, consisting of 226 villages.²¹ Industrial development is nascent. The villages are spread across a mix of highland, midland and lowland terrains. Mahendragiri, the second highest peak in Odisha with an elevation of about 1500m, is situated in Rayagada block. Mahendragiri is the second biodiversity heritage site in Odisha.²² The Mahendra Tanaya that originates from Mahendragiri is the major river.



CMID/Benny Peter

Figure.2: Rayagada block within Gajapati district, Odisha, overlaid on the Eastern Ghats region



Base map source: OpenStreetMap contributors²³

Climate is tropical, characterized by hot and dry summers, cold winters, and erratic monsoon rainfall. The southwest monsoon serves as the primary source of precipitation, but rainfall patterns have become increasingly unpredictable over the years. The region is highly vulnerable to drought spells. Despite being agrarian, the area lacks major or medium irrigation projects.²⁴ Lack of irrigation facilities and heavy dependence on rainfall contribute to food insecurity during dry spells. Since the block is surrounded by forests and hills, forest fires and water scarcity are common and recurrent, posing significant risks to agriculture and livelihoods.²⁵

Household characteristics

Almost the entire population of the block belongs to socially disadvantaged communities (98.4 per cent), with the majority being the Scheduled Tribes. Four out of every five households in Rayagada belonged to the Scheduled Tribes and the block is home to PVTGs such as Saura and Lanjia Saura. The Other Backward Communities (OBC) and the Scheduled Castes (SC) constituted about 13 per cent and seven per cent respectively of the households in Rayagada (Figure.3). Over one-fourth of the households reported Christianity as their religion while the rest followed Hinduism. Almost 97 per cent of the households lived in rural areas of the block.

Figure.3: Percentage distribution of households by ethnicity, 2020, N:440



Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

The average household size was five (Table.1). The highest educational attainment of any member in the household, on average, was ten years. Over four-fifths of the households had documents signifying their Below Poverty Line (BPL) status. Nine out of every ten households had Priority Household (PHH) ration cards and nearly one per cent households had Antyodaya Anna Yojana (AAY) cards for the ultra-poor. The reported median

monthly income in 2020 was ₹5000 which ranged from ₹5000 for the Scheduled Tribes to ₹8000 for the households from the Other Backward Communities. Nearly one-third of the households in Rayagada had kachha dwelling units. Made of mostly non-durable materials, these structures are highly vulnerable to damage, especially by unfavourable climatic conditions, and require frequent repairs.



Socially disadvantaged communities constitute almost the entire population of Rayagada

Table.1: Select characteristics of households in Rayagada block by ethnicity, 2020, N: 440

Indicator	Ethnicity			Total
	SC	ST	OBC	
Median number of members	4.0	5.0	4.0	5.0
Median educational attainment (Years) of person with highest attainment	12.0	10.0	10.0	10.0
Median monthly household income	5250	5000	8000	5000
Percentage with PHH/AAY ration cards	96.9	92.8	92.7	93.2
Percentage of pucca houses	81.3	63.6	85.5	67.7
Percentage using wood as cooking fuel	87.5	95.4	81.8	92.7
Percentage electrified	100.0	98.8	98.1	98.9
Percentage with access to water through pipes/hand pumps/public taps	62.5	66.5	80.0	67.3
Percentage with functional toilets	59.4	62.1	58.2	61.4
Percentage with mobile phone connectivity in village	90.6	78.0	85.5	80.0
Percentage with bank/post office accounts	100.0	98.3	98.2	98.4
Percentage with membership in SHGs	43.8	50.9	67.3	52.0
Median distance to nearest bank (km)	0.0	15.0	10.0	13.0
Median distance to nearest functional health facility (km)	10.0	10.0	7.0	10.0
Median distance to nearest high school where education is free (km)	0.0	5.0	0.0	2.0
Median time taken to reach nearest public transit point by foot (minutes)	2.0	10.0	5.0	5.0

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Two-thirds of the households have access to water through pipes/hand pumps/public taps. Three in every five households had a functional toilet. Almost all households were electrified, although around 15 per cent were sharing electricity from another household. Most households used wood as cooking fuel. Almost every household had at least one person with a bank/post office account. Half of the households had persons with membership in Self-Help-Groups (SHGs). Four-fifths of the households had mobile phone connectivity in their villages. The distance to the nearest functional health facility was around 10 km and the distance to the nearest bank was 13 km. The nearest high school where free public education was available was within two km and the average time taken to reach the nearest place from where public transport was available was a five-minute walk. Overall, the households from the

Scheduled Castes/Communities and the Other Backward Castes/Communities had much better access to amenities and services compared to the Scheduled Tribes.

Livelihoods

The majority of the households in Rayagada do not own any land (Table.2). 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 less than one-fifth of the households. The Scheduled Tribes, who own small and marginal landholdings, constituted the majority engaged in agriculture. People cultivated their patta land holdings which were typically less than one acre in size or 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 Castes/Communities were never engaged in agricultural activities. Nearly 30 per cent of households owned cattle, a quarter of the households owned goats/sheep and two-fifths of the households owned poultry. Most households that owned livestock belonged to the Scheduled

Tribes. While four-fifths of the households in Rayagada had NREGS cards, only one-fourth of the households in the block benefited from the scheme in 2019. Most households with NREGS cards did not get any work in 2019. The block is known for the seasonal migration of landless and marginal farmers due to lack of sustainable income sources within the block.²⁶

Table.2: Select livelihood characteristics of the households in Rayagada block by ethnicity, 2020, N: 440

Variable/Category	Ethnicity			Total
	SC	ST	OBC	
Ownership of patta land (acres)				
No land	90.6	53.8	89.1	61.6
1 or less	6.3	32.4	7.3	26.8
More than 1	3.1	13.9	3.6	11.6
Median land owned	0.0	0.0	0.0	0.0
Current family occupation				
Agriculture	3.1	22.0	0	17.5
Agricultural labour	0	7.2	1.8	5.9
Other daily wage labour	56.3	58.1	63.6	58.6
Business	28.1	1.4	23.6	6.4
Government employment	6.3	7.2	9.1	7.3
Other	6.3	4.1	1.8	4.4
Ownership of livestock (percentage)				
Cows/bulls/buffaloes	3.1	36.7	9.1	30.2
Goat/sheep	6.2	30.6	3.6	25.0
Poultry	6.2	50.3	25.5	43.2
Access to NREGS				
Percentage with NREGS cards	59.4	83.5	67.3	79.5
Percentage benefitted from NREGS in 2019	25.0	28.0	3.6	24.5

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Agriculture in Rayagada

Agriculture is not the major means of income in Rayagada. It is the Scheduled Tribes who are primarily engaged in farming. Agriculture is mainly rainfed. People follow traditional agricultural practices and primarily depend on streams for irrigation. Land is still ploughed using bullocks. But in some areas, particularly in the plains, agriculture is aided by mechanisation by those who can afford to do so. However, the plains constituted only a

small proportion of the land in Rayagada. As most of the terrain is hilly, the nature of farmland does not permit the use of equipment/machinery. Most agrarian households were engaged only in Kharif crop. The majority did not use fertilisers. Some cultivated during Rabi also. There is a minority of farmers with irrigation facility who cultivated throughout the year. Nine in every ten households used agricultural produce primarily for household consumption.

Agricultural patterns in Rayagada differed by terrain. Shifting cultivation, locally known as *bogodo chas* has been a traditional practice on the hill slopes. 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 the swiddens people cultivated various cereals, pulses, spices, oilseeds, fruits and vegetables such as ragi, foxtail millet, pigeon pea, black gram, horse gram, castor beans, turmeric, ginger, maize, orange, long beans, ridge gourd, and red gram. Shifting cultivation has resulted in deforestation and soil erosion. However, due to the substantial social forestry and agroforestry interventions of the Government of Odisha and Gram Vikas, *bogodo chas* has given way to a dominance of plantations/perennial crops/fruit-bearing trees. Cashew is a major crop and cashew plantations have become omnipresent across terrains. Other fruits cultivated include mango, jackfruit, guava, tamarind, orange, banana, pineapple and coconut. Pepper is a recent addition in Rayagada. Rice, banana, sunflower, vegetables, millets, pulses, cotton, etc., are cultivated in the midlands along with the fruit-bearing trees. With

the popularisation of rice in the Public Distribution System (PDS), water-intensive paddy has become a major crop in the low-lying areas. When people shifted to paddy cultivation, the focus on drought-resilient and highly nutritious millets declined. The transition from *bogodo chas* to plantation crops also reduced the millet cultivation in Rayagada. Cotton and vegetables were the other major crops in the low-lying areas.

The farmers relied on buyers/intermediaries who came to the villages to buy their produce from Palasa or Goppili in Andhra Pradesh, or from Paralakhemundi, the district headquarters. These buyers/intermediaries give advances to farmers and make a fortune while the farmer get a very low price. Collection of Non-Timber Forest Produce (NTFP) such as mahua flowers and seeds is also a source of livelihood, particularly for women from the Scheduled Tribes. Though people, especially the Scheduled Tribes, raise livestock, they do not consume milk or eggs. They believe that the milk is meant for calves and eggs should be allowed to develop into chicks. Raising livestock was primarily for ploughing the land, for manure or as insurance against financial emergencies.

Cashew plantations have become omnipresent in Rayagada





About the research

This qualitative research complements the sample survey Gram Vikas and CMID had conducted during 2020 in Rayagada 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 PopcouncilConsulting 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 Rayagada.

The study sought answers to the following research questions:

1. What are the significant weather changes over 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 and how have they contributed to improved resilience in these blocks?
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 19 group discussions were conducted. The groups, except three women-exclusive groups, were asked if the climate in the





area had substantially changed over the years since the super cyclone that 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 by 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, and supported by two native Odia-speaking graduates, at least one of whom was a woman. The training of the research team was conducted at the Kainpur facility of Gram Vikas in Rayagada during December 05-11, 2024.

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 PhD in Social Sciences and 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 30 KIIs were conducted in Rayagada as part of the study. Case studies of individuals, households and communities were prepared as illustrative examples. The qualitative data collection took place from November 2024 to May 2025.

The daily rainfall data for Rayagada 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.²⁷ Additional analysis of the migration data, collected through the sample survey in 2020 by CMID and Gram Vikas, was also undertaken to understand the evolution and growth of labour migration from Rayagada and its linkages to change in climate in the area.



Key Findings

Climate change in Rayagada block

Rayagada 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 that the community highlighted during the group discussions in the order of significance of impact were erratic rain, increased summer heat and more frequent cyclones (Table.3).

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

Rank	Change in climate
1	Erratic rain
2	Increased summer heat
3	More frequent cyclones

Source: Primary data from group discussions, 2024-25

According to people, the rain has become highly unpredictable. It does not rain when required and when it is not expected, intense rain occurs. The winter is not as cold as it used to be earlier, and the summer heat is now intense. People in the hills were not used to electric fans, but increasingly they have become essential gadgets. During the period from 2000 to 2024, several cyclones hit the area, severely impacting the lives and livelihoods- Phalin, Hud Hud, Titli, Fani, Jawad, and Gulab, to name a few. Titli, which occurred in 2018 with a landfall near Palasa in Andhra Pradesh near Rayagada, devastated the block. Some of the other key changes in climate mentioned by the community included strong winds, prolonged cloudiness and

frequent lightnings. The key extreme events that impacted the lives and livelihoods of people in Rayagada are listed here (Table.4).

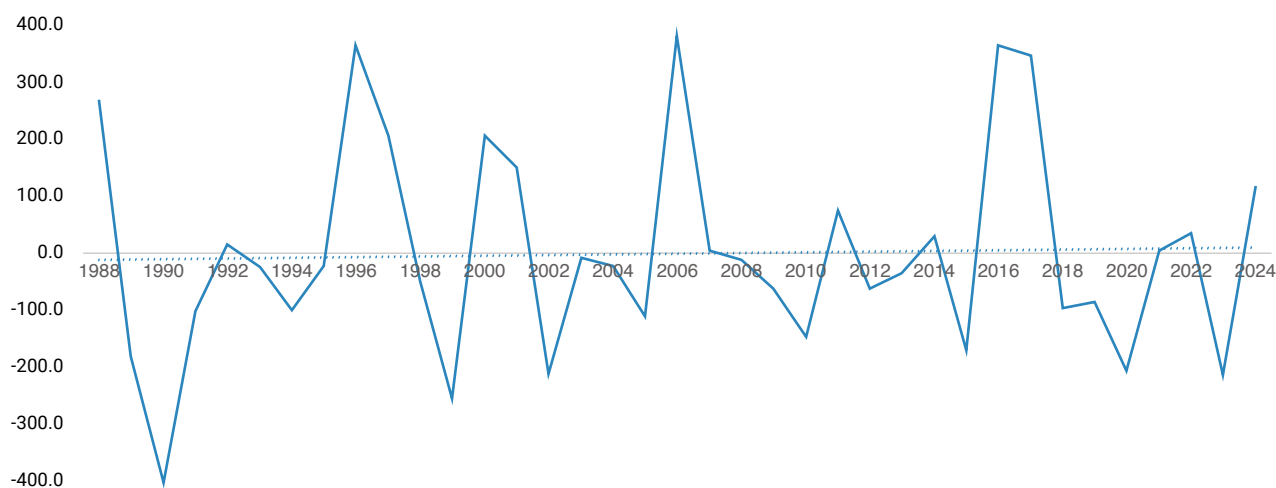
Table.4: Extreme events that impacted Rayagada block during 2000-2024

Year	Extreme Events
2024	Drought, erratic rain
2023	Drought, erratic rain, heat wave, lightning, pest attack
2021	Cyclone, erratic rain, landslides
2020	COVID, cyclone, flooding
2019	Cyclone, hailstorm
2018	Cyclone, flooding, landslides
2016	Hailstorm
2014	Cyclone
2013	Cyclone, erratic rain, landslides
2011	Cholera
2010	Cold wave
2009	Cold wave
2007	Forest fire
2005	Cyclone, erratic rain
2004	Drought
2002	Cyclone, erratic rain, landslides

Source: Desk research and primary data from group discussions, 2024-25

A macro analysis of the seasonal rainfall data in Rayagada during the period 1988 to 2024 reveals that although the overall annual rainfall has not reduced significantly during Kharif in Rayagada, it has been highly erratic. (Figure.4).

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



Source: Authors' computations from the daily rainfall by block, Gajapati, 1988-2024, Special Relief Commissioner, Govt. of Odisha

Impact of climate change on lives and livelihoods

Climate change directly and indirectly impacted the lives and livelihoods of almost every household in the block. The frequent cyclones and accompanying intense rain, landslides and floods resulted in loss of lives and catastrophic long-term impact on such households. The cyclones damaged houses, displacing people, and the reconstruction of the houses took a long time. In some cases, part or the entire village was relocated. There was severe damage to property. Many households in Rayagada are still grappling with the indebtedness resulting from the loss and damage due to Cyclone Titli that had occurred in 2018. Cyclones also resulted in damage to public infrastructure. The roads, bridges, electric posts, water tanks, mobile phone towers, etc. got damaged, severely crippling transportation and connectivity. Since the entire area was impacted and required significant investments for repairs and maintenance, the revival was time-consuming. Schools, primary health centres, anganwadis and other critical public infrastructure were also affected, disrupting services. In remote areas, the restoration of services took significant time, leaving the areas cut off from the rest of the block. In many places, public infrastructure was permanently lost.

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

Households along the hills/slopes were severely impacted by cyclones, strong winds and landslides. They were exposed to high level of risks to life, property and livelihoods. Risks to life included being hit by objects/uprooted trees/branches during cyclones or being swept away in the landslides. While kachha houses were particularly vulnerable to damages from cyclones and strong winds, both pucca as well as kachha houses were impacted by landslides. Households in low-lying areas of Rayagada were impacted by floods as they got damaged by the floodwaters and the debris deposited by the floods. In low-lying areas also, those with kachha houses were more vulnerable as the floodwater severely damaged such houses. Extreme events also resulted in loss of documents including land pattas and certificates of educational qualifications which are difficult to reproduce, particularly for the marginalised communities. There was also severe damage to property and livestock.

