

# Analysis of Factors Triggering Distress Migration in Bundelkhand Region of Central India

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## ABSTRACT

Bundelkhand region of central India, a major drought affected area of the country is associated to high level of rural to urban migration. The present study was conducted to analyze the socio-economic characteristics of the migrants and to examine the key factors triggering migration decision of agriculture practicing households. The region was facing drought for the fourth consecutive period which had left the population, mainly dependent on agricultural income, out of option than migration. The analysis of socio-economic profile of migrants showed that majority of the migrants were between the age group of 20-39 (70.1%) and the education level was secondary (54.8%). The population of female migrants was comparatively low, as many of them followed their family to the migrating place after marriage. Majority of the migrants (81.73%) were engaged in unskilled manual labour activities like construction works in destination cities. The various factors identified triggering migration decision were associated to livelihood security, climatic, agricultural, institutional and socio-cultural factors.

**Keywords:** Labour migration, Factor analysis, Socio-economic profile, Bundelkhand

Since time immemorial, human race has been taking advantage of the process of migration for its very existence, adaptation, and development. Migration is often regarded as a positive response to inter- or intra-regional discrepancies. In the era of globalization, migration has an important role in the livelihood tactics of the poor across the world, which becomes more relevant in the context of developing countries like India.

Migration is distress if it is motivated by extreme economic deprivation, natural and environmental disasters, or forms of gender and social oppression which are perceived to be intolerable (Mander and Sahgal, 2010). In drought affected areas with extreme water scarcity, farmers and agricultural labourers are considering seasonal/distress migration as an inexorable component of their livelihood strategy. This is particularly true considering Bundelkhand region, where rain-fed agriculture is practiced by majority.

Bundelkhand region comprises of seven districts of southern Uttar Pradesh and six districts of northern Madhya Pradesh. Bundelkhand is a historically known drought prone region of the country, but the frequency and intensity of drought has increased over past few decades (Gupta *et al.* 2014). The region contributes to the highest rural to urban migration in central India (Census, 2011). Scarcity of water along with poor soil conditions aggravates the issue affecting sustenance of farmers and agricultural labourers, and food security of the region. The risks of agriculture coupled with vagaries of nature triggers distress migration from farming households who depend mainly on agricultural income. The present study examined the socio-economic characteristics of migrants belonging to small, marginal farming households and agricultural households. The study has also attempted categorization of prominent factors influencing their migration decision.

**Data and methodology**

The study was conducted using exploratory and analytical methods involving both qualitative as well as quantitative approaches. A primary survey of migrant agricultural households was used for materialising the study. Two districts viz. Jhansi (Uttar Pradesh) and Tikamgarh (Madhya Pradesh) were selected purposively and two villages each (Jhansi and Behta in Jhansi district and Jamuniya and Binwara in Tikamgarh district) were selected from the two districts (Fig. 1). From each village, 30 migrant households were randomly identified and a total of 120 migrant households were surveyed from the region. Pre-tested designed questionnaire was used for the survey purpose. The socio-economic characteristics of the migrants were analysed using descriptive statistics. In order to identify the key factors triggering migration from the surveyed area, factor analysis technique was used. The field study was pertained to the period of March-April 2016.



**Fig. 1:** Map representation of the study area with selected districts

**Factor analysis technique**

Factor analysis technique was used to discern the key factors forcing migration from the study area. Factor analysis is a data reduction technique which finds out latent patterns in a set of variables so that relationships could be detected easily (Child, 2006). The technique uses shared variance for regrouping variables into a narrow set of clusters and thereby

aids in isolating constructs and concepts (Yong and Pearce, 2013). The fittingness of the data for factor analysis was tested on the basis examination of the correlation data matrix and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). A high value between 0.5 and 1.0 indicates that factor analysis is appropriate technique to be used. Since calculated value of KMO was 0.68, the sample was good enough for factor analysis. SPSS software was used for factoring the data. Factoring was carried out using the principal component axis model of factoring (Hotelling, 1933) which is expressed as,

$$Z_j = a_{j1} F_1 + a_{j2} F_2 + a_{j3} F_3 + \dots + a_{jq} F_q,$$

Where,  $Z_j$  = Magnitude of the indicator  $j$ ; i.e.  $j^{\text{th}}$  principal component or factor in the model

$a_{jq}$  = The factor loading of the  $q^{\text{th}}$  indicator in the  $j^{\text{th}}$  principal component or factor;

$F_q$  = The amount of association in magnitude of indicators, the uncorrelated trait measured by factor  $q$  which is possessed by the indicator  $j$ ;

$j$  = Factor loading with reference to indicators (1, 2, 3...,  $q$ );

$q$  = A set of indicators in the model (1, 2, 3...,  $q$ ); and  $a_{jq} F_q$  = Factor coefficient or loading of indicator  $j$  on factor  $q$ .

