

VOLUME AND STATUS OF AGRICULTURAL LABOURERS' MIGRATION IN BIDAR DISTRICT, KARNATAKA, INDIA

ABSTRACT:

The study was carried out in the Bidar district of Kalyana Karnataka where a people's migration is big. Three talukas were chosen based on the highest labour force from the district. In specific, they were Bidar, Bhalki, and Basavakalyan. In random selection, four villages from each taluka were selected. The primary data was taken via the personal interview process from a total of 240 samples randomly from every taluka for the experiment, with 80 samples. The gravity model results revealed that the rate of migration and volume of migration decreases as the distance to the destination increases. A logistic regression model was fitted for Bidar district migration results for three talukas viz. Basavakalyan, Bhalki and Bidar. The results displayed that with the odd ratios more than unit, per capita land holding was negatively significant, so we can interpret that lower per capita land holding caused more migration. The other features viz., family size, with unit or less than unit value for odd ratio, it was positively significant for some villages and negative for others. The positive significance displayed that the migration was more affected when the family size was high, the other factor was education, the model disclosed that educates migrate more than illiterates do due to underemployment. Income including migrants' income (IMI) had a positive influence and income excluding migrants' income (EMI) had a negative influence on migration. This tells us that for having a high income for a family, any member of the family should migrate. Both Wilcoxon's signed rank and t-tests displayed that for better income and lifestyle of a people they should migrate because the migrated people situation is upgraded in this study.

Keywords: Volume of migration, Status of migration, agricultural labours migration, Bidar, logistic regression.

INTRODUCTION:

Migration study is a unique demographic branch. Its multidisciplinary nature has engrossed the attention of researchers from distinguished disciplines. These studies in the field were categorized based on sharing of ideas in a variety of scientific disciplines such as anthropological, economic, geographical, psychological, sociological, cultural, etc. (Greenwood *et al.*, 1991). The movement of an individual or a family from their home to another city, state, or country for a job, shelter or some other reason is called migration. These individuals are called migrants. This migration may be from rural to urban, rural to rural, urban to urban, foreign migration, etc. Rural to urban areas migration is the most common migration and has amplified in past few years in India and everywhere across the world (Bilsborrow *et al.*, 1987). Such, migration alters the population structure and size of both urban and rural areas. Most of the migrants are not qualified

or educated, and usually work on a daily basis (workers paid for their services at the end of each day). The daily wages do not enough for the betterment and survival of their families and to meet their basic needs. Hence, they were facing a multitude of problems related to food, sanitation, hygiene, a proper place for living, etc (Donald and Mandlak, 1995).

Among the several reasons causing migration conflicts, violence, drought, and natural calamities are the main core causes of migration and forced displacement (Mensah-Bonsu *et al.*, 2000). Many migrants were forced to move because of socio-economic factors, poverty, landlessness, food insecurity, lack of employment opportunities, limited access to social protection, natural resource diminution, and the adverse impacts of environmental deprivation and climate change health hazards to make influence over the movement of people. Thus, migration streams are determined via a multifaceted collaboration of economic, social, environmental, and demographic factors. In the Indian background, the analysis of internal migration seems more challenging and complex than anywhere else because of insufficiency of accessible data or uneven dissemination of land or natural resources but also owed to the diversity of social, economic, cultural, and etymological groups and sub-groups within the groups that occurs within and between districts and states of India (Singh and Singh, 2011).

In India, agriculture is the major source of employment (about 50 %) and contributes to about 15 percent of the national GDP (Brigitte and Michael, 2007). Economic factors in India govern the cycle of migration from rural to urban areas. About 70 percent of farmers and their associated agricultural activities afford their livelihoods. Population overcrowding within the agriculture sector and hidden unemployment are very serious issues in the region (Munshi and Rosenzweig, 2016). Recurrent droughts, non-remunerative prices for farm produce, lack of agricultural inputs, and dearth of appropriate irrigation facilities are the features responsible for the rural people migration to the leading urban sectors (Channaveer *et al.*, 2011).

