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Nature and determinants of migration: Insights from NSSO data in three states of India

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Abstract

The exodus of men is the most opted strategy adopted by rural households to diversify income and reduce risks associated with agriculture. Migration plays a very important role in reducing the liquidity and credit constraints of rural households in India. Data shows there are roughly 30 per cent internal migrants in the country. Despite the existence of studies on patterns and determinants of migration in various out-migrating states such as Uttar Pradesh, Bihar, Kerala etc., literature on the same in States with high in-migration are scarce. This article makes an attempt to comprehensively look into patterns and determinants of in-migration in three states. We have used the unit level data on migration (NSSO 64th Round) and tabulated it with suitable statistical techniques. To have a better understanding of determinants of in-migration in the states of Maharashtra, Delhi and West Bengal, a binary logistic regression model have been employed. We found that the majority of male migrants in these states is from within the state and but from different districts. Another interesting finding is that determining factors for migration vary across states. Social group, education, age, monthly expenditure are significant factors in determining migration decisions.

Keywords: Delhi; determinants; employment; Maharashtra; male; migration; West Bengal

Introduction

Migration in India has seen a significant increase and reached over 450 million as the 2011 population census data shows. Most of migrant workers moved out of their districts for work related reasons. Internal migration rate has increased to 37.64 percent in 2011 from 30.1 percent in 2001.

Rural to urban migration is not a new phenomenon and is important in diversifying income in rural households (Arzaghi and Rupasingha, 2013, Singh 2018). Migration has a huge impact on origin and destination areas (Bhagat, 2011). This article focuses on migration patterns and determinants in the states of Maharashtra, Delhi and West Bengal. Table.1 shows these states' net migration statistics. The migration rate in India is 261 per thousand people in rural areas and 354 per thousand in urban areas. The rate of migration for rural male is 98 per thousand, and for urban male are 356 per thousand in Maharashtra. Migration rate of urban male in

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Maharashtra is very high in comparison to all India migration rate for urban male i.e. 259 per thousand. Table 1 shows that Delhi (431 per thousand) is the leading state in terms of in-migration followed by Maharashtra (356 per thousand) and this rate for West Bengal is 45 per thousand for rural males and 233 per thousand for urban males.

Table 1. Migration Rate (per 1000 persons) for each State/U.T

States/U.T	Migration Rates					
	Rural			Urban		
	Male	Female	Total	Male	Female	Total
Andhra Pradesh	88	473	282	333	467	400
Bihar	12	379	189	208	497	345
Chhattisgarh	70	531	295	330	590	452
Delhi	282	407	339	431	422	427
Gujarat	53	572	299	276	465	365
Haryana	41	593	299	279	576	417
Jharkhand	10	308	156	178	341	253
Karnataka	80	474	273	265	383	324
Kerala	195	459	333	258	428	348
Madhya Pradesh	30	533	268	160	523	336
Maharashtra	98	572	329	356	493	421
Orissa	43	511	280	324	567	442
Punjab	74	571	312	223	565	379
Rajasthan	46	541	288	240	495	362
Tamil Nadu	79	354	220	176	316	247
Uttar Pradesh	26	501	256	165	471	310
West Bengal	45	513	272	233	482	353
All-India	54	477	261	259	456	354

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 2 shows the net migration rate of selected states in India. The number of migrants has been determined with respect to the change of usual place of residence. Table 2 shows that Maharashtra, Delhi and West Bengal are the leading states of high net-migration.

There are two major sources of migration data in India viz. NSSO and Census and both data sets reveal that the State of Maharashtra is the most preferred destination of numerous million migrants from various parts of India. As per census 2011, there are 640 districts in India and there are two districts from Maharashtra itself in the top five major districts attracting the highest number of in-migrants in India. The top five districts having the highest number of work related in-migrants as per census 2011 are as follows: Thane, Bangalore, Mumbai suburban, Pune and Surat in absolute terms. When we highlight district with the highest number of work related in-migrants in India, in relative terms, the top districts are from Daman, Nagaland and Arunachal Pradesh.

The decision to move or not is an outcome of various factors in both sending and receiving areas. Causes of migration often classified into push and pull factors. Factors which compel individual to move out of native place such as lack of unemployment opportunities, lack of development, poverty etc. are considered as push variables, whereas the other set of factor attracts individual or household to move to a particular place such as better income opportunities, better civic amenities etc. (Ravenstien, 1885). Studies also show that credit



constraints also play a very crucial role in migration decisions (Singh, 2018; Stark, 1984). Another very important factor in migration decision is social networks (Singh, 2014; Haug, 2008). Studies also show that migration is a family decision and is not undertaken by individuals in isolation (Mincer, 1978; Cohen and Sirkeci, 2011; Singh, 2014).

Table 2. Net Migration Rate (Per 1000) for each State/UT

Type of Estimates						
1	2	3	4	5	6	7
State /UT	In-Migrant	Out-Migrant		Net Migration (Col.2-3-4)	Population	Net Migration Rate
		To another State	To Abroad			
Andhra Pradesh	1,0153	12,324	4,374	-6,545	752,758	-9
Bihar	5,505	47,077	1,046	-42,618	755,017	-56
Chhattisgarh	9,651	3,193	67	6,391	229,916	28
Delhi	43,585	11,694	70	31,821	131,603	242
Gujarat	20,778	10,879	1,858	8,041	494,655	16
Haryana	22,349	14,175	502	7,672	218,264	35
Jharkhand	3,913	8,129	174	-4,390	246,211	-18
Karnataka	20,130	14,173	1,228	4,729	489,468	10
Kerala	10,691	8,096	15,832	-13,237	298,619	-44
Madhya Pradesh	13,168	17,035	235	-4,102	604,647	-7
Maharashtra	56,584	15,414	2,286	38,884	948,135	41
Orissa	5,303	9,648	248	-4,953	363,647	-13
Punjab	18,586	11,697	3,864	3,025	238,582	13
Rajasthan	17,582	20,841	2,145	-5,404	580,845	-9
Tamil Nadu	9,906	13,675	4,983	-8,752	614,601	-14
Uttar Pradesh	32,326	81,405	3,836	-52,915	1,708,700	-31
West Bengal	23,670	12,303	820	10,547	784,690	13
All-India	18,155	-	44,421	-26,266	10,092,595	-260

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

In the next section, we present the data and methods employed in this study before we delve into patterns and processes of internal migration in these three states.