Floods damaged houses in low-lying areas and curtailed access to clean drinking water. Delayed rains also resulted in scarcity of water, compromising hygiene and sanitation. Communities that had to manage with available polluted water for domestic purposes contracted waterborne diseases. Excessive heat impacted everyone, particularly those who worked outdoors. It also impacted older persons, particularly from

households without electric fans. Frequent lightning caused fatalities among humans and livestock and also damage to vegetation and property. There were also cold waves that made life miserable, particularly for the older persons. People whose livelihoods were nature based, particularly farmers, agricultural labourers and women, were the three key populations severely impacted by climate change in Rayagada.

Table.5: Key changes in climate in Rayagada and impact by population impacted

Climate change	Impact	Who is impacted
Delayed rain	▶ Small streams that provide steady water supply for paddy go dry	▶ Farmers/households which exclusively depend on agriculture for income
	▶ Reduced water levels in water bodies	▶ Farmers who cultivate paddy/millets
	▶ Water scarcity for agriculture and domestic use	▶ Farmers who have taken advance/loan
	▶ Fetching water takes longer	▶ Farmers who do not have borewells/dug wells/means of lift irrigation
	▶ Hardened soil results in increased efforts in land preparation for cultivation	▶ Farmers engaged in <i>bogodo chas</i>
	▶ Sowing and harvesting timelines impacted	▶ Agricultural labourers
	▶ Seed germination crippled	▶ Women who fetch water
	▶ Delayed planting, affecting crop growth	
	▶ Plants die	
	▶ Reduced yield	
	▶ Reduced availability of grain stock for domestic consumption/sale impacting income	
	▶ Less ability to negotiate for prices/wages	
	▶ Reduced farming activity resulting in diminished employment opportunities	
	▶ Strains financial resilience of households	
Untimely rain	▶ Crop damage, particularly in the case of paddy, cotton, millets	▶ Those who cultivate paddy, cotton, millets, turmeric and ginger
	▶ Hay/straw lost impacting fodder	▶ Farmers engaged in <i>bogodo chas</i>
	▶ Reduced quantity and quality of crop yield	▶ Households cultivating large areas as their loss will be substantial
	▶ Less ability to negotiate for prices	▶ People engaged in agricultural labour
	▶ Reduced employment opportunities	
Intense/ continuous rain	▶ Soil erosion	▶ Those who cultivate paddy
	▶ Crop loss	▶ Agricultural labourers
	▶ Intense rain during harvesting damages paddy and straw/hay	▶ People with kachha houses
	▶ Reduced availability of work resulting reduced income	▶ Women who clean houses/fetch firewood
	▶ Damage to houses	
	▶ Fetching firewood difficult	

Climate change	Impact	Who is impacted	
Increased heat	▶ Water sources dry up	▶ Labourers who work outdoors	
	▶ Reduced water for irrigation/domestic consumption	▶ Women from agrarian households	
	▶ Fetching water takes longer	▶ Women workers as men migrate for work	
	▶ Water for livestock affected	▶ Women who have to fetch water	
	▶ Difficult to work outdoors	▶ Daily wage workers	
	▶ Physical exhaustion, headaches, dehydration and heat stroke	▶ Farmers, particularly those engaged in summer crop	
	▶ Diarrheal diseases due to contaminated water	▶ Farmers with livestock, particularly non-local cattle breeds as they cannot withstand heat	
	▶ Reduced availability of water for Rabi crops	▶ Farmers engaged in <i>bogodo chas</i>	
	▶ Affects flowering of several plantation crops	▶ Farmers with small landholdings	
	▶ Fruiting impacted	▶ Farmers with plantations/fruit-bearing trees	
	▶ Vegetables get burned	▶ Farmers cultivating vegetables	
	▶ Plants die	▶ Households with elderly individuals	
	▶ Poor yield resulting in lower prices		
	▶ Less ability to negotiate prices		
	▶ Reduced availability of grains for domestic consumption		
	▶ Reduced income		
	Heavy wind	▶ Bending and breakage of paddy tillers during the spike stage	▶ Farmers cultivating paddy
		▶ Reduced flowering and yield from plants	▶ Farmers engaged in <i>bogodo chas</i>
▶ Plantation crops suffer as plants get flattened, trees breakdown/get splintered or uprooted, flowers/fruits fall off		▶ Farmers who depend exclusively on plantation/fruit-bearing trees	
▶ Reduced yield			
▶ Less ability to negotiate prices and diminished income			
▶ Damage to houses			



Climate change	Impact	Who is impacted
Cyclones	<ul style="list-style-type: none"> ▶ Trees uprooted/broken ▶ Flowers/fruits fall off ▶ Crop loss ▶ Soil erosion impacting land fertility ▶ Debris deposit rendering land uncultivable ▶ Contamination of water ▶ Irrigation infrastructure damaged ▶ Roads damaged ▶ Transportation/storage of perishable agricultural produce impacted ▶ Communication cut off ▶ Damage to cattle sheds, houses/other property ▶ injury/death of livestock ▶ injury/death of humans, particularly earning members ▶ Education of children disrupted due to transportation issues ▶ Children dropout of school to contribute as earning members/caregivers ▶ Disruption of agricultural activities ▶ Reduced employment 	<ul style="list-style-type: none"> ▶ Farmers, particularly those engaged in <i>bogodo chas</i> ▶ Farmers engaged in cultivation of perishable produce ▶ Farmers in remote areas ▶ Farmers with fruit-bearing trees ▶ Agricultural labourers ▶ Other daily wage earners ▶ Landless households/labourers ▶ People who live in kachha houses ▶ Households with livestock ▶ Households located on hills/slopes ▶ School students whose parent dies, children from tribal communities particularly vulnerable ▶ Day scholars affected, as commuting to school is impacted, subsequently impacts educational attainment and retention
Cloudiness	<ul style="list-style-type: none"> ▶ Reduced exposure of plants to sunlight impacting growth and yield ▶ Impacts the flowering of cashew, causing them to dry up/fall off ▶ Pollination impacted ▶ Moisture resulting in infections in vegetables ▶ Makes crops vulnerable to pest attacks, leading to crop damage 	<ul style="list-style-type: none"> ▶ Farmers, particularly those engaged in <i>bogodo chas</i> ▶ Farmers engaged in cultivation of pulses, millets, cashew, orange, and vegetables
Frequent lightning	<ul style="list-style-type: none"> ▶ Plants/trees/crop get damaged/burned ▶ Houses/property damaged ▶ Loss of life of humans and livestock 	<ul style="list-style-type: none"> ▶ Households with livestock ▶ Households in lightning-prone areas
Increased floods	<ul style="list-style-type: none"> ▶ Plants uprooted ▶ Crops inundated and lost ▶ Debris making land uncultivable ▶ Water contamination resulting in diseases ▶ Houses damaged ▶ Livelihoods lost 	<ul style="list-style-type: none"> ▶ Households living in kachha houses ▶ Women from kachha households ▶ Farmers cultivating low-lying areas ▶ Agricultural labourers
Reduced intensity and shorter duration of winter	<ul style="list-style-type: none"> ▶ Affect crops like cauliflower, cabbage, tomato, and chilli ▶ Growth crippled, leading to lower yields ▶ Reduced income 	<ul style="list-style-type: none"> ▶ Rabi/Vegetable farmers

Source: Primary data from group discussions, 2024-25

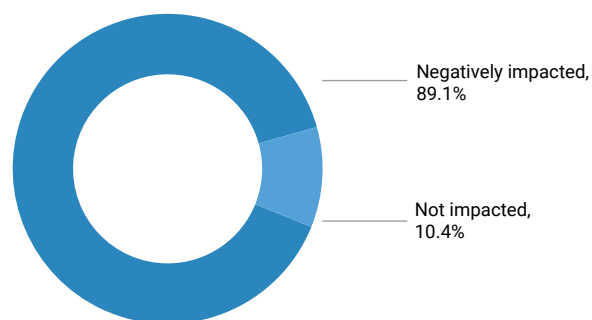
Key populations impacted

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. Most households impacted were engaged in nature-based livelihoods, particularly agriculture.

Impact on farmers

People engaged in agriculture, irrespective of their gender and 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 Rayagada, who were primarily into rainfed agriculture, had marginal landholdings. With rains becoming erratic, their livelihoods have been significantly impacted. This reconfirms the findings from the quantitative survey conducted in 2020 where 90 per cent of the households engaged in agriculture reported being negatively impacted by climate change (Figure.5).

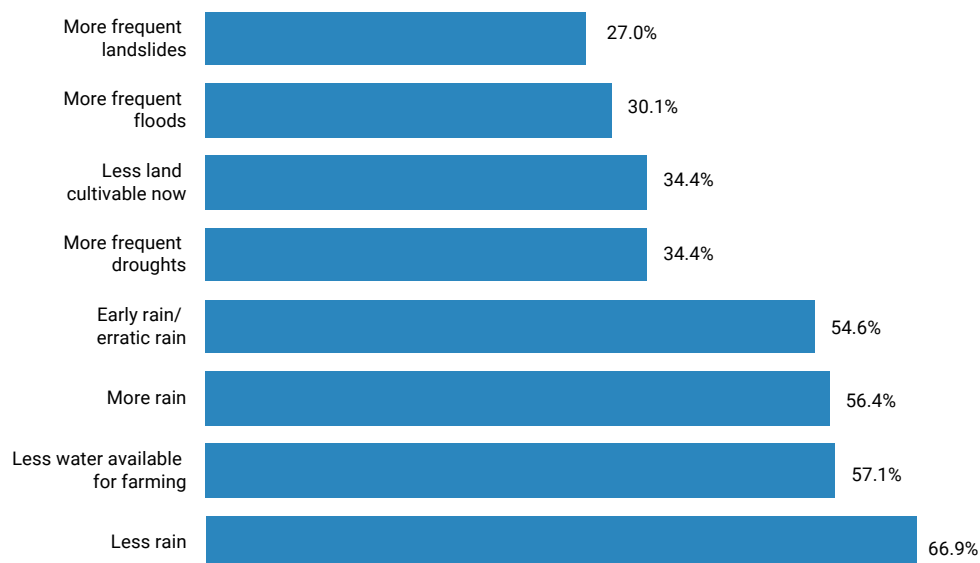
Figure.5: Percentage distribution of households in Rayagada engaged in agriculture in 2020 by impact of weather changes, N:183



Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

In the survey, over two-thirds of the households reported less rain as the prime factor affecting farming negatively. Less water available for farming, more rain and erratic rain were mentioned by the majority of farmers. More frequent droughts, floods and landslides were also reported by households currently engaged in agriculture (Figure.6).

Figure.6: Percentage of households engaged in agriculture in 2020 in Rayagada by select negative impacts of climate change, N:163



Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

The qualitative research explored how agriculture was impacted by climate change. It was found that the delayed rain hardened the soil, increasing the effort required for land preparation and sowing. The small streams that provided water for paddy went dry. Delayed rain reduced water for irrigation in water bodies. Seed germination was crippled and delayed planting affected crop growth. Plants perished or provided reduced yield. Untimely rain and intense rain resulted in crop damage, particularly in the case of paddy, cotton and millets. The untimely rain during the harvesting time resulted in heavy losses to paddy farmers. During December 2024, such intense rain resulted in heavy crop loss to farmers across Rayagada, as their harvested paddy in the field got soaked and damaged. Even the hay was also lost.

Delayed rain and dry spells impacted flowering of plants such as cashew. Prolonged cloudiness reduced exposure of plants to sunlight, impacting

The untimely rainfall during the harvesting season in December 2024 resulted in heavy crop losses for farmers across Rayagada

nutrition. This occurs mainly if the cloudiness happens in January, February, or March. Prolonged cloudiness made crops like cotton, maize, pigeon pea, orange, long beans, cowpea, ridge gourd, and red gram more prone to pest attacks, leading to severe crop damage. Increased heat impacted the flowering and fruiting of several plantation crops such as cashew and also resulted in reduced availability of water for Rabi crops. Vegetables got burnt and plants died.

Prolonged cloudiness made crops such as cotton more prone to pest attacks, leading to severe crop damage



CASE STUDY

Shattered hopes: Delayed rain impacts cotton and paddy harvest in Rayagada during 2024-25

Harischandra Bumal, a 41-year-old man from the Saura tribe and a resident of Sanatundi village, cultivates cotton and paddy. He typically applies three rounds of fertilisers to his two acres of land where cotton is cultivated. In 2024, delayed rains forced him to reduce this to two rounds, affecting productivity. This year the harvest was only 12 quintals of cotton from two acres, a sharp drop to almost half of his usual yield. The cotton yield has varied in recent years, with nine quintals per acre last season and eleven quintals the year before. Harischandra feels that, over the years, the crop yield has gradually reduced. Despite shrinking profit margins, he continues to rely on cotton as a mainstay crop.

Harischandra's three acres of paddy cultivation suffered more acutely in the last two years. Poor rainfall during the previous season had resulted in complete crop loss for him. With rains failing to arrive in October, the crop was severely damaged. In a typical year, he harvests 15 quintals per acre. This time, the yield dropped to just a few quintals per acre. Under the Jananidhi program of Government of Odisha, Harischandra received a motor and pipes worth rupees five lakh, heavily subsidised, with a mere payment of ₹10,000. He is exploring the possibility of using this to irrigate his cotton fields. He also accessed a solar pump from the department of agriculture. Though its performance has been below expectations, he continues to assess its usefulness. He has also applied for a borewell and has already deposited ₹10,000 towards it. He hopes, with all these interventions, he will be able to improve his cotton and paddy harvests in the future.

Heavy wind shattered the paddy, bending and breaking the tillers and impacted the flowering and the yield. It also led to fruits falling off prematurely, resulting in crop loss. The cyclones uprooted and shattered the fruit-bearing trees such as cashew, mango, orange, tamarind, jackfruit, etc. This had a long and devastating impact on the households as it takes several years to replace the lost trees from sapling to fruit-bearing trees. Intense rain, along with the cyclones, resulted in soil erosion and landslides, uprooting vegetation and damaging the agricultural land along the slopes. The resultant floods carried the debris, including boulders, to fertile low-lying land, permanently making it uncultivable in many places. Irrigation canals and check dams were also damaged in the cyclones, floods, and landslides, leaving a long-lasting impact on water availability for cultivation. Soil erosion also reduced land fertility, demanding the use of fertilisers. Damage to the households during cyclones, floods and landslides also ruined the farmers' grain stock.



Cyclones also resulted in damage to infrastructure such as roads, bridges impacting transport and curtailing access to markets. In Rayagada, the large-scale buyers for agricultural produce primarily came to the villages from Palasa or Goppili in Andhra Pradesh, as the block is on the state border, or from Paralakhemundi which is the district headquarters of Gajapati. For buying mangoes, people came from Raipur in Chhattisgarh and even from Kolkata in West Bengal. The damage to road infrastructure due to cyclones, floods and landslides prevented buyers from reaching out to the farmers. Without storage facilities and lack of transport, perishable goods were lost, or the farmers had to sell it at throw-away prices. This was particularly applicable to farmers from remote areas/villages. Heavy rains related to cyclones inundated the low-lying areas resulting in crop damage. Besides, the heavy rain and landslides that accompanied the wind deposited silt and debris in the fertile *billo* (low-lying areas) where paddy and vegetables are cultivated. This not only resulted in crop loss but also damaged the land, requiring significant investment to revive it for agricultural purpose. While there have been several cyclones, the impact of Cyclone Titli in 2018 on the farmers has been catastrophic.

Besides the direct impact of climate change, many areas also had to face human-animal conflicts as animals which were impacted by deforestation and

human interventions raided crops. In many plain areas, wild boars raided crops. On the hills, such as in Talamunda, people had to give up cultivating pineapple as monkeys raided the crop. Similarly, in Loba, cultivating orange, banana, turmeric, ginger and guava became difficult due to monkeys. The villagers recalled that such incidents were rare in the past when there was sufficient food for the animals in the jungle.