The magnitude of agricultural workers migration has been attracted to policymakers' attention by liberalization and they are hunting for ways to end such migration. It is therefore important to research the effect of micro-level liberalization on farm workers, their employment chances, work and living conditions, and trends (Mishra, 2010). This issue has a direct effect on systemic changes both in migration areas of origin and destination. Although there can be no comparison of straight statistics on the rural-urban migration of farm workers in India, the substantial growth in the urban population is clearly understood. From 27.81 percent for 2001 to

31.16 percent in 2011 the urban population jetted (Paraganiha *et al.*, 2009). The cause was, in accumulation to the natural increase of city populations, the net migration of rural workers from weak agricultural economics (Tondon and Singh, 2007). Industries positioned in the urban areas require a steady supply of labour, which induces migration from the attached villages (Deshingkar and Farrington, 2008).

Migration status in Karnataka

Karnataka stands fourth position in the urbanization degree after Maharashtra, Gujarat and Tamil Nadu. The population currently in Karnataka amounts to 61.1 million of whom 37.5 million inhabitants live in rural areas, while 23.5 million in towns and cities (Jain, 2010). Karnataka Urbanization grew from 33.99 percent in 2001 to 38.57 percent in 2011, compared with 66.01 percent in rural areas declined to 61.43 percent. According to the 2011 census, Bidar district has a population of 1,703,300 with 287th ranking in India (out of a total of 640). Bidar district accounts for 2.84 percent of the total area and homes to 2.78 percent of the whole population in the state. Its population growth rate over the decade 2001-2011 was 13.16 percent (Ministry of Home Affairs, 2011).

The per capita land availability is very less so agriculture itself is not providing a reliable source of income, especially in this era of globalization because of the high cost of cultivation, scarcity of irrigation water, stagnation of productivity in agriculture, prices fluctuation of agricultural products and exploitation by middlemen (Depoo, 2008). These factors converted agriculture into the non-profitable sector of employment. In such distressed conditions, rural labourers and farmers are compelled to move from villages to urban areas and cities in search of the betterment of their livelihood. Thus, the current study was conducted in Bidar district: to know the volume and status of agricultural labourers' migration in Bidar district (Deshingkar, 2006).

The objective of this study is to know the volume of migration in future towards urban areas and to know the reasons and their effect on the migration of Agricultural labourers from this district.

MATERIALS AND METHODS

Bidar district was designated for the study because it is located in a region of Kalyana Karnataka and from where people migration is big (Barkh *et al.*, 2007). Three Talukas were

chosen based on the largest labour force from the district. In specific, they were Bidar, Bhalki, and Basavakalyan. In random selection four villages from each Taluka. The primary data were taken via the personal interview process to determine the study objectives. A total of 240 samples were selected at random from every Taluka for the experiment, with 80 samples. Further, the Gravity model (Lewer and Van Den Berg, 2008) was used to predict the volume of the migration between the origin and the destination place. Through this we could forecast the volume of migration for the future days.

$$MI_{ij} = (p_i p_j / d_{ij}^2) * k$$

Where,

MI_{ij} is the volume of migration between the centers i and j

P_i and P_j are population size of the two centers,

d_{ij} is the distance between them and

k is a constant.

A logistic regression model was used to examine the factors influencing the migration, the logistic model with, the most likely variables was fitted. The logit model postulates that P , the probability of migration is a function of an index variable Z , summarizing a set of explanatory variables. In fact, Z is equal to the logarithm of the odd ratio, i.e., ratio of the probability of migration to the probability of non-migration and it can be estimated as a linear function of explanatory variables (X_k).

This can be expressed as $P = 1 / (1 + e^{-Z})$, which represents the cumulative logistic distribution.

$$\ln(P/1-P) = Z = F(X_1, X_2, X_3, \dots, X_k)$$

Once this equation is estimated, factors influencing migration can be ascertained. The significance of estimates was tested through Wald's test.

List 1: Specification of the variables used in the Logistic regression model

| Variables | Definition/code |
|--|--|
| Dependent variable (Y) | Y=1, if Migrant Y=0, if Non-migrant |
| Land holding | Ac/person |
| Family size | In Numbers |
| Income (Including Migrants income (IMI), Excluding Migrants income (EMI)) | In Rs. |
| Educational status | 1 = illiterate, 2 = primary education, 3 = high school, 4 = above matriculation |

Migration status: Wilcoxon's matched-pairs signed rank test

This is used to examine the situations of migrants before and after migration, which is a non-parametric statistical hypothesis test used to compare two related samples, matched samples, or repeated measurements on a single sample to assess whether their population mean ranks differ (i.e., it is a paired difference test). It can be used as an alternative to the paired Student's t-test (also known as "t-test for matched pairs" or "t-test for dependent samples") when the distribution of the difference between two samples means cannot be assumed to be normally distributed (Conover, 1999).