Data and methods

The data used in this study comes from NSSO 64th round migration data by National Sample Survey Office (NSSO). The reason for choosing this particular data is, this particular round of NSS includes a schedule (10.2), which provides detailed information on migration from all the states of India. While descriptive statistics are used in tabulations, we have used logistic regression to understand determinants of male migration. NSSO shows that female migration is mostly an outcome of marriage; therefore, only male migration has been considered for the current study. NSSO secondary data analysis also shows that male in-migration is very high in urban areas of the states Delhi, Maharashtra and West Bengal in comparison to rural parts; therefore, urban male migration has been the focus of this study.

Internal migration in India

Poverty, networks, the attraction of major cities and employment and income appear as common themes in the literature on internal migration in India. For example, Singh (2018a)

found that poverty played an important role in migration decisions in rural Uttar Pradesh and showed that poorer households in rural Uttar Pradesh were migrating partly due to a lack of accessibility of credit. Economic growth and development have been at the centre of internal migration in the country (Singh, 2005; see also Mukherji, 2001; Rogaly et al., 2001). Other studies underlined the impact of migration on women left behind in rural Uttar Pradesh (Singh 2018b; Bhagat, 2017; Lusome and Bhagat, 2006). Gaikwad and Nellis (2017) found that high skilled migrants have a comparative advantage over low skilled migrants in their analysis of the attitudes to internal migration in Mumbai.

Abbas (2016) shed light on citizenship and internal migration from fieldwork in Mumbai and Kolkata and found that internal migrants reported to have lesser citizenship status and reduced rights in comparison to non-migrants in the state. Gawde et al. (2016) analyzed the accessibility of maternal health care and various factors that affect accessibility and claimed that women migrants in Mumbai have better access to maternal health care than their hometowns (see also Pandey, 1998). Prashad et al. (2016) have highlighted homelessness as an effect of migration and related socio-demographic and health issues. Bhagat (2011) found that more impoverished sections of society are more prone to migration in comparison to other sections of society. Deshingkar (2010) found that income diversification in rural households through migration is very prevalent in rural households. Study also found that migration is very high in households that are chronically poor and is one of the major coping strategies (see also Deshingkar and Akhtar, 2009 and Deshingkar, 2006). Similarly, Naryan (2010) showed that auto-rickshaw workers in Mumbai and found were mostly from poorer sections of society with a primary and secondary level of education.

Arzaghi and Rupasingha (2013) found that migration is way adopted by rural households to diversify income and risks associated with agriculture. Chandrasekhar and Sharma (2015) analyzed the patterns of internal migration in India and found that majority of migrant workers were short-term migrants.

In another study, Chandrasekhar and Sharma (2014) found that states with better income opportunities such as Delhi, Maharashtra, Gujarat, Karnataka and other feeder states gain from youth migration and states with high out-migration such as Uttar Pradesh, Bihar, Odhissa, and Rajasthan are losing out in the process. On the other hand, Bhagat and Jones (2013) underlined the implications of migration and population change for planning and governance in Mumbai (also see Bhagat and Mohanty, 2009). Mehta (2011) also highlighted the challenges posed by migration in cities in accommodating the significant increases in population in big cities like Mumbai and New York (also see Sheth and Price, 2009). For example, O'Hare (1998) identified migration as the biggest cause of the housing crisis in Mumbai. Some of these studies also raised concerns about understanding people in slums in big cities of the developing world.

Munshi (2014) showed that community networks work as a strategy for income diversification in rural households and thus discourage migration. Singh (2014) also showed that social networks play an important role in facilitating migration to Mumbai from Uttar Pradesh.

Singh (2010) and Banjan (2009) focused on Mumbai's appeal as driving internal and international migration. Bhagat (2010), in this regard, showed that push factors were not the major reason for migration as it generally is presumed rather pull factors plays a decisive role in internal migration in India. The model claiming insecurities as key drivers for migration can



be useful in this debate (Sirkeci, 2009). Choudhary and Parthasarathy (2009) focused on beyond income gains and looked at the health and malnutrition in Mumbai. It is clear that varied patterns are there behind internal migration. For example, Bhugra (2004) argued that rural-urban migration is often an outcome of economic and educational reasons while migration across nations is mostly for socio-economic, educational and political reasons. Deshingkar and Grimm (2004), on the other hand, claimed that there is a change in the paradigm of internal migration in recent years due to the feminization of migration.

Findings and discussion

We have outlined the patterns and characteristics of male in-migration in three States, Maharashtra, Delhi and West Bengal. Map one, two and three show the top five-source states of male migrants for Maharashtra, Delhi and West Bengal, respectively. The top five states with the highest number of male in-migrants in urban Maharashtra are Uttar Pradesh, Gujarat, Karnataka, Rajasthan, Madhya Pradesh and Bihar (Map 1). The top states with the highest number of in-migrants in urban Delhi are Uttar Pradesh, Bihar, Haryana and Punjab (Map 2). Finally, the top source states with the highest number of in-migrants in urban West Bengal are Bihar Jharkhand, Uttar Pradesh, and Delhi. Delhi and Maharashtra receive a huge share of migrant workers from Uttar Pradesh and Bihar.

