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Livelihood Security of Migrant and Non-Migrant Labour Households in Northern Dry Zone of Karnataka

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Abstract: The study examines the nature of labour migration and its influence on the livelihood security of migrant and non-migrant labour households in the Northern dry zone of Karnataka. A multistage purposive random sampling technique was employed to select migrant and non-migrant labour households. Primary data were collected through well-structured interview schedules from total of 320 sample respondents, comprising of 160 migrants and 160 non-migrant labour households from Vijaypur in Gadag districts respectively. The analytical tools such as descriptive statistics and livelihood security indices were used for the analysis. The Gadag district pendular migration (movement for less than a day) was predominant (55%), whereas seasonal migration (up to 3 months) was most common in Vijaypur district (47.5%). Temporary and permanent migration were observed to a lesser extent in both districts. Migrant households generally have higher economic, educational and overall livelihood security in both the districts. In Vijaypur district, migrants secured significantly higher food security (0.852) and the overall livelihood security index (0.835). whereas, non-migrants showed stronger livelihood security indices in health, habitat and social network dimensions, indicating a trade-off between mobility and stability. Similar patterns were observed in Gadag district, with more pronounced differences. These findings underscore the complex, multidimensional impact of labour migration and provides valuable inputs for targeted policy interventions, strengthening support systems for migrants while addressing the vulnerabilities of non-migrants is essential for enhancing rural livelihood resilience and promoting balanced regional development.

Keywords: Livelihood security index, Multidimensional impact, Pendular migration and seasonal migration

In India, a large share of the population is directly or indirectly dependent on agriculture and allied activities, as farming forms a core part of daily life in the subcontinent. The sector employs nearly 70 per cent of the country's workforce, supplying food for the people, raw materials for industries, fuelwood and timber for shelter, as well as herbs used in traditional medicine. More importantly, agriculture continues to be the backbone of rural livelihoods providing both sustenance and income (Bose and Dey 2007, Upadhyay and Palanivel 2011). For developing economies like India, agriculture ensures survival not only in farm-based occupations but also in non-farm sectors that rely on it. Strengthening this sector is essential to improving rural livelihoods (Shyamali and Saini 2010). Livelihood security further emphasizes stable access to resources, income-generating activities and assets that helps reduce risks, cope with shocks and handle uncertain situations (Ijarotimi and Oyeneyin 2005, Salim et al., 2013). Rural households earn their livelihoods from a variety of sources. Many depend directly on agriculture, others find work in the rural labour market, engage in self-employment within the non-farm sector or migrate to towns, cities and even abroad in search of better opportunities. Agriculture remains the dominant source of livelihood not only in India but across the Asia-Pacific region, although in some countries the rural non-farm sector also makes a significant contribution (Bhuvaneshwari 2008, Aliber and Tom 2009). Migration, in particular has become a vital means of income generation as the remittances sent by migrants help households to cope with financial shocks and safeguard their productive assets. Household livelihood security refers to stable and sustainable access to resources and income that can meet essential needs such as food, safe drinking water, healthcare, education, housing and opportunities for social participation. Livelihoods are often built on a combination of farm and non-farm activities, which together create different strategies for earning cash and securing food (Baiphethi and Jacobs 2009, Akter and Rahman 2012). Each household therefore relies on multiple sources of entitlement shaped by its assets and its position within the broader social, political and legal systems it operates in (Conelly and Chaiken 2000).

The extent to which households remain vulnerable depends on the likelihood of as its impact on food security, income stability, health, and nutrition. A livelihood can be considered secure only when households have reliable ownership or access to resources and income-generating opportunities, alongside reserves and assets that allow them to handle risks, overcome shocks and manage unexpected crises (Ellis 2000). Migration is able to withstand and recover from stress and shocks, maintain its assets and capabilities,

and create opportunities for future generations. However, not all households possess the same capacity to cope with such challenges. In particular, poorer families often face difficult trade-offs as they must juggle between preserving assets, ensuring immediate food needs, and generating income for both present and future requirements (Bagchi and Majumdar 2011). The present study was undertaken with objective of labour migration and its influence on the livelihood security of migrant and non-migrant labour households in the Northern dry zone of Karnataka.

