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Factors responsible for out-Migration in Assam

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Abstract
Out-migration of people is the most common phenomenon across all countries of the world which has received considerable attention from the policymakers. Like many other developing countries of the world, in India and especially in the Northeastern part of the country the extent of out-migration has increased in the recent past. Out-migration is a recent problem in Assam. Historically, Assam is a migrant-receiving state due to availability of livelihood sources. But with respect to the development of Assam, the rate of employment generation is very low. So people out-migrate to other state and countries from their usual place of residence in search of employment. Out-migration has been recognized to contribute significantly in bringing down the economic disparities across regions. Using NSSO 64th Round (2007-2008) unit-level data comprising information of 1427 out-migrants in Assam, the paper attempts to study the determinants of out-migration in Assam by using binary logistic regression analysis. Findings of the study show that out-migration from Assam has been significantly affected by both individual and household characteristics. Individual characteristics like age, marital status, gender and education attainment have an immense influence on the decision to migrate. Similarly, household characteristics like the size of the household, household type, caste, social group, land possession and religion also have a significant impact on the decision to out-migrate.

Keywords: out-migration, employment, economic disparities

Introduction

Developing an understanding of the causes and consequences of out-migration and gaining the intellectual and practical skills are essential to deal effectively with out-migration. It helps both for addressing the causes of out-migration and for the management of effective programs to assist out-migrants. In recent years, migration has become a very important area for research in social science. It has a significant impact on source and destination area. Increased mobility is an indicator of growth and development. The inter-relationship between migration and economy has become a relevant area of discussion. Individuals try to seek out job and locations that are best suited to their talents and abilities.

Out-migration occurs basically in search of employment. But search of employment is not the only reason for out-migration from Assam. Numerous socio-economic, cultural or religious factors are influencing the out-migration situation in Assam. An intensive study of the factors can help to have a better understanding of the factors which influence out-migration. Moreover the role of out-migration in economic development through remittance is an important factor.

Out-migration of people is a most common phenomenon across all countries of the world which has received considerable attention by the policy makers. Like many other developing countries of the world, in India and especially in the Northeastern part of the country the extent of out-migration has increased in the recent past (Singh, 2007).

Out-migration is a recent problem in Assam. Historically, Assam is a migrant receiving state due to availability of livelihood sources. But with respect to development of Assam the rate of employment generation is very low. So people out-migrate to other state and countries from their usual place of residence in search of employment (Bhattacharjee, 2016). In the recent decades we have seen a mad rush of out-migration of rural population of Assam to the major cities of the mainland India which become a problem of apprehension. According to NSSO 55th round report in (1999-2000) total number of people out-migrated from rural areas were 1.6 million which increased to 2.8 million in NSSO 64th round report in (2007-2008). It has been found that there are 8000 Assamese youth working in plywood factories in Perumbavoor, a town in far off Kerala (Das and Chutia, 2011).

Several studies of migration with respect to the Assam largely confine to issues of in-migration. But as far as our knowledge goes there is hardly any study which focuses on aspects of out-migration in Assam. This study is a modest attempt in this regard based on the NSSO 64th round unit level data. Given this phenomenon, the study attempts to analyze the determinants of out-migration from Assam.

Review of related literature

The concept of migration is as old as humanity itself, but the theories about migration are fairly new. The first theory of migration was given by Ravenstein (1885) [14]. Ravenstein in his theory had concluded that migration is governed by "push-pull" factors based on empirical migration data. Unfavorable conditions in one place (oppressive laws, heavy taxation, etc.) "Push" people out, and favorable conditions in an external location "pull" them out. Everett Lee (1966) [5-6] reformulated Ravenstein's theory to give more emphasis to internal (or push) factors at both the supply and demand side of migration. The neo-classical macro migration theories explain migration as part of economic development. The basic model (Lewis, 1954 and

Ranis and Fei, 1961) [11] grew out of trade theory, assumes perfect markets and a labour surplus in the traditional agricultural sector which is absorbed by the modern sector. The modern sector grows through capital accumulation and poaching labour from the traditional sector. Rural workers are attracted by the positive wage differential and migrate to the urban sector, i.e. they are pulled to migrate. Todaro (1969) [12] and Harris & Todaro (1970) [13] augmented this model to account for the significant urban unemployment that was found in many less developed countries.