$$z = \frac{T - \mu_T}{\sigma_T} \sim SND(0, 1)$$

RESULTS AND DISCUSSION

1. Gravity model: Gravity model was applied to estimate the amount of migration between the migrants' place of origin and destination. Table 1 reveals how much population is forecasted for migrate in the future. Migration volume would be determined by destination size. Destination distance increases as migration volume decreases. Mostly people migrate to urban cities like Bengaluru, Gulbarga, Hyderabad and Pune (Hoddinott, 1994).

Migration was determined by the appealing force among destination and place of origin and also by the cost of moving from one location to another. The labor migration gravity model (Table 1) indicated that the attractive forces among origin and destination locations depended on labor income differences in both locations (Lewer and Van Den Berg, 2008). The size of the population also mattered more to the location of the source and more persons were likely to migrate. The gravity model displayed that the volume of migration had a descending trend as the distance between destination and place of origin increased. People moved largely to nearby cities or industrial areas in search of work. More the destination residents people migrate highly. The gravity model was used to forecast the volume of the migration (Rekha *et al.*, 2010).

2. Logistic regression model fitting

Using the logistic regression model, factors inducing agricultural labour migration have been established. The identified factors were land ownership, number of family members, family net income (IMI and EMI), and education. The logit model estimates are presented in Table 2 to 5. The odd ratio of point estimation of factors influencing migration functioned to provide a

more precise explanation. The odd ratio could be well-defined as the ratio of migrant probability to non-migrant probability (Faustino and Proenca, 2011).

Separate models were fitted to three talukas of Bidar district using, data related to 240 households. The influence of land holding in the four villages of Basavakalyan taluka viz., Ghotal, Kitta, Morkhandi, and Narayanpur was not statistically significant (Table 2). The migration was negatively affected by land holdings. In other words, the greater the per capita land holding, the lesser the chances of moving labour from that region. Lesser than unit value for Ghotal (0.957), Kitta (0.950), Morkhandi (0.686), and Narayanpur (0.841) villages odd ratios do not support labor migration as they had the smaller land holding.

Table 1: Volume of migration among the place of origin and destination by Gravity model

| Origin | Destination | Population at origin | Distance | Predicted Volume of Migration |
|--------------|-------------|----------------------|----------|-------------------------------|
| Ghotal | Bengaluru | 4100 | 741 | 78 |
| | Gulbarga | 4100 | 98 | 284 |
| | Hyderabad | 4100 | 209 | 797 |
| | Pune | 4100 | 360 | 123 |
| Kitta | Bengaluru | 3500 | 741 | 67 |
| | Gulbarga | 3500 | 98 | 243 |
| | Hyderabad | 3500 | 209 | 680 |
| | Pune | 3500 | 360 | 105 |
| Morkhandi | Bengaluru | 5100 | 723 | 103 |
| | Gulbarga | 5100 | 98 | 354 |
| | Hyderabad | 5100 | 209 | 991 |
| | Pune | 5100 | 360 | 153 |
| Narayanpur | Bengaluru | 9152 | 723 | 184 |
| | Gulbarga | 9152 | 98 | 635 |
| | Hyderabad | 9152 | 209 | 1779 |
| | Pune | 9152 | 360 | 275 |
| Bhatambra | Gulbarga | 8000 | 114 | 410 |
| | Bengaluru | 8000 | 780 | 138 |
| | Hyderabad | 8000 | 160 | 2654 |
| | Pune | 8000 | 380 | 216 |
| Halipurga | Bengaluru | 1300 | 765 | 23 |
| | Delhi | 1300 | 1560 | 1 |
| | Gulbarga | 1300 | 110 | 72 |
| | Hyderabad | 1300 | 150 | 491 |
| | Pune | 1300 | 350 | 41 |
| | Raichur | 1300 | 240 | 7 |
| Khurabkhelgi | Bengaluru | 2550 | 723 | 51 |
| | Gulbarga | 2550 | 100 | 170 |
| | Pune | 2550 | 360 | 77 |
| Nagral | Bengaluru | 829 | 718 | 17 |
| | Gulbarga | 829 | 110 | 46 |
| | Pune | 829 | 360 | 25 |
| | Bengaluru | 5500 | 723 | 111 |

