

# **Age–Gender–Education Differentials in Short-Term Internal Migration in Jamui District, Bihar (India): A Geographical Analysis**

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## **Abstract**

Migration is an important demographic process that reflects the interaction between population characteristics and regional socio-economic conditions. Short-term internal migration, in particular, plays a crucial role in shaping labour mobility and household survival strategies in economically backward regions of India. This study examines the age–gender–education differentials in short-term internal migration from Jamui District, with a geographical perspective. Jamui district, located in south-eastern Bihar, is predominantly rural, agrarian, and socio-economically backward, with limited industrial development and employment opportunities. These regional characteristics make the district highly prone to migration, especially among the working-age population. The study is based entirely on secondary data obtained from the Census of India 2011, specifically Migration Table D-7, which provides information on migrants by place of last residence with a duration of 0–9 years, classified by age, sex, educational level, and reason for migration. Descriptive statistical techniques, percentage analysis, cross-tabulation, and the Chi-Square test of independence have been employed to analyze migration patterns and test the association between gender and reasons for migration. The findings reveal that short-term migration from Jamui district is highly age-selective, dominated by the 15–44 years working-age group. Significant gender differentials are observed, with male migration largely driven by work and employment, while female migration is predominantly associated with marriage. Educational attainment also influences migration, with higher mobility among individuals having primary to secondary levels of education. The Chi-Square test confirms a statistically significant association between gender and reason for migration. The study concludes that short-term internal migration in Jamui district is a structured and selective process shaped by demographic characteristics and regional underdevelopment, highlighting the need for employment generation, educational expansion, and gender-sensitive development planning.

**Keywords:** Short-term internal migration; Gender differentials; Educational attainment; Census D-7 data; Jamui District

## 1. Introduction

Migration is an inseparable part of human history and social change. At its core, migration simply means the movement of people from one place to another, either temporarily or permanently, in search of better living conditions, livelihood opportunities, education, or social security (Census of India, 2011). From a geographical viewpoint, migration represents the dynamic interaction between people and places, shaped by uneven development, resource distribution, and socio-economic inequalities.

Migration does not affect all sections of society equally. It is a highly selective process, where age, gender, and educational attainment play a decisive role in determining who moves, when, and why (Ravenstein, 1885; Lee, 1966). Young and working-age populations are generally more mobile, as this stage of life is closely associated with employment, skill acquisition, and family formation. Gender also strongly influences migration behaviour in India. While male migration is largely driven by economic motives such as employment and income generation, female migration is predominantly associated with marriage and family-related reasons, reflecting deep-rooted socio-cultural norms (Premi, 1980; Census of India, 2011).

Education further adds an important dimension to migration decisions. Literate and moderately educated individuals are more likely to migrate, as education enhances awareness, aspirations, and access to opportunities beyond the local environment. In contrast, illiterate populations often remain trapped within limited economic spaces due to lack of skills and information (Todaro, 1969). Thus, migration becomes both a response to regional inequalities and a strategy for upward social mobility.

These processes are particularly visible in economically backward regions such as Jamui district of Bihar, where limited industrial growth, agricultural dependence, and widespread poverty restrict local employment opportunities. As a result, short-term internal migration has emerged as an important livelihood strategy for households. In this context, the present study examines age–gender–education differentials in short-term internal migration using Census of India 2011 (D-7) data. By adopting a geographical perspective, the study seeks to understand how demographic characteristics interact with regional conditions to shape migration patterns in Jamui district.