We have also looked at the district-level migration in Maharashtra, Delhi and West Bengal. Map 4, 5 and 6 show the leading districts with the highest number of male in-migrants in the three states we researched. In urban Maharashtra, the top source districts are Mumbai, Thane, Pune, Nagpur, and Sholapur. The 2011 Census also shows that Mumbai, Thane and Pune are the leading districts at the country level, attracting a large inflow of migrant workers domestically.

Map 5 shows leading districts in urban Delhi with the highest number of male in-migrants from North West, North East, East, West and South West regions of Delhi. In urban West Bengal, the districts with the highest number of male in-migrants are North 24 Pragnas followed by Darjeeling, South 24 Pragnas, Kolkata, Maldah, and Uttar Dinajpur (Map 6).

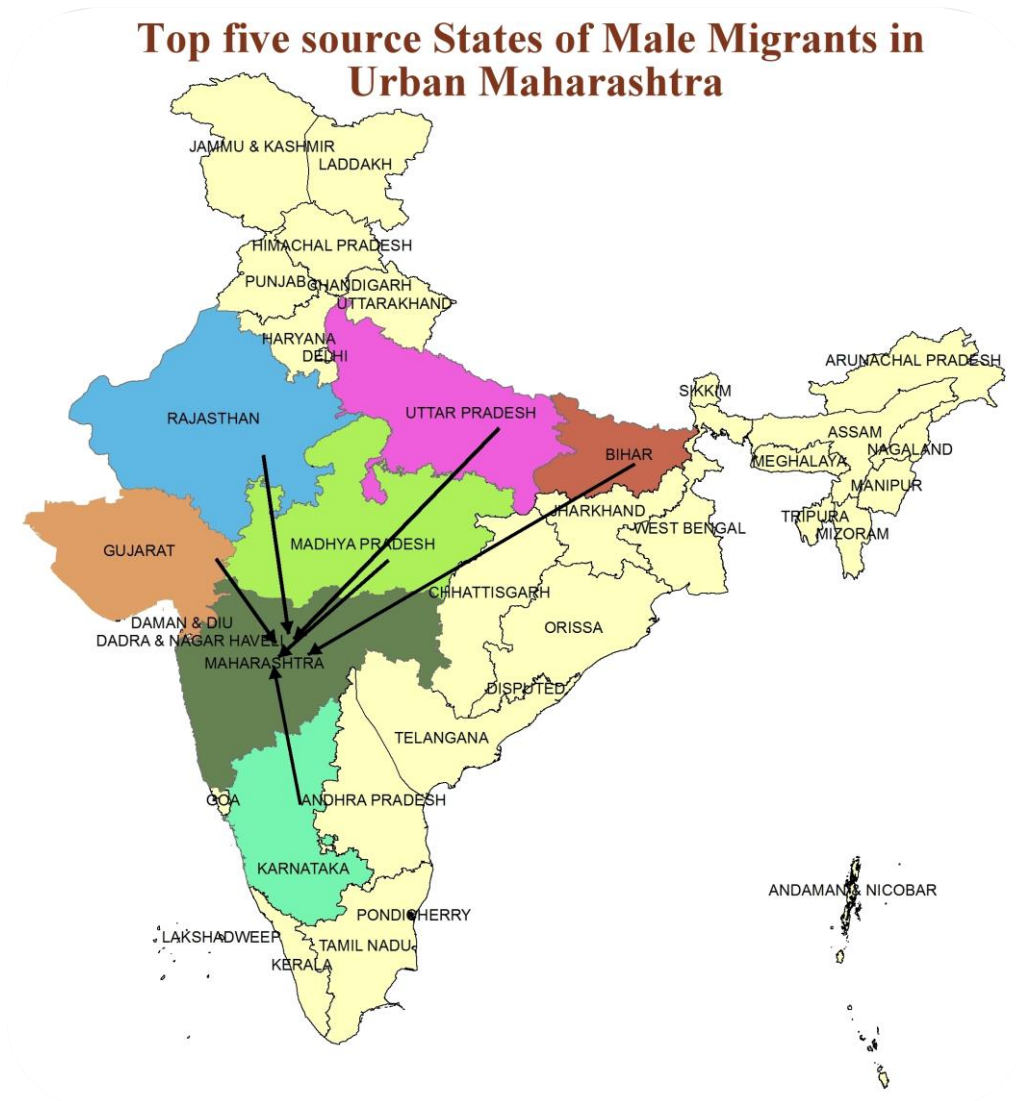
Table 3 shows the proportion of migrants and non-migrants in each state namely Maharashtra, Delhi and West Bengal. It is clearly visible from Table. 3 that each of these states has large number of migrant population. Table shows that among all states Delhi has largest share of migrant population in comparison to non-migrant population. From Table 1 we found that Delhi is leading state in terms of in-migration among all states of India.

Table 3. Percentage distribution of Migrants and Non-Migrants in Maharashtra, Delhi and West Bengal

State	Percentage Distribution	
	Non-Migrants	Migrants
Maharashtra	64.4	35.6
Delhi	56.9	43.1
West-Bengal	76.7	23.3
All India	74.1	25.9

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Map 1.

