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Analysis of Rural-Urban Migration in India **and Impact of COVID-19**

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Abstract

This paper examines the Rural-Urban Migration in India and the Impact of the Covid-19 pandemic on the Migrants and the governmental stance and policies on migration during the global pandemic. A major determinant of migration is the higher expected wages offered in the Urban Sector along with better employment opportunities as depicted by the theoretical framework in Harris-Todaro Model. A Case Study of Uttarakhand State is also presented to depict the migrants' situation in the view of this model. Further, the paper examines the trends and patterns of Migration for the Census Year 2001 and 2011 and analyses the reasons behind inter-state migration through an econometric viewpoint. The results correspond to the Harris-Todaro Model depicting an inverse relation between In-Migration Rate and Unemployment rate in contrast to positive relation with poverty rate and State's Net Domestic Product. While there has been a significant jump in all the streams of migration except Urban to Rural from 2001 to 2011, a close analysis of the data reflects that employment is not a major factor responsible for migration in developing countries rather sociological factors also influence a substantial flow of migration.

Keywords: *Harris-Todaro, Unemployment, Poverty, Reverse-Migration, Covid-19 Pandemic*

1.0 Introduction

Today, 56.2% of the world's population lives in urban areas, a proportion that is expected to increase to 68% by 2050 (Statista, 2020). Projections show that urbanization, the gradual shift in residence of the human population from rural to urban areas, combined with the overall growth of the world's population could add another 2.5 billion people to urban areas by 2050, with close to 90% of this increase taking place in Asia and Africa (UN Population Division Report, 2018).

Migration refers to the geographic movement of people across a specified boundary for the purpose to establish a new permanent or semi-permanent residence for several reasons like social, cultural, economic and other factors. Article 19 (1) of the Constitution of India allows its citizens to move freely and reside anywhere in the territory of India. Apart from being a component of population change, migration is a major channel for the process of diffusion of ideas, innovations, culture and traditions. From a functional point of view, migration is both a cause and effect of spatial and temporal variations and a major cause for changes in the organization of society. The terms "in migration" and "out-migration" are used to signify the movement of people within a country (internal migration). While the terms "immigration" and

“emigration” refer to movements from one country to another. There has been a basic difference in the processes of migration in developing countries from that of the developed countries. In developing countries like India, migration mostly takes place not due to the so-called pull forces of the destination place as usually happens in the case of developed countries, but because of push factors like poverty, unemployment, natural calamities and underdevelopment at the origin. Migration in developing countries is still viewed as a strategy for survival. Poverty and prosperity both are responsible for inducing migration. While the former is mostly true in developing countries, the latter kind of migration is found in developed countries.

According to John Kenneth Galbraith, migration is the oldest action against poverty. According to the definition by the Office of the Registrar General & Census Commissioner of India, a migrant by place of birth is a person who is enumerated in a place (village or town), which is different from their place of birth. However, the number of migrants by place of the last residence provides a better account of the extent of internal migration. The Indian Census of 2011 estimated 454 million internal migrants in India, adding an absolute number of 140 million more migrants during 2001–11. The increase of internal migrants during 1991–2001 was just 82 million, their number rose to 232 million in 1991, and to 314 million in 2001. This paper aims to analyse the trends of large-scale employment driven rural to urban migration in India and understand the reasons for the same taking the Harris-Todaro Model as the theoretical framework and using the OLS method of econometrics to further substantiate our findings and suggest a roadmap for inclusive migrant policies.

The lockdown imposed by the central government owing to the Covid-19 pandemic in March 2020 threatened the livelihoods of the migrants in the urban areas, thereby inducing them to move back to their villages for better options of survival. An estimated 60 million people moved back to their place of origin by whatever means they found, some even through bicycles or on foot (Prof Ravi Srivastava, Director, Centre for Employment Studies, Institute of Human Development) Therefore, this paper further aims to identify the optimum policies to tackle such mass movements and provide better livelihoods to the migrants in the urban areas. But this reverse migration of people does not always hamper the economy of the rural areas, but rather this can be a golden opportunity for states like Uttarakhand where numerous villages became uninhabited because of migration to urban areas. Thus, with the help of a case study of Uttarakhand, we would try to understand the ways through which this opportunity can be tapped and bring back life to the “ghost villages”.

The structure of the paper is as follows: the first section includes the theoretical framework of the paper which is the Harris Todaro Model and some drawbacks of this model. The second section analyses the inter-state trends and reasons for the migration of people, including the causes and consequences in both rural and urban regions. The third section includes the econometric analysis of the rate of state-wise migration based on economic variables. The fourth section explains the reverse migration owing to the Covid-19 lockdown and also includes a case study of Uttarakhand. The fifth section concludes the paper with some policy recommendations for inclusive growth.