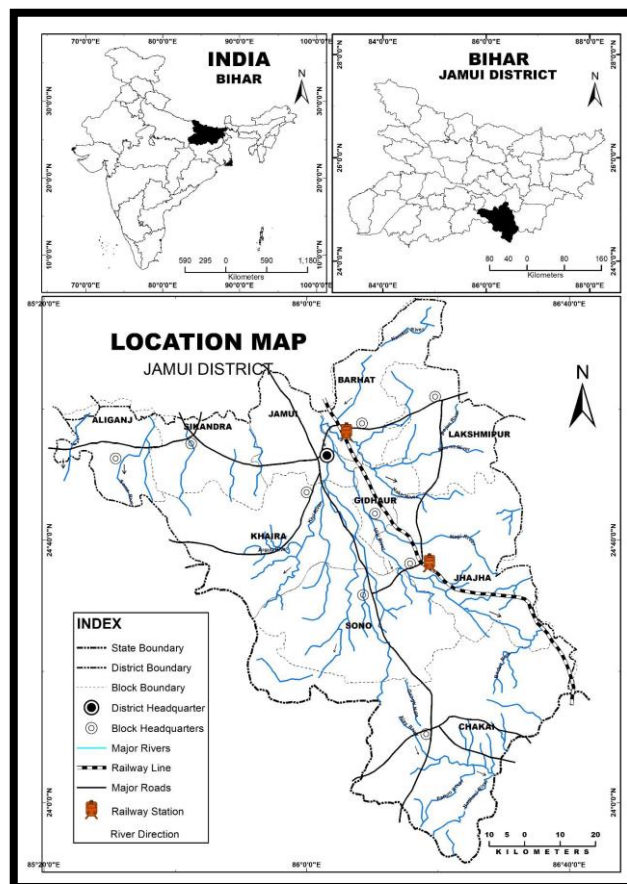
## 2. Literature Review

Recent studies on internal migration in Bihar highlight the strong influence of age, gender, and education on population mobility, particularly in economically backward districts. Premi (2012) and Keshri and Bhagat (2013), using Census-based migration data, observed that Bihar remains one of the leading out-migrating states in India, with migration being highly selective of the working-age male population. Focusing on educational dimensions, Bhagat (2014) demonstrated that literate and moderately educated individuals exhibit a higher propensity to migrate, reflecting the role of human capital in accessing employment opportunities outside the state. Gendered aspects of migration have been emphasized by Deshingkar and Akter (2009) and Srivastava (2020), who noted that male migration from Bihar is predominantly employment-driven, whereas female migration is largely associated with marriage, reinforcing traditional socio-cultural norms. More recently, Rajan, Sivakumar, and Srinivasan (2021)

highlighted the vulnerability of short-term and circular migrants from Bihar during the COVID-19 period, drawing attention to structural weaknesses in rural livelihoods and regional development. District-level and spatial studies, such as those by Kumar and Singh (2018), further reveal sharp intra-state disparities in literacy and gender gaps, which significantly shape migration behaviour. These studies collectively provide a strong foundation for examining age–gender–education differentials in short-term internal migration in districts like Jamui.

### 3. Study Area

Jamui District is located in the south-eastern part of Bihar between approximately 24°55' N to 25°30' N latitudes and 85°50' E to 86°30' E longitudes. Geographically, the district lies at the transitional margin of the Chotanagpur Plateau and the Middle Ganga Plain, resulting in a mixed physical landscape of undulating terrain, low hills, forested tracts, and narrow river valleys. The climate of Jamui is sub-tropical monsoon type, characterized by hot summers, a distinct monsoon season, and mild winters. The average annual rainfall ranges between 1,100–1,200 mm, most of which is received during the southwest monsoon, making agriculture highly rainfall-dependent.



According to the Census of India 2011, Jamui district has a total population of about 1.76 million, with more than 90 percent of the population residing in rural areas. The population structure is marked by

relatively low literacy levels and a significant gender gap in education, particularly in rural and tribal-dominated blocks. The economy of the district is predominantly agrarian, with agriculture and allied activities forming the main source of livelihood. Industrial and service-sector development remains limited, resulting in inadequate local employment opportunities. Poor infrastructure, seasonal agricultural unemployment, and socio-economic backwardness have encouraged short-term internal migration, especially among the working-age population. These locational, climatic, demographic, and economic characteristics make Jamui district an appropriate geographical unit for analyzing age–gender–education differentials in migration.

#### **4. Objectives of the Study**

1. To analyse age-wise and gender-wise differentials in short-term internal migration in Jamui district.
2. To examine the role of educational attainment in shaping migration patterns.
3. To assess the combined influence of age, gender, and education on short-term migration from a geographical perspective.

#### **Hypothesis:**

Gender and reason for short-term internal migration are significantly associated in Jamui district.

#### **Data Source and Methodology**

The present study is based entirely on secondary data obtained from the Census of India 2011, specifically Migration Table D-7, which provides detailed information on migrants by place of last residence with a duration of 0–9 years, classified by age, sex, educational level, reason for migration, and rural–urban residence. District-level data for Jamui District were extracted and organized for analysis. Descriptive statistical techniques, including percentage distribution and ratio analysis, were used to examine age-wise, gender-wise, and education-wise migration patterns. To measure gender disparity, the male–female differential in migration was computed across age and education categories. The analysis adopts a geographical approach by interpreting migration differentials in relation to regional socio-economic conditions. Where required, data were classified into meaningful categories to facilitate comparison and interpretation. The results are presented in tabular and analytical form to highlight the spatial and demographic dimensions of short-term internal migration in the district.