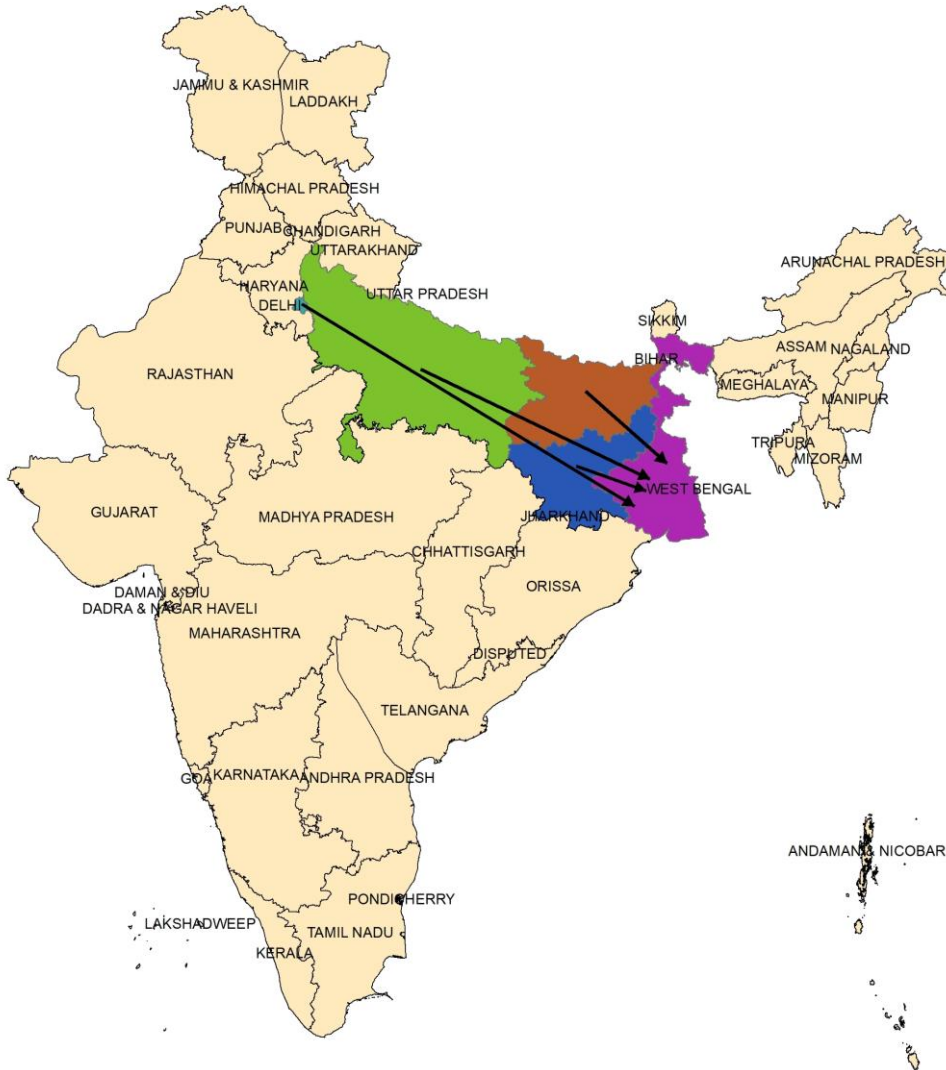


Source: Own work from NSS survey on Employment, Unemployment and Migration, Report No.533



Map 3.

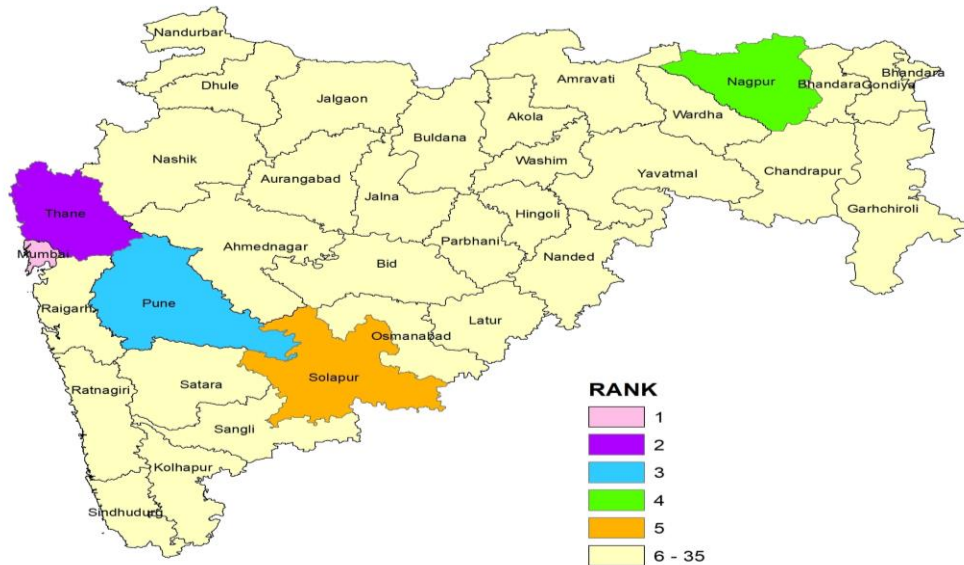
Top 5 Source States for Male in-Migrants in Urban West Bengal



Source: Own work from NSS survey on Employment, Unemployment and Migration, Report No.533

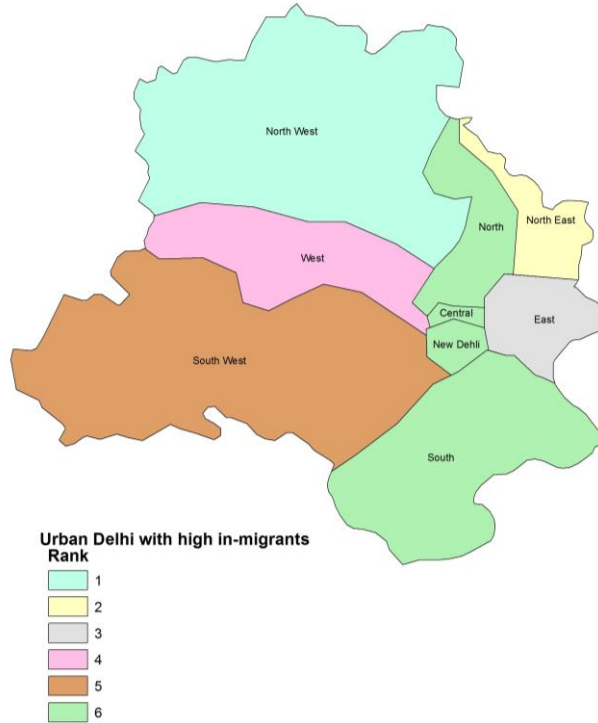


Map 4. Top five districts with highest number of Male in-migrants in urban Maharashtra.