2.0 Literature Review

2.1.0 Introduction

The Harris Todaro Model was first introduced by John R. Harris and Michael Todaro in 1970. The basic idea behind the model is that migrants choose to migrate from the rural to the urban sector only when the expected wages in the urban sector are higher than the wages in the rural or agricultural sector. This is also known as the Wage-Differential Theory of Migration. The model emerged from the Todaro paradox that the increase in job opportunities in the urban sector can lead to more unemployment due to increased migration. The model highlights that it is due to the attractive high wage of the urban sector that drives the migrant and creates urban unemployment.

2.1.1 Harris-Todaro Model Framework

The Model considers two sectors of the economy:

- (1) Rural Sector (Agricultural Sector)
- (2) Urban Sector

With the flexible wages, the equilibrium wage rate is obtained at the intersection of Labor Demand Curves of these sectors with equalization of migration from one sector to another. If the wages are inelastic in the formal sector, which is generally the case, the wage rates offered in the formal sector are higher as compared to agricultural workers so that the firms can hire and retain the best quality workers. Thus, there exists a wage gap between the urban formal wage and agricultural wage as shown in the figure below:

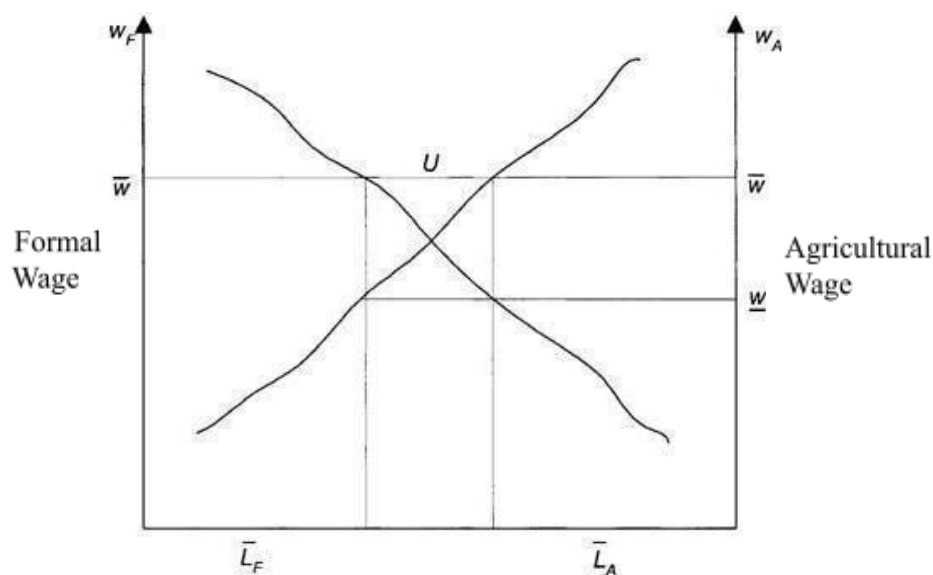


Figure: 1

Source: Debraj Ray, Development Economics, 2009

The above figure shows the wage gap that exists between the fixed Formal Urban wage (w) and Rural Agricultural wage (\underline{w}). The private sector firms hire labour at L_F whereas the agricultural sector employs L_A , the remaining people remain Unemployed (U).

Now, those unemployed have two options to gamble from. Either they move to the urban sector offering higher wages or they remain in the agricultural sector where jobs are easy to find but pay significantly less. The probability of obtaining a job in the urban formal sector is determined by the ratio of people employed in Urban sector L_F to the total potential job seekers. A similar ratio can be obtained for the informal sector too.

Now, a potential migrant must consider the expected income from migration and compare it with the actual income received in agriculture before making any decision.

$$\frac{L_F}{L_F + L_I} W + \frac{L_I}{L_F + L_I} W_I = W_A$$

The above equation is known as the Harris-Todaro Equilibrium Condition. It is a situation in which the migrant is indifferent between migrating and not migrating from one sector to the other sector in search of higher wages.

2.1.2 Drawbacks of Harris-Todaro Model

The implicit assumption in the Harris-Todaro Model is that advanced production technology in cities leads to rising worker productivity and higher wages offered by urban sector

firms. This creates a substantial gap between urban and rural living standards and attracts rural-urban migrants to the city. The model recognises that to reach equilibrium between migration and urbanisation, the flow of population from rural to urban centres must close the gap concerning living standards. The only factor which brings the rural-urban migration equilibrium, according to HT Model, is the rise in urban unemployment rates thereby reducing the migrant's chance of locating a remunerative job and ultimately limits migration. But this model fails to acknowledge the other equilibrating factor which is the jump in urban cost-of-living due to massive migrant inflows into the city. This cost-of-living will increase mainly due to the rise in house rents, a force that is captured in the model of Brueckner (1990). Once the costs of living have increased enough to neutralize the gains emerging from a higher urban income, the incentive for migration is eliminated.