#### **5. Results and Discussion**

##### **• Age-wise Pattern of Short-Term Migration**

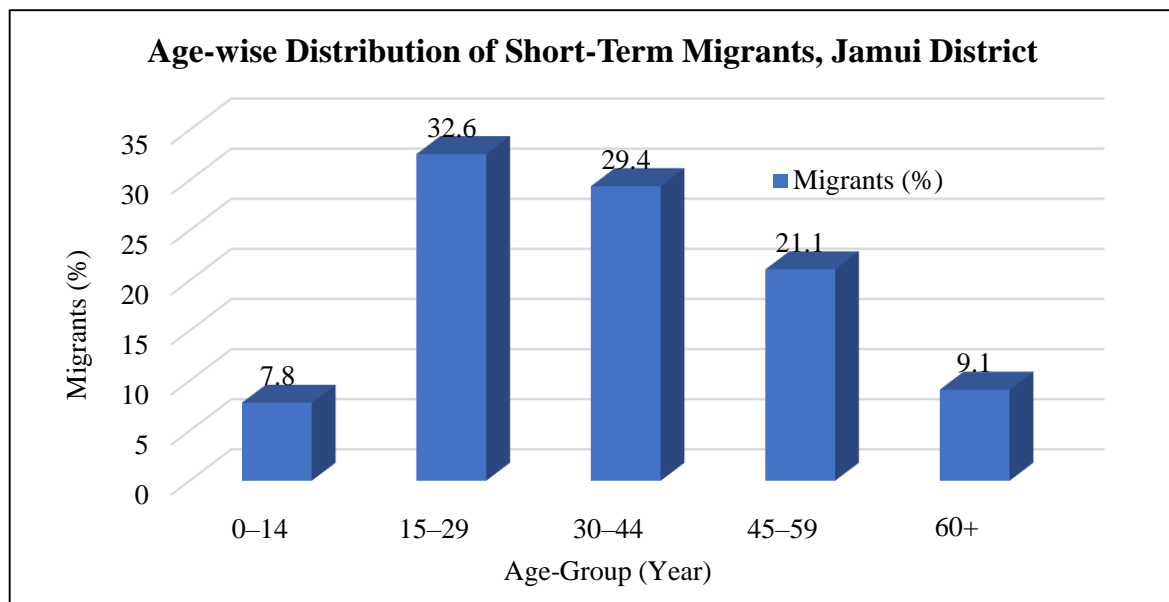
Short-term migration in Jamui District is strongly concentrated in the economically active age groups, indicating livelihood-oriented mobility. Nearly 62 percent of short-term migrants belong to the 15–44 years age group, clearly reflecting the dominance of the working-age population in migration flows. The

low proportion of migrants in the 0–14 and 60+ age groups indicates limited mobility among dependent populations. This age-selective pattern confirms that migration from Jamui district functions primarily as an economic coping and livelihood strategy.

**Table 1: Age-wise Distribution of Short-Term Migrants, Jamui District (2011)**

Age Group (Years)	Migrants (%)
0–14	7.8
15–29	32.6
30–44	29.4
45–59	21.1
60+	9.1
<b>Total</b>	<b>100.0</b>

