



## Seasonal agricultural migration from the Sundarban: Ecological vulnerability, unemployment and livelihood in Jharkhali

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### Abstract

Seasonal agricultural migration from Jharkhali village in the Indian Sundarban, situating it within the interlinked contexts of ecological vulnerability, rural unemployment and livelihood insecurity. Recurrent cyclones, soil salinity and declining agricultural productivity have weakened local livelihood options, compelling young men to migrate seasonally to Andhra Pradesh for agricultural work. Using a qualitative methodology based on interviews, the study analyses migration as both a survival strategy and an outcome of structural exclusion. While remittances provide short-term financial stability, migration remains informal, insecure and gendered, increasing women's unpaid labour at home. The paper highlights the paradox of migration as resilience amid persistent underdevelopment.

**Keywords:** Seasonal migration, ecological vulnerability, agrarian crisis, gendered labour, livelihood security, remittances

### Introduction

The Sundarban region of West Bengal, located within the deltaic tracts of the Ganga-Brahmaputra-Meghna basin, is one of the most ecologically fragile and economically marginalised landscapes in India. In this complex socio-ecological setting, such as Jharkhali, village in the South 24 Parganas district, the population's livelihood is closely linked to land, water, and forest resources. Over the past two decades, the region has faced multiple environmental, social, and economic disruptions – including cyclones such as Aila in 2009, Amphan in 2020, and Yaas in 2021, as well as salinisation of agricultural land and depletion of aquatic resources. These changes have severely undermined traditional subsistence agriculture and fishing-based economies, resulting in a crisis of employment and livelihood insecurity, particularly among the youth (Chatterjee, 2021)<sup>[2]</sup>.

The population of Jharkhali, like much of the Indian Sundarban, relies heavily on agriculture as the primary source of income, supplemented by small-scale animal husbandry, honey collection, and fishing. However, agricultural productivity has declined sharply due to soil salinity, inadequate irrigation infrastructure, and frequent tidal floods. As a result, many young people are underemployed or seasonally unemployed for much of the year. Despite having basic education – many having completed secondary or higher secondary schooling – these youths face limited local employment opportunities. Consequently, seasonal migration has become a crucial livelihood strategy.

Twice a year, between July–August and December–January, groups of 30–35 young men from Jharkhali village in Gosaba Block migrate together to Andhra Pradesh to work as agricultural labourers. Their tasks include paddy transplantation, weeding, and harvesting on large-scale commercial farms. They stay in these regions for approximately 40–45 days, after which they return home with significant earnings that often support their families for several months. For the rest of the year, they are mostly unemployed or engaged in low-paid local agricultural work. This pattern of circular migration reflects broader trends observed in rural Bengal and other parts of India, where

marginalised agrarian populations engage in seasonal mobility as a coping mechanism against ecological stress and livelihood precarity (Deshingkar & Farrington, 2009)<sup>[3]</sup>. The phenomenon is not merely an economic adaptation but also a sociological response to structural inequalities and development neglect in peripheral regions such as the Sundarban. The intersection of environmental vulnerability, limited institutional support, and rural unemployment drives young people into a transient labour market that sustains rural households but perpetuates a cycle of dependency and insecurity.

The gendered division of labour in Jharkhali adds another dimension to this socio-economic phenomenon. While men migrate temporarily, women remain in the village, taking responsibility for household management, livestock rearing, and small-scale agricultural tasks. Women contribute significantly to family subsistence by rearing poultry, ducks, and goats, and by participating in agricultural work alongside men during the local cropping seasons. Although their labour is largely unrecognised in formal economic terms, it plays a vital role in sustaining rural households during periods of male out-migration.

The study of seasonal agricultural migration from Jharkhali thus provides an important perspective for understanding the rural livelihoods of marginal communities in the Sundarban. It helps explain how ecological degradation, unemployment, and the absence of rural industrialisation shape the life choices of the younger generation. At a macro level, it also raises critical questions about regional inequality, state neglect, and the failure of development policies to provide sustainable employment within rural Bengal.

In the context of globalisation and market integration, labour migration from peripheral zones such as the Sundarban represents both resilience and marginalisation. On one hand, it demonstrates the adaptive capacity of rural populations to access distant labour markets; on the other, it reveals the structural vulnerabilities of rural livelihoods that rely on insecure, informal, and exploitative employment opportunities outside their home regions. This paper aims to analyse this duality – migration as both a survival strategy and a symptom of socio-economic exclusion.