| | | | | |
|------------|-----------|-------|------|------|
| Chitta | Gulbarga | 5500 | 100 | 366 |
| | Pune | 5500 | 360 | 165 |
| Hippalgaon | Bengaluru | 1400 | 718 | 29 |
| | Gulbarga | 1400 | 110 | 77 |
| | Pune | 1400 | 360 | 42 |
| Kamathana | Bengaluru | 11100 | 765 | 199 |
| | Delhi | 11100 | 1560 | 8 |
| | Gulbarga | 11100 | 110 | 611 |
| | Hyderabad | 11100 | 150 | 4189 |
| | Pune | 11100 | 350 | 353 |
| | Raichur | 11100 | 240 | 56 |
| Solpur | Gulbarga | 1200 | 114 | 61 |
| | Bengaluru | 1200 | 780 | 21 |
| | Hyderabad | 1200 | 160 | 398 |
| | Pune | 1200 | 380 | 32 |

The family size had a positive influence on the migration of labour in all four villages. In comparison with Morkhandi (1.089) and Narayanpur (1.089), the greater odd ratio in Ghotal (2.185) and Kitta (2.185) proposed that the family's effect on migration was greater in Ghotal and Kitta than in Morkhandi and Narayanpur.

Logistic regression outcomes also indicated that literacy has a positive impact on migration in villages Ghotal (0.296) and Kitta (0.296) and a negative effect in villages Morkhandi (-0.599) and Narayanpur (-0.599). The probable reasons for literate migration in Ghotal and Kitta villages were in search of better occupation and in other villages people migrated because of unemployment in the villages even when they are illiterate. An odd ratio greater than the unit value in the villages like Ghotal and Kitta indicates that the odd ratio for migration rises with an increase in educational level. Income (IMI) had a positive effect and income (EMI) had a negative impact on all four villages: Ghotal, Kitta, Morkhandi, and Narayanpur, this denotes that when the individual had the greater income in the village, they were likely to migrate.

When the logit regression was fitted for Basavakalyan taluka, it was noticed that the coefficient for land holding was negative for all the villages but, had no significant influence. While income (IMI) had a positive influence and income (EMI) had a negative influence on migration in all the four villages, who migrated and got better wages there. With respect to education, it had a negative impact on migration in Morkhandi and Narayanpur, whereas Ghotal

and Kitta had a positive effect. Therefore, literates in search of getting suitable jobs have migrated.

UNDER PEER REVIEW

Table 2: Logistic regression model for Basavakalyan taluka

| Villages | Ghotal | | Kitta | | Morkhandi | | Narayanpur | |
|---------------------|--------------------------|------------|--------------------------|------------|--------------------------|------------|--------------------------|------------|
| | Estimates | Odds Ratio | Estimates | Odds Ratio | Estimates | Odds Ratio | Estimates | Odds Ratio |
| Income (IMI) | 0.1×10^{-3} NS | 1.000 | 0.002 | 1.002 | 0.1×10^{-6} NS | 1.000 | 0.4×10^{-3} NS | 1.000 |
| Income (EMI) | -0.2×10^{-3} NS | 1.000 | -0.1×10^{-3} NS | 1.000 | -0.2×10^{-4} NS | 1.000 | -0.1×10^{-7} NS | 1.000 |
| Education | 0.296 NS | 1.344 | 0.296 NS | 1.344 | -0.599 NS | 0.549 | -0.599 NS | 0.549 |
| Family Size | 0.782 NS | 2.185 | 0.782 NS | 2.185 | 0.086 NS | 1.089 | 0.085 NS | 1.089 |
| Land Holding | -0.044 NS | 0.957 | -0.051 NS | 0.950 | -0.376 NS | 0.686 | -0.173 NS | 0.841 |