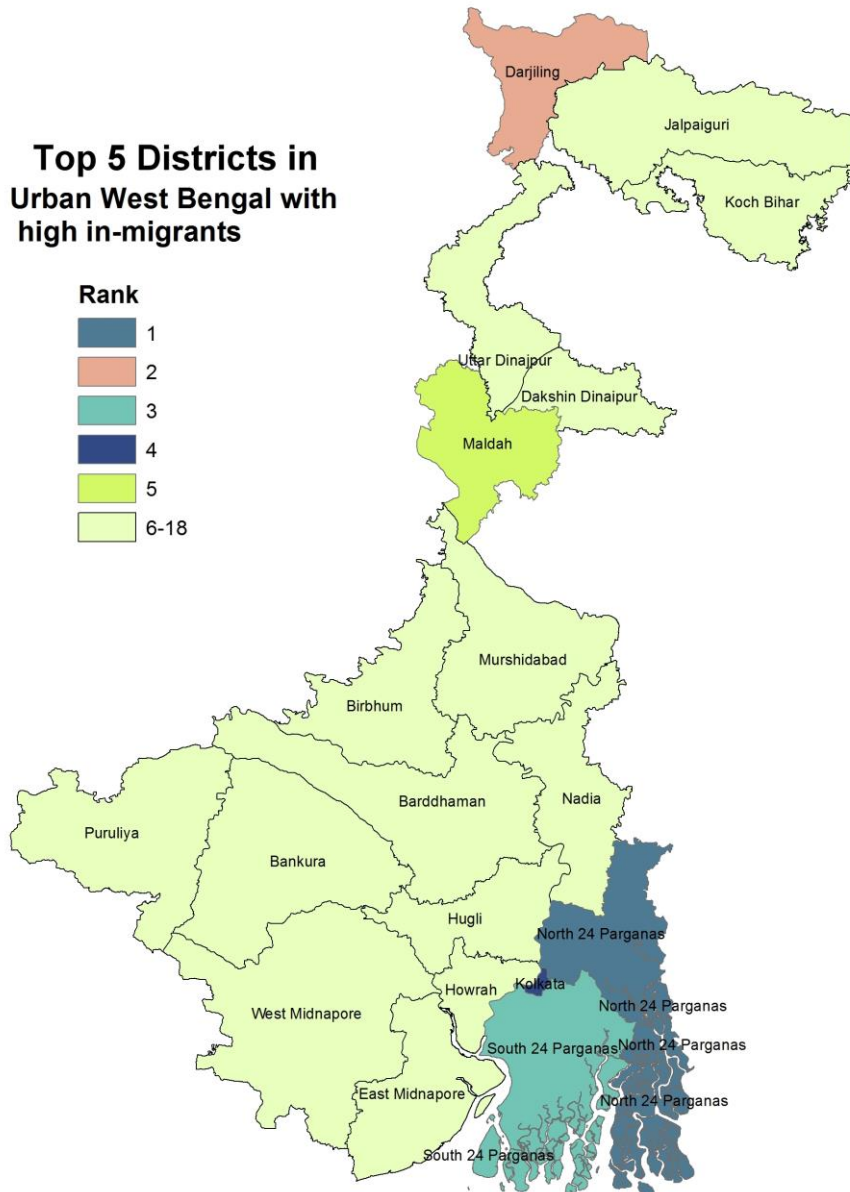
Source: Own work from NSS survey on Employment, Unemployment and Migration, Report No.533

Map 5. Top five districts with highest number of Male in-migrants in urban Delhi.



Source: Own work from NSS survey on Employment, Unemployment and Migration, Report No.533

Map 6. Top five districts with highest number of Male in-migrants in urban Delhi.



Source: Own work from NSS survey on Employment, Unemployment and Migration, Report No.533

Table 4 shows distribution of migrants by nature of their movement. Table 5 shows that majority of the urban male migrants in Maharashtra, Delhi and Uttar Pradesh have mentioned their nature of the movement as permanent, which implies that long-term migration is common phenomena in India.



Table 4: Percentage distribution of Migrants by nature of movements in Maharashtra, Delhi and West Bengal

State	Nature of Movement			Total
	Temporary with duration of stay		Permanent	
	Less than 12 months	12 months of more		
Maharashtra	0.5	15.6	83.9	100.0
Delhi	0.1	27.6	72.3	100.0
West Bengal	0.3	20.2	79.5	100.0
All-India	0.8	26.4	72.7	100.0

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 5 shows the last usual place of residence of male in urban Maharashtra, Delhi and West Bengal. Table 5 shows that large numbers of migrants are from the same state but from another district in Maharashtra and West Bengal. This implies that migration Maharashtra and West Bengal is having a large share of in-migrants from the same state. In the case of Delhi pattern is relatively different, the majority of male in-migrants in urban Delhi are from other States. It can also be seen from Table 2 that the majority of migrants in each state are from rural areas of another state. This implies that rural to urban migration is very common in these three states.

Table 5. Percentage Distribution of migrants by location of last usual place of residence for Urban male in Maharashtra, Delhi and West Bengal

State	Rural Areas of			Urban Areas of				Total
	Same State			Same State				
	Same District	Other District	Other States	Same District	Other District	Other States	Other Countries	
Maharashtra	11.8	19.3	26.8	7.6	23.0	10.3	1.1	100.0
Delhi	0.6	0.4	58.9	36	14.3	21.2	0.9	100.0
West Bengal	8.4	18.3	22.3	17.0	21.8	7.1	4.9	100.0
All-India	19.7	18.8	21.8	7.9	19.7	10.9	1.2	100.0

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 6 shows the distribution of migrants by four types of migration, i.e. rural to rural, rural to urban, urban to rural and urban to urban. It can be seen from Table 6 that in all three states mentioned, the majority of migration takes place from rural to urban, followed by urban to urban migration.