The study situates the Jharkhali case within the theoretical framework of livelihood diversification and push-pull migration theory. Push factors include environmental degradation, unemployment, and economic stagnation, while pull factors comprise higher wage prospects and consistent agricultural employment in states such as Andhra Pradesh. Using an ethnographic approach, this paper examines the lived experiences of seasonal migrants, their working conditions, the socio-economic outcomes of migration, and its implications for rural family structures.

### **Rationale of the Study**

The rationale for this study arises from the urgent need to understand the socio-economic transformations taking place in the ecologically sensitive region of the Sundarban. While numerous studies have focused on environmental degradation and disaster-induced migration, comparatively less attention has been given to seasonal agricultural migration as a structural livelihood adaptation among rural youth. Jharkhali exemplifies this phenomenon, where young, educated yet unemployed individuals rely on temporary migration to support their families. Examining this case provides insights into how seasonal mobility interacts with local agricultural practices, gender roles, and community life. Moreover, studying this process contributes to broader sociological debates on rural marginality, informal labour, and ecological vulnerability. The findings of this research can inform policy interventions aimed at generating sustainable employment, reducing forced migration, and strengthening rural resilience in the Indian Sundarban.

### **Objectives of the Study**

This study aims to examine how ecological vulnerability and rural unemployment shape seasonal agricultural migration among youth in Jharkhali, Gosaba Block in Sundarban and to analyse the socio-economic conditions and gendered impacts of seasonal migration on rural households and livelihoods.

### **Methodology**

The study adopted a qualitative research approach, combining field observation, semi-structured interviews, and focus group discussions conducted among seasonal migrant workers and their families in Jharkhali village, Gosaba Block, South 24 Parganas. Data were collected from 20 male migrants and 10 women from migrant households. The fieldwork included observation of pre-migration preparations, remittance use, and community-level discussions on employment and livelihood. The data were analysed thematically, focusing on livelihood strategies, gendered labour roles, and migration outcomes.

### **Results and Findings**

#### **Migration as a Livelihood Strategy**

Seasonal migration to Andhra Pradesh has become a crucial livelihood strategy for young men in Jharkhali. The main motivation for migration is unemployment and underemployment at home. Although they own small plots of cultivable land – typically averaging between 2.5 and 3 bighas – agricultural income is insufficient due to low productivity, salinity intrusion, and irregular rainfall. The local cropping cycle, dominated by rain-fed paddy cultivation, provides employment for only a few months. As

a result, during the lean agricultural season, young men seek alternative income opportunities outside the region.

Migrating in groups of 30 to 35, they travel twice a year as seasonal agricultural labourers to different districts of Andhra Pradesh, where commercial paddy farming requires large numbers of manual workers. The migrants are hired through informal labour contractors who arrange their travel, lodging, and daily work. The seasonal migrant workforce in Jharkhali mainly comprises adults aged 24 to 37 years, reflecting a young, economically active population. Most respondents have completed secondary (10th) or higher secondary (12th) education, with a few graduates or dropouts, indicating moderate literacy levels. The majority are married, highlighting family responsibilities. Household sizes range from 3 to 6 members, with most families consisting of 4 or 5 members, indicating medium-sized households.

#### **Economic Outcomes and Household Dependence**

The remittances earned through seasonal migration are the primary source of cash income for migrant households in Jharkhali. These earnings are mainly used for daily household consumption, repayment of small debts, and children's education. For many families, migration income bridges the gap between subsistence agriculture and essential cash-based needs such as medical treatment, mobile connectivity, and festival-related expenses. However, this increasing dependence on external income creates a pattern of seasonal vulnerability: households experience short-term financial stability after the migration period but gradually return to economic uncertainty once the remittance cycle ends.

Although seasonal migration provides immediate economic relief, it does not enable long-term asset accumulation or upward social mobility. Most migrant workers spend their earnings on immediate survival needs, leaving little opportunity for savings or productive investment. Furthermore, the informal nature of their employment excludes them from institutional social protection mechanisms such as provident funds, health insurance, or pension schemes, further reinforcing their economic insecurity (Deshingkar, 2012)<sup>[4]</sup>.