In this study, Eigen value criteria (values greater than one) was used to extract factors along with the Screen test. Percentage of explained variance was also considered. The unrotated factors are difficult to interpret and often do not give meaningful pattern of variables, hence a new set of variables was generated by rotations. The Varimax Rotation method (Kaiser, 1958) was used which maximizes the variance of factors in the matrix and contains several high or low loadings. The inferences were drawn on the basis of factor loading (<0.50) in the final loading matrix by using the standard- error (Harman, 1967),

$$\sigma_a = \frac{1}{2} [(3/r - 2 - 5r + 4r^2) / N]^{0.5},$$

where  $\sigma_a$  = Standard-error of factor loadings;  $r$  = Average value in correlation matrix or factor loadings; and  $N$  = Number of observations.

**RESULTS AND DISCUSSION**

Bundelkhand region is infamous for the distress migration of rural poor and agricultural labourers.

Vagaries of weather in its multiple dimensions i.e. Monsoon deficit (2014), Hailstorm (Feb-March, 2015) and subsequent rainfall deficit (Jan-Feb, 2016) left the population mainly dependent on agricultural income, out of option. The region was facing drought for the fourth consecutive period.

**Socio-economic profile of migrant population**

The socio-economic profile of migrants in the study area is presented as Table 1. Most of the migrants were aged between 30 and 39 years (35.53%) of the total sampled group followed by the age group 20-29 (34.52%). Education status of majority of the migrants was secondary level (54.82%) followed by intermediate level (25.89%). Only 30.96% per cent of the sampling population were female migrants and most of them were married and following their family to the migrating place. Majority of the migrants (81.73%) were engaged in unskilled manual labour activities like agricultural work and construction work in the destination areas like Delhi, Haryana, Punjab *etc.*

**Table 1:** Socio-economic profile of migrants in Bundelkhand region (n=197)

S. No.	Characteristics	Profile	Frequency	Percentage (%)
1	Age group	20-29	68	34.52
		30-39	70	35.53
		40-49	34	17.26
		50-59	18	9.14
		60-69	7	3.55
2	Sex	Male	136	69.04
		Female	61	30.96
		Unskilled labourer	161	81.73
3	Occupation	Government job	13	6.60
		Private job	23	11.68
		Illiterate	18	9.14
		Primary level	15	7.61
		Secondary level	108	54.82
4	Education	Intermediate level	51	25.89
		Graduation and above	5	2.54

**Factors affecting migration**

Factor analysis technique was used to identify the factors which trigger the migration of residents

in study area. The difference in employment opportunities, development and livelihood options between rural and urban life has resulted in a mass scale of migration from rural agrarian economy to urban economy. In order to prevent an exodus which may lead to strain on the urban resources, proper policy measures need to be taken for which analysis of basic factors influencing migration need to be understood. In this regard, 14 selected statements were made and collected the required information (Table 2).

**Table 2:** Total variance explained

S. No.	Initial Eigen values		
	Total Percentage	Percentage of variance	Cumulative percentage
1	2.123	19.167	19.167
2	1.822	18.016	37.183
3	1.780	14.712	51.895
4	1.397	11.980	63.875
5	1.170	11.358	75.233
6	0.981	7.439	82.672
7	0.969	5.397	88.069
8	0.916	4.041	92.110
9	0.828	3.156	95.266
10	0.701	1.551	96.817
11	0.596	1.006	97.823
12	0.327	0.987	98.810
13	0.214	0.656	99.466
14	0.021	0.534	100

*Extraction method: Principal component analysis.*

According to the results of SPSS output, 5 factors were extracted which together accounted for 75.23% of total variance. A factor loading represents the correlation between an original variable and its factor. The name of the factors and the loadings are presented in Table 3.