Overall, the changes in climate resulted in crop loss or reduced quality and quantity of yield. Since nine out of every ten households engaged in agriculture used the produce exclusively for household consumption, changes in climate have directly impacted their food security. Poor quality and quantity of yield impacted the negotiation capacities of farmers who depended on the sale of agricultural produce. This resulted in a significant dip in their income, impacting their household budgets. Due to erratic rain and poor sunlight during the period from December 2024 to March 2025, the cashew flowers in Mahendragiri area got significantly damaged, resulting in the darkening of the nuts. As a result, the yield was poor, leading to a significant reduction in prices. People who had already taken multiple advances from buyers, hoping to repay it from the season's crop, were severely affected.



CASE STUDY

A cashew farmer's struggle with climate change and debt, and his dreams for his daughters

Cashew trees once signalled security for tribal families, like that of Kanthara Bhuyan of Panasa Sahi in Lumudasing village. Each summer, their pale blossoms brought the quiet promise of a steady harvest. But in 2025, for 45-year-old Kanthara, that promise failed under a changing sky, clouds came too soon, rains came too late, and the cashew crop failed, that too when he needed it most.

Kanthara lives in Panasa Sahi, a small hamlet of about 25 households in Lumudasing village in Rayagada. The area is home to the Saura tribe. His house, built with mud and cement and topped with corrugated iron sheets, stands in a close-knit cluster of homes where cashew trees and seasonal crops have traditionally sustained the community.

Cashew is the backbone of the economy of several villages in Rayagada, and for Kanthara, it is his crucial source of income. He owns about one acre of *bogodo*, with around 600 cashew trees. This year, the erratic weather brought ruin. "There was no rain from Sankranti to Shivratri, just clouds and early heat," he said, referring to the traditional seasonal window that typically ensures flowering. "Then came hailstorms in March. The flowers got burnt. The fruits that did grow turned black."

This once-dependable harvest plummeted from the usual six bags to just two, barely 100 kilograms. At the local market, the prices dropped from ₹150 to ₹60 per kilogram due to the poor quality. Traders from Palasa, in neighbouring Andhra Pradesh, still came to buy in bulk, but Kanthara received only ₹6,000 for whatever little he could offer.

That money did not last long. He was already burdened by a previous debt of ₹50,000, taken for his younger daughter's eye treatment, and had tried to repay part of it with 150 kilograms of cashew last year. "I only received ₹4,000 in cash after they had deducted the interest," he said. This year, he again took an advance of ₹49,000 from two buyers, to support his elder daughter Krishna's education, hoping to repay with the cashew harvest. Krishna is in grade 12, studying in Paralakhemundi, staying in a rented room, far from the village. "I want her to complete her education, but there aren't enough good facilities nearby," he said, explaining why he had sent his daughter to the city.



CMID/Berroy Peter

The debt now hangs heavy. If the crop fails next year also, the interest will spike. “They said I may have to give six kilograms of cashew per thousand rupees as interest,” he said. “If this continues, I’ll have nothing left”. The family grows other crops too, including pineapple, jackfruit, lemon, millets and tubers. But these are mainly for domestic use. He also shares about five acres of paddy land with his three brothers. The land has not yet been partitioned. They take their turns in cultivating the land. The paddy is used for household consumption. “We don’t sell rice,” he said. “We just manage.” He had 12 goats, but they all died last year from disease. Now, he does not have livestock.

Kanthara’s agricultural knowledge is rooted in traditional wisdom. He speaks of the traditional cycle when it rains from Sankranti to Shivratri, followed by dry, sunny days. “That is how the trees know when to flower,” he said. But the climate doesn’t follow that rhythm anymore.

Kanthara never went to school. Orphaned at a young age, he had to start working early to survive. Between 2003 and 2005, he migrated to Chennai and then to Kerala, where he worked on construction sites. “I wish I had migrated again,” he said quietly. “Maybe I wouldn’t be trapped in so much debt now.” But staying back was a decision made with his family on mind. His younger daughter Jamna is in high school. Despite every hurdle, Kanthara and his wife Janaki want the daughters to have options that they never had.

In his community, hope is often balanced against hardship. He knows he cannot depend on cashew alone anymore, yet alternatives are few and far between. According to him, if the next crop also fails, he will have no option but to migrate elsewhere for work.

Among those who are engaged in agriculture, those who exclusively depended on income from agriculture were the worst affected. Farmers engaged in *bogodo chas*, those cultivating paddy, cotton, pulses, millets, turmeric, or ginger, those with perishable crops, those cultivating plantation crops or growing fruit-bearing trees such as cashew, mango, and orange, farmers in remote areas, and those who had taken trade credit/loans, etc. were among the most vulnerable.

The community ranked *bogodo chas* and paddy cultivation as the practices with the highest climate risks, followed by cultivating lowlands and cultivating on hill slopes (Table.5). According to the community, engaging in plantation and fruit-bearing crops and livestock rearing also involved multiple climate risks. At the same time, having livestock was also highlighted as a coping strategy as households can sell it during financial crises.

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

Practice	Climate risks that impact the practice
<i>Bogodo chas</i>	Delayed rain, untimely rain, increased heat, heavy wind, cyclones, cloudiness
Paddy cultivation	Delayed rain, untimely rain, intense rain, heavy wind, cyclones, floods
Cultivating lowland	Delayed rain, untimely rain, intense rain, cyclones, floods
Cultivating highland	Delayed rain, untimely rain, heavy wind, cyclones, cloudiness
Plantation crops/fruits	Increased heat, heavy wind, cyclones, cloudiness
Livestock	Delayed rain, increased heat, cyclones, lightning

Source: Primary data from group discussions, 2024-25

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

Except in the case of select crops such as paddy, the requirement of agricultural labour is minimal in Rayagada. Landholdings are typically less than one acre, and members of the households generally take care of the labour requirement in agriculture. Even in the case of paddy, in the plain areas, mechanisation has reduced employment opportunities in sowing and harvesting. Heavy equipment such as earth movers are used for clearing the land or expanding the *billo* land for paddy cultivation. Tractors and tillers are used in ploughing and for harvesting also machines are deployed by those who can afford to pay. The low-maintenance crops in *bogodo chas* did not require labour from outside the household. The transition from *bogodo chas* to plantation crops reduced local requirement of agricultural labour. Whatever little work available for the agricultural labourers was also severely impacted by the changes in climate. Opportunity for work got reduced. Due to poor yield, many farmers are 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 in diminished livelihood opportunities for people who depended on agricultural labour. Even in cases where agricultural labourers were engaged, the farmers were unable to pay in cash on a regular basis. As a result, they had to look for opportunities for work outside agriculture. However, such work was also hard to come by and was not regularly available. NREGS work was available for many, but

wages were low. Besides, payments were delayed by months. Hence, it did not help in resolving the immediate requirement for cash. The decline in employment opportunities in agricultural labour/ other daily wage labour due to changes in climate primarily impacted the Scheduled Tribes, and the landless labourers who were from the Scheduled Castes/communities and the Other Backward Castes/Communities. 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. Those who did not have ration cards were also adversely affected as they were not able to rely on the PDS during crises.

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 decline in such income has a significant negative impact on households which depended on nature-based livelihoods. Women, primarily from the indigenous communities, were engaged in agriculture, which was adversely affected, resulting in reduced income. Collection of forest produce has also gone down, negatively impacting women's earnings. Cyclones uprooting/destroying the mahua trees have affected the livelihoods of women from the Scheduled Tribes, including older women who were primarily engaged in gathering and drying mahua flowers/seeds.



CASE STUDY

Climate change severely impacts people who depend on NTFP

Known as the tree of life, mahua (*Madhuca Longifolia*) assumes a cultural and economic significance in the lives of the indigenous populations in the Eastern Ghats region. For indigenous populations in Rayagada, collecting mahua flowers and seeds during summer is a crucial livelihood opportunity. Mahua blossoms during the period March to May and the flower and the seed are sources of livelihood for the indigenous populations, especially women. They leave home around 4.00 a.m. to collect the flowers which are then sun-dried and sold. The dry flowers fetch ₹30 to ₹50 and contribute to women's income. Cyclone Titli caused catastrophic damage in Rayagada. Over 5,00,000 trees were uprooted or shattered. Mahua trees suffered heavily, impacting those who depended on collecting mahua flowers and seeds, particularly women from the Scheduled Tribes.



The shift to low-maintenance plantation crops 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 migration of men exposed women from all ethnic backgrounds to extreme heat. Difficulty to work in extreme heat affected their livelihoods, resulting in reduced income. The transition from *bogodo chas* to plantation crops in Rayagada also has reduced the requirement of labourers, resulting in diminished opportunities for work locally, even for women.

Irrespective of ethnicity, women and girls were affected by delayed rain, extreme heat and 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. This ranged from a few hundred metres to several kilometres. Such women and girls in many places also had to bear the brunt of harassment by people from the paras/sahis/villages where they went to fetch water as people in such places were concerned about availability of water for their

own use. Prolonged exposure to high temperature while fetching water resulted in health issues such as fatigue, dehydration and urinary infections as reported by the women. Longer duration of time to fetch water resulted in longer duration of overall unpaid work hours as other household chores also had to be taken care of. Women with disabilities, elderly women, pregnant women, women with infants and toddlers, women from large households and women who are caregivers of persons with disabilities/older persons, were some of the groups who were severely impacted. "We have managed with one single pot of water even for two days when it was difficult to get water", mentioned women from one of the villages. Scarcity of water has also made basic activities like washing clothes and bathing difficult, impacting hygiene and overall well-being, particularly for women. "Although it is inconvenient, we go to the river to wash and take bath when there is no water in the village, but sometimes even in the river there is no water and we struggle", mentioned women from another discussion. Scarcity of water severely impacted working women. The women

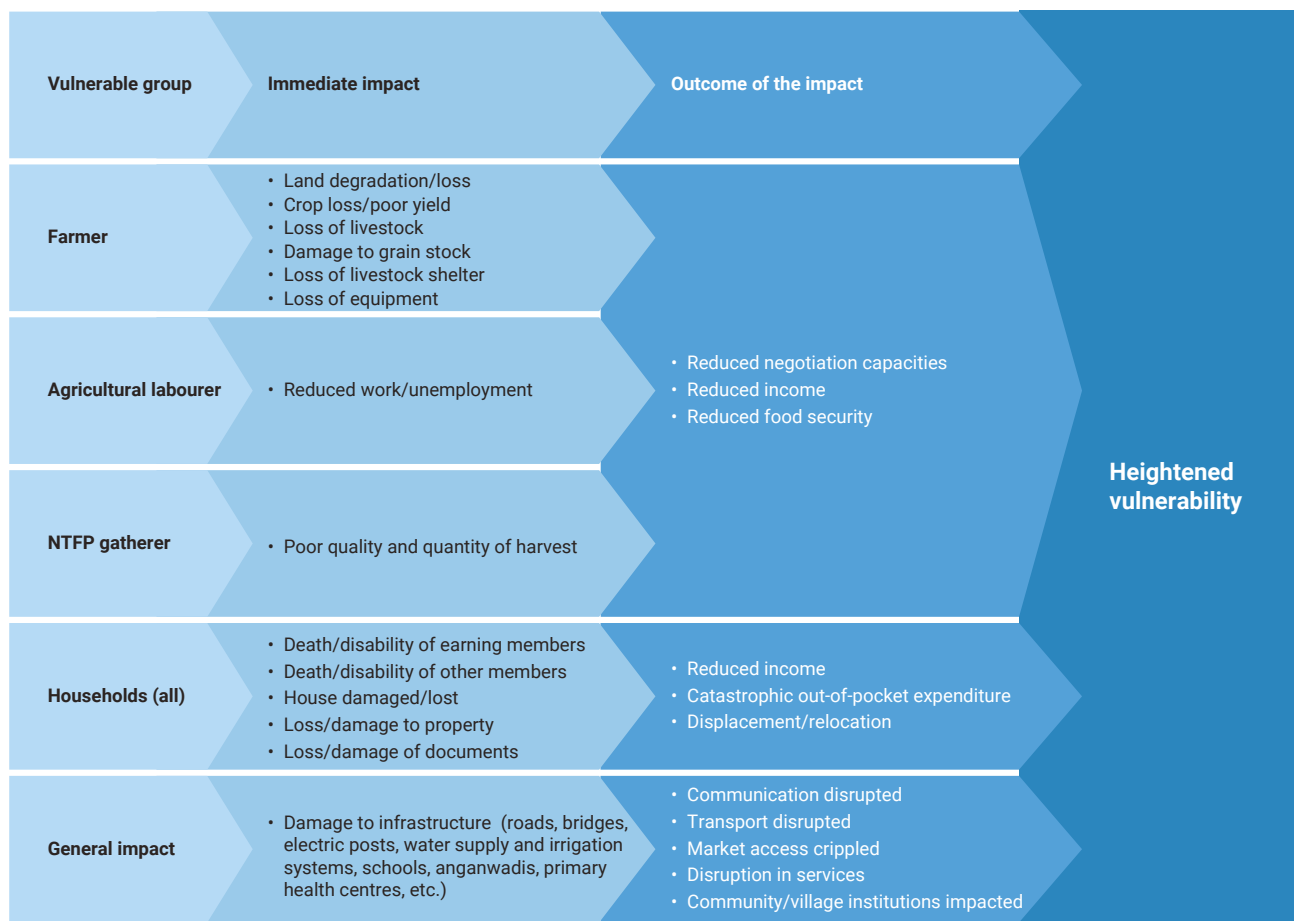
i Government and CSO interventions in many places in Rayagada have helped improve access to drinking water which has helped women gain more leisure time as they do not need to walk far for fetching water

who worked on the *bogodo* or those who were into regular jobs or some business, had a tough time as it was difficult to go far to fetch water and do the cooking before they departed for work.

During floods or heavy rain, the surface water gets contaminated or becomes muddy. Accessing clean drinking water becomes difficult, resulting in longer travel for women to fetch clean water. Fetching water through slippery, muddy paths leads to accidents such as slipping and falling down. Women with visual and locomotor disabilities

and those who were pregnant were particularly vulnerable to such accidents. Continuous rainfall made it difficult to dry clothes impacting hygiene. Fetching firewood and keeping it dry were also challenges women faced during the erratic/intense rains. This made cooking complicated, increasing their exposure to household air pollution. This had health implications. Women from kachha households faced these issues more as they had limited space to keep the firewood dry during the rain. Roof leakages added to their burden.

Figure.7: Impact of climate change on livelihoods of households in Rayagada



Overall, people who depended on nature-based livelihoods were severely impacted by climate change in Rayagada (Figure.7). The farmers, agricultural labourers and those who collected NTFP were highly vulnerable. Loss of land and land degradation, crop loss/poor yield, loss of grain stock at home, loss of agriculture-related infrastructure and equipment and loss of livelihoods were the key immediate impacts on

the farmers. While reduced availability of work and unemployment were the immediate impact on the agricultural labourers, those who gathered NTFP reported reduced quality and quantity of such produce. The outcome was diminished negotiation capacity/agency for these groups, a decline in income and reduced food security.

While these were the specific impacts and their outcomes on the vulnerable households, these households also had to confront the general impact of climate change that every household in Rayagada experienced. These included damage to public infrastructure, disruption of transportation, communication, market access and access to public services, and negative impact on village institutions. Death and disability of earning/ other members, damage to house and property, displacement/relocation and loss of documents such as land deeds were other outcomes.

Coping strategies

During the group discussions, the communities were asked to rank the three most important coping strategies adopted by the households most affected 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 (Table.7). Out of the 16 groups which discussed the issue, 13 ranked labour migration as the most important coping strategy and all 16 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. People took loans from both formal and informal sources. The informal sources included friends, relatives and moneylenders and formal sources included SHGs and banks. Depending on grains from the previous harvest emerged as the third most important strategy. Reliance on Public Distribution System was highlighted as the fourth. Searching for alternative employment locally, relying on community grain bank/relief materials, NREGS work, leveraging savings, etc. were also mentioned by one or two groups as coping strategies.