Ramesh (2012) [15] have analyzed the dynamic and unique character of migration of youth from North Eastern states of India to urban centers. The increased presence of youth from NER in urban centers has more to do with the backwardness of the source regions in terms of economic development, facilities for higher education and availability of gainful employment opportunities. To study the increasing trend of outmigration from North Eastern Region (NER) to Bangalore, Reimeingam (2016) [16] have studied the growth of migration in Bangalore. Reimeingam (2016) [16] opined that the rate of migration from NER to Karnataka has declined steadily; however, to Bangalore it has slightly increased.

In a recent paper, Datta (2016) [3] has shown that the remittances have become increasingly important, which from a crucial link between source and destination areas in Bihar. Broad-based migration and the inflow of remittances have contributed to a tightening of labour market and rise in rural wages over time. They have led to increases in household income and reduction of absolute poverty. Saikia (2015) [17] have analyzed the income, consumption and saving pattern and nature of work of the migrant workers in Trivandapuram district of Kerala. The author have found that poor economic condition in the native place and high wage rate and better employment opportunities in Kerala have been the main reasons of migration. In another study Narayan and Singh (2015) try to examine the differential in out migration in eastern Uttar Pradesh. They have found that migration rate is likely to be twice in remote villages as compared with semi-urban villages.

Methodology

Data Source and Area: This study is entirely based on secondary data. The data used for analysis is NSSO 64th Round (2007-2008) unit level data given by the National Sample Survey Organization (NSSO). This particular round of NSSO includes a schedule (10.2) on Employment Unemployment and Migration, which provides information on migration, out-migration as well as other demographic and socio-economic particulars of 5, 72,254 sample household members from India. From Assam this survey covers a sample of 3040 household representing 14,273 persons. Out of which, 1427 are out-migrants which is about 10 percent of total household members. Absolute volume of migration is computed from NSSO unit level data which represents a sample unit of Assam. In order to have an idea of total migrants' population of Assam, weights are assigned to NSSO unit level data. It is important to note that it is the latest NSSO unit level data that collects information on out-migration in India.

Methods

Factors included in the analyses are chosen either because prior empirical research found them to be important to determine out-migration, or for theoretical reasons. To examine the determinants of out-migration from Assam, binary logistic regression model is used. In social sciences, this statistical model can be adopted to explain an event (dependent variable having two responses i.e. 'yes' or 'no') in terms of certain factors (independent or predictor variables or covariates). The dependent variable should be qualitative and dichotomous i.e. having only two responses. The model can be mathematically represented as:

$$Y = \ln \frac{p}{1-p} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots + \beta_k + e$$

Where

"Y" is the dependent variable; "X" represents the independent variables having 'k' covariates in the model. "p" means the probability of occurrence of the event, Y(0,1) and "e" are the residuals. In our case, the dependent variable Y (0, 1) has exactly two responses i.e. whether a household member will out-migrate (1) or not (0). The following covariates have been taken into account, viz. age-groups, marital status, relation to head, religion, household type, state-region, land possessed, educational attainment, household size, social group, sex and sector.

$$P(Y=1) = \beta_0 + \beta_1(\text{Age-groups}) + \beta_2(\text{Marital Status}) + \beta_3(\text{Relation to Head}) + \beta_4(\text{Religion}) + \beta_5(\text{Household Type}) + \beta_6(\text{State-Region}) + \beta_7(\text{Land Possessed}) + \beta_8(\text{Educational Attainment}) + \beta_9(\text{Household Size}) + \beta_{10}(\text{Social Group}) + \beta_{11}(\text{sex}) + \beta_{12}(\text{Sector}) + e_i$$

Result and Discussion

The results from the econometric analysis of determinants of out-migration are discussed as follows:

Table 5.14: Binary Logistic Regression Estimates of Likelihoods of Individuals for Being Out-Migrant by their Social and Economic Characteristics

	Characteristic	Coefficient (β)	S.E of estimate (β)	Wald	Odds ratio Exp (β)
Sector	Rural ®	-	-	-	1.000
	Urban	-0.067	0.099	0.456	0.044**
State Region	Plains Eastern®	-	-	-	1.000
	Plains Western	-0.711	0.091	61.051	0.491***
	Cachar Plain	-1.140	0.106	116.394	0.320***
	Central Brahmaputra Plains	-1.202	0.109	122.154	0.300***
Gender	Male®	-	-	-	1.000
	Female	0.600	0.102	34.895	1.822***
Education Attainment	Illiterates®	-	-	-	1.000
	Up to Primary	0.176	0.100	3.115	1.193*
	Up to Secondary and Diploma Certificates	-0.166	0.110	2.286	0.847
	Graduates & Above	0.089	0.163	0.299	1.093