MATERIAL AND METHODS

The present study was undertaken in Vijayapur and Gadag districts of Karnataka. Vijayapur District, located in northern Karnataka at 16.8302° N latitude and 75.7100° E longitude, lies at an elevation of about 606 meters above sea level and forms part of the semi-arid Deccan Plateau region. Gadag District, situated in central-north Karnataka at 15.4334° N latitude and 75.6387° E longitude with an elevation of around 655 meters, is characterized by dryland agriculture and a transitional climate between semi-arid and dry tropical zones. The multi-stage purposive random sampling technique was employed for the selection of the sample respondents. Primary data were collected through well-structured interview schedules from total of 320 sample respondents comprising of 160 migrants and 160 non-migrant labour households from Vijaypur and Gadag respectively. The analytical tools such as descriptive statistics and livelihood security indices were used.

Conceptual frame work: Migration was classified into four categories pendular, seasonal, temporary and permanent based on the duration of stay away from the native village. The household livelihood security index (HLS) uses a balanced weighted average approach with a large number of indicators, where each indicator assumed to contribute equally to the overall index. The indicators are grouped into different domains representing the security areas such as economic, nutrition, health, education, habitat and socio-network security.

Economic security: This includes annual income earned, value of land, value of livestock, value of household farm assets and household savings

Food security: This consists of annual consumption expenditure and quantity consumed

Education security: This is based on number of years of schooling of adult males, number of years of schooling of females and number of years of schooling of children.

Health security: comprises yearly expenditure on health problems and availability of health care centers.

Habitat Security: This includes type of house (Pakka house, semi pakka and kaccha house) availability of safe drinking water and presence of toilet facility.

Social–network security: This refer to number of members participating in institutions.

Since each indicator is measured on a different scale, indicators are standardized following the approach adopted in measuring 'Life Expectancy' in Human Development Reports (Akter and Rahman 2012).

Standardized indicator j is given by:

$$\text{zindj} = \frac{\text{indicatorj} - \min \text{j}}{\max \text{j} - \min \text{j}}$$

Where minimum and maximum values of the indicators are from the same community to which the household belongs. Once each indicator representing a particular livelihood security domain is standardized, then the relevant household livelihood security index for the particular domain is constructed by averaging the standardized indicators:

$$HLSj = \frac{\sum_{j=1}^{j} z\ ind\ j}{j}$$

Where: J is the number of indicators used to construct the index. The composite overall livelihood security (CLS) index for the household is constructed by using the formula.

$$\text{CLS} = \frac{\sum_{i=1}^{n} \text{wi HLSi}}{\sum_{i=1}^{n} \text{wi}}$$

Where:

w - Indicates the weights determined by the number of indicators used to construct each HLS index. Weights vary between households, because of the variation in the number of indicators at the household level.

RESULTS AND DISCUSSION

Vijaypur district, pendular migration (less than 24 hours or within a day) accounted for 31.25 per cent of the respondents (Table 1). This implies that, nearly one-third of the households were engaged in short distance commuting, largely to nearby towns or villages for wage employment. In contrast, pendular migration was considerably higher in Gadag district 55.00 per cent**.** The relatively higher incidence of this type of migration in Gadag suggests greater availability of employment opportunities in close proximity, thereby enabling labourers to return home on a daily basis without incurring relocation costs. Seasonal migration (up to three months) emerged as the dominant form in Vijaypur district 47.50 per cent while only 22.50 per cent of Gadag district households fell into this category. Seasonal migration is typically associated with agricultural operations such as sowing, weeding and harvesting. The higher share in

Vijaypur district, attributed to the district's dependence on rainfed agriculture which often compels labour households to seek supplementary employment during lean periods.