The model suffers from several other limitations as well. Firstly, it is static, focused on the distribution of a fixed population between rural and urban areas. It does not match the reality in developing countries, where rural-urban migration is ongoing and will continue for an extended period until the urban revolution settles. Secondly, it is unrealistic in the characterization of the urban economy. It ignores the presence of agglomeration economies due to the positive externalities of clustering, density and networking of many different actors in many activities in cities, leading to a reduction in transaction costs and economies of learning, sharing and matching. Agglomeration creates opportunities for specialization, backward and forward linkages, Labour market specialization, services, sharing of inputs, infrastructure and risks, learning opportunities, social capital formation, diversity and innovation, and creation of employment in both the formal and informal sectors. In the absence of agglomeration economies, there will be little logic in explaining why cities form, grow and attract migrants. Thirdly, the recommendations from the model are also neither practical nor desirable for developing countries suffering from severe resource crunch. There is no reason for the restriction of migration when we know that the conditions of the rural poor are far worse than those of the urban poor and that migration is an exercise of free choice. Why can the cities, which benefit from migrant labourers, not accommodate them with housing and essential amenities, rather than having a negative view on rural-urban migration? In India, agriculture still dominates the rural economy and engages about 50% of the workforce but contributes just 15% of GDP. Lastly, the model ignores the role of city management and governance, especially the development of core infrastructure in creating conditions for urban economic growth, employment and

accommodating more migrants. Various studies show that Indian cities are not able to create jobs due to the abysmally poor state of infrastructure.

3.0 Trends of Migration in India (2001 and 2011 Census Year)

In India, the patterns of migration have always been tilted towards the movement of masses either from rural to urban areas or within the rural or urban areas. Rural to urban migration is a crucial factor in determining the degree of urbanization in a developing country like India. While the overall number of migrants increased, the recent census data provides evidence to support the increasing trend of urbanization as the total number of persons migrated from rural to urban areas increased to 32.15 million in 2011 as compared to 20.5 million in 2001.