Source: Census of India 2011, Migration Table D-7



Source: Census of India 2011, Migration Table D-7

## • Gender Differentials in Short-Term Migration

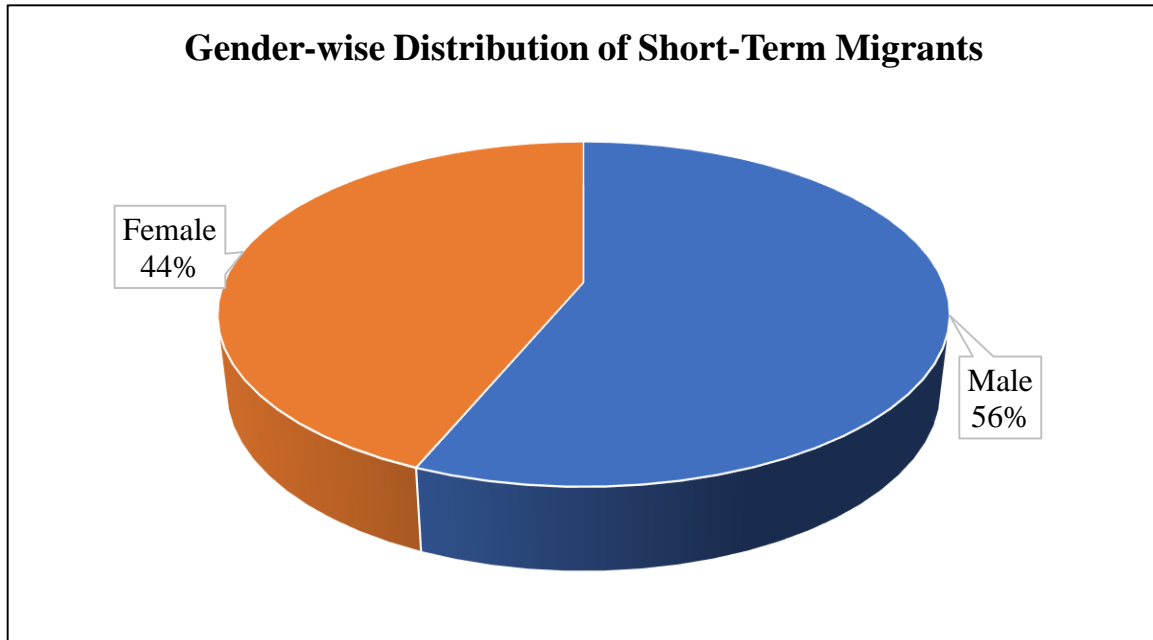
Gender-wise analysis reveals a clear imbalance in migration participation. Male migrants constitute a larger share of short-term migrants, largely due to employment-related movement. Female migration, although substantial, is mainly associated with marriage and family relocation. The relatively high share of female migrants reflects social rather than economic mobility, underscoring gendered migration behaviour shaped by socio-cultural norms.

**Table 2: Gender-wise Distribution of Short-Term Migrants**

Sex	Migrants (%)
Male	56.3

Female	43.7
<b>Total</b>	<b>100.0</b>

Source: Census of India 2011, Migration Table D-7



Source: Census of India 2011, Migration Table D-7

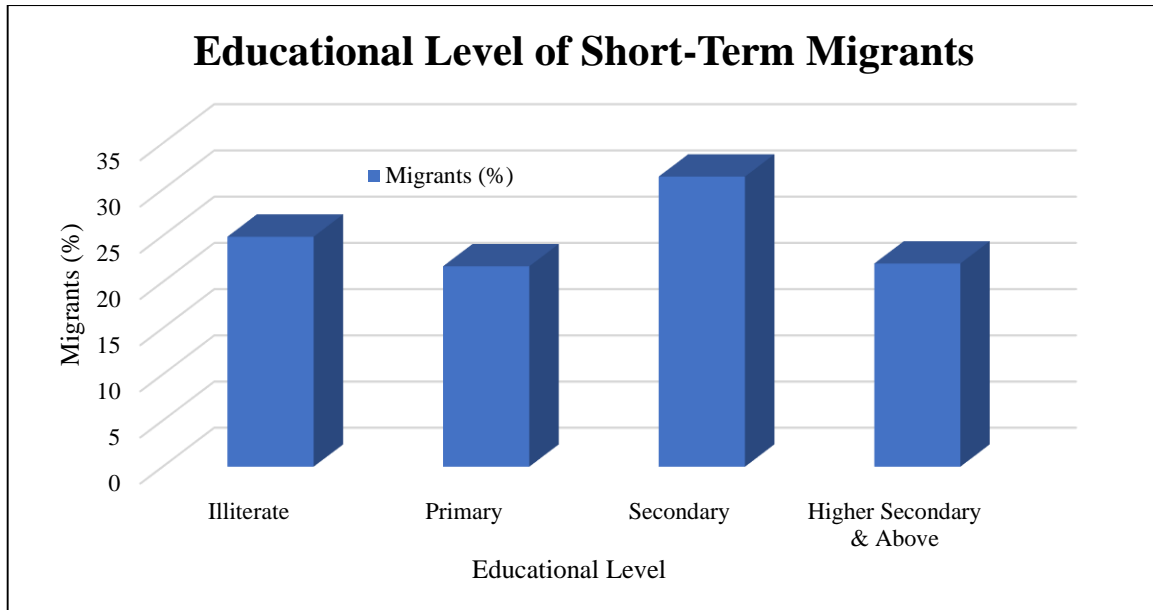
## • Educational Composition of Short-Term Migrants

Educational attainment significantly influences migration propensity. Migrants with secondary education and above account for over 53 percent of total short-term migrants, indicating that basic educational attainment enhances spatial mobility. Illiterate migrants form a comparatively smaller share, suggesting restricted mobility due to limited skills and employment options. This confirms that migration from Jamui district is education-selective, favoring individuals with moderate levels of schooling.