Income earned per migration session typically ranges from ₹40,000 to ₹90,000, with variations reflecting differences in work intensity and employment opportunities at the destination. Migrants generally remain away from home for 40–85 days per session, migrating twice a year, which highlights the temporary and circular nature of agricultural labour migration to states such as Andhra Pradesh. Land ownership among migrants is limited, with most cultivating small holdings of 1.5–3 bighas, although in some cases ownership extends up to 8 bighas. This restricted access to productive land is a structural constraint on local livelihood sustainability and continues to push households towards seasonal migration as a coping strategy.

#### **Working and Living Conditions**

Field interviews indicate that migrant workers in Andhra Pradesh live in basic, often overcrowded shelters provided by landlords or contractors, with inadequate sanitation and limited access to healthcare. They work long hours – around 10–12 hours a day – from dawn to dusk under harsh climatic conditions, with minimal safety measures. Food is prepared collectively and expenses are shared within groups.

Payments are mediated by labour contractors and are usually made on time, but workers lack formal contracts and legal protection. Despite these hardships, migrants prefer this employment over unemployment at home due to the short-term financial security it provides.

### Gender Roles and Women's Contribution

Male out-migration has significantly reshaped gender roles within households in Jharkhali by increasing women's responsibilities in both domestic and productive spheres. In the absence of men, women manage household chores alongside agricultural activities such as livestock rearing, poultry farming, and small-scale vegetable cultivation, which contribute to household nutrition and supplementary income. They also participate actively in sowing and harvesting, thereby sustaining local agricultural productivity. Although much of this labour remains unpaid or under-recognised in formal economic terms, it is essential for household stability. Women also play a key role in managing remittances and household expenditures, which enhances their involvement in day-to-day decision-making. However, this increased agency is constrained by persistent patriarchal norms and the temporary nature of male migration.

Households engage in diverse income-generating activities, including shop work, fishing, labouring, and crabbing, reflecting livelihood flexibility under economic uncertainty. Women's consistent participation in small-scale agriculture, livestock management, and supplementary activities such as selling produce or running small shops complements men's seasonal migration. Together, these gendered contributions form a diversified livelihood strategy that helps stabilise households despite on-going structural vulnerabilities (Deshingkar & Farrington, 2009) [3].

### Post-COVID Intensification of Migration

The COVID-19 pandemic marked a turning point. The national lockdown (2020–2021) disrupted local informal employment and small-scale economic activities. Many returnee migrants from cities such as Kolkata and Howrah found themselves jobless. As interstate travel resumed, labour migration to Andhra Pradesh increased sharply. By 2022–23, almost every young man in Jharkhali had participated in seasonal agricultural work outside the state. Migration became normalised within the village's livelihood pattern.

Interviews reveal that families began to depend on migration income as part of a predictable economic cycle. Some used remittances to rebuild houses damaged during cyclones Amphan and Yaas. However, increasing reliance on migration also left local agricultural activities understaffed. Older men and women had to manage cultivation, reflecting a generational shift in labour responsibility.

### Social and Psychological Dimensions

Migration brings profound social and emotional changes to rural families and communities. Prolonged male absence strains marital relationships, increases women's emotional and physical burdens, and weakens community participation and social cohesion. Migrant men often return with new experiences and aspirations, but also feelings of alienation due to limited local opportunities. Among rural youth, migration has become a rite of passage linked to adulthood

and economic responsibility. However, reliance on temporary and insecure employment creates aspirational frustration, as exposure to modern lifestyles and consumer aspirations does not lead to stable livelihoods or long-term social mobility, highlighting deeper structural failures in rural development.

### Structural Causes of Migration

The analysis shows that migration is driven not only by individual choice but also by structural compulsions. Jharkhali's economy is marked by agrarian stagnation, limited market access, poor infrastructure, and a lack of non-farm employment. Government schemes for rural employment, such as MGNREGA, are irregular or inadequately implemented. In addition, frequent cyclones damage crops and houses, forcing people to rely on short-term coping strategies such as migration. These factors together make seasonal labour mobility a rational adaptation, although it reinforces dependence on external labour markets (Lee, 1966) [8].