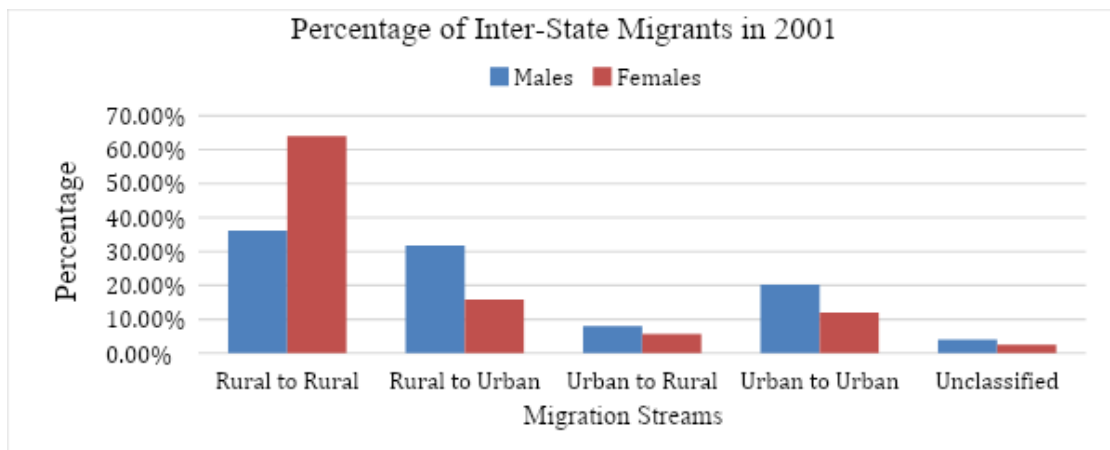


Figure: 2

Source: Authors' Calculation based on 2001 Census Data

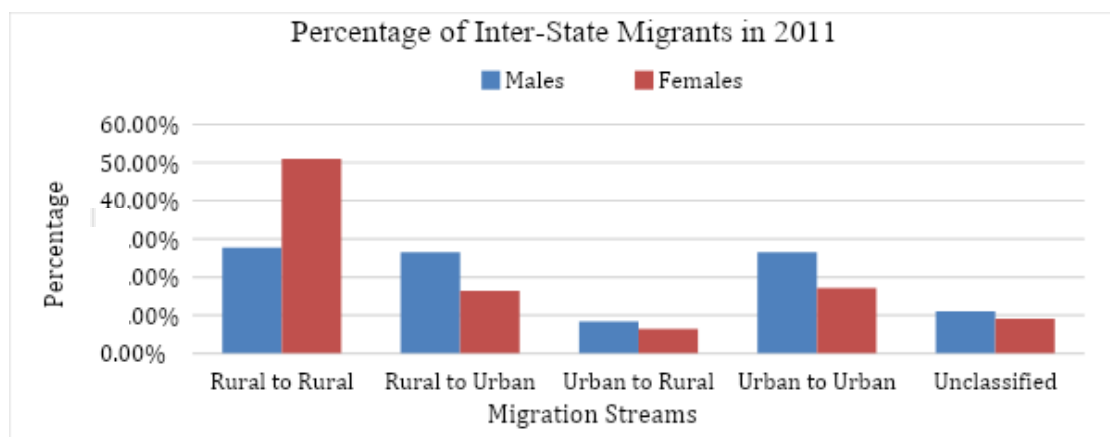


Figure: 3

Source: Authors' Calculation based on 2011 Census Data

Figures 2 and 3 show the percentage of migrants across different migration streams for the years 2001 and 2011. There has been a dip in both the percentages of males as well as females moving from rural-to-rural interstate. In this category, the percentage of female migrants accounts for almost 50% which is higher than in the year 2001. In contrast, only a meagre 1 million persons migrated from urban to rural areas in 2001 as compared to 11.45 million in the 2011 census but in percentage terms, there has not been a major change. As shown in Figure 3, urban-to-urban movement among males (26.5%) is higher as compared to females (17.11%) which are overall higher than 2001 estimates. Across all migration streams, urban to rural migration is the least preferred by the migrants accounting for less than 10% of total inter-state migration in both periods. There is a considerable jump in the percentage of Unclassified as well.

3.1.0 Reasons for Migration

Just like the pattern of migration is tilted towards the rural-to-rural and rural-to-urban areas, the reasons for migration are largely due to employment and marriage. While in the typical Indian society, a female has to leave her home after marriage or any movement in the household, thereby resulting as a migrant. This reason accounts for more than 50% of the total female migrants as per Census 2011. Whereas in the case of females, factors such as employment, business and education-related factors have an insignificant share reflecting the backwardness of Indian rural households. As far as the males are concerned, the majority of them migrated due to the movement in the household (36%) or after birth (26%).