Temporary migration (less than one year) was observed among 12.50 per cent of the respondents in Vijaypur district and 10.00 per cent in Gadag district. This form of migration generally involves movement to nearby cities for construction, industrial work or non-farm activities. The similarity in percentages across both districts indicates that, households in both areas resort to such migration when local employment opportunities are insufficient. Permanent migration (more than one year) was relatively less prevalent with 8.75 per cent of in Vijaypur district and 12.50 per cent in Gadag district respectively. Permanent migration often reflects a structural shift where households relocate in search of stable employment, improved living conditions and better access to social amenities. The higher proportion in Gadag district could be indicative of greater urban pull factors such as better non-farm job prospects. The findings highlighted district-level contrast in the nature of labour migration. While Vijaypur district households were more inclined towards seasonal migration due to the agrarian nature of the local economy, Gadag district households exhibited a higher tendency for pendular and permanent migration, possibly reflecting relatively better connectivity, diversified employment opportunities and urban influence. Deshingkar and Start (2003); Srivastava (2011) also emphasize that the nature and extent of migration are shaped by local economic structures, availability of wage opportunities and household strategies for livelihood security. Distinct-wise variations in livelihood security between migrant and non-migrant labour households across Vijaypur and Gadag districts of Karnataka highlights the composite livelihood security index and its sub-components shows that, migration plays a dual role in enhancing certain dimensions of livelihood while constraining others (Table 2).

Food security: In Vijaypur district, both migrant (0.852) and non-migrant households (0.847) exhibited high food security index, with a marginal but significant difference. This indicates that, migration has not markedly influenced food access and availability, as both groups benefit from government food welfare schemes such as the public distribution system (PDS) ensuring minimum food support to all categories. In Gadag, food security was comparatively lower but remained higher among migrants (0.510) than non-migrants (0.473. The slightly better performance of migrant households may be attributed to remittance income, which supplements food expenditure during lean agricultural periods. Rao and Veena (2018) and Pingali et al. (2019), also observed that universal food subsidy programs reduced rural food insecurity across income categories.

Economic security index: The economic security index was significantly higher for migrants (0.450) than non-migrants (0.310). This clearly demonstrates that, migration enhances household income and savings capacity. Migrants gain access to regular employment in construction, transport and service sectors leading to higher cash inflows and financial resilience. Conversely, non-migrants depend heavily on seasonal agricultural labour, which is uncertain in dryland regions. Similar conclusions were reported by Deshingkar and Farrington (2009) and Keshri and Bhagat (2012) and Rao and veena (2018), emphasizing migration as a key income diversification strategy in drought-prone areas.

Education security: Education security showed a substantial difference between migrant (0.642) and non-migrant households (0.451. The improved educational performance among migrants can be attributed to higher household earnings and greater awareness of education gained through urban exposure. Remittance income allows migrant families to afford better schooling and educational materials. Stark and Taylor (1991) and Haan (1999) also observed that remittance-receiving households invest more in education and skill development, thereby improving future livelihood prospects.

Health security: Health security remained relatively low for both groups, but non-migrants (0.226) performed better than

Table 1. Labour migration pattern of the sample respondents in study area

Type of migration	Vijaypur district (n=80)	Gadag district (n=80)	Pooled (160)
Nature of migration (Based on the number of days)			
Pendular migration (< 24 hours or < 1 day)	25 (31.25)	44 (55.00)	69 (43.12)
Seasonal migration (up to 3 months)	38 (47.50)	18 (22.50)	56 (35.00)
Temporary migration (< 1 year)	10 (12.50)	08 (10.00)	18 (11.25)
Permanent migration (>1 year)	07 (8.75)	10 (12.50)	17 (10.63)

Note: Figures in parentheses represent percentage to respective sample total

Table 2. Livelihood security of migrant and non-migrant labour households in Northern dry zone of Karnataka

Districts	Particulars	Migrants	Non-migrants	t-value	Range of livelihood securities	
					Low	High
Vijaypur District (n=160)	Food security Index	0.852	0.847	1.882*	0.638	0.999
	Economic security Index	0.470	0.345	2.187**	0.332	0.508
	Education security Index	0.585	0.445	3.429***	0.367	0.785
	Health security Index	0.227	0.287	3.149***	0.234	0.356
	Habitat security Index	0.340	0.463	5.504***	0.350	0.565
	Social network security Index	0.285	0.309	4.411***	0.192	0.389
	Overall livelihood security Index	0.835	0.774	2.143**	0.731	0.925
Gadag District (n=160)	Food security Index	0.510	0.473	3.209***	0.382	0.630
	Economic security Index	0.429	0.275	2.696***	0.342	0.585
	Education security Index	0.698	0.456	1.844*	0.423	0.854
	Health security Index	0.133	0.165	2.534***	0.109	0.283
	Habitat security Index	0.172	0.210	1.816*	0.115	0.275
	Social network security Index	0.198	0.282	2.062**	0.147	0.336
	Overall livelihood security Index	0.811	0.645	2.692***	0.670	0.821
Pooled (n=320)	Food security Index	0.681	0.660	1.252*	0.382	0.999
	Economic security Index	0.450	0.310	5.350***	0.332	0.585
	Education security Index	0.642	0.451	4.395***	0.367	0.854
	Health security Index	0.180	0.226	2.746**	0.109	0.356
	Habitat security Index	0.256	0.337	4.837***	0.115	0.565
	Social network security Index	0.242	0.296	3.228***	0.147	0.389
	Overall livelihood security Index	0.823	0.710	2.124**	0.670	0.925