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

Rank	Strategy	Number of groups that rank the strategy among top 3
1	Labour migration	16
2	Taking loans	7
3	Depending on grains from previous harvest	5
4	Relying on PDS	4

Source: Primary data from group discussions, 2024-25

Although people mentioned taking loans as the second most important strategy, it 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 in the subsequent year. Depending on grains from the previous harvest was a fallback

Households in Rayagada are conscious of the changes in climate that are impacting agriculture and have been adopting pragmatic strategies

mechanism only for the households engaged in agriculture. It also depended on whether the previous harvest was good. 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. While smaller families were able to cope with subsidised grains from the PDS, larger families could not do so. There were also families without ration cards who could not access PDS during a crisis. As a result, households adopted multiple strategies to cope with the situation. Key informant interviews revealed that households in Rayagada are conscious about the changes in climate that are impacting agriculture and have been adopting pragmatic strategies. Some of the key strategies adopted are given below

Key adaptation strategies within agriculture

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> ◆ Giving up agriculture ◆ Reducing area of cultivation ◆ Leasing land to others ◆ Terrace cultivation ◆ Sharecropping ◆ integrated farming ◆ Moving downhill ◆ Widening the billo/low-lying land ◆ Moving away from bogodo chas ◆ Switching to plantation/fruit/cash crops | <ul style="list-style-type: none"> ◆ Leveraging the government schemes/programmes ◆ Using hybrid/treated seeds ◆ Applying fertilisers ◆ Trying new/resilient plant varieties ◆ leveraging agricultural loans/subsidies ◆ Lift/drip irrigation using solar and electric pumps ◆ Using agri-machinery/equipment ◆ Digging wells including borewells and tube wells | <ul style="list-style-type: none"> ◆ Horticulture ◆ Exploring new cropping methods ◆ Crop insurance ◆ Leveraging the Minimum Support Price (MSP) ◆ Taking up agricultural /other daily wage labour locally ◆ Some members worked as labourers in other farms ◆ Establishing another steady source of income |
|---|--|--|

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, even in remote areas like Kainpur, vegetables came from Andhra Pradesh or Paralakhemundi market. Supply of rice through PDS resulted in reduced reliance on paddy cultivation. Leasing land to others for agriculture and sharecropping were also strategies to reduce risk. Many adopted *mishritha chas* (integrated farming) which ensured some steady income throughout the year. Moving downhill was another strategy with the primary purpose of improving overall access. In Rayagada, not only did households move, in some places, part of or even the entire village also moved or was relocated as a result of extreme climate events. Nearly half of the households from Kudungi village moved about nine km downhill establishing lower Kudungi village. Their lives and livelihoods are currently spread across the upper and lower Kudungi villages. However, such movements had cost implications and depended on the resources and agency of the households. Those who did not have resources continued to stay in vulnerable areas.

Terrace cultivation has been a practice to ensure better utilisation of available water. Widening the *billo* (low-lying land) for expanding paddy

cultivation was a strategy to expand the stream-fed land available for cultivation. Organic farming yielded smaller fruits and resulted in less money. Applying fertilisers has been a key strategy to overcome this. “*Bogodo work*” has been difficult and yield was poor. Women who used to practice *bogodo chas* explored newer options such as poultry. Moving away from *bogodo chas* to plantation crops /cash crops was another strategy although it affected the cultivation of millets in the area. *Bogodo chas* has considerably given way to cashew plantations in Rayagada. The single most important transition in agriculture that substantially improved the financial resilience of farmers in Rayagada is the shift from *bogodo chas* to cashew cultivation. It is the money from the annual sale of cashew that primarily helps the farmers in Rayagada meet their major financial requirements such as expenses related to the education of their children, who are in residential schools and at other higher education institutions across Odisha. However, climate change has substantially impacted cashew cultivation also, making it highly risky to depend solely on agriculture. The cashew plantations in Rayagada were devastated during Cyclone Titli and it took several years for households to recover as land restoration and planting new saplings- even hybrid varieties- took at least three to four years to yield a good crop.

The whole government ecosystem such as the 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

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> ◆ NREGS ◆ Supply of hybrid seeds/saplings ◆ Minimum Support Price (MSP) for produce ◆ Free and subsidized equipment/technology ◆ Lift irrigation programmes | <ul style="list-style-type: none"> ◆ Solar/electric pumps ◆ Weather alerts ◆ Improved mobile connectivity ◆ Social forestry initiatives ◆ Agroforestry initiatives ◆ Horticulture initiatives ◆ Market linkages ◆ Check dams | <ul style="list-style-type: none"> ◆ Water tanks, tankers ◆ Training/skilling programmes including DDUGKY ◆ Odisha Livelihood Mission ◆ Mission Shakti ◆ Millet mission ◆ General infrastructure development |
|---|--|--|

Modernisation of agriculture 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, using solar and electric pumps, incorporating other agricultural machinery and equipment, digging wells including borewells and tube wells, adopting horticulture, exploring new cropping methods such as System of Rice Intensification (SRI), availing crop insurance, etc. were some of the strategies. 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 the 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 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 needs to make some initial financial investment, which was difficult for many to mobilise, given their precariousities. In many instances, the processing took long that demotivated others from applying for the schemes.

Other than exclusively depending on agriculture, farmers also took up agricultural labour and 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. Some even went beyond to establish another steady source of income to spread the risk rather than depending exclusively on agriculture. Engaging in business or self-employment activities such as running a rice mill, a grocery store, a tailoring shop, an eatery, etc., along with agriculture, helped people spread the risk beyond agriculture.

CASE STUDY

Spreading the risk through income diversification: Lessons from a successful farmer

Krishi Mitraⁱⁱ of Laxmipur panchayat, Jagannath Sabar, a middle-aged farmer from Tuburuda village, is known for his integrated farming. Belonging to the Saura tribe, he cultivates over eight acres of *bogodo* where he has more than 2000 cashew trees, along with some jackfruit and mango trees. He also cultivates one annual rice crop in his small *billu*. Rising before dawn, he starts his day at 3.00 a.m., works till 8.00 a.m., and then again from 1.00 p.m. to 5.00 p.m. He also employs labourers at ₹200 per day for clearing land for cashew trees. He begins preparations for cultivating millets and rice during June-July, mainly for household consumption. The harvest season for cashew falls from March to May, yielding around 700 kg of cashew each year. Since Cyclone Titli, the yield from his cashew orchards has decreased considerably. The erratic weather patterns in recent years have added to this decline. Still, he considers himself fortunate this year, as he could harvest his cashew crop before May when it rained untimely.

Jagannath Sabar decided to invest in a lighting and sound services business, feeling it will be more profitable than agriculture. He had started the business in 1998, sourcing second-hand machinery with the income from cashew farming. Later, he began supplying shamiana and tarpaulins for hosting events as well. Now he manages to get a few lakhs in profits, a portion of which is channelled into updating the equipment. The peak season is the three-four months from March to May when most weddings take place in the area. Lighting and sound systems have now become indispensable for weddings. He has also employed six workers at ₹400 per day to manage his business. Though agriculture keeps Jagannath Sabar preoccupied throughout the year, he admits that his major source of income is the lighting and sound services business.

The financial stability achieved through the diversification of income has also enabled Jagannath Sabar to invest in the education of his children, though he has studied only up to grade eight. His elder son is a postgraduate with a B.Ed. and his daughter is a graduate. His youngest son who was pursuing graduation, recently got government employment. Jagannath's wife too has broken the traditional mould by becoming an anganwadi worker.

Jagannath Sabar could read the warning signs when the weather began to turn erratic and therefore chose to diversify his income. He is also one of the successful farmers in Tuburuda, who, through intelligent diversification of income, has acquired certain degree of climatic resilience which would shield him from undergoing the economic strains of extreme climate events. He proves that it is possible to make a living from agriculture, but diversifying your income can give you the much-needed resilience and financial security. By investing in the education of children, he has also ensured that this resilience and agency will be their assets.



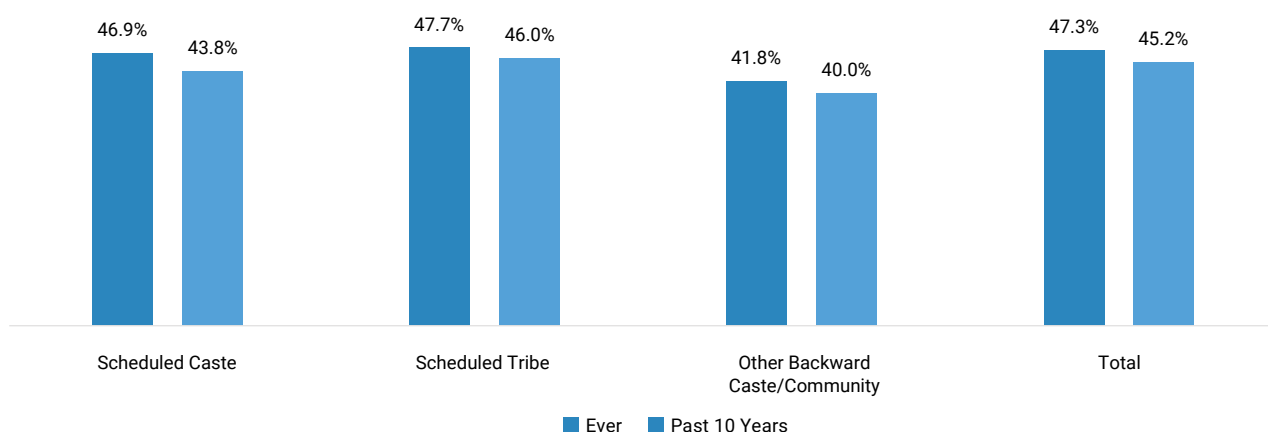
ii Frontline worker under the Odisha Livelihood Mission

Labour migration from Rayagada

Households in Rayagada substantially rely on migration for work. The joint survey by Gram Vikas and CMID in 2020 revealed that nearly half of the households had at least one person who had migrated for work outside the district during

the period 2010-2020 (Figure.8). Trends in labour migration were similar across ethnic groups, with the Scheduled Tribes having slightly higher migration rates.

Figure.8: Percentage of households in Rayagada with a history of inter-district labour migration:2020, N: 440



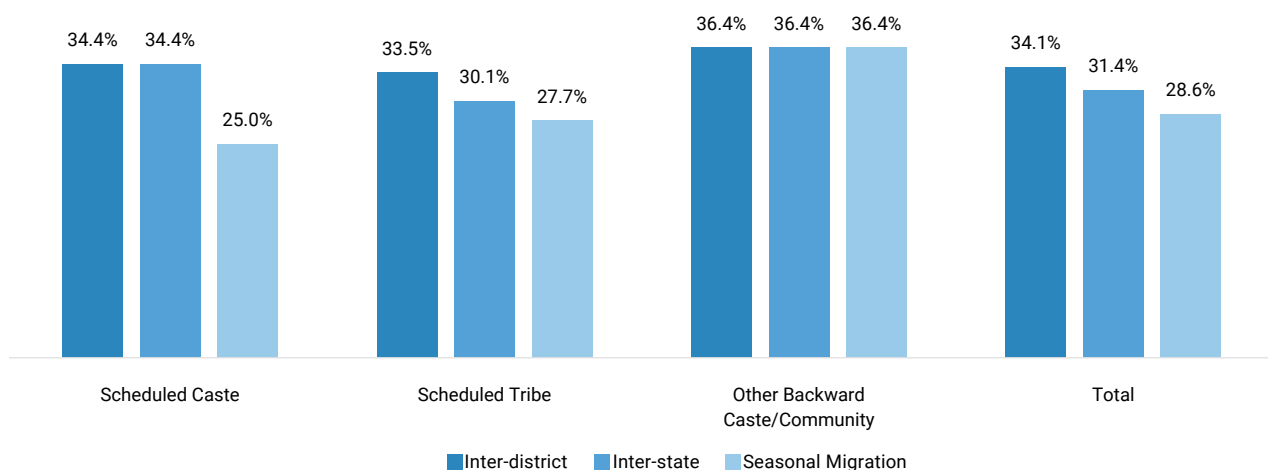
Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Household migration rates

One in every three households in Rayagada had migrant workers in March 2020 (Figure.9). Most migrants moved to other states. Seasonal migrant workers were present in nearly 30 per cent of the households. Migration rates during 2020 were relatively higher for households from the Other

Backward Castes/ Communities. Migration rates were substantially higher for households without NREGS cards, compared to those who possessed such cards. Similarly, households engaged in non-agricultural daily wage labour had higher migration rates compared to those engaged in agriculture/ agricultural labour.

Figure.9: Percentage of households with migrants in March 2020, N: 440

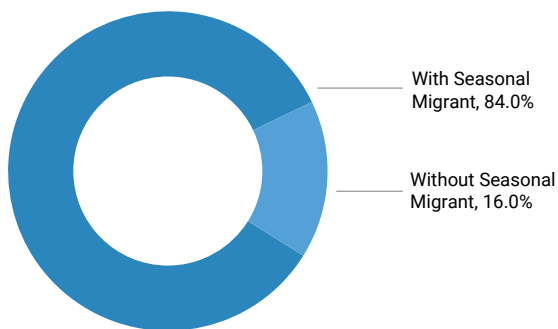


Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021



Seasonal migration, which is a major adaptation strategy of rural households in India, was significant in Rayagada with 84 per cent of the households having seasonal migrants in March 2020 (Figure.10). Seasonal migration was more prominent in the case of households with land compared to those without land.

Figure.10: Percentage distribution of households with migrants in March 2020 by seasonality of migration , N:150



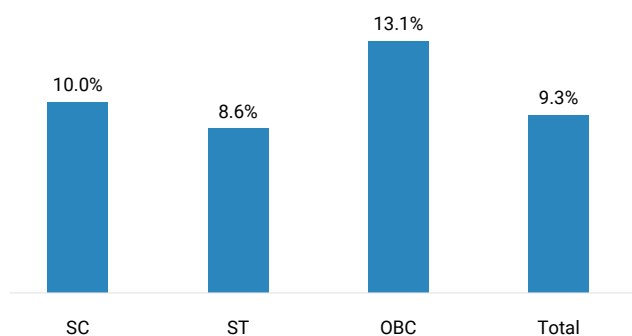
Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Seasonal migration was more prominent in the case of households with land compared to those without land

Distribution of migrants in the population

In March 2020, migrant workers constituted about nine per cent of the population of Rayagada. This proportion was fairly consistent in the case of the Scheduled Castes/Communities and the Scheduled Tribes while in the case of the Other Backward Castes/Communities it was 13 per cent (Figure.11). About ten per cent of the migrant workers were women and this proportion varied widely from five per cent among the Scheduled Tribes to 28 per cent among others.

Figure.11: Percentage of migrant workers to the total population and ethnicity, Rayagada, 2020, N: 2069



Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Estimate of migrant workers

A total of 6605 inter-district migrants from Rayagada worked in various parts of India in March 2020 (Table.8). Among them, 5920 were males. Out of the total migrant workers, 4919 workers belonged to the Scheduled Tribes. Over 1600 workers belonged to other communities.

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

Sex	Ethnicity		Total
	Scheduled Tribes	Others	
Male	4676	1244	5920
Female	242	442	684
Total	4919	1686	6605

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Key destinations

Most of the workers moved to southern Indian states. Hyderabad in Telangana was the most prominent destination. About 16 per cent of workers moved to various districts in Odisha, primarily to Bhubaneswar. Andhra Pradesh, which shares the boundary of the block, was the third most important destination (Table.9). A lot of the seasonal migration to Andhra Pradesh was to Palasa, the nearest city, which was only a few hours away by bus. High wage rates and

continuous availability of work were major reasons for choosing the destinations. The qualitative research revealed that proximity, connectivity, good payments, work opportunities in the construction sector and the presence of fellow migrants from the same area made Hyderabad a sought-after destination. Similar was the case of other destinations in Andhra Pradesh. For women and girls, availability of work in shrimp processing factories was an added attraction in Andhra Pradesh. Regular work opportunities and steady income, high wage rates, weekly payments, presence of others from Rayagada, friendly employers, availability of social security benefits and availability of less strenuous work attracted people to Tamil Nadu and Kerala. In Bangalore, in addition to the factors mentioned above, the pleasant weather was also an attraction.