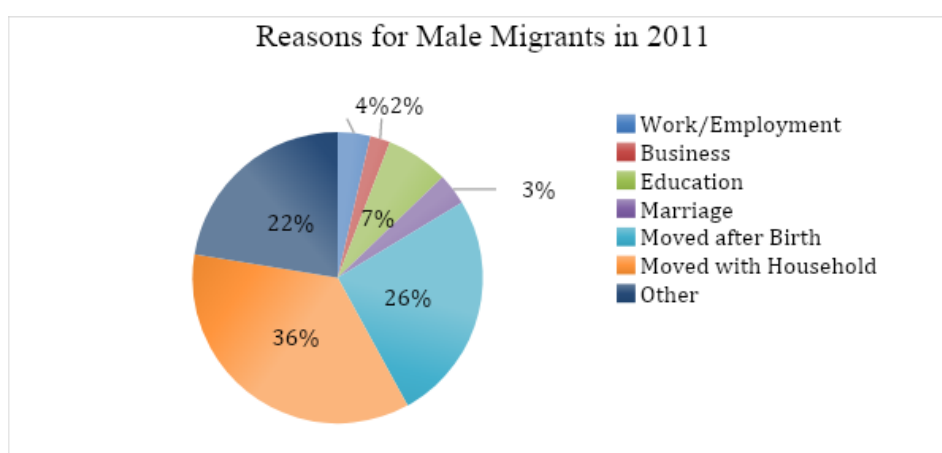


Figure: 4

Source: Authors' Calculation based on Census Data

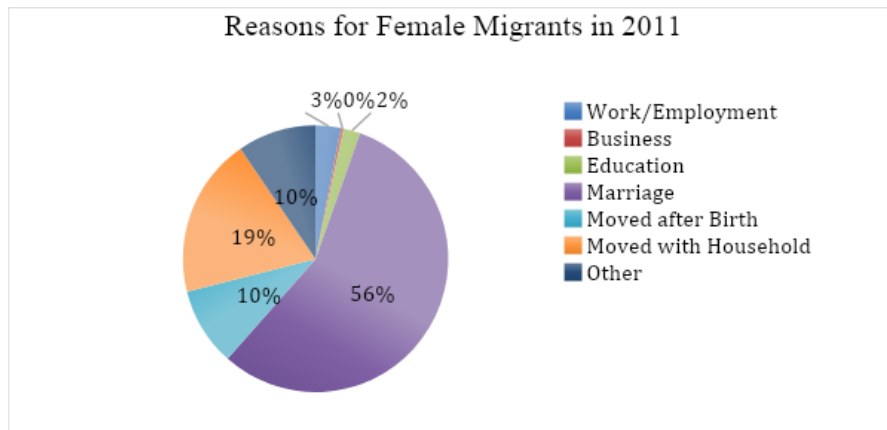


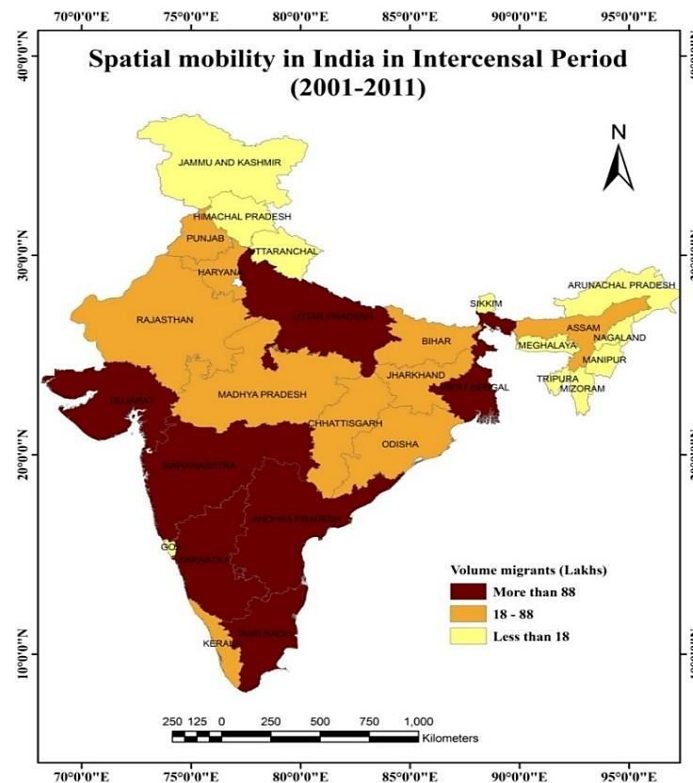
Figure: 5

Source: Authors' Calculation based on Census Data

3.2.0 State-Level Trends of Migration (2001-2011)

Rural-Urban Migration can be understood better by looking at the spatial mobility across the states. Figure 6 shows the state-level trends of overall migration in India for the period 2001-2011. While the southern states account for the majority of the migrant population, the north-eastern states showed very little mobility during the Intercensal Period.

Figure:6



Source: Ansary, Rabiul. (2018). Emerging patterns of migration streams in India: A state-level analysis of the 2011 census. Migration Letters

It is evident from the fact that people migrated to the states of Maharashtra, Tamil Nadu and Gujarat which have a consistent record of higher economic growth in the past and search of better employment opportunities and living conditions owing to the rapid industrialization as compared to the states of Odisha, Chhattisgarh and Jharkhand. More than 88 Lakh people migrated out of these states to the southern and western parts of the country indicating as the most 'favoured destination' of the migrants. In Northern India, only Uttar Pradesh showed a high degree of mobility as compared to Punjab and Haryana while in the North-Eastern States, Assam is preferred by the migrants. In Eastern India, West Bengal saw a jump in the migration rate with a 48% growth rate since 2001 (Census 2011). The rapid growth of cities does attract migrants who are in search of better health & medical facilities, drinking water & sanitation as well as educational facilities.

3.3.0 Causes and Consequences of Migration

There are a variety of factors responsible for migration and lead to different migration streams. All these factors can be subdivided into groups:

- **Push Factors:** These include all those factors which force the people to move out of the place in which they were living earlier. For example, civil wars or political pressure, religious oppression etc. are some of the man-made factors which may create unrest in an area which leads to change in livelihood and leads to migration. Food Shortages, floods or other natural calamities also fall under this category.
- **Pull Factors:** These include all those factors which do not force the people to move away but rather attract them to move to a particular place in search of better job opportunities, nicer climate, better food supply and atmosphere.

In general, the urban cities act as the pull factors to the people living in rural areas in terms of both higher wages as well as the standard of living offered by these developed cities. This wage gap insists they migrate even if they are reluctant to. Not only this but the change in the occupational structure causes migration too. In India since the Liberalization Reforms in 1991, there has been a decline in the percentage of people engaged in agriculture coupled with rapid urbanization but the growth rate in the manufacturing sector has been insignificant. Since most of the rural migrants lack sufficient skills, they could not reap the benefit of even the service sector revolution, hence they are not able to find suitable jobs and tend to remain underemployed or unemployed. Certain jobs require a specific skill set that can only be obtained from the urban cities thereby motivating the unskilled rural personnel to migrate. As far as

rural-to-rural migration is concerned, high productivity always attracts migrants as that same land can give them higher yield than before. The migration of people from rural to urban areas has multidimensional and long-lasting consequences. It has both positive and negative impacts on both the areas- source as well as destination.