*** Significant at 1 per cent, ** significant at 5 per cent and *significant at 10 per cent

migrants (0.180). The lower health index among migrants can be explained by poor occupational conditions, lack of sanitation at workplaces and limited access to healthcare facilities in urban areas. Migrant workers often lack insurance coverage and depend on informal medical services. Mosse et al. (2005) and Srivastava (2011) also noted that migrant labourers face exclusion from organized healthcare systems and are vulnerable to work-related illnesses.

Habitat security: The Habitat Security Index revealed that non-migrants (0.337) had significantly better housing conditions than migrants (0.256). Non-migrant households usually reside in their own dwellings with basic amenities, whereas migrants live in temporary or rented accommodations near their work sites, often without proper sanitation or water facilities. Mosse et al. (2005) and Kundu (2009), also documented inadequate housing conditions among urban migrants due to the informal nature of employment and residence.

Social network security: The social network security index was higher among non-migrants (0.296) compared to migrants (0.242), with significant difference. Migration disrupts traditional community linkages, social participation and mutual support systems. Migrants, being geographically distant, have less interaction with local institutions and community activities. Non-migrants, on the other hand, maintain stronger ties with village networks and self-help groups. Mukherjee and Dutta (2017), also highlighted the weakening of traditional social safety nets among migrant households, particularly in rural India, where social capital plays a critical role in times of distress.

Overall livelihood security: The overall livelihood security index showed a significant difference, with migrants (0.823) outperforming non-migrants (0.710). This indicates that despite facing disadvantages in health, habit and social dimensions, migration ultimately contributes positively to overall livelihood security through improved income and education. Rao and Veena (2018) also observed that migration enhances household resilience and asset creation, helping rural families adapt to environmental and economic uncertainties.

CONCLUSION

Migration has emerged as an important livelihood strategy for rural households, particularly in regions

experiencing persistent agrarian distress, underemployment and climatic uncertainties. The process of migration significantly influences livelihood security across multiple dimensions including food, economic, educational, health, habitat and social well-being. The, migration plays a dual role in shaping household livelihoods in the Northern Dry Zone of Karnataka. Migrant households achieved higher levels of economic, educational and overall livelihood security, primarily due to diversified income sources and exposure to urban opportunities. However, they lagged in health, housing and social connectivity because of insecure living conditions and limited access to welfare services at destination areas. Hence, while migration acts as a significant livelihood diversification strategy in semi-arid regions, it also creates new vulnerabilities that need policy attention. The welfare of migrant workers necessitates a multidimensional policy approach that integrates health, housing, skill development, employment generation and social protection. State governments, in collaboration with the central government reinforce health insurance initiatives such as Ayushman Bharat and E-Shram portal to ensure comprehensive healthcare access for migrant populations across origin and destination regions. Enhancement of housing facilities through the effective implementation of the Pradhan Mantri Awas Yojana (PMAY) and the development of state-level rental housing frameworks, with specific provisions for seasonal, temporary and permanent migrants residing in informal settlements. Furthermore, targeted interventions under the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) can facilitate skill development and education, thereby improving the employability and job security of migrant workers in diverse sectors. Strengthening rural employment alternatives through the expansion of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and the promotion of non-farm rural enterprises can mitigate distress migration and enhance livelihood resilience among non-migrant households. In addition, the establishment of inclusive social protection networks via local institutions, cooperatives and self-help groups is vital for integrating migrant families within community systems, reducing social exclusion and fostering sustained social cohesion.