Table.9: Percentage distribution of migrant workers by destination, 2020

Destination state	Percentage
Telangana	29.5
Odisha	16.5
Andhra Pradesh	14.4
Tamil Nadu	12.2
Karnataka	8.6
Kerala	7.2
Maharashtra	5.8
Others	5.8
Total	100
Number	139

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Characteristics of migrants

Most of the migrant workers from Rayagada were young married men in their late twenties with a median education of ten years. However, over 15 per cent of the workers were illiterate. The majority were married with multiple dependents.

Table.10: Percentage of migrant workers by select background characteristics, 2020

Indicator	Value
Median age (years)	29.0
Percentage of men	92.8
Percentage literate	83.5
Median years of education	10.0
Median number of dependents	3
Percentage currently married	58.3

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Reasons for migration

Two out of every three migrants were unemployed prior to migration and nearly one-fourth were students (Table.11). About nine per cent of the migrants were agricultural labourers before they had migrated. The primary reason for labour migration was the lack of employment. Over half of the migrants reported unemployment or irregular employment as the prime reason. Low wages were mentioned as the reason for moving out by two-fifths of the migrants. High wage rates and continuous employment opportunities were the prime reasons highlighted by migrants for selecting their respective destinations.

Table.11: Percentage distribution of migrants by select characteristics related to migration, 2020

Variable/Category	Percentage
Occupation prior to migration	
Unemployed	65.5
Student	25.2
Agricultural labourer	8.6
Other	0.7
Reason for moving out	
Lack of employment	43.9
Low wage	41.0
Irregular employment	10.8
Other	4.3
Reason for choosing the destination	
High wage rates	53.2
Continuous employment	37.4
Better work environment	8.6
Other	0.7
Total	100
Number	139

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021



Two out of every three migrants were unemployed prior to migration

Work characteristics at destination

Nearly 40 per cent of the migrants were footloose labourers and operated from labour nakas (Table.12). A similar proportion worked in factories, shops and other establishments. About 10 per cent were domestic workers. Workers from the Scheduled Tribes were found to be more footloose compared to others. Construction was the major

sector of employment for all workers, followed by work in factories. Nearly half of the workers from the Scheduled Tribes were engaged in construction work. The proportion of workers from the Scheduled Tribes employed in factories was much lower compared to others. The majority of the workers were unskilled or semi-skilled. The average monthly income of the workers was ₹10,000.

Table.12: Percentage distribution of migrant workers by select work characteristics and ethnicity, 2020

Variable/Category	Ethnicity		Total
	ST	Other	
Category of work			
Naka worker	42.1	25.0	38.1
Employee at shop/establishment/factory	36.4	43.8	38.1
Moves with contractor	5.6	12.5	7.2
Domestic worker	3.7	12.5	5.8
Other	12.1	6.3	10.8
Sector of employment			
Construction	49.5	37.5	46.8
Hotel/restaurant	8.4	3.1	7.2
Worker in shop/establishment	9.3	9.4	9.4
Factory worker	15.9	31.3	19.4
Domestic worker	4.7	12.5	6.5
Other	12.1	6.3	10.8
Skill levels			
Unskilled/Semi-skilled worker	78.5	84.4	79.9
Skilled worker	21.5	15.6	20.1
Median income from wages	10000	10000	10000
Total	100.0	100.0	100.0
Number	107	32	139

Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Impact of migration on the resilience of Rayagada

Gajapati district, to which Rayagada belongs, has been carved out of Ganjam, historically known for its migration to the rest of India and beyond. Households in Rayagada have leveraged Ganjam's social capital for migration. Irrespective of climate change, given the livelihood challenges in Rayagada, labour migration has been the single

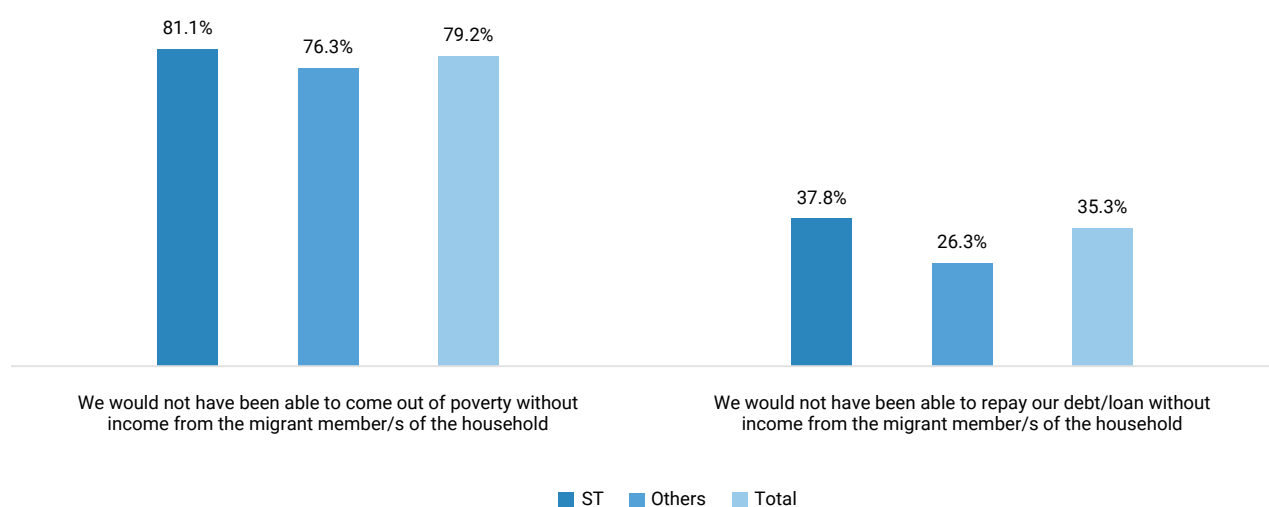
most important coping strategy for households in the block, more so in the case of households impacted by climate change. In 2020, Rayagada received over ₹440 million annually as income from the wages of the migrant workers. The estimated monthly remittances of ₹18 million contributed substantially to the resilience of the region.²⁸

Key findings from the sample survey 2020

The impact of labour migration in the resilience of the households in Rayagada was very evident from the Gram Vikas-CMID survey conducted in 2020. Nearly half of the households had a history of labour migration in the past ten years. Four out

of every five households with a history of migration mentioned that they would not have been able to come out of poverty without the income from migration (Figure.12). 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.12: Percentage of households in Rayagada with migration history by impact on poverty/ indebtedness, 2020, N:207



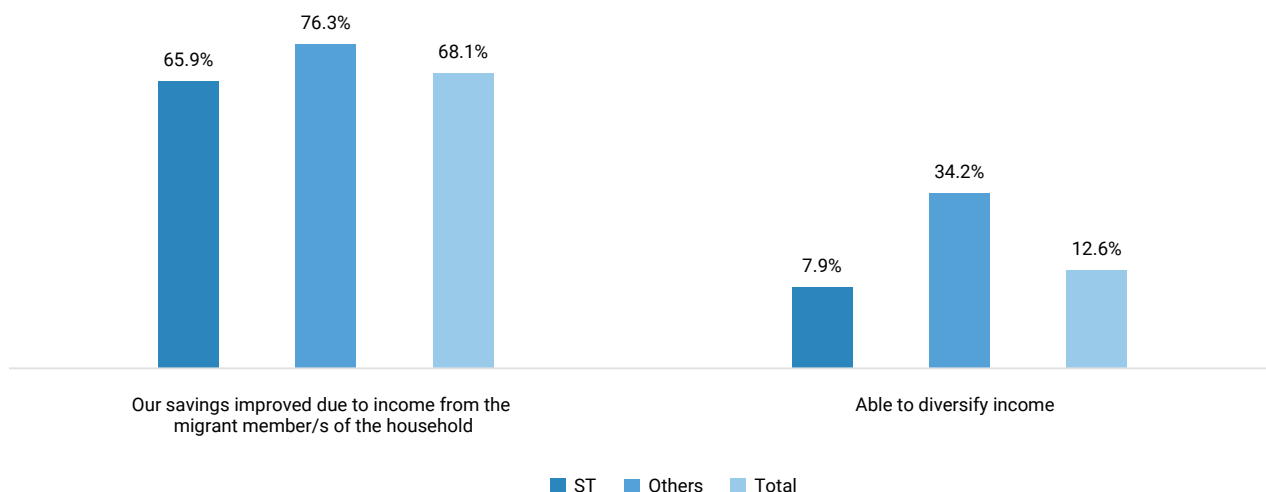
Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

While the Scheduled Tribes benefited more from migration in coming out of their poverty, the households from other communities were able to leverage migration better for improving savings and diversifying their income. In Rayagada, Two-thirds of the households from the Scheduled Tribes with migrants reported improved savings

through migration, compared to three-fourths of households with migrants from other communities (Figure.13). About eight per cent of households with migrants from the Scheduled Tribes were able to diversify their income whereas the proportion of households from other communities with migrants who benefited was four times higher.



Figure.13: Percentage of households in Rayagada with migration history that were able to improve savings and diversify income by ethnicity, 2020, N:207

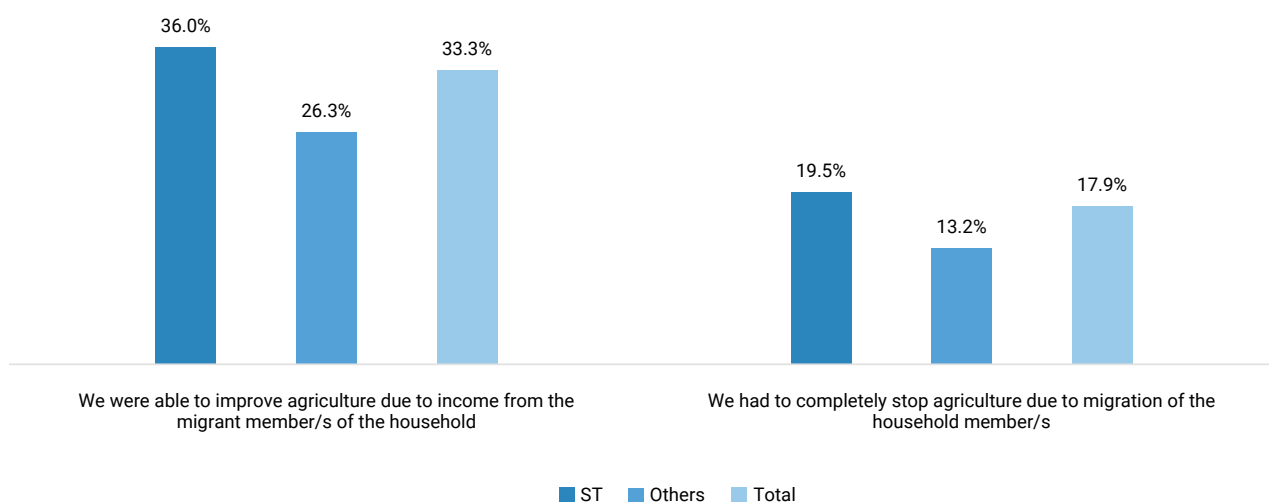


Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

One-third of the households in Rayagada, predominantly from the Scheduled Tribes, were able to improve their agriculture with the income from migration. There were also households which gave up agriculture due to migration of their members (Figure.14).

While the Scheduled Tribes benefited more from migration in escaping poverty, the households from other communities were able to leverage migration better for improving savings and diversifying their income

Figure.14: Percentage of households in Rayagada with migration history by impact on agriculture, 2020, N:207

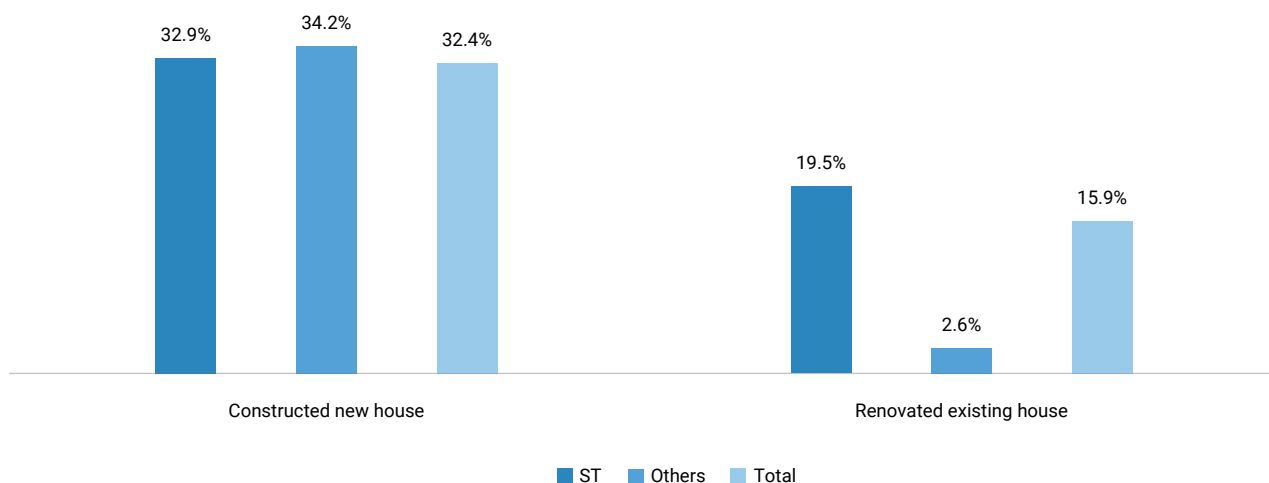


Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

About one-third of the households with migrants were able to construct a new house with the income of the migrant members. About 16 per cent of migrant workers were able to renovate their existing houses with the earnings from labour migration (Figure.15). The households from the Scheduled Tribes with migrants renovated their

houses more compared to others. Migration also helped households to improve their asset base such as television, mobile phone, motorcycle and jewellery. Such assets also came handy when there was an urgent need of money, as they could be liquidated.

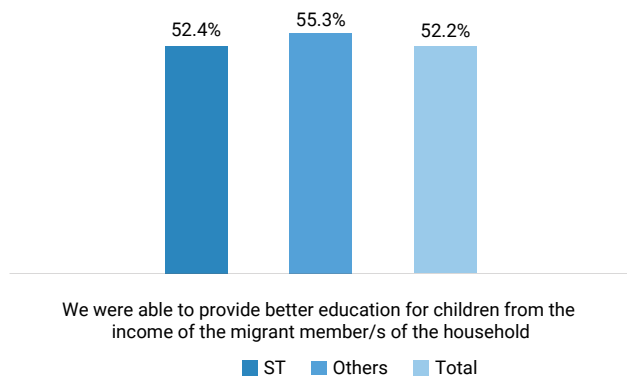
Figure.15: Percentage of households in Rayagada with migration history by impact on housing in the past 10 years from the exclusive income of migrant members, 2020, N:207



Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Nearly half of the households from Rayagada with a history of migration were able to provide better education for their children using the income from migration (Figure.16).