The positive effects in the source, i.e., rural areas, include reduced pressure on the already stressed agricultural resources, thereby leading to greater availability of land per capita. As per the Agriculture Census of 2015-16, the average size of operational landholding in India is just 1.08 hectares, resulting in a lack of productivity and disguised unemployment. Thus, migration of people to urban areas will help kickstart the rural economy and increase the overall level of demand, coupled with the remittances which the migrants send back to their homes. On the other hand, the negative aspects include adverse changes in population structure due to out-migration of young people, thereby reducing the economically active agents in the villages.

Further, migration has profound sociological impacts as well due to the division of the traditional family structure and reduced care for the elderly leading to a higher rate of deaths. The positive impacts in the destination, i.e. the urban areas, manifest themselves in the form of a rise in the number of economically active agents, thereby giving an impetus to the urban economy and a higher rate of growth of all sectors. Further, the migrants bring with them the rich culture and traditions of their source regions leading to a rise in vibrancy and cultural wealth of the cities. The level of knowledge, skills and innovations in the city community is also enhanced due to migration. But this rural-urban migration also brings with it a host of problems for the urban areas. It leads to increased pressure on the already stressed resources of the urban areas, leading to a vertical growth of cities and mushrooming of slums. Numerous cases of tensions and conflicts between the older and newer migrants are also reported daily. It also results in surmounting pressure on basic amenities like water availability, education and health facilities leading to pitiable livelihoods of these rural migrants in the urban areas.

4.0 Methodology

4.1.0 Introduction

The previous section builds a theoretical background of the Harris-Todaro Model, this section aims to present a regression analysis of state-wise migration rate on the economic and socio-economic variables. The study attempts to obtain a statistical relationship among the variables examined in the paper and analyses the factors that affect the migration from other states to the state taken into perspective.

4.2.0 Data Source

This study is based on the secondary data source collected from the Census of India (2001 and 2011) Migration Tables. The Explanatory variables are obtained from the Reserve Bank of India (RBI) Publications as well as The Handbook of Statistics on Indian States issued by RBI in 2016-17. The Central Statistical Organization (CSO) and Planning Commission Database are also used for relevant estimates. The data includes all 28 States and 7 Union Territories as of 2001.

4.3.0 Econometric Model

The study uses the Heteroskedasticity corrected Ordinary Least Squares Method (OLS) under the Classical Linear Regression Model (CLRM) assumptions to present a statistical relationship between the dependent variable (In-Migration Rate) and explanatory variables. The model framework presented is a double-log functional form to correct for the presence of multicollinearity in the data.

We have incorporated four explanatory variables which directly or indirectly influence our dependent variable. Firstly, the unemployment rate signifies the theoretical framework of the Harris-Todaro Model by offering migrants the choice of whether to migrate to another state and acts as an equilibrating force. Next, the literacy rate of the state influences the ability to obtain a low-skilled job by a migrant thereby influencing the migration flow. Thirdly, the rate of poverty indicates the prospective livelihood in the state and thus influences the overall in-migration rate. Fourthly, the per-capita Net State Domestic Product indicates the rate of growth of the state and therefore that state appears attractive and efficient to the migrant. Lastly, Gross Fixed Capital Formation is an indicator of the state government's policies and ease of doing business and is conducive for both large-scale businesses and other in-migrants.

$$\log\log (INMR_{ij}) = \beta_0 + \beta_1 \log\log (UNEMP_j) + \beta_2 \log\log (LIT_j) + \beta_3 \log\log (PVR) + \beta_4 \log\log (PNSDP_{it}) + \beta_5 \log\log (GFCF_j) + \epsilon_i$$

Here,

$INMR_{ij}$ = In-Migration rate per 100 individuals from State i to State j

$UNEMP_j$ = Overall Unemployment Rate in State j for the year 2000-01

LIT_j = Overall Rural Literacy Rate in State j for the year 2000-01

PVR_j = Poverty Rate in State j for the year 2001-02

$PNSDP_{it}$ = Per-Capita Net State Domestic Product of State i for the year 2000-01

$GFCF_j$ = Gross Fixed Capital Formation of State j for the year 2000-01

ϵ_i = Random Error Term

β_0 represents the intercept term whereas $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 represents the slope coefficients of the regression Eq (1). The Coefficients in the Double-log model represent the elasticities.