Table 6. Percentage Distribution of migrants by four types of rural-urban migration streams during for in Maharashtra, Delhi and West Bengal

States	Migration streams				Total
	Rural to rural	Urban to Rural	Rural to Urban	Urban to Urban	
Maharashtra	22.0	6.3	42.0	29.7	100
Delhi	3.2	1.7	57.5	37.5	100
West Bengal	27.3	8.6	33.2	31.0	100
All-India	27.2	8.9	39.0	24.8	100

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 7 shows the reasons for migration in the three states mentioned above. It can be seen that employment-related reason for migration is the largest, followed by movement of parent/earning member in all three states. The states under study are states with major cities such as Delhi, Mumbai, Pune, Thane, Kolkata etc., and Mumbai and Delhi itself absorbs a large number of migrants from across India and is a reservoir of numerous job opportunities for migrant workers. Delhi also is among the leading regions in term of development and industrialization. Various developmental projects, manufacturing centers, small, medium and big industries are major characteristics of these three States which clearly support the finding that the major reason for moving to these states is employment-related.

Table 7. Distribution of urban male migrants by reasons for migration for each state

State	Reason for migration						Total
	Employment related reason	Studies	Forced migration	Marriage	Movement of parent/earning member	Others	
Maharashtra	61.5	5.4	0.5	0.6	21.2	10.3	100.0
Delhi	60.4	3.1	2.1	0.1	24.2	9.8	100.0
West-Bengal	48.5	4.4	2.0	1.6	23.6	20.0	100.0
All-India	55.7	6.8	1.3	25.2	9.5	100	100.0

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 8 shows the usual activity status of migrants before and after migration. The usual activity status of the majority of migrants before migration is regular wage/salaried employee except in Delhi. In urban Delhi majority of migrants before migration was employed in self-employed. Post-migration activity status of migrants is regular wage salaried for urban male. This shows that for the majority of migrant workers, the pre- and post-occupation of migrant workers are the same.

Table 8. Percentage Distribution of migrants by their principal activity status before and after migration for Maharashtra, Delhi and West Bengal

Occupation	Maharashtra	Delhi	West Bengal	All India
	Usual Activity Status before Migration			
Self employed	14.8	17.0	14.8	16.9
Regular wage/salaried	19.6	16.1	20.4	18.3
Casual labor	11.2	5.9	8.3	11.3
Total employed	45.6	39.0	43.5	46.4
Unemployed	17.1	25.9	19.7	13.2
Not in labor force	37.3	35.1	36.8	40.2
All	100.0	100.0	100.0	100.0
Usual Activity Status after Migration				
Self employed	21.8	26.3	25.8	22.4
Regular wage/salaried	45.5	44.1	35.2	39.0
Casual labor	7.8	5.9	9.2	8.2
Total employed	75.0	76.3	70.2	69.7
Unemployed	1.1	0.9	2.4	1.6
Not in labor force	23.8	22.8	27.3	28.7
All	100.0	100.0	100.0	100.0

Source: NSS survey on Employment, Unemployment and Migration, Report No.533



Table 9 shows a more detailed economic status of migrant workers in three States. It shows various sectors in which migrants are economically engaged. It can be seen that most migrant workers are engaged in the construction sector, followed by the manufacturing and transport and storage sectors. State-level analysis shows that the major share of migrant workers in Maharashtra are engaged in manufacturing, i.e. 25 percent followed by the construction sector and transport and storage sectors with 19.2 percent and 17.3 percent, respectively. In Delhi and West Bengal, the majority of migrants are engaged in construction followed by transport sectors.

Table 9. Industrial Classification of Male in-migrants in Urban Maharashtra, Delhi and West Bengal (NIC code)

Economic status of Urban male in-migrants	Percentage		
	Maharashtra	Delhi	West Bengal
Agriculture & related activities	0.2	0	0.6
Mining & quarrying	13.2	12.1	4.9
Manufacturing	25.0	7.9	13.6
Electricity, gas and water supply	2.9	6.8	8.2
Construction	19.2	29.1	27.6
Wholesale & Retail Trade	13.00	12.5	21.4
Transport & storage & communications	17.3	15.3	13.0
Financial Insurance & Real Estate	4.9	12.7	8.3
Community & social & personal service	4.3	3.6	2.4
Total	100	100	100

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 10 shows major occupations of migrants workers in three states. The tabular analysis of table 10 shows roughly similar findings as of table 9. Transport and production sector have given employment opportunities to majority of migrants in Maharashtra, Delhi and West Bengal. Literature also shows that construction sector is largest sector in terms of economic engagement of migrant workers in India (Bhagat, 2011).

Table 10. Major occupations of in- migrants in Urban Maharashtra, Delhi and West Bengal (3 Digit NCO code as per 2004)

Major occupations of Male Migrants	Percentage		
	Maharashtra	Delhi	West Bengal
Professional, technical and related	14.5	2.5	3.6
Administration & Executive	14.8	9.5	8.5
Clerical and related	8.7	0	2.2
Sales workers	8.4	20.6	11.1
Service workers	13.7	22.3	20.1
Farmers, hunter related	0.1	0	0
Production and related	19.0	15.8	23.1
Transport equipment	20.8	29.5	31.4
Total	100	100	100

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

In Maharashtra share of professional, technical and administrative sector has huge share in offering employment opportunities to migrant workers, whereas in Delhi and West Bengal this share is negligible.

Table 11. shows level of educational attainment of migrant workers. It can be seen from table 10 that most of the migrants are having education up to secondary and higher secondary level followed by educational attainment up to primary or middle level of education. Migrants with educational attainment of graduation and above are very less and percentage share for it is roughly similar in all states.