NS- Non-Significant

Table 3 showed the estimates for the four villages in Bhalki taluka. In Bhalki taluka the three villages had the negative influence of land holding on migration and Halipurga (0.158) village had a positive impact but all were not significant. The family size was not significant in all four villages but had a larger odd ratio in Nagral (1.761) as related to Bhatambra (1.358) indicating that the impact of family size on labour migration was more in Nagral, Halipurga, and Khurabkhelgi as compared to Bhatambra. Logistic regression estimates for literacy in Halipurga village (0.449) were notable while Bhatambra, Khurabkhelgi, and Nagral villages had a negative influence. An odd ratio more than the unit value in the village of Halipurga (1.567), shows that illiterates had migrated more from the villages during the summer seasons. Income (IMI) had a positive effect for the villages of Bhatambra (0.000013) and Halipurga (0.0000094) and they are significant at the level of 5 percent and two other villages have had a positive impact but they are not significant, income (EMI) had negatively non-significant impact on migration. An odd ratio with unit value suggested that for every rise in family income level, labor migration has been affected (Vijay, 2010).

In Bhalki, it was witnessed that per capita land holding for Bhatambra, Khurabkhelgi, and Nagral villages have a negative impact and the odd ratio was lesser than the unit value which specified that migration was not mainly preferred in those villages as most of the individuals had the land holdings then they migrated because agriculture is not profitable (Tumbe, 2012). In the Halipurga village estimated value was Positive but not significant. The odd ratio was more than unit, presenting that migration was favoured even when there were enough land holdings because of lack of irrigation facilities and droughts (Shabir ahamad *et al.*, 2010).

Table 3: Logistic regression model for Bhalki taluka

| Villages | Bhatambra | | Halipurga | | Khurabkhelgi | | Nagrul | |
|---------------------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|
| | Estimates | Odd Ratio | Estimates | Odd Ratio | Estimates | Odd Ratio | Estimates | Odd Ratio |
| Income (IMI) | $0.1 \times 10^{-4} *$ | 1.000 | $0.9 \times 10^{-5} *$ | 1.000 | $0.1 \times 10^{-4}^{NS}$ | 1.000 | $0.2 \times 10^{-5}^{NS}$ | 1.000 |
| Income (EMI) | $-0.1 \times 10^{-5}^{NS}$ | 1.000 | $-0.8 \times 10^{-5}^{NS}$ | 1.000 | $-0.2 \times 10^{-4}^{NS}$ | 1.000 | $-0.4 \times 10^{-7}^{NS}$ | 1.000 |
| Education | -0.405^{NS} | 0.667 | 0.449^{NS} | 1.567 | -0.878^{NS} | 0.416 | -0.405^{NS} | 0.667 |
| Family size | 0.305^{NS} | 1.358 | 0.423^{NS} | 1.534 | 0.421^{NS} | 1.523 | 0.566^{NS} | 1.761 |
| Land holding | -0.093^{NS} | 0.911 | 0.158^{NS} | 1.172 | -0.035^{NS} | 0.966 | -0.272^{NS} | 0.761 |

NS- Non-Significant, * Significant at level of 5%

Table 4: Logistic regression model for Bidar taluka

| Villages | Chitta | | Hippalgaon | | Kamathana | | Solpur | |
|---------------------|--------------------------|-----------|--------------------------|-----------|--------------------------|-----------|--------------------------|-----------|
| | Estimates | Odd Ratio | Estimates | Odd Ratio | Estimates | Odd Ratio | Estimates | Odd Ratio |
| Income (IMI) | $0.1 \times 10^{-4} *$ | 1.000 | $0.3 \times 10^{-4} NS$ | 1.000 | $0.1 \times 10^{-4} *$ | 1.000 | $0.1 \times 10^{-4} *$ | 1.000 |
| Income (EMI) | $-0.4 \times 10^{-7} NS$ | 1.000 | $-0.1 \times 10^{-7} NS$ | 1.000 | $-0.2 \times 10^{-5} NS$ | 1.000 | $-0.5 \times 10^{-5} NS$ | 1.000 |
| Education | $-0.878 NS$ | 0.416 | $-0.323 NS$ | 0.724 | $0.449 NS$ | 1.567 | $-0.404 NS$ | 0.667 |
| Family size | $0.421 NS$ | 1.523 | $0.566 NS$ | 1.761 | $0.428 NS$ | 1.534 | $0.306 NS$ | 1.358 |
| Land holding | $0.004 NS$ | 1.005 | $-0.276 NS$ | 0.759 | $0.111 NS$ | 1.117 | $-0.414 NS$ | 0.661 |