All the variables are expressed in percentage terms to keep the units of measurement the same. Literacy and poverty rates are expressed in percentage terms whereas the unemployment rate is expressed as the number of unemployed per 100 persons. In-Migration Rate (INMR) is calculated as a percentage by dividing the total in-migrants from the other states by the population in 2001. PNSDP and GFCF figures were expressed in millions.

4.4.0 Data Analysis and Results

The results of the Ordinary Least Squares (OLS) Estimation are presented in Table 1 for the year 2000-01 (Census Year). In-migration rate is considered as the dependent variable whereas unemployment rate, literacy rate, poverty rate, per-capita net state domestic product and Gross Fixed Capital Formation are the independent or explanatory variables.

Table 1: Results of Ordinary Least Squares (OLS) Regression

Model 1: Heteroskedasticity-corrected, using observations 1-36 (n = 26) Missing or incomplete observations dropped: 10

Dependent variable: l_INMR

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	-21.0807	2.77922	-7.585	<0.000 1	* * *
l_UNEMP	-0.238663	0.0940406	-2.538	0.0196	* *
l_Lit	-3.51324	0.720374	-4.877	<0.000 1	* * *
l_PVR	0.342299	0.115592	2.961	0.0077	* * *
l_PNSDP	3.66944	0.217850	16.84	<0.000 1	* * *
l_GFCF	0.00591649	0.0402933	0.1468	0.8847	

Statistics based on the weighted data:

Sum squared residual	55.54564		S.E. of regression	1.666518
R-squared	0.969502		Adjusted R-squared	0.961878
$F(5, 20)$	127.1569		P-value(F)	1.89e-14
Log-likelihood	-46.76081		Akaike criterion	105.5216
Schwarz criterion	113.0702		Hannan-Quinn	107.6953

Statistics based on the original data:

Mean dependent var	0.790500		S.D. dependent var	1.271450
Sum squared residual	11.48094		S.E. of regression	0.757659

*** indicates significance at 1%

** indicates significance at 5%

Source: Authors' Calculation based on Census Data, 2001

The R-squared value shown in the above table is 0.9695 which indicates that 96% of the variations in the in-migration rate is explained by the explanatory variables taken in the study. Also, the P-value of the F-statistic is also very low indicating that all the explanatory variables are simultaneously significant at a 1% significance level.

4.4.1 Negative Significant Relationship between the Unemployment rate and In-Migration Rate

The relationship is explained in three phases. Initially, in the first phase, the people migrate to the states in search of better employment opportunities thereby increasing the rate of migration. In the second phase, the equilibrium level of employment is achieved in the In-Migration. In the last phase, an increase in migration leads to a higher number of potential job seekers against the available vacancies thereby decreasing the unemployment rate.

4.4.2 Negative Significant Relationship between Literacy Rate and In-Migration Rate

States with low literacy rates are abundant in factories and low-paid jobs which provide job opportunities to the unskilled workers and thus leads to higher migration rates. On the other hand, states with high literacy rates are not preferred by migrants owing to the high level of skill sets required to compete with the existing population which the outside states lack in.

4.4.3 Positive Significant Relationship between Poverty Rate and In-Migration Rate

Higher Poverty Rate indicates a lack of resources and basic amenities available to the individual. When the in-migration rate rises in a particular state, job opportunities fall and consequently the cost of living rises. This leads to an increase in the percentage of people falling below the poverty line.

4.4.4 Positive Significant Relationship between Per-Capita Net State Domestic Product and In- Migration Rate

Economic Development of a State is measured by the per-capita Net State Domestic Product. Higher PNSDP indicates the state's ability to provide better education, health and job opportunities thereby leading to higher In-Migration towards these states.

4.4.5 Positive Insignificant Relationship between Gross Fixed Capital Formation (GFCF) and In- Migration Rate

The results indicate an insignificant positive relation between Gross Fixed Capital Formation and In-Migration Rate. Higher investments in basic fixed assets provide infrastructure to migrants and better prospects. Although the variable is insignificant, it is captured somehow in the NSDP variable.

4.5.0 Covid-19 & Reverse Migration

The COVID-19 pandemic has brought to the forefront the conditions of internal migrant workers throughout India. It has almost been a year since the pandemic-induced nationwide lockdown was announced in India. It will not be an exaggeration to say that the images of migrant workers walking back to their homes — often starved and tired carrying small children while getting little support from the government is the most distressing memory of that period. The large-scale displacement of people has been described as the second-largest since the Partition of the country.

As of 2020, according to Prof S Irudaya Rajan, of the Centre for Development Studies, Kerala, India has an estimated 600 million migrants. In other words, roughly half of India's population is living in a place where it wasn't born. To further put this number in perspective, if one imagines all these migrants as one nation then not only would that be the third-largest country on the planet after China and India — but also, it would be roughly double the population size of the fourth-largest nation on the planet — the United States.