Figure.16: Percentage of households in Rayagada with migration history by impact on education, 2020, N:207

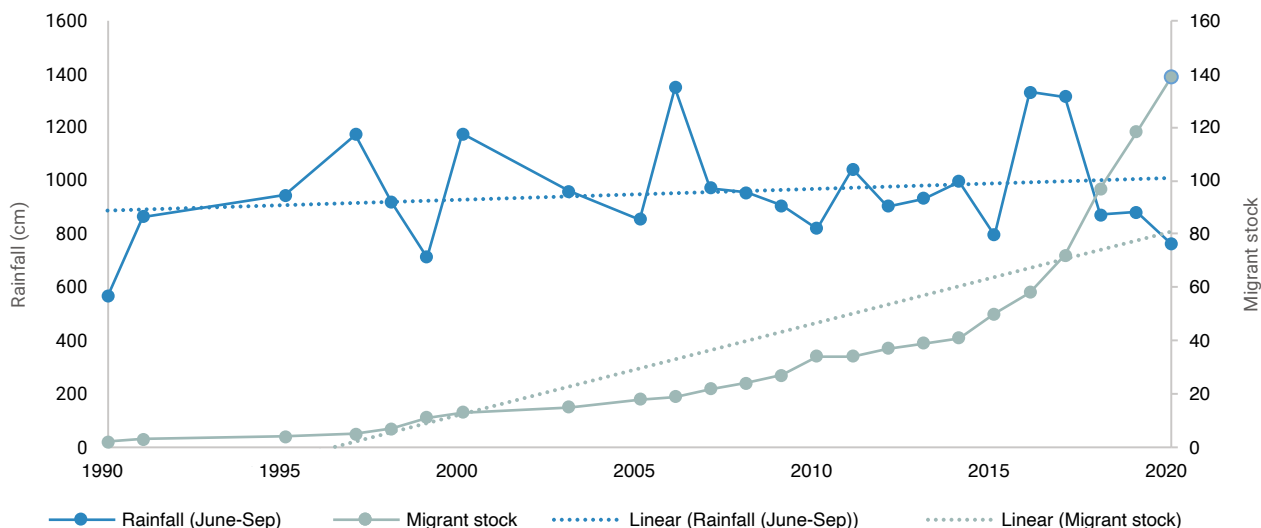


Source: Labour migration from rural Odisha, Rayagada block, Gajapati, Gram Vikas and CMID, 2021

Migration as coping strategy for households in Rayagada

The evolution of labour migration in Rayagada was traced from the survey data. It was found that the labour migration from Rayagada started around early nineties and picked up after 2010. This coincides with the substantial spread of cashew cultivation in Rayagada, replacing *bogodo chas*.²⁹ Since 2015, labour migration from Rayagada has increased substantially, especially after the devastation caused by after Cyclone Titli in 2018. Quick recovery needed quick money which was possible through migration. An exploration was done to understand if the labour migration has any connection with the seasonal rainfall during the Kharif. Rainfall data from 1990 onwards during the period June to September was compared with the migration trends. However, there was only a very weak relation (Figure.17).

Figure.17: Trends in seasonal rainfall and labour migration, Rayagada:1990-2020



Source: Authors' calculations based on the survey data (2020) and the daily rainfall data 1990-2020 from Special Relief Commissioner, Govt. of Odisha

Labour migration has been the single most important coping strategy for households in the block that confronted economic shocks, more so in the case of households impacted by climate change

Irrespective of climate change, given the livelihood challenges in Rayagada, labour migration has been the single most important coping strategy for households in the block that confronted economic shocks, more so in the case of households impacted by climate change. Four broad streams of labour migration were observed in Rayagada (Table.13).

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

No	Stream	Reason	Outcome
1.	Short-term focussed moves	To address an immediate cash requirement	Cash requirement of the household/individual met
2.	Seasonal migration	Leverage work availability when not available locally	Income assured when work is not locally available
3.	Long-term circular migration	Leverage migration as a long-term strategy	A predictable and regular monthly income for the household
4.	Permanent migration	Moving out of the block permanently	Improved family's general access to resources and services

Source: Primary data from qualitative research, 2024-25



Short-term focussed moves

People migrated to resolve an immediate cash requirement such as repayment of an advance/ loan, marriage or death-related expenses in the family, construction/renovation of their houses, purchase of land, payment of children's education expenses, setting up a new business, 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 reasonably good wages and regular employment to quickly meet their targets. There were also short-term casual/experimental moves, particularly by the youth, to visit and work with their friends who were migrants. Many youth went to explore and experience places, working there for a few months. Construction and other daily wage work were major sources of income for such focussed moves.

Seasonal migration

Seasonal migration to neighbouring states and returning for agricultural work in the fields during the Kharif season has been a key adaptation strategy of households that earlier used to depend exclusively on agriculture. The duration of migration depended on their level of engagement in agriculture, agricultural labour or other daily wage labour locally. These were primarily married men in the age group 30-50 years. Construction is the major sector of employment at the destination, with Palasa and Visakhapatnam in Andhra Pradesh, and Hyderabad in Telangana being the key destinations, in addition to Paralakhemundi, Berhampur and Bhubaneswar within Odisha. They were primarily engaged in unskilled/semi-skilled construction work as footloose labourers.

Long-term circular migration

This is increasingly becoming the sought-after migration strategy for households in Rayagada. Fuelled by aspirations and for ensuring a steady income for the household, men, particularly youth from all ethnic backgrounds, moved to the cities in southern Indian states such as Kerala, Tamil Nadu, Karnataka, Andhra Pradesh and Telangana and also to Maharashtra in the west to work in factories, shops, establishments, restaurants and all other possible sectors. Nearly one-fifth of the workers were skilled or became skilled while working at the destination, received a steady income, and worked throughout the year. Workers made one or two visits to their native place in a year for a duration of one or two months.

Permanent migration

While temporary migration for work has been a key strategy for households in Rayagada, there was also permanent migration out of Rayagada. Some of the married migrants who made temporary moves also took their spouses/ children along with them. Very few of them eventually settled at the respective destinations, and many returned to Rayagada. Most of those who gained higher education and earned regular employment elsewhere in Odisha permanently moved away from Rayagada to urban centres with their spouses and children. Such movements were primarily towards improving their family's general access to services and for the education of their children in particular, given the remoteness of Rayagada. Similarly, many people who moved without families outside the state for formal jobs shifted their families to Paralakhemundi, the district headquarters, Berhampur in Ganjam or to Bhubaneswar.

Migration from agrarian households

Seasonal migration to neighbouring states and returning to Rayagada for agriculture during Kharif has been a key adaptation strategy for households that earlier used to depend exclusively on agriculture. Men migrated while women stayed

behind and took care of the farm and home. There were also households which gave up agriculture forever and depended exclusively on migration for livelihood. People who planned their seasonal migration well were able to leverage the savings from such migration to diversify income locally.

CASE STUDY

Some roots seek new soil

The lives of the rural communities in Odisha are so integrally connected to land that many are reluctant to give up agriculture entirely even if it is not profitable and is subject to erratic weather patterns. Some of these villages are so remote that they do not have access to education or means to meet medical emergencies. Migration offers these communities the crucial agency to reorient their lives. When 21 households from Kudungi village of S. Karadasingi panchayat shifted to a place about nine km downhill, which they now call Kudungi, Tala Sahi (Lower Kudungi), for better access, Shivram Mandal, a 30-year-old seasonal migrant belonging to Saura tribe, could leverage his savings from migration to join them. He could also make himself more resilient by income diversification.

Shivram Mandal's decision to migrate for work arises from his conviction that one needs to have money to reach anywhere. His first destination was Palasa, Andhra Pradesh, where he worked as a helper in the construction sector for a short stint of one month, at the age of 20. But learning the required skills from his uncle, he later returned to Palasa as a mason and began going there as a seasonal migrant more frequently after his marriage to meet the increasing household expenses. He now works with a contractor and gets a weekly payment at the rate of ₹650 per day. The choice of destination in Shivram Mandal's case is influenced by matters at home, especially the proximity to his native place. He works for seven months at Palasa and spends the remaining months at home, managing the agricultural work. Shivram Mandal had resorted to his savings from migration to buy land at Tala Sahi where he has now built a kachha house. People who stayed behind at the Upar Sahi (Upper Kudungi) were either those who were sentimentally attached to their lands or those who had no money to buy land downhill.

Shivram Mandal chose to be a seasonal migrant so that he could spend the rest of the time with family, tending to the crops. He has around five acres of *bogodo* at Kudungi Upar Sahi where he has planted cashew and some jackfruit trees. They have no *billo* there as it is a mountainous area. Though the villagers once used to cultivate some indigenous breed of mountain rice, they do not do it anymore. Though he has shifted to Kudungi, Tala Sahi, his parents still stay at Upar Sahi, as they are sentimentally attached to the land. At Tala Sahi, he has also leased some three acres of land where he cultivates rice during the June to November season when he stays home.

In addition to reorienting his life by shifting to Kudungi, Tala Sahi, Shivram has also diversified the family income by supporting the entrepreneurial initiative of his wife. This was a strategy to meet the additional expenses after their first child was born. His wife has studied up to higher secondary and is good at tailoring as well, which she learned staying at Paralakhemundi, prior to their marriage. They bought a sewing machine for around ₹8000 using Shivram's savings from migration and also the income from cashew farming. Their monthly income from stitching cloths ranges from ₹7000 to ₹8000. In addition, she also works as a helper at an anganwadi.

Shivram Mandal could reinvent and reorient his life partly because he had the financial security offered by migration. It has also given him crucial insights on how to survive in times like these when agriculture alone will not give an assured means of livelihood.

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. Typically, the older persons/parents were engaged in agriculture and young men migrated. People also went with intermediaries who came to the villages for recruiting workers to factories in other states. In such cases, there was no preference of destination. People who needed money accepted advances and went to wherever they were taken. The Scheduled Tribes were more dependent on such intermediaries compared to the others.

The transition from *bogodo chas* to plantation crops reduced the scope of agricultural labour in Rayagada and accentuated migration. Men moved to cities after planting low-maintenance plantation crops. “Kaju lagao, bahar jao” (plant cashew and go out for work) has become a key resilience strategy. Women took care of the maintenance of the trees and collection of fruits. This strategic shift also paved the way to a transition from seasonal migration to long-term circular migration of men. Many migrants used the savings accumulated through migration to establish businesses or engage in self-employment, making it possible for them to return and settle permanently in Rayagada.

CASE STUDY

In pursuit of a stable income: Story of a resilient return migrant

In the quiet village of Kainpur, close to the Mahendragiri peaks, a modest grocery shop sits nestled at the chowk. Life of Durgaprasad Badanaik, the 47-year-old owner of the shop, traces the arc of India's internal migration story, woven with resilience and a steady pursuit of stability.

Born into a Khandayat family, one of the advantageous castes in the area, Durgaprasad was one of the four siblings of a home that was supported by just one acre of land. He did not complete formal schooling due to various constraints, including economic hardships. He studied only up to the fifth grade, before necessity pulled him away from the classroom towards survival. At the age of 17 years, he left for Surat in Gujarat where he worked for two years in a power loom, enduring the hot, and noisy environment.

By 1998, the entire family including his parents migrated to Hyderabad, drawn by word of mouth and the promise of wages. A fellow villager helped them settle into work, first in a plywood factory, and later in a vineyard in the city's outskirts. Like many other informal workers, Durgaprasad and family members worked hard, lived hand to mouth and saved all they could. In 2001, they returned to their village for the annual jatra (festival) and never went back.

With the family's hard-earned savings from migration, Durgaprasad leased a small plot in Kainpur junction and opened a kirana (grocery) store, a modest shop that was enough to help the family get a fresh start and a sense of stability.

Durgaprasad got married in 2007. So did his two sisters. The earning from the shop helped pay for their weddings. His brother, once a migrant like him, completed his higher secondary education and now runs a Common Service Centre (CSC) in the village.

Not all has been smooth. Cyclone Titli gave a harsh blow, damaging the shop and the stock. Government compensation helped, but only partly. Fortunately, Durgaprasad had already built a pucca house around 2015-16 under a government scheme which could withstand the cyclone.

But Durgaprasad wasn't done. When he came to know that an NGO in the area needed a vehicle on lease, he seized the opportunity. He bought a second-hand vehicle, a Bolero, in 2021, investing rupees five lakh. The steady income from the shop and the Bolero helped him to buy another Bolero later in 2023. These vehicles now cater to local transport needs like weddings and travel and provide the family a steady additional source of income.

Durgaprasad now owns six acres of land, five acres of *bogodo* and one acre of fertile *billo*, which he has leased out. *Bogodo*, typical of the region, demands investment and patience. He considered cashew farming a common choice, but the low returns discouraged him. His time is divided and precious; the shop demands daily attention, and the vehicles also need to be monitored. He once considered poultry farming because government loans were available for it. But he stepped away as he found it too risky to manage the shop without reliable help. "I haven't done much in agriculture because I never had the time," he said, not with regret, but with resolve.

Durgaprasad has invested in his children's education. His elder son is pursuing a Diploma in Mechanical Engineering in Paralakhemundi, the district headquarters. The younger one is in grade nine at a government-run residential school. He hopes that they will build lives that do not require migration or at least not the kind he had endured. He continues to access subsidised food through the Public Distribution System (PDS). For Health Emergencies, the family has the Ayushman Bharat health card.

Durgaprasad's journey is one among those of the many Indians who move, return, rebuild, and persist. His shop may be small, but it stands tall as proof that migration isn't just about distress and coping, it can be an investment for a bright and much resilient future back home.



CMID/Benoy Peter

CASE STUDY

Investing in your backyard: A return migrant turns entrepreneur

On the steep, winding road to Kiliganda village, one hardly comes across a vehicle. The village is dependent on Rayagada town which is over 10 km away for nearly all important economic activities. Punia Sabar, a forty-seven-year-old return migrant, sensed unique opportunities in Kiliganda's remoteness. Now the owner of a rice mill and an autorickshaw, he showcases the potential of migration to make rural communities resilient.

Like many others in his village, Punia too used to earn a living by working in the agricultural fields of others and also by cultivating leased land. Whatever land the family owned was not partitioned and was shared among his father's three other brothers. His first stint at migration was when he went to work in Visakhapatnam, in Andhra Pradesh. He began migrating more frequently after his marriage, to meet household expenses, working for three to four months at a stretch. He went on to work in different cities like Vijayawada and Hyderabad. His last migration was to Visakhapatnam a year back. Punia Sabar testified that he used to migrate whenever he faced a shortage of money. But instead of leaving his village to settle in new pastures, Punia decided to invest in his own backyard which makes his story unique.

Sitting on the veranda of his rice mill, he recalled how the villagers had to go to Rayagada or Narayanpur, which are over 10 km away, to get their rice dehusked and to pound their millets. In the absence of effective transportation facilities, they would mostly carry it on their heads. Punia decided to start a rice mill realising a potential business opportunity. He relied on second-hand machinery and invested a total of ₹55,000. Now people from Kudungi, Kiliganda and many nearby villages depend on his rice mill. There was a time when he used to process 10-15 sacks of rice a month. But currently it has dropped to five to six sacks as people gave up paddy cultivation and rely on PDS.

Punia decided to buy an autorickshaw sensing the poor transportation facilities in his village. The villagers had to hire autorickshaws from outside the village to meet emergencies. Hiring an autorickshaw from outside the village to go to Paralakhemundi was very expensive. In 2025, he spent around Rs. 100,000 to buy a second-hand autorickshaw, mostly relying on his savings from migration. Although he has appointed a driver, he is training his 20-year-old son Karthik, a school dropout, to take driving lessons, so that he can earn a livelihood from it. Karthik too had followed his father's footsteps and worked in Hyderabad but returned after a year. Punia Sabar is now confident that he has made his family financially secure and prefers his son to stay in the village so that there will be someone to look after the family members.

Despite focusing on entrepreneurship, Punia Sabar has not given up agriculture entirely. However, he has turned away from the subsistence farming practiced by most people in his village and has instead focused on crops like cashew which have the potential for income generation. He has bought half an acre of land where he has planted around 200 cashew trees, most of them grown from seeds handpicked from high-quality varieties cultivated in the village.

Punia Sabar had undertaken considerable risks in choosing the arduous journey of migration. But all the roads he had traversed have given him the much-needed financial resilience to return to his village. In the context of climate change which has crippled the agrarian sector, Punia Sabar's story is a shining example of how income diversification from migration can contribute to upward social mobility.



The overall reduction in agricultural/non-agricultural daily wage labour motivated those who depended on such labour to look out for opportunities. With the exposure to relatives/neighbours/friends/fellow villagers already leveraging and benefitting from migration, such workers also migrated with the support of their social network. A lot of such migrants chose footloose work, as they could not afford to wait for a month for salary. They needed money for managing their expenses at the destinations and also there was a need to send money home on a regular basis.