REFERENCES

Akter S and Rahman S 2012. Investigating livelihood security in poor settlements in Bangladesh. *Annual Conference of Agricultural Economics Society*, University of Warwick, UK.

Aliber M and Hart Tom 2009. Should subsistence agriculture be supported as a strategy to address rural food insecurity. *Agrekon* **48**(4): 434-458.

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Bagchi KK and Majumdar S 2011. Dynamics of out-migration of agricultural labourers: A micro-level study in two districts of West Bengal. Agricultural *Economics Research Review* **24** (Conference Issue): 568.

Baiphethi MN and Jacobs PT 2009. The contribution of subsistence farming to food security in South Africa. *Agrekon* **48**(4): 459-482.

Bhuvaneshwari PC 2008. Livelihood analysis for rural poor. *Proceedings of International Symposium on Strategies for Improving Livelihood Security of Rural Poor, Old Goa*, India. pp 241-243.

Bose ML and Dey MM 2007. Food and nutritional security in Bangladesh: Going beyond carbohydrate counts. *Agricultural Economics Research Review* **20**(3): 203-225.

Conelly WT and Chaiken MS 2000. Intensive farming, agro-diversity, and food security under conditions of extreme population pressure in western Kenya. *Human Ecology* **28**(1): 19-51.

Haan A 1999. Livelihoods and poverty: the role of migration: A critical review of the migration literature. *Journal of Development Studies* **36**(2): 1-47.

Deshingkar P and Farrington 2009. Migration, remote rural areas and chronic poverty in India. *CPRC Working Paper No. 163*, Chronic Poverty Research Centre, London.

Deshingkar P and Start D 2003. Seasonal migration for livelihoods in India: coping, accumulation and exclusion. *Working Paper No. 220, Overseas Development Institute, London*.

Ellis F 2000. *Rural livelihoods and diversity in developing countries*. Oxford University Press, Oxford.

Ijarotimi OS and Oyeneyin OO 2005. Effect of economic restructuring on household food security and nutritional status of Nigerian children. *Journal of Food, Agriculture and Environment* **3**(2): 27-32.

Keshri K and Bhagat RB 2012. Temporary and seasonal migration: Regional pattern, characteristics and associated factors. *Economic and Political Weekly* **47**(4): 81-88.

Kundu A 2009. Urbanisation and migration: An analysis of trends, patterns and policies in Asia. *Human Development Research Paper No. 16-20, United Nations Development Programme, New York*.

Mosse D, Gupta S, Shah V, Mehta M and Rees J 2005. On the margins in the city: Adivasi seasonal labour migration in Western India. *Economic and Political Weekly* **40**(28): 3025-3038.

Mukherjee M and Dutta C 2017. Migration of North-East women in Delhi: A macro level analysis. *International Journal of Applied Research* **3**(1): 372-377.

Pingali P L, Aiyar A, Abraham M and Rahman A 2019. Rural livelihood challenges: moving out of agriculture. In: *Transforming Food Systems for a Rising India. Palgrave Studies in Agricultural Economics and Food Policy*. pp 47-71.

Rao SK and Veena A 2018. Migration estimation in India: Monsoon Migration Model. *Journal of Rural Development* **37**(1): 51-70.

Stark O and Taylor JE 1991. Migration incentives, migration types: the role of relative deprivation. *Economic Journal* **101**(408): 1163-1178.

Salim SS, Sathiadhas R, Narayanakumar R, Katiha PK and Krishnan M 2013. Rural livelihood security: assessment of fishers' social status in India. *Agricultural Economics Research Review* **26** (Conference Number): 21-30.

Shyamali HW and Saini AS 2010. Livelihood security of women in hills: a comparative study of India and Sri Lanka. *Indian Journal of Agricultural Economics* **65**(6): 710-721.

Srivastava R 2011. Labour migration in India: recent trends, patterns and policy issues. *The Indian Journal of Labour Economics* **54**(3): 411-440.

Upadhyay RP and Palanivel C 2011. Challenges in achieving food security in India. *Iranian Journal of Public Health* **40**(4): 31-36.