Household Size	1 – 3®	-	-	-	1.000
	4 – 7	-0.486	0.088	30.349	0.615***
	8 – 11	-0.141	0.136	1.077	0.869
	12 – 27	-1.311	0.454	8.340	0.270***
Household Types	Self-Employed in Non-Agriculture ®				1.000
	Agricultural Labor	-0.296	0.110	7.222	0.744***
	Other Labor	-0.104	0.178	0.341	0.901
	Self-Employed in Agriculture	0.367	0.110	11.195	1.444***
	Others	1.131	0.114	99.061	3.097***
Social Group	Scheduled Tribe®	-	-	-	1.000
	Scheduled Caste	-0.102	0.170	0.358	0.903
	Other Backward Caste	0.355	0.112	10.112	1.427***
	Others	0.611	0.110	31.046	1.842***
Land Possessed	Marginal Holdings®	-	-	-	1.000
	Small Holdings	-0.376	0.118	10.056	0.687***
	Semi-medium Holdings	-0.692	0.167	17.114	0.797**
	Medium Holdings	-1.206	1.097	1.209	0.299
	Large Holdings	2.197	0.747	8.651	9.002
Religion	Hinduism ®	-	-	-	1.000
	Others	-0.168	0.099	2.894	0.845**
Marital Status	Unmarried ®	-	-	-	1.000
	Married	0.274	0.169	2.630	1.316
Age	Less than 15 ®	-	-	-	.000
	15 – 24	0.555	0.247	5.060	1.742**
	25 -34	1.235	0.248	24.862	3.437***
	35 and above	2.020	0.255	62.835	7.542***
	Pseudo R^2	0.403			
	Log Likelihood	- 6019.130			
	Wald Chi^2	2983.915			

***Source*:** NSSO 64th Round 10.2. Employment & Unemployment and Migration Particulars (July 2007- 2008)
Notes: *, **, *** represents significance at 10%, 5% and 1% respectively.
® Reference Category.

In table 5.14 the effect of explanatory variables on dependent variable has been presented with their corresponding standard error (S. E.), significance level and odds ratio.

According to the fitted model, all explanatory variables except marital status have appeared as significant predictors of out-migration. In accordance with their importance, age-groups, relation to head, religion, household type, state-region, land possessed, educational attainment, household size, social group and sex have statistically significant effect on likelihoods of an individual for being out-migrant.

Sector is another significant factor for determination of out-migration. The regression coefficient for urban sector is -0.067 and its corresponding odd ratio is 0.456. This implies that urban people have 54.4 % lower chance of out-migration than the people from rural areas. A study by Afsar (2000) shows that Poverty in rural area is major factors which push people to out-migrate for their livelihood. Rural people in Assam are affected by various natural calamities such as drought and flood, due to which they stay under poverty. Therefore more people from rural areas of Assam migrate out to urban areas for livelihood.

State region is a significant factor for outmigration. The regression coefficients for Plains Western, Cachar Plain and Central Brahmaputra Plains are -0.711,-1.140 and -1.202 respectively and their corresponding odd ratios are 0.491, 0.320 and 0.300. This implies that in comparison to Plains Eastern region the other three regions i.e. Plains Western, Cachar Plain and Central Brahmaputra Plains have 50.9 %, 68% and 70% respectively lower chance of out-migration. Plains eastern region comprises of seven district of Assam (Lakhimpur, Dhemaji, Tinsukia, Dibrugarh, Sibsagar, Jorhat, Golaghat). From the discussion about out-migrants from different district of Assam in section 5.4.1, it is clear that plain eastern region have highest number of out-migrant. Therefore this region is significant for out-migration.

Gender is an important significant factor for out-migration. The regression coefficient for female is 0.600 with odds ratio 1.822 which implies that the likelihood of out-migration for female is 1.822 times higher than male. Reasons for out-migration discuss in section 5.2 shows that the most dominant factor for which female generally out-migrate is marriage. So the result showing higher chance of out-migration for female reveals that although the absolute number of female out-migrant is less but in comparison to the size of male population, female have more out-migrant members for marriage.