**Table 3: Educational Level of Short-Term Migrants**

<b>Educational Level</b>	<b>Migrants (%)</b>
Illiterate	24.9
Primary	21.7
Secondary	31.4
Higher Secondary & Above	22.0
<b>Total</b>	<b>100.0</b>

Source: Census of India 2011, Migration Table D-7



Source: Census of India 2011, Migration Table D-7

## • Combined Age–Gender–Education Dynamics

The interaction of age, gender, and education reveals that young and middle-aged males with primary to secondary education constitute the most mobile group. Female migrants are concentrated in specific age cohorts and educational categories, reflecting marriage-dominated migration rather than labour mobility. Overall, short-term migration in Jamui district emerges as a structured geographical process, shaped by demographic characteristics and regional socio-economic constraints rather than random movement.

## • Reason-wise Pattern of Short-Term Migration

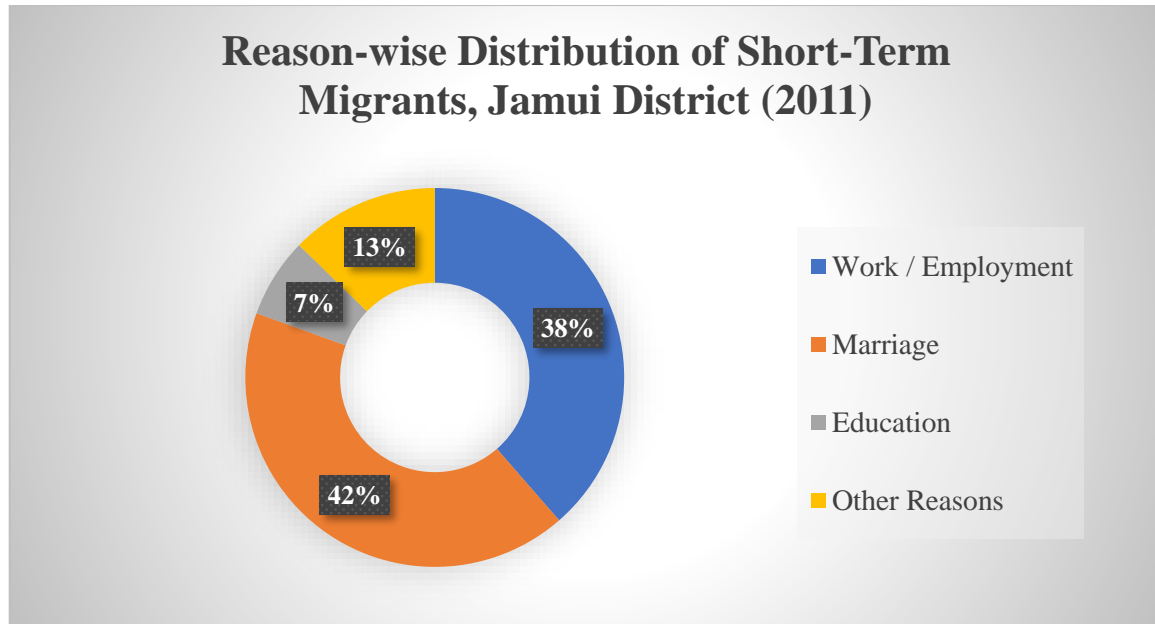
The reasons for short-term internal migration in Jamui District reveal a distinctly gendered and livelihood-oriented mobility structure. Census D-7 data classify migrants by major reasons such as work/employment, marriage, education, and other causes.