A quick recovery from disasters required quick money which agriculture was unable to provide. Other than taking advances from buyers, those who depended on agriculture had to wait for several months until the harvest and sale of their produce to get some money. With the changes in climate, the farmers are unsure of a good crop and a substantial income. NREGS could not be depended on as payments are generally delayed. People resorted to migration for work as it ensured quick liquid cash. Hence, migrating and taking

Since a regular income is hard to come by, people of Rayagada, irrespective of ethnicity, often rely on migration as an adaptation strategy to meet any substantial out-of-pocket expenditure at home

loans/advances were the key strategies of agrarian households.

Since a regular income is hard to come by, people of Rayagada, irrespective of ethnicity, often rely on migration as an adaptation strategy in the case of any substantial out-of-pocket expenditures at home. Such expenses included marriages and deaths in the family, hospitalised treatment, construction/maintenance of houses, paying education expenses of children, etc. People who received government funds to construct/renovate houses enhanced such designs to suit family requirements, supplementing them with income from labour migration.

CASE STUDY

Giving the girls their best: The strides of the Raikas in providing education to their three daughters

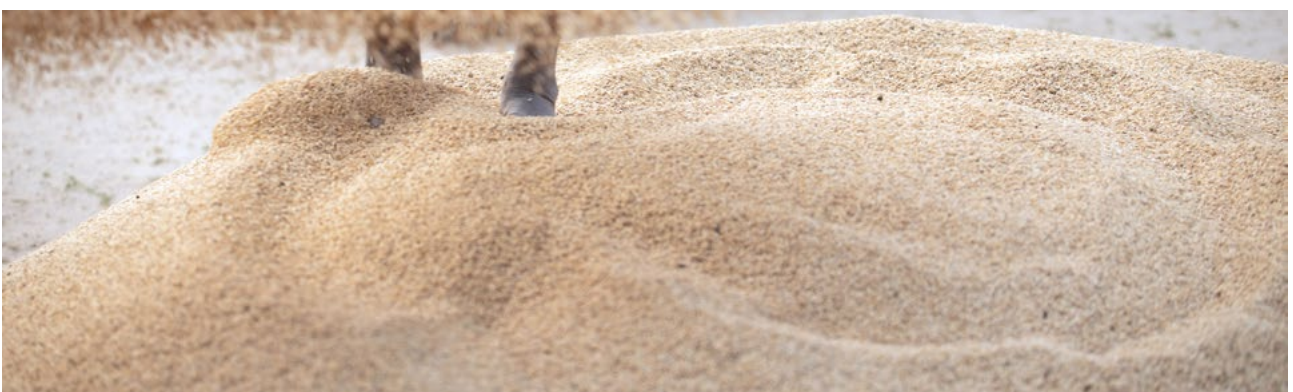
For 42-year-old Pilatha Raika and his wife, migration was not a choice but a necessity. Driven by the need to support his growing family, Pilatha had left Talamunda, a large Christian village in Rayagada, in 2008. While his wife stayed behind, Pilatha found work in an iron and steel company in Hyderabad where he worked for six years. It was a tough life far from home, but the job brought financial stability. In 2014, Pilatha returned with some savings and a renewed sense of hope.

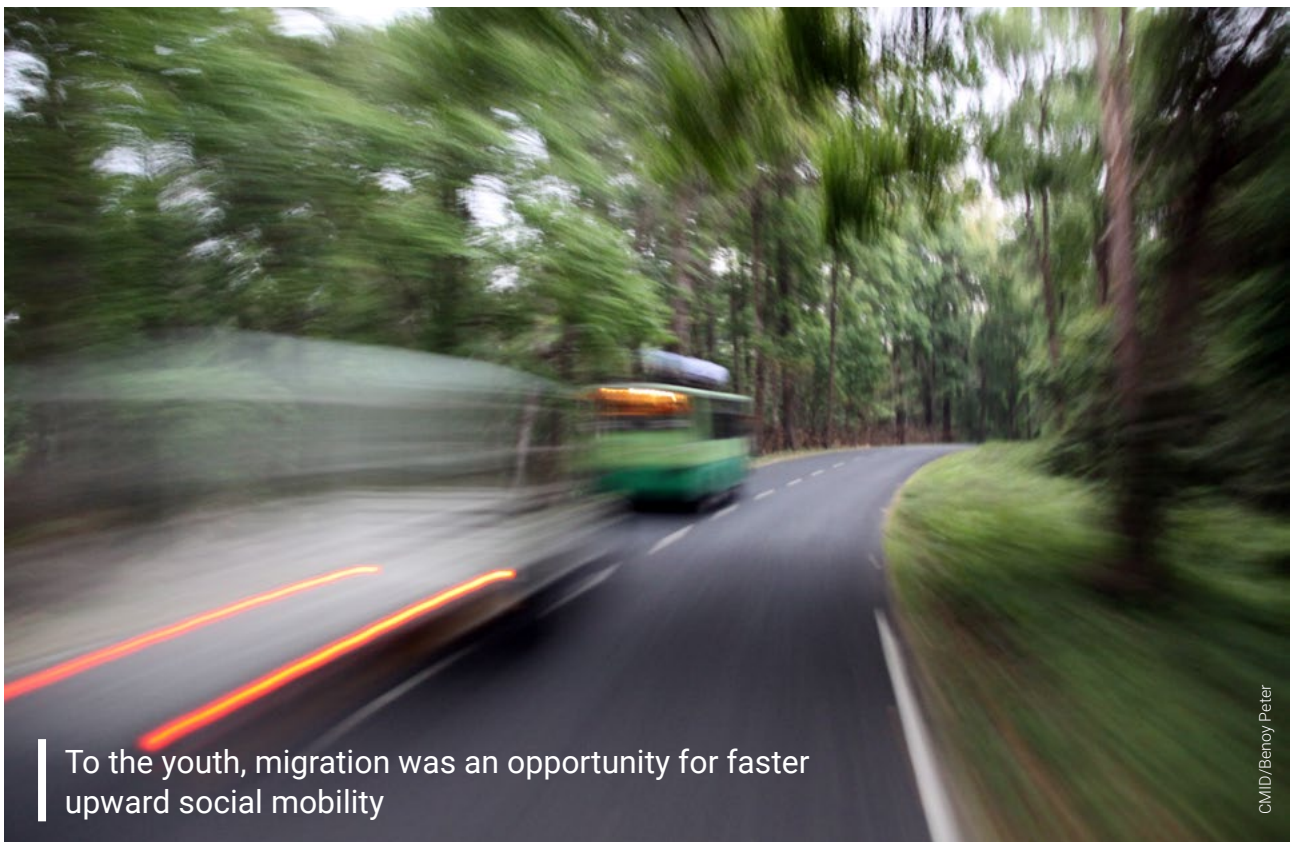
Two years later, in 2016, he migrated again; this time to Chennai where he joined a pipe manufacturing unit. His journey was made easier by others from Talamunda who were already working in the city, and they helped him to settle down. In Chennai, his days were spent doing indoor labour, earning ₹10,000 a month. His employer provided accommodation, and after spending ₹2,000 on food, he sent home the rest, about ₹7,500, through bank transfer. He returned to the village during the national lockdown in 2020. He now works as a labourer in Talamunda, earning ₹300 per day at construction sites, or ₹200 when working on *bogodo*. He also works on his own five cents of *billo*. His wife contributes by working regularly on nearby lands.

Though he is educated only up to grade seven, Pilatha recognises the importance of education for children's overall well-being and future prospects. He did not have many options growing up, and he is clear that his children will. Pilatha and his wife are determined to give their three daughters better opportunities. Their eldest daughter lives in Berhampur in Ganjam where she studies in a higher secondary school. A rented room there costs around ₹1,200 per month. The second daughter has just completed her grade 10, while the youngest is in grade six and stays at the Government Pre-Matric Girls' Hostel in Ramagiri, Gajapati. All three receive scholarships for tribal children, and the parents regularly send money to cover their other expenses. To reduce costs, the eldest one carries rice and vegetables from home.

Pilatha and his wife make use of every resource they have. They avail all the government entitlements meant for tribal households. The family grows rice and vegetables on their land, which helps reduce their expenses. In 2018, Cyclone Titli destroyed nearly half of their cashew plantation, making a significant dent in their income. They had around 100 trees, but today only 50 to 60 remain. In 2025, their cashew yield was hit by erratic weather, reducing the income to around ₹5,000.

The family had received money in 2008 from a government housing scheme for constructing a house. Adding money from the savings through migration, they expanded it to suit the family needs. Now the family has a pucca house and is not much worried about frequent cyclones damaging it. His former employer in Chennai has been calling Pilatha for work for quite some time now. He is considering returning to Chennai, but only after ensuring that his second daughter's school admission is complete.





To the youth, migration was an opportunity for faster upward social mobility

CMID/Benoy Peter

Youth and labour migration from Rayagada

While Rayagada still has substantial number of first-generation high school learners, there is increased recognition of education as a long-term investment. With residential schooling for children from socially and economically disadvantaged communities in remote areas becoming a universal phenomenon in Odisha, children and youth from Rayagada 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 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 disconnected them from agriculture. Parents also did not want children to pursue agriculture and did not engage them in the agricultural activities even when they were at home.

Although access to education improved, aspirations around education were not concrete. The 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 Social Shapes Foundation and Gram Vikas. As a result, a substantial number of children dropped out of the education system during their high school or higher secondary education. Even those who completed higher secondary or graduation faced challenges in securing a regular employment despite having reservations, given the structural constraints. Educated youth remaining unemployed was a deterrent to many others in pursuing higher education and they found migration a faster opportunity for upward mobility.

CASE STUDY

When distant lands brighten homes: Migration as an income diversification strategy

For the rural poor in Odisha, especially those belonging to socially and economically marginalised communities with limited landholdings, migration offers a crucial means of resilience in the wake of dwindling income from agriculture. Raju Badaraita, a Scheduled Tribe Christian boy from Talamunda village in Rayagada, is one of those who, facing insufficient income from agriculture, decided to migrate for work to support his family.

Although Raju is disengaged from agriculture, his family owns over one acre of *bogodo* where they have cashew, mango and jackfruit trees. They used to cultivate pineapples as well but have discontinued it due to frequent crop damage caused by monkeys. They do not have *billo* or *patta* land. They used to get around 400 kg of cashew a year, but this year they could harvest only about half of that following erratic rains. Cultivation on the hilltops has now decreased significantly owing to disturbances caused by monkeys. Cyclone Titli also devastated the village. Raju's family took five to six years to recover from the economic strain it caused.

Raju had first migrated in 2019, after an unsuccessful attempt to complete his higher secondary education, to secure money for the marriage of his two sisters. The family had taken a loan of ₹1,60,00 from a Self-Help-Group (SHG) for the weddings. The villagers also contributed ₹10,000 to ₹30,000, as is the practice in the village. They now have an outstanding debt of around ₹60,000 from the marriage expenses. Raju used to work in Chennai, earning ₹8,000 a month. Later he moved to Kerala and is currently employed as a tile worker, earning ₹1,000 per day. He gets work 20-25 days a month. In Talamunda, the parents also make an income by manually crushing and selling stones for construction work. Raju also has a younger brother who works as a daily wage labourer in Talamunda.

Raju's family is constructing a new house under a government housing scheme. They have modified the design, hoping to complete it with their own resources. To support this, they have taken loans from the SHG. The house is still incomplete, and they will be able to complete it only if Raju sends money regularly. For rural households in hilly regions like Rayagada, who have limited access to education and insufficient means to earn a living from the land, migration offers the most feasible way to stay afloat. Raju's family has a long way to go in terms of financial security. However, they are closer to it than ever.

Even when remaining unemployed, the unmarried youth who were already disengaged with agriculture were not keen on taking up farming or agricultural labour. This, coupled with their exposure to the outside world through education, digital and social media, and through 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 could remain anonymous rather than toiling under the sun in the agricultural fields in Rayagada. The aspirations to explore places and the adventurous nature of the age group also

contributed to migrating for work. 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. Migration decision-making was easy, leveraging the social network and there were peers to travel with, stay together and work with at the destinations. Although fewer, young girls also migrated to south Indian states to work in the *chingri* factories (shrimp processing units) and *suta* companies (garment factories). Many women and girls also went to work as domestic helps.

CASE STUDY

Taking charge of her life

Namita Badaraita, a 26-year-old girl from the Saura tribe, is from the Upar Tendi village in Laxmipur. Like many from her community, Namita has been grappling with the harsh realities of limited income, growing pressures of debt and family responsibilities - realities that led her to take charge of her life. The family had taken a loan of ₹10,000 before Cyclone Titli. With mounting interest, the unpaid loan grew manifold. The family was able to repay only ₹10,000. The financial strain increased following the weddings of Namita's older sisters and the education expenses for both Namita and her brother Manoj. With the family struggling to repay the loan and to cover household expenses, Namita saw migration as an option to contribute to repaying the household's debt. Namita's decision to migrate did not come easily. Her family was not pleased with it, but she was determined to go. Her first migration was in 2024, when she went to work in a *suta* company (garment factory) in Tirupur, Tamil Nadu.

The family owns a small plot of land, and the agricultural income is meagre. They own less than half an acre of *billo* and under one acre of *bogodo*, where they cultivate crops like kandhul (toor dal), johna (pearl millet), mandya (finger millet), judung (barnyard millet), and barbati (long beans). These are mostly kept for household consumption. The family owns two bulls, which are used for ploughing the land, and three goats. Goats are sold only during emergencies. In addition to working on their own land, Namita's parents and her brother Manoj mainly work as agricultural labourers. Manoj, who completed his higher secondary in 2023, initially worked with his parents on the *bogodo* before migrating to Tanuku in Andhra Pradesh for construction work, earning ₹300 per day.

Cyclone Titli destroyed most of the family's 30 to 40 cashew trees; now only about 10 to 12 remain. In 2025, they could harvest only one packet of cashews (50 kg), some of which turned black due to poor climate conditions and had to be discarded or sold at a loss. In December 2024, the family faced more losses due to untimely rainfall on their ready-to-harvest paddy, destroying the crop. The harvest was less than half of what they had got in the previous year.

The impact of Titli was not limited to agriculture. Namita's house was damaged, prompting them to apply for reconstruction. A new house was sanctioned under the government scheme. Namita is currently employed in a *chingri* factory (shrimp processing unit) in Andhra Pradesh. Her monthly salary is ₹10,000, with accommodation and food being provided by the company. It was a friend from the village, already working at the factory, who introduced her to the job of placing stickers on the packets. While the company allows leave when requested, holidays are not fixed. Namita sends home ₹1,000 to ₹2,000 a month via UPI, using a friend's mobile to transfer it to Manoj's UPI number. Otherwise, she sends cash through co-workers from the village when they go home. Despite hardships, aspirations remain. Manoj hopes to own a bike someday. Namita is not interested in continuing the work and says that if her friend quits, she will also quit. For many women like Namita, migration is a difficult decision. Reluctance of family members and the challenge of managing language barriers often prevent girls from stepping out for work. Yet, for Namita, the decision to leave was a bold step towards taking control over her life.



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'. The status of households with migrant members improved in the villages. Such households received priorities in receiving loans by local moneylenders as their repaying 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 Rayagada

The transition to plantation crops reduced the scope for work for men in *bogodo chas* in Rayagada. They started moving out while women took care of the plants/trees. This accentuated the feminisation of agriculture in Rayagada. 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. While mobility from remote areas substantially improved as migrants used savings to buy motorcycles, such mobility was primarily limited to men and boys as women and girls could not ride bikes and go to places freely like them. However, they also benefited as pillion riders. Women's access to healthcare also got reduced as it was difficult to go out as men who used to accompany them moved to the cities. At the same time, local transport also improved when households with migrants purchased autorickshaws and other vehicles that plied as shared public transport or taxis.

Doing agriculture is seen as 'traditional' and increasingly risky given the climate constraints. Naturally, farmers in Rayagada did not want their children to pursue agriculture. They wanted the children to secure regular salaried jobs. As a result, residential schools were highly sought after in Rayagada. Higher education of children in distance places increased out-of-pocket expenses of households, pushing more people to migrate for work. Also, when children moved to residential schools, parents could migrate for work without much worries. Migration of parents also resulted in emotional deprivation for children. When parent/s migrate, children who were not in residential schools stayed with significant others, who did not have much control over the education of children.