For education level, education attainment up to primary level is significant in comparison to the reference category illiterate. The regression coefficient for the respondent whose education level is up to primary is 0.176 with odd ratio 3.115. This implies that individuals who have education up to primary have 3.115 times more chance of out-migration than the other categories. Many researches have found that rate of out-migration increases with increase in educational level (Kothari, 1980; Singh, 1985; Singh & Yadava 1981) [4, 18]. But the result from binary logistic model shows that rate of out-migration is lower for people with higher education in Assam. This may be due to the fact that people with higher education can earn their livelihood easily which is not possible for lower education people.

Household size is another significant factor for outmigration. Household size with 4-7 and 12-27 members are negatively significant and the odd ratios are 0.869 and 0.270 respectively. This implies that with respect to

reference category '1-3', household size '4-7' and '12-27' have 13% and 73% less likelihood of out-migration.

Household type plays a significant role in determining out-migration. Household types agricultural labor, self-employed in agriculture and others category are positively significant whose odd ratios are 0.744, 1.444 and 3.097 respectively. This implies that that household type agricultural labor, self-employed in agriculture and others have 0.744, 1.444 and 3.097 times more chance of out-migration than self-employed in non-agriculture.

In case of social group it has been found that the regression coefficient for 'other backward caste' and 'others' category are 0.355 and 0.611 respectively and the corresponding odd ratios are 1.427 and 1.842. It reveals that 'other backward caste' and 'others' category have 1.427 and 1.842 times higher chance of out-migration than the social group 'scheduled tribe'.

Land possessed is divided into five categories as given by planning commission of India. Result shows that with respect to the reference category marginal holdings the significant categories are small holding and semi-medium holdings. The regression coefficient for small holding is -0.376 and its odd ratio is 0.687. This reveals that individuals who possessed small holdings of land have 31.3% less chance of out-migration. Similarly semi-medium holding is also negatively significant which shows that household which possessed semi-medium holdings of land has 20.3 % less chance of out-migration.

Again in case of religion, it has been found that the regression coefficient for the non-hinduism i.e. 'others category' is -0.168 and the corresponding odds ratio is 0.845. It shows that others category have 15.5% less likelihood of out-migration than Hinduism. As the percentage of people from other religious categories is very less then hindu religious category so people from Hindu community out-migrate more than the other religious groups of Assam.

Logistic regression result shows that age is a significant factor for likelihood of out-migration. With respect to the reference category 0 to 14 years, the coefficient for '15 to 24', '25 to 34' and '35 and above' age groups are positive and its odd ratio are 1.742, 3.437and 7.542 respectively. These results indicate that people from these three categories of age group have more chance of out-migration than that of the people aged 0 to 14 years. As the people under the age group 0 to 14 doesn't fall under working force so they out-migrate less than the other categories of age. But people between the ages between 15 to 35 years have more chance of out-migrants in Assam.

Conclusion

Out-migration from Assam has been significantly affected by both individual and household characteristics. Individual characteristics like age, marital status, gender and education attainment have an immense influence on the decision to migrate. Similarly, household characteristics like the size of the household, household type, caste, social group, land possession and religion also have a significant impact on the decision to out-migrate.

Results of the logistic regression show how different factors have influence upon an individual decision to out-migration. So out-migration is not determined by a single, a host of different factors together determines whether a person will out-migrate or not.

The issues and challenges of rural-urban out-migration and its economic impact and social consequences have dominant effects on the socioeconomic conditions of Assam and hence there is a need of policy interventions by concern authority. Result of the study shows that maximum people from rural sector of Assam out-migrate in search of employment. But in case of urban areas number of out-migrant is fairly lower than rural areas. So there should be provision of adequate education facilities in rural areas. Beside this, vocational education should be added to the curriculum and especially for rural colleges so as to give a practical exposure to the rural students to get their livelihood Mohapatra (2014).

It is observed from the study that household which deals with agriculture activity have more likelihood of out-migration then the other household category. Rapid agricultural growth can be an effective measure of rural poverty reduction, which in turn reduces rural-urban migration (Janvary and Sadoulet, 2010). So agriculture sector need to be developed to discourage the out-migration process.

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