Table 11. Percentage distribution of male in-migrants by general education level for Maharashtra, Delhi and West Bengal

General education level	State		
	Maharashtra	Delhi	West Bengal
Not literate	8.8	10.4	13.8
Literate but below primary	7.6	7.1	13.8
Primary or middle	29.5	32.2	31.8
Secondary and higher secondary	30.0	30.8	18.2
Diploma certificate	5.7	1.4	2.1
Graduate and above	18.4	18.1	20.2
All	100.0	100.0	100.0

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Findings in these tables show that most migrant workers in these states were employed in construction or transportation sectors. Lack of educational attainment of higher education often forces migrant workers to end up in informal labour market such as in the construction sector, transportation sector and manufacturing sector.

This paragraph deals with religion, social group and marital status of male in-migrants in Maharashtra, Delhi and West Bengal in brief. NSSO unit-level data analysis shows that the majority of male in-migrants in all these States are Hindu, 71.1 percent, 86.1 percent and 78.8 percent in Maharashtra, Delhi and West Bengal, respectively. West Bengal has a comparatively higher share of Muslim male in-migrants, i.e. 21.3 percent. In a country like India, caste and social groups play a very important role in defining occupational status. Even after so many decades of independence, villages in India are still based on various caste bases segments. Occupational status is also often linked with the social group of migrants.

Table 12 shows that majority of migrants in Maharashtra are from OBC households followed by SC category. Study done by Singh (2014) on auto and taxi drivers in Mumbai also found similar results. Study found that majority of migrant workers in Mumbai belongs to OBC social group and mostly engage as taxi or auto driver. In case of others i.e. Upward caste migrants the share is very less in Maharashtra and highest in Delhi followed by West Bengal.

Table 12. Social group of male migrants in urban Maharashtra, Delhi and West Bengal

Social groups	Percentage		
	Maharashtra	Delhi	West Bengal
STs	0.0	0.0	0
SCs	40.2	7.0	19.5
OBCs	53.9	10.0	0
Others	5.7	83.0	80.5
Total	100	100	100

Source: NSS survey on Employment, Unemployment and Migration, Report No.533



Land ownership plays an important role in migration decisions too. In NSSO data analysis, most migrant workers possess land less than one hectare, i.e. 97.6 percent migrant workers in Maharashtra, 71 percent migrant workers in Delhi and 73 percent migrant workers in West Bengal owns less than one-hectare land in the places of origin. India is a dominantly rural country and a large percentage of the population in India derives their livelihoods from agriculture. Low land man ratio and huge population pressure and land fragmentation often end up in disguised unemployment in the rural sector. Lack of availability of non-farm livelihood options often leads to the male exodus from the village. These patterns of land possessed by migrant workers support the argument that male exodus is an outcome of lack of income opportunities in both farm and non-farm sector in rural India.

Table 13. Age of male in- Migrants in Urban Maharashtra, Delhi and West Bengal

Age groups	Percentage		
	Maharashtra	Delhi	West Bengal
0-14	19.4	0.0	8.9
15-24	2.4	13.9	19.5
25-34	25.9	55.6	14.8
35-44	16.8	30.5	47.6
45 and above	35.5	0	9.1
Total	100	100	100

Source: NSS survey on Employment, Unemployment and Migration, Report No.533

Table 13 shows that in all states percentage share of migrants belongs to the age group 25-45 years. Studies also show that young member of the family often undertakes migration and migration reduces with age. Household sends their member abroad in order to diversify the income of the households and reduce liquidity constraints (Stark, 1984). As far as marital status is concerned from NSSO data analysis, it was found that in Maharashtra percentage share of married and single male migrants are roughly similar. In the case of Delhi, the share of married male migrant workers are very high (71.4 percent) in comparison to unmarried male migrant workers (28.6 percent) and the pattern is similar in West Bengal (72.5 percent and 27.4 percent, respectively). Migration is often a household decision (Mincer, 1978; Cohen and Sirkeci, 2011). Hence the household size is an important variable in migration decisions. NSSO data analysis shows that majority of migrants belong to households with household size 4 followed by households with household size 5-8.

Table 14 shows determinants of male in-migration in three States, i.e. Maharashtra, Delhi and West Bengal. Determinants of migration show various reasons why some move and others don't. Prospective migrants with various motives often undertake migration. Table 14 shows various factors that are significant in determining migration from three states under study, i.e. Maharashtra, Delhi and West Bengal. This section will empirically analyze the determinants of migration in three States viz. Maharashtra, Delhi and West Bengal.

$$P(Y=1) = \beta_0 + \beta_1 (\text{Marital status}) + \beta_2 (\text{Religion}) + \beta_3 (\text{Household Type}) + \beta_4 (\text{Age}) + \beta_5 (\text{Land possessed}) + \beta_6 (\text{Educational Attainment}) + \beta_7 (\text{Household size}) + \beta_8 (\text{Social Group}) + \beta_9 (\text{Monthly per capita Expenditure}) + u_i \dots \text{Equation-I}$$

where Y is the dependent variable and is the decision to in-migrate or not by male migrants in three States, i.e. Maharashtra, Delhi and West Bengal, it has a binary value, whether to in-migrate in these States, i.e. to in-migrate=1 and no in-migration, i.e. not to in-migrate=0.

Independent or explanatory variables are marital status, religion, household type, age, land possessed, educational attainment, household size, social group and monthly per capita expenditure and u_i random or stochastic error term.