Some key informants were concerned about the safety of girl children when parents migrated, leaving the kids with significant others.

As migration from Rayagada 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/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 Rayagada. When migrants set up businesses, such as buying a Bolero or an autorickshaw and deploying it as taxi, it provided regular employment locally to non-migrants.

A considerable portion of the migrants got skilled on the job at the destinations and secured a steady income and work throughout the year. As they got skilled, their wages also went up, improving the overall income of the households. The increase in household incomes improved cash circulation locally, improving the village economy. Many migrants returned with better skills, such as masonry, and introduced newer tools and technology to Rayagada. 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 smartphones and UPI for remittances popularised UPI services and digital payments in Rayagada.

There have also been significant cultural changes due to migration. The migration for studies disconnected children from agriculture. The intergenerational transfer of indigenous languages has also been affected. Most children from the Saura tribe, particularly those who went to residential schools, neither understand nor speak the language, which has pushed it towards extinction. According to the village elders, the urban influence is percolating through migration. Now, the “town behaviour” is prevalent in Rayagada also. Youth have become less interested in village activities/meetings/poojas, and “they just disappear” during such events. Eating out has become common, resulting in a “Chow mein culture”. Eateries that sell noodles and other “town stuff” can be commonly found. Migration and remittances have resulted in overall increased spending. Consumption of foreign liquor has gone up, and “lavish” weddings are now common. While such lavish weddings have increased employment and business opportunities in Rayagada, they have a demonstration effect on others also 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. People who get an education, tend to move to cities and settle there.

Migrants from Rayagada felt that measures like improving awareness on safe migration, government involvement in promoting safe migration, source-destination collaborations, registration of migrants, finding reliable employers and intermediaries, and ensuring direct payment of wages can make their migration safer. Generating employment locally through setting up factories, ensuring better wages, improving the access to irrigation, supply of hybrid and drought-resilient seeds, marketing facilities for agricultural produce, skill development and training in advanced farming practices, more employment through NREGS and support for self-employment were some of the suggestions migrants shared to prevent migration from the area.

Who are resilient without migration?

In order to understand the characteristics of people in Rayagada who were resilient without labour migration, participants in the 19 group discussions 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 Rayagada, as their income was steady. Except four, all group discussions highlighted this segment of the population as the most resilient (Table.14).

Table.14: Key population groups in Rayagada resilient without migration

Rank	Immobile group	Number of GDs ranking the group among top 3
1	Government employees/ people with regular jobs/ salaries	15
2	People with irrigated land	14
3	Self-employed persons	13
4	People with skills	8

People with irrigated land were found to be the second most resilient group in Rayagada as such people had the opportunity to be engaged in agriculture throughout the year, ensuring some steady income. Among people with irrigated land, people with cattle and diverse crops were more resilient. The third most important population group that was resilient without migration was the self-employed. This included people who ran shops, engaged in business in weekly haats (markets), owned tractors, autorickshaws or other taxis and those engaged in other businesses. People with skills such as drivers, electricians, and masons were mentioned as the fourth most resilient group in Rayagada. Political leaders, households with fewer members, people who had livestock, particularly several goats, etc. were some of the other groups who managed without migration.



CASE STUDY

Roots that no storm can break: How skills, networking and agency matter in managing without migration

Cyclone Titli had caused extensive damage in the coastal areas of Odisha in October 2018, crippling the lives of rural communities. Extreme events like Titli have non-economic losses and damages as well that are difficult to quantify, such as the loss of significant persons, important documents, and the impact on the ecosystem all of which affect the families in the long term. Krishna Bhuyan from Bhaliya Sahi in Laxmipur panchayat had suffered extensive damage to his crop and farmland. But unlike many others who leveraged migration to tide over the crisis, Krishna Bhuyan stayed back, showing remarkable resilience in the face of adversities.

Krishna Bhuyan and family were living near their farm in Bhaliya Sahi when Titli hit their village. They took refuge in the only concrete house in the locality. His house was damaged beyond repair. He had a paddy field of nearly 1.5 acres near the Mahendra Tanaya river, which was washed away in the floods and rendered uncultivable, being deposited with sand and debris. Besides, Krishna Bhuyan also suffered extensive crop damage in his more than 10 acres of *bogodo*, losing over a thousand of his cashew trees, and several of the jackfruit and tamarind trees. Like many other villagers, he lost the harvested grains as well that were kept in the house. He did not lose his livestock since he had let them loose. Titli also impacted the family in indirect ways as well. Krishna Bhuyan's elder son Himanshu, who was pursuing graduation at Paralakhemundi during that time, dropped out of college following the loss of the potential source of income. His second son, who was pursuing higher secondary education, also had to drop out.

In addition to losing trees in Titli, erratic weather patterns have also adversely affected the yield from his cashew trees. Before Titli, Krishna Bhuyan used to get over 15 quintals of cashew, which was reduced to less than one-third in 2025. His paddy fields had a yield of 15 sacks of rice before Titli. He had taken a loan of ₹40,000 from the bank to make the land cultivable again by removing the sand deposit. But despite his efforts, the land produced significantly reduced yields when compared to the previous year. Krishna Bhuyan also managed to plant 100 cashew trees in recent years, though this is little compared to the trees he has lost.

Krishna endorses that the exposure he got as an employee at Gram Vikas early in his life contributed much to his resilience and agency. He had been especially involved in planting trees as part of Gram Vikas's social forestry programme. Most of his ex-colleagues motivated him to stay in his village offering support. Though he was predominantly a farmer, he also had diversified his income. Krishna Bhuyan explained that he had resorted to his skills in carpentry to find an alternative source of income following Titli. In addition to his farmland, he also owns land along the main road in the village, where he has a pucca house. He had also bought a tractor in 2019, by liquidating his Life Insurance Corporation (LIC) policy and through a loan from a private financier which he has since repaid. He rents it out as well. Though he used to undertake road construction contracts earlier, he doesn't do it anymore.

Krishna Bhuyan's ability to tide over the devastating effects of Cyclone Titli is contributed by several factors. His stint at an NGO like Gram Vikas which focuses on community development gave him the much-needed agency and resources in managing crises. His strategy of diversifying income also helped him to become resilient. Though he agrees that it is difficult to rely on agriculture as a source of income, he plans to pursue it, as it is his passion.



CASE STUDY

With irrigated land and agri-intelligence, one is rooted

At Landu Sahi in Laxmipur, a field of blooming sunflowers stands out. The farm, owned by 48-year-old Mangala Jani, from the Saura tribe, draws the attention of everyone who passes by the road. In a region where green dominates the landscape, Mangala's sunflower patch is unusual, much like his approach to farming. Year-round cultivation, organic methods, and smart irrigation mark him as a farmer who has chosen to stay and adapt, rather than migrate. While others in his region leave in search of work, Mangala has stayed rooted, growing food all year round and transforming his inherited land into a model of sustainable farming.

Mangala hails from Amarsing village of Kainpur gram panchayat. His two acres of *billo* in Landu Sahi, inherited from his father, is legally owned through a patta. Apart from this, he cultivates over 10 acres of *bogodo*.

Mangala's land hosts an orchard of fruit trees including cashew, mango, orange, tamarind, jackfruit, and coconut, with cashew being the most important and the most numerous. He has smaller patches of mahua and jamun. Guava, lemongrass and pigeon peas also find space in this flourishing ecosystem. He is also an organic farmer, relying on cow dung and cow's urine for fertiliser. Livestock on the farm includes chickens, goats, and oxen. The bullocks are used for ploughing. On four acres of terraced land, he continues expanding his farming portfolio.

Mangala's approach is both traditional and innovative. Year-round, his fields yield bananas, tubers, and pigeon peas. Seasonally, he rotates crops such as cabbage, brinjal, pumpkin, beans, and sunflower from September to May. December to May brings mustard, sesame, tomato, and more cabbage. In September, mandya (ragi) and johna (pearl millet), fill the fields.

Water is a precious resource. He has access to canal water for his *billo*. But it is available only for four months a year. A solar-powered lift irrigation pump, installed with government subsidy, that draws water from the Mahendra Tanaya river, supplies regular water for his *billo* crops. The solar system from the government, valued about rupees five lakh, cost Mangala just around ₹12,000, thanks to the heavy subsidies. With his solar pump, he also supplies water to the neighbouring government residential school for girls whenever they face a water shortage.

Mangala has immensely benefited from the government schemes for farmers. With his Farmer ID card, he has accessed several equipment and machinery at subsidised prices, including a sprinkler system, a spraying machine and a power tiller, which he cannot afford to buy otherwise. Mangala effectively uses the sprinkler when the rain fails, which is frequent.

Mangala is a forward-thinking farmer. He has tried the System of Rice Intensification (SRI). He receives free seeds from the department of agriculture. Sunflower seeds were also provided for free. He sells his produce, especially rice, through government *mandis*, fetching the assured Minimum Support Price (MSP). According to him, private traders offer half of those rates.

Mangala's success in agriculture hasn't gone unnoticed. He has travelled to Delhi, Mumbai, and Hyderabad, and was honoured for his achievements. Mangala benefits from the PM-Kisan Yojana. His insights come from the government training sessions that he regularly attends and also from the Gram Vikas, which is actively engaged in promoting agroforestry in the area. Climate change hasn't spared Mangala. He also has to deal with untimely rain that damages the crops. Pest infestations ruined his potato crop. The cashew nuts got blackened this time. If there had been sufficient sunlight, they would have turned normal, and he could have avoided a ₹50,000 loss. Mangoes dropped prematurely, costing him significant loss. His paddy harvest in 2024 was not great because of the untimely rains. Still, Mangala continues to adapt and remains optimistic.

Last year, Mangala took a ₹50,000 agricultural loan from a bank and repaid it in full. Crops from his *billo* earned him around rupees one lakh last year, and because of the addition of a solar pump, he expects to double the earnings this year. Mangala sells vegetables at local *haats* in Laxmipur and Kainpur. Locals and even traders from Andhra Pradesh often buy from him. For Mangala, the most profitable crops are cashew, mango, and vegetables.

Mangala's family is large. He has two wives and four children. His eldest son does a contract job with the department of agriculture. Two of his children are pursuing their higher secondary education, one in Bhubaneswar and the other in Berhampur. His youngest son, educated up to the eighth grade, works as a driver locally.

Mangala Jani says that many people from the region migrate because they lack *chas vidya* (knowledge of agriculture). He also believes that land tenure is crucial. And for Mangala Jani, rootedness has made all the difference.



Key predictors of climate resilience in Rayagada

The key predictors of climate resilience in Rayagada are summarised in Figure.18.

Figure.18: Key predictors of climate resilience in Rayagada

Parameter	Resilient	Vulnerable
Worker age group	Young	Middle aged
Gender	Men	Women
Ethnicity	Other	OBC
Ration card	Has ration card	No ration card
House type	Pucca	Kaccha
Landownership	Irrigated land	Land without irrigation
Farming	Cash crops	integrated
Farmer ID	With farmer ID	No farmer ID
Crop	Cashew	Cotton
Cultivation	Regular	Perishable fruits
Terrain	Midland	Hills/slopes
Livestock	With livestock	No livestock
Access	Connected	Remote
Occupation	Govt/other regular job	Self-employment/business
Income sources	Diverse	Skilled work
NREGS	Has access	Other daily wage labour
Advances/Loan	Without debt/trade credit	NTFP Collection
Earning members	Multiple	Agriculture
Migrant in the household	With long-term circular migrant	Agricultural labour
		Single
		Seasonal migrant
		None
		With debt/trade credit
		No access
		No migrant

Source: Primary data collection, 2025



Summary of findings

Summary of findings

This qualitative research, conducted during the period from November 2024 to May 2025, complements the quantitative survey conducted by Gram Vikas and CMID in 2020 to understand labour migration from Rayagada block in Gajapati district in the Eastern Ghats region of Odisha, by exploring the role of climate-augmented labour migration in the resilience of the block. The findings reveal that Rayagada block, almost entirely consisting of socially disadvantaged communities, has been severely impacted by climate change. The community recognises the climate change. Erratic rain, increased summer heat and more frequent cyclones have been the most important changes that have impacted the lives and livelihoods of people in Rayagada, 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, agricultural labourers and those who depended on NTFPs were

some of the most vulnerable groups impacted with an overwhelming majority being women, who also had to bear the brunt of the cascading gendered impacts. Climate change resulted in land degradation, poor yield, crop loss, loss of livestock, spoilage of the grain stock at home and damage to equipment and agricultural structures of farmers. For the agricultural labourers, it resulted in reduced work opportunities or unemployment, while the NTFP gatherers found their harvest dwindling. 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 gender, age, ethnicity, type of house, ownership and irrigation status of land, farming practices, crop cycles followed, ownership of livestock, occupation, diversity of income sources, advances/loans taken, and access to NREGS, PDS and other social security measures. Migration for work, taking advances/loans, depending on the grain stock from the previous harvest and relying on PDS were the key coping strategies of households.



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. Nearly ten per cent of Rayagada's population works elsewhere outside the district. While most of them were from the Scheduled Tribes, the Other Backward Castes/Communities had larger proportion of migrant workers. Lack of employment and

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

irregular employment were the key reasons for moving out, while high wage rates and regular employment attracted people to their current destinations. Short-term focussed moves to address an immediate cash requirement, seasonal migration to leverage work availability elsewhere

when work is not locally available, and long-term circular migration were the three broad streams of migration from Rayagada. People were employed in less skilled jobs in factories/establishments or shops or worked as footloose labourers in the construction sector and earned an average monthly income of ₹10,000. They also got on-the-job skilling opportunities which enhanced their income and negotiation abilities.

Migration helped households in Rayagada come out of their poverty/indebtedness, enhance their asset base and savings, diversify income sources, improve their agriculture, upgrade their housing to be more climate resilient and support the education of their children. The monthly remittances to Rayagada amounted to ₹18 million which play 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 Rayagada, improved access to social and mass media and universalised digital payments.





Conclusions

Conclusions

Gajapati district, to which Rayagada belongs, has been carved out of Ganjam, historically known for its migration to the rest of India and beyond. Seasonal migration has long been a major adaptation strategy for households in Rayagada as the region depended on rainfed agriculture. With rice available through PDS, labour-intensive paddy cultivation has declined, reducing employment opportunities for agricultural labourers. A host of government and civil society interventions to promote social forestry and agroforestry in the region have substantially reduced shifting cultivation in the area, resulting in diminished employment opportunities locally, as people moved to low-maintenance plantation crops. When people shifted to plantation crops, they were well aware that with more frequent cyclones like Titli which devastated Rayagada, relying exclusively on income from trees is suicidal. This realisation, coupled with the improvement in transportation and connectivity, and the existing social capital from seasonal migration, resulted in increased labour migration and a shift towards long-term circular migration for work from the area.

Overall improvement in literacy and targeted interventions have significantly improved the access to education for children in Rayagada. In the process, the children, particularly boys, became emotionally disconnected from agriculture. Parents also did not want their children to pursue agriculture. The youth are increasingly mindful of 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 to

intergenerational social mobility. This was much easier, faster and far less complicated compared to 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, short-term and part of subsistence. Labour migration has been the single most important contributing factor in accelerating human development in Rayagada block. It has also been one of the crucial poverty interrupters. While climate change is not the prime driver of migration from Rayagada, migration has been the most important coping strategy for households severely impacted by climate change, augmenting labour migration from Rayagada. Such migration plays a pivotal role in catalysing Rayagada's transition from an agrarian society to a much more diverse and climate-resilient society.

Insights from the study indicate that, from a micro perspective, the quality of life of the people of Rayagada block and their right to live with dignity have been impacted by climate change. However, when compared to the larger interventions that are taking place, globally, in India or even within the state of Odisha towards a just transition, the benefits of the interventions 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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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.

ISBN 978-81-685609-1-8



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