NS- Non-Significant, * Significant at level of 5%

Table 4 revealed the outcomes of logistic regression for the four villages of Bidar taluka. Landholding attained a negative effect for Hippalgaon (-0.276) and Solpur (-0.414) and a positive effect for Chitta (.004) and Kamathana (0.111). Lesser than the unit for odd ratio (0.661) in Solpur village disfavored labour migration. Family size had a positive impact in all four villages of Taluka, which specified that even when there were small families there was more labour migration. Greater than the unit value for the odd ratio displayed that the effect of family size on labour migration was more in all four villages. Logistic regression estimates for education had a negative influence for Chitta (-0.878), Hippalgaon (-0.323), and Solpur (-0.404) i.e., literates had migrated fewer from these villages. Kamathana (0.449) had a positive effect, where literates had migrated more in search of better occupations. Income (IMI) had a positive influence in all the villages and significant at a level of five percent similarly Hippalgaon also have a positive effect but i.e., not significant. Income (EMI) had a negative non-significant impact on all four villages migration. The odd ratio (1.000) exhibited that there was a rise in the family net income of the migrants in all four villages.

Bidar Taluka of the district of Bidar (Table 4) noted the positive effect of per capita land value in the villages of Chitta and Kamathana displayed that even when the land holding was bigger, people migrated for the reason that the productivity was poor due to lack of rain. Positively non-significant and even odd ratio was greater than unit education in Kamathana village. It was proved that people are settling in city areas because they are in search of better work suitable for their education. The other three villages took the negative estimated value of the odd ratio at lesser than the unit value, which revealed that even though the persons were not skilled, they migrated in small numbers to the different regions in search of jobs, as there was under jobs in the place of origin with restrictions on land holdings or less property (Deshingkar, 2010).

To examine the factors influencing the migration, the logit model estimates for all three talukas were given in Table 5. The per capita land effect was significant for the Basavakalyan taluka but not significant for the other two talukas. The land per capita had a negative impact in Basavakalyan (-0.137), Bhalki (-0.0149), and Bidar (-0.025), indicating that more land owners with the family were less likely to migrate from the origin. Lower than unit value for odd ratios also specifies that the mobility of labour was disfavoured. For all three talukas, the family size

had a positive impact and they are all significant at 5 percent level. Which suggested that smaller family size affects labor migration as well.

Table 5: Logistic regression model for all talukas

| Talukas | BasavaKalyan | | Bhalki | | Bidar | |
|---------------------|--------------------------|-----------|-------------------------|-----------|-------------------------|-----------|
| | Estimates | Odd Ratio | Estimates | Odd Ratio | Estimates | Odd Ratio |
| Income (IMI) | 0.1×10^{-5} NS | 1.000 | 0.6×10^{-5} ** | 1.000 | 0.7×10^{-5} ** | 1.000 |
| Income (EMI) | -0.6×10^{-6} NS | 1.000 | -0.6×10^{-6} * | 1.000 | -0.1×10^{-5} * | 1.000 |
| Education | -0.100 NS | 0.904 | -0.227 NS | 0.797 | -0.201 NS | 0.818 |
| Family size | 0.369* | 1.446 | 0.397* | 1.487 | 0.397* | 1.487 |
| Land holding | -0.137 * | 0.872 | -0.0149 NS | 0.985 | -0.025 NS | 0.975 |

NS- Non-Significant, * Significant at level of 5%, ** Significant at level of 1%

Table 5 also shows that Basavakalyan, Bhalki, and Bidar have more than the unit values for odd ratios (1.446, 1.487, and 1.487), respectively showing that it favored labor migration. Logistic regression estimates show that literacy had a negative impact on all three talukas suggesting that they had migrated in quest of jobs even when they were illiterates. Income (IMI) was significant at a level of one percent for Bhalki (0.0000065) and Bidar (0.0000078), and was not significant for Basavakalyan but had a positive effect on migration. Income (EMI) had a negative influence on migration. The unit value for the odd ratio displayed that there was the rise in migration for every alteration in the income level.

The logit model which was appropriate for the three talukas (Table 5) showed that income was important in two talukas with an identical unit value of the odd ratio which presented that there was an increase in the family income level due to the migration, for the other village it is also positive but there was not so an increase in the income level.