Table 14. Logistic Regression model: Determinants of Urban Male In-migrants from Delhi, West Bengal and Maharashtra

Urban male in-migrants dependent variable if Yes=1 & No=0	Delhi		West Bengal		Maharashtra	
	Number of obs.	1236	Number of obs.	2570	Number of obs.	4185
	Wald chi2	46.57	Wald chi2	100	Wald chi2	144.71
	Prob > chi2	0.0004	Prob > chi2	0	Prob > chi2	0
	Pseudo R2	0.1545	Pseudo R2	0.2696	Pseudo R2	0.231
Explanatory variables	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Marital Status						
Unmarried®						
Married	-0.1953694	0.679	-0.5364849	0.231	-1.02137	0.002***
Religion						
Others®						
Hindu	0.4793471	0.551	-0.4867946	0.373	0.006053	0.987
Household types						
Self-employed in non-Agriculture®						
Agriculture labor	0.047433	0.924	0.9413458	0.044**	1.026054	0.004***
Other labour	-0.508052	0.634	-0.6995291	0.356	-0.5211291	0.365
Others	0.4030581	0.609	-0.7210659	0.428	1.112187	0.05**
Age	0.0088423	0.736	-0.0953417	0.001** *	-0.0750618	0.0***
Land Possessed (in Hectares)						
Less than 0.005®						
0.005-0.01	-2.200448	0.009***	0.147775	0.756	-0.3652664	0.369
.02-0.40	-2.018909	0.038**	1.323164	0.009** *	0.8613814	0.102*
0.41-1.0	-		-		-0.7836898	0.448
1.01-2.0	-		-		-0.9744879	0.369
2.01-4.0	-		-		-0.5966351	0.535
More than 4.01	-		-		-	
Education Attainment						
Illiterate®						
Up to primary	1.06367	0.404	-0.6263129	0.395	0.1388322	0.818
Middle (8th)	1.330356	0.305	-0.4107564	0.562	1.005641	0.075**
Secondary	2.191435	0.078**	-0.7875951	0.349	0.1642618	0.784
Higher secondary plus diploma	0.8307524	0.575	0.4975273	0.501	0.7946272	0.214
Graduate & above	2.182059	0.114	0.5584829	0.462	1.280956	0.024**
Household size						
1-4 h®						
5	0.494937	0.461	-0.3675757	0.665	-1.039191	0.036**
6-8	-0.7873388	0.392	-1.622636	0.027**	-0.1750675	0.755
9-12					-1.592678	0.064**
13 & above						



	Delhi		West Bengal		Maharashtra	
Social Groups						
Scheduled Tribe ®						
Scheduled Caste	-3.511718	0.001***	0.7509173	0.338	-1.015023	0.155
Other Backward classes	-2.788368	0.022**	-1.66417	0.073**	-0.7613647	0.218
others	-3.166509	0.002***	-0.3365717	0.599	-0.8849201	0.163
Monthly Per Capita Expenditure	-0.0002417	0.016***	-0.000166	0.026**	0.0000123	0.344

Source: Authors own calculation

Note: ®Reference category, ***p<0.01, **p<0.05, *p<0.1 level of significance

Table 14 shows that there is variation in determining factors of migration in each state. We have identified a few common variables driving migration in all states, but there are also significant divergences. Migration driving factors found commonly in all states are land possessed up to 0.40 hectares, the age of respondents, and education. Social group and monthly expenditure per person were also significant factors in determining migratory behaviours in all three states.

State-level analysis of determinants of migration showed that in Delhi, highly significant factors in determining migration were land possessed, educational attainment level of the migrants, social groups and monthly per capita expenditure of the households. The land ownership is highly significant and those with land less than 0.005 hectares have high probability of moving out: The size of land possessed increases, the probability of migration decreases. In the case of educational attainment, migrants with education up to the middle level have a higher propensity to move out than those who are illiterate. Social group is also highly significant for migration in Delhi. Compared to Scheduled Tribe members, migrants from all other social groups have a comparatively higher likelihood of moving. Monthly per capita expenditure of the households is also a very significant factor in determining migration decisions.

In West Bengal migration decisions were significantly influenced by household type, age of migrant, size of the land possessed, household size, social groups and monthly per capita expenditure. Those from the Other Backward Class were significantly more likely to migrate. Similar to Delhi, monthly expenditure was also significant in determining migration decisions.

We also found that marriage was a highly significant factor: In comparison to unmarried male, the married male had higher chances of migrating to Maharashtra. Household type categorized by type of activity involved was also a significant factor. In comparison to migrant workers from households, which are engaged in non-agriculture, migrant workers from agricultural households were more likely to migrate. The size of the land possessed was also important in the case of Mumbai. Educational attainment levels, as anywhere else in the world, was a decisive factor. Migrant workers with middle-level education and above have relatively higher chances of migrating than those migrants who are illiterate.

Conclusion

This article reports on a study aimed at understanding internal migration and determinants of human mobility in Maharashtra, Delhi and West Bengal. These three states are among the top five states in India, attracting the largest number of internal migrants. The key driver for migration to these states appears as employment opportunities. The study also found that most migrants in these states are from other districts within the same state. The exception is

Delhi, where migrants also come from afar. These migrations are dominantly from rural to urban areas. Educational attainment levels play a significant role in migration decisions and we have seen this pattern across the states. Migrants with comparatively higher educational attainment were more likely to move elsewhere. The caste system and social class are still important determinants of human mobility as they determine access to resources and power relations. Agriculture is where a large portion of India's population is employed but holds a much less prominent place regarding its share in the GDP. Fragmentation of land, low land man ratio, climate change, population pressure and lack of non-farm employment opportunities often lead to a male exodus from rural parts of India. Our study also provided evidence to this effect.

The three states, Maharashtra, Delhi and West Bengal, account for a large portion of the internal migrant populations in India. Unsurprisingly, large inflows of migrants to big cities such as Mumbai, Delhi and Kolkata often come with a few negative sides, as indicated by the wider literature. This does not mean their contribution to the growth and development of these states were small. Nevertheless, resultant pressures on infrastructure and civic amenities as well as other public provisions subsequently lead migrants to poor living conditions in these states. Therefore, policy reforms to tackle these pressures and poverty are warranted both at destination and source states. Regulatory reforms are also needed to improve migrant workers' living and working conditions. Perhaps another source for required policy intervention is the fact that many migrant workers are inclined to work in informal sector at low wages due to low educational attainment levels.

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