**1. Factors related to livelihood security**

Better livelihood option has emerged as a major factor accounting for 19.17% of total variance. Three out of fourteen statements viz. migration was influenced by better wages in the destination, inefficiencies in the execution of employment guarantee programme and lack of employment opportunity, were found to be highly correlated with this factor. It was observed better wages in the preferred destination areas like Punjab, Haryana and

**Table 3:** Rotated Component Matrix

S. No.	Components	Livelihood security	Climatic	Agricultural	Institutional	Socio-cultural
1	Better wages	0.989				
2	Inefficiencies in the execution of employment guarantee programme	-0.875				
3	No employment opportunities	-0.891				
4	High medical and educational expenses				-0.635	
5	Lack of infrastructure				0.835	
6	Lack of agri-development programmes				0.733	
7	Lack of credit access to agriculture				-0.649	
8	Low productivity			0.744		
9	Small land holdings			0.648		
10	Farming no longer profitable			0.983		
11	Increasing cost of production			0.957		
12	Caste related issue					0.771
13	Lack of irrigation water		0.920			
14	Drought		0.932			

*Rotation Method: Varimax with Kaiser Normalisation.*

Delhi etc., attract migrants. The study showed that Bundelkhand region had an average wage rate of ₹ 175-200/labour/day whereas most of the destination areas have a wage rate in the range of 250-300/labour/day. Inefficiencies in the implementation of employment guarantee programme, delay in the payment of wages and lack of awareness among beneficiaries acted as major hindrances for creation of employment opportunities. This was compounded by the consecutive drought which adversely affected the rural demand for agricultural labour left the migrants no option but to leave for better employment opportunities.

**2. Climatic factors**

Bundelkhand region has hot and semi-humid climate. Hostile climatic condition was the second important factor that accounted 18% of total variation. It can be interpreted that the residents opted migration due to the adverse effects of drought and lack of proper irrigation facilities essential for agriculture. Consecutive drought has severely affected the agricultural practice in the region. Drought leads to severe losses of crops, death and production loss of livestock, increase the population and infestation of insects, added diseases in plants and wind erosion. The special land preparation required for Soybean crop has further deepened the crisis as the ground water

recharge is affected. Despite the fact that around 45% of net sown area in Bundelkhand is irrigated, water supply was inadequate as reported earlier (Samra, 2008).

**3. Agricultural factors**

In Bundelkhand region, rural economy is mainly dependent on agriculture. Majority of the residents are falling into the criteria of marginal and small farmers. Most of the landless labours are working as agricultural labourers. Lack of favourable weather factors and targeted institutional support has pushed the cost of production in the fragmented agricultural lands with low productivity. It was reported that the reduction in food production of Bundelkhand (MP) area was above than double of the state average. Troublingly, the decline in yield was around four times that of the state (Khurana and Mahapatra, 2008). Majority of the households were unaware about advanced agricultural technologies. Seed purchases were mainly guided by private seed company agents and local input providers pushing the cost of inputs. All these factors influence the decision to migrate.

**4. Institutional Factors**

Migration decision of Bundelkhand residents was prompted by the lack of sufficient infrastructure. The study areas were found to be lagging in

quality educational institutions and health care facilities resulting in high educational and medicinal expenses. Access to institutional credit was poor and money lenders continue to provide credit at a higher interest rate. Though 54 per cent of the study population had Kisan credit Card (KCC), inability to ensure timely repayment has reduced the intended effect. Institutional support in the form of subsidies or development programs was not penetrating into the targeted areas. All these force the resource poor farming households to choose the option to migrate for better opportunities.

### 5. Socio-cultural Factors

The variable 'caste related issue' is the only loaded statement under the socio cultural factor which accounted for 11.4 per cent of the total variance. The data shows that more than 90 per cent of the migrants belong to back ward/ scheduled category. Most of them had left their traditional occupations and decided to migrate in search of better employment and educational opportunities. Thus socio-cultural background and the gaps prevailing in the rural society was also a factor which influence the migration decision.

### CONCLUSION

From present study, it can be concluded that factors like lack of livelihood options and vagaries of weather in its multiple dimensions force even young and literate rural population, to distress migration. Improved penetration of institutional support in agriculture along with timely interventions during the period of distress can reduce the intensity of distress migration from the severely prone area.

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