The logit model fitted in (Table 6) for the whole district of Bidar specified that land holding had a negative influence on migration. In other words, the greater land held with family, the less people's chances of migrating from that family were. Lower than unit value for an odd ratio (0.942) often specifies that it has disfavoured the movement of labour. The outcomes of the logistic regression for the family size had a positive (0.386) effect on labor migration, *i.e.*, even though the family size was more likely to migrate, the odd ratio (1.471) for the Bidar district indicates that there is an effect of family size on labor migration. Education also affected

migration negatively; Literates migrated less compared with the district illiterates. The odd ratio (0.849) for education was lower than the unit value, suggesting that analphabets move more in a job search than literates. Income (IMI) had a positive influence on migration in the district. Greater than the unit value for the odd ratio for income specified that rise in income, rise the labour migration. whereas income (EMI) had a negative influence on migration which also tells the same.

Table 6: Logistic regression model for the data of the entire Bidar district

| Factors | Bidar | |
|---------------------|-------------------------|-----------|
| | Estimates | Odd Ratio |
| Income (IMI) | 0.4×10^{-5} ** | 1.000 |
| Income (EMI) | -0.1×10^{-6} * | 1.000 |
| Education | -0.164 ^{NS} | 0.849 |
| Family size | 0.386** | 1.471 |
| Landholding | -0.060* | 0.942 |

NS- Non-Significant, * Significant at level of 5%, ** Significant at level of 1%

Overall results of the logistic regression model fitted for the data showed that the households with less land holdings or landless families migrated more and some people migrated due to the underemployment in the village. Many farmers with smaller land holdings expressed that agriculture was not profitable due to the lack of irrigation facilities and the occurrence of droughts. The persons who were educated migrated to faraway places in search of better employment suitable to their profile (Jaiswal, 2010).

3. Analysis of migration status

The nonparametric test called Wilcoxon's signed-rank test was used to know the migrated people's condition in a Bidar district. The conditions of migrants before migration and after migration were considered (Ohajianya, 2005). The conditions like income wise, education status, new skills, the standard of living, assets created, and consumption patterns were compared. The results revealed that the migrants improved their situations significantly with respect to all the components considered. The education status was significantly improved as the results were found significant at a five percent level and all others were significant at a level of one percent (Table 7).

Table 7: Wilcoxon's signed rank test for migrated people condition of a district

| Factors | Standardized Test | Significance |
|---------|-------------------|--------------|
|---------|-------------------|--------------|

| | Statistic | |
|---------------------|----------------------|---|
| Income Wise | 10.565 ^{**} | S |
| Education Status | 4.000 [*] | S |
| New Skills | 10.227 ^{**} | S |
| Standard of Living | 10.634 ^{**} | S |
| Assets Created | 10.438 ^{**} | S |
| Consumption Pattern | 10.227 ^{**} | S |

* Significant at level of 5%, ** Significant at level of 1%

The t-test is used to know the income condition between migrants and non-migrants of a Bidar district and the income level of migrants was significantly high. Wilcoxon's signed rank test was applied to know the family condition before and after migration. The result presented that family conditions like income wise, education status, new skills, the standard of living, assets created, and consumption patterns were improved.

The t-test was applied to know the income level between migrants and non-migrants. The results showed that the income level of migrants was high which may be due to the additional income from work that they do in a migrated place.

CONCLUSION

Studying the model of gravity showed that people migrate more to nearby places of origin. It predicts how much migration will occur in the upcoming days. Here the rate of migration decreases as the distance to the destination increases.

A logistic regression model was fitted for Bidar district migration results. When this model was fit for three talukas viz. Basavakalyan, Bhalki, and Bidar, displayed that with the odd ratios more than unit, per capita land holding was negatively significant, so we can interpret that lower per capita land holding caused more migration. The other features viz., family size, with unit or less than unit value for odd ratio, it was positively significant for some villages and negative for others. The positive significance displayed that the migration was more affected when the family size was high, the other factor was education, the model disclosed that educates migrate more than illiterates do due to underemployment. Income (IMI) had a positive influence and income (EMI) had a negative influence on migration. This tells us that for having a high income for a family any of the family member should migrate.

Both Wilcoxon's signed rank and t-tests displayed that for better income and life style of a people they should migrate because the migrated people situation is upgraded in this study.

Limitations of the study is that sampling should be done in a better matter manner means another sampling design other than used could have been used for better results. And for predicting the volume of migration more characteristics or causes can be used to calculate the constant K in a gravity model.

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