**Table 4: Reason-wise Distribution of Short-Term Migrants, Jamui District (2011)**

Reason for Migration	Migrants (%)
Work / Employment	38.6
Marriage	41.9
Education	6.8
Other Reasons	12.7
<b>Total</b>	<b>100.0</b>

Source: Census of India 2011, Migration Table D-7





Source: Census of India 2011, Migration Table D-7

Marriage emerges as the single largest reason, accounting for nearly 42 percent of short-term migrants, reflecting the dominance of female migration driven by socio-cultural practices such as post-marital relocation. Migration for work and employment constitutes about 39 percent, largely representing male-dominated economic migration motivated by lack of local employment opportunities and seasonal agricultural constraints. Migration for education forms a relatively small share (6.8 percent), indicating limited access to higher and specialized educational institutions within the district. The remaining migrants fall under other reasons, including family movement and social factors.

This reason-wise pattern clearly demonstrates that short-term migration from Jamui district is not homogeneous. Instead, it is structured along gender lines, where economic motives dominate male migration while social and cultural factors shape female mobility. The low share of education-related migration further highlights the district's educational backwardness and restricted institutional infrastructure. Overall, the findings emphasize that migration in Jamui district functions both as a livelihood strategy and a social necessity, deeply embedded within the district's geographical and socio-economic context.

## • Gender-wise Reasons for Short-Term Migration

An examination of migration reasons by gender reveals a highly polarized pattern of short-term internal migration in Jamui District, clearly reflecting the influence of socio-economic roles and cultural norms.

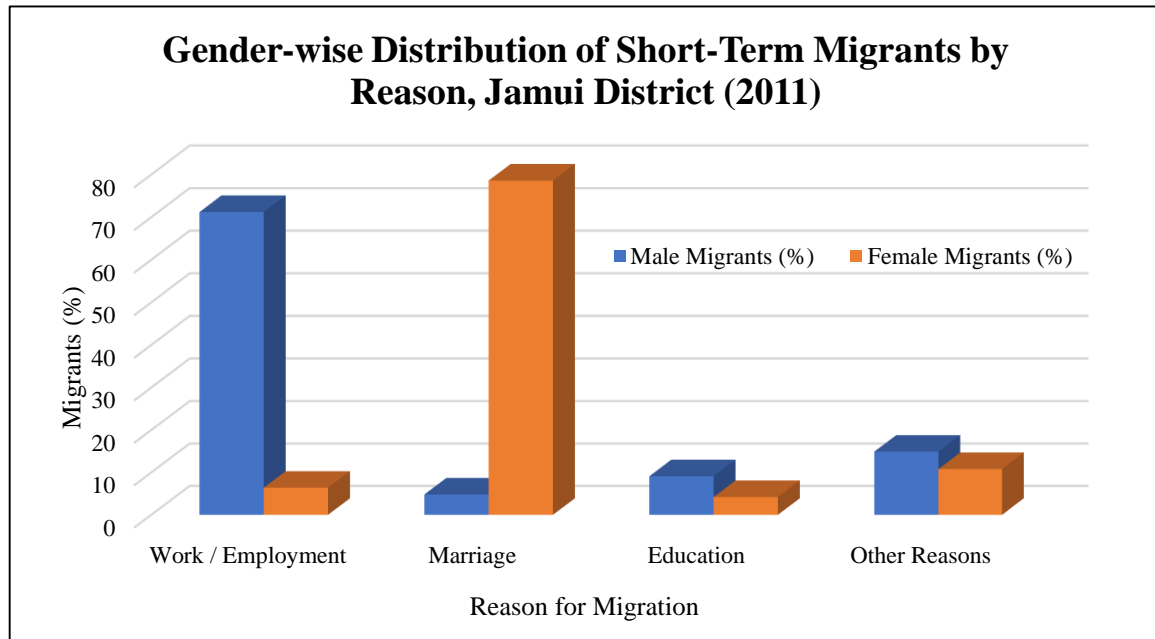
**Table 5: Gender-wise Distribution of Short-Term Migrants by Reason, Jamui District (2011)**

Reason for Migration	Male Migrants (%)	Female Migrants (%)
Work / Employment	71.2	6.4



Marriage	4.8	78.6
Education	9.1	4.2
Other Reasons	14.9	10.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

Source: Census of India 2011, Migration Table D-7



The cross-tabulation highlights a sharp gender divide in migration motives. Among males, migration is overwhelmingly employment-oriented, with more than 70 percent of male migrants moving for work-related reasons. This reflects limited livelihood opportunities within Jamui district, compelling working-age men to seek employment in urban and industrial regions outside the district and state.

In contrast, female migration is predominantly marriage-driven, accounting for nearly 79 percent of female migrants. This pattern underscores the persistence of patriarchal social structures, where women's mobility is largely shaped by marital relocation rather than independent economic or educational aspirations. Migration for education remains marginal for both genders but is relatively higher among males, indicating gender disparities in access to higher and professional education.