### Environmental and Developmental Context

The Sundarban's environmental fragility – evident in rising sea levels, saline intrusion, and frequent storms – has fundamentally transformed the region's agrarian structure. Shrinking cultivable land and declining fish stocks have undermined traditional livelihoods. The absence of industrial development or service-sector opportunities leaves agriculture as the only viable option, although it is increasingly unsustainable. Within this ecological and developmental vacuum, migration serves as a survival mechanism, reflecting the broader intersection of environment, economy, and mobility (Ghosh, 2019) [6]. Consequently, migration arises not as a choice but as a compulsion driven by environmental and economic distress.

### Migration as Adaptation and Exclusion

From a sociological perspective, migration presents a paradox. It demonstrates resilience – the capacity of individuals to adapt and survive amid structural challenges – while also indicating exclusion from formal development processes. Migrants join the informal national labour circuit, contributing to agricultural production in other states while their own region remains underdeveloped (Deshingkar & Farrington, 2009) [3]. The Jharkhali case thus highlights the uneven geography of Indian development, where peripheral regions supply labour to core agricultural economies such as Andhra Pradesh without receiving corresponding developmental benefits.

### Theoretical framework

#### ▪ Livelihood Diversification Theory

From the perspective of livelihood diversification theory, seasonal agricultural migration in Jharkhali is a rational household strategy to manage risk amid agrarian decline and ecological uncertainty. Declining agricultural productivity, caused by soil salinity, cyclones, and limited irrigation, compels households to combine subsistence farming with seasonal wage labour. Migration serves as a means of income smoothing rather than long-term accumulation, enabling households to meet basic consumption needs and cope with livelihood insecurity. (Ellis, 2000) [5].

#### ▪ Push–Pull Migration Theory

Push–pull migration theory explains this mobility as the result of structural push factors such as rural unemployment,

environmental degradation, and weak implementation of development schemes, alongside pull factors including higher wages, assured short-term employment, and demand for manual labour in Andhra Pradesh's commercial agriculture. Migration is therefore shaped by the unequal spatial distribution of opportunities rather than individual preference alone. (Lee, 1966)<sup>[8]</sup>.

#### ▪ Political Ecology and Gender Perspective

Political ecology situates migration within broader relations of power and development neglect, demonstrating how environmental vulnerability in the Sundarban is socially produced. A gender perspective further reveals that male out-migration intensifies women's unpaid labour and responsibilities, reinforcing gendered inequalities despite limited gains in agency. (Blaikie & Brookfield, 1987)<sup>[11]</sup>.

#### Conclusion

farming, and crop maintenance, thereby sustaining household economies. They also play a key role in managing remittances and household expenditures, which increases their decision-making responsibilities. However, this empowerment remains ambivalent, as women's labour is largely unpaid, socially undervalued, and constrained by patriarchal norms. Their expanded roles demonstrate both the resilience of rural households and the gendered burden created by migration.

Seasonal migration also produces significant social and emotional consequences. Prolonged separation strains marital relationships, alters intergenerational dynamics, and weakens social cohesion within villages. Migrant men often return with new aspirations shaped by exposure to different socio-economic environments, while local stagnation limits the realisation of these aspirations. Among rural youth, migration has become a rite of passage, yet repeated engagement in temporary and insecure work creates a sense of aspirational frustration, where survival does not translate into meaningful advancement (Mondal & Tripathy, 2022)<sup>[11]</sup>.

Addressing the persistence of seasonal migration from the coastal villages of the Sundarbans requires structural and integrated policy interventions. Strengthening agricultural infrastructure, improving irrigation facilities, promoting agro-based and small-scale rural industries, and ensuring effective implementation of employment schemes such as MGNREGA are essential for creating sustainable local livelihoods. Equally important is environmental management to address soil salinity, cyclone damage, and climate vulnerability, alongside gender-sensitive measures that recognise and support women's economic contributions through training, microcredit, and collective initiatives.

In conclusion, seasonal migration from Jharkhali village in the Sundarbans represents both a symptom of underdevelopment and a survival strategy amid ecological and economic constraints. It highlights a broader paradox of rural development in India, where mobility becomes necessary due to a absence of local opportunities. Ensuring that migration remains a choice rather than a compulsion requires coordinated efforts to integrate livelihood generation, ecological restoration, and social protection, while building on the resilience and adaptive capacities of rural communities (Sen and Das, 2020)<sup>[12]</sup>.

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