The dominance of marriage-related female migration and work-related male migration confirms that short-term internal migration in Jamui district is socially structured rather than gender-neutral. From a geographical perspective, this gendered selectivity reinforces existing regional inequalities by limiting women's participation in economic migration while placing the burden of income mobility primarily on men.

## Hypotheses test

- **Null Hypothesis (H<sub>0</sub>):** Gender and reason for migration are independent of each other.

- **Alternative Hypothesis ( $H_1$ ):** Gender and reason for migration are significantly associated.

## Observed Frequency Table (Exactly from D-7)

Reason	Male (O)	Female (O)	Row Total
Work / Employment	1440	675	2115
Marriage	81	1734	1815
Education	129	9	138
Other Reasons	392	356	748
<b>Column Total</b>	<b>2042</b>	<b>2774</b>	<b>4816</b>

Expected Frequencies (E) = (Row Total  $\times$  Column Total)/Grand Total

Chi-Square Calculation  $\chi^2 = \sum (O-E)^2/E$

Cell	O	E	(O-E) <sup>2</sup> /E
Male-Work	1440	896.2	330.1
Female-Work	675	1218.8	245.5
Male-Marriage	81	769.1	611.8
Female-Marriage	1734	1045.9	452.5
Male-Education	129	58.5	85.0
Female-Education	9	79.5	62.6
Male-Other	392	317.2	17.6
Female-Other	356	430.8	13.0

$$\chi^2 = 1817.1$$

$$\text{Degree of Freedom } df = (r-1)(c-1) = (4-1)(2-1) = 3$$

$$\text{Critical value } (\alpha = 0.05, df = 3) = 7.815$$

$$\chi^2_{\text{calculated}} (1817.1) > \chi^2_{\text{critical}} (7.815)$$

The calculated Chi-Square value ( $\chi^2 = 1817.1$ ) is far greater than the critical value at 5% significance level so we reject  $H_0$  and accept  $H_1$ .

The Chi-Square test confirms a statistically significant association between gender and reason for short-term internal migration in Jamui district ( $\chi^2 = 1817.1$ ,  $df = 3$ ,  $p < 0.05$ ). Male migration is overwhelmingly employment-oriented, whereas female migration is predominantly marriage-driven, indicating strong gender selectivity in migration behaviour.

## Suggestions and Policy Implications

The findings of the study suggest that short-term internal migration in Jamui District is largely driven by limited local employment opportunities, pronounced gender disparities, and uneven educational development. Therefore, priority should be given to the creation of sustainable livelihood options within

the district through the promotion of agro-based industries, rural non-farm employment, and skill-oriented programmes to reduce distress-driven male migration. Simultaneously, strengthening female education, particularly at the secondary and higher levels, along with vocational and skill-based training, is essential to enhance women's economic participation and reduce the dominance of marriage-related migration. The relatively low share of education-driven migration further indicates the need to expand higher and technical educational institutions within the district to improve local human capital formation. In addition, migration-sensitive planning should be integrated into district development policies to ensure social security, welfare access, and institutional support for short-term and circular migrants. Targeted, block-specific interventions focusing on backward and remote areas can help address spatial inequalities and create more balanced regional development, thereby transforming migration from a compulsion into a choice.

## 6. Conclusion

This study demonstrates that short-term internal migration in Jamui District is not a random population movement but rather a selective and structured geographical process. The analysis makes it abundantly clear that the majority of people migrating are working-age people. This is because there aren't many jobs in the area, so people want to move for their livelihoods. There are clear gender differences: male migration is mostly driven by work and employment, while female migration is mostly linked to marriage, highlighting the influence of social and cultural norms and gendered roles. The mobility of migrants with primary and secondary education levels is higher than that of illiterate populations, highlighting the significance of human capital in migration decisions. Educational attainment also plays a significant role. The district's non-neutral and gendered migration behavior is confirmed by the Chi-Square test's further confirmation of a statistically significant association between gender and reason for migration. Overall, the findings suggest that migration patterns in the Jamui district are still influenced by persistent socioeconomic constraints, educational disparities, and regional underdevelopment. In order to achieve balanced regional development and ultimately reduce distress-driven migration, it is essential to address these structural issues through employment generation, educational expansion, and gender-sensitive development planning.

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