Of these 600 million people, an estimated 400 million Indians migrate within the district they live in. The next 140 million migrate from one district to another but within the same state. And only about 60 million — that is, just 10% of all internal migrants — move from one state to another. Of these migrants, the worst hit was a class of migrants that Prof Ravi Srivastava (Director, Centre for Employment Studies, Institute of Human Development) calls “vulnerable circular migrants”. These are people who are “vulnerable” because of their weak and helpless position in the job market and “circular” migrants because even though they work in urban settings, they continue to have their foothold in the rural areas. Such migrants work as labourers in construction sites or small factories or as rickshaw pullers or vendors in the cities but when such employment avenues dwindle, they go back to their rural setting. In other words, they are part of the informal economy outside agriculture. According to Prof Shrivastava, more deplorable is the fact that they constitute 75% of the informal economy outside agriculture and most of the macroeconomic shocks, be it demonetisation or the pandemic disruption, tend to rob them of their livelihoods.

According to Srivastava, close to 60 million moved back to their homes in rural areas in the wake of pandemic-induced lockdowns. According to Alex Paul Menon, Labour Commissioner of Chhattisgarh, India’s approach to its labour class is defined by “Ignorance fuelled by indifference.”. Be it academia, bureaucracy or the political class, all are ignorant about the labour class and especially about migrant labourers. And this ignorance is borne out of indifference. Moreover, the lack of official data on migrant labour further surmounts the problems. The official data — be it the Census or the National Sample Survey — is more than a decade old. The Census 2011 migration data was made publicly available only in 2019, that too incomplete with the determinants of migration missing in it.

4.5.1 Reverse Migration During Covid Lockdown- A Study of Uttarakhand State

The Covid-19 pandemic has caused immeasurable problems for the world but to some extent, it has had a positive impact due to reverse migration to the Himalayan state of Uttarakhand as a large number of people returned to their native villages. This reverse migration of human resources has brought life to the hilly rural areas forlorn for many years.

Uttarakhand has been struggling with the problem of excessive migration since its formation in 2000. Rural people have been migrating from their native villages to the urban centres in search of better education and employment. This has resulted in a rapid rise in the number of ghost villages, i.e., uninhabited villages with locked up houses. As per the 2011 Census, Uttarakhand

has a total of 16,793 villages out of which 1,053 have no inhabitants and another 405 villages have a population of less than 10. The number of such ghost villages has reportedly risen particularly after the earthquake and flash floods of 2013.

Most of the villagers had migrated in search of better jobs. Apart from employment, the main reasons for out-migration in the state are repulsive forces operating in the rural area in the form of low agriculture productivity and conflict with wild animals which makes agriculture a tough job, lack of modern infrastructure facilities such as roads, electricity and water supply, the small size of landholdings and inadequate health facilities. The youth rarely came to these villages, sometimes only for religious rituals. The Uttarakhand government had established a Migration Commission, i.e. Palayan Aayog to deal with the issue of out-migration and ghost villages in 2017. The main reasons for emigration and the respective proportion of migrants from Uttarakhand are given in the table below:

Table 2: Reasons for Migration

District	Employment	Medical Facilities	Education	Infrastructure	Poor Agricultural produce	Followed the family that migrated	Destruction of Agricultural produce by Wild Animals	Others
Uttarkashi	41.77	6.04	17.44	2.29	7.14	2.1	4.04	19.17
Chamoli	49.3	10.83	19.73	4.93	4.73	2.51	3.09	4.87
Rudraprayag	52.9	8.64	15.67	4.43	4.27	3.26	5.11	5.72
Tehri Garhwal	53.43	7.84	18.24	3.07	6.17	2.47	4.26	5.52
Dehradun	56.13	6.33	12.5	1.2	2.08	1.4	1.65	18.7
Pauri Garhwal	52.58	11.26	15.78	3.03	5.35	2.53	6.27	3.21
Pithoragarh	42.81	10.13	19.52	4.97	4.66	2.36	4.08	11.48
Bhageshwar	41.39	9.09	14.49	4.32	2.18	1.45	3.42	23.65
Almora	47.78	8.61	11.75	3.81	8.37	2.68	10.99	6.02
Champawat	54.9	6.67	10.24	5.46	6.31	4.3	6.65	5.46
Nainital	53.7	7.79	10.37	4.96	4.94	2.1	6.38	9.76
Udham Singh Nagar	65.63	4.27	3.52	0.6	0.38	5.4	2.6	17.6
Haridwar	76.6	1.62	2.73	0.05	0.64	1.69	0.82	15.85

Source: Rural Development and Migration Commission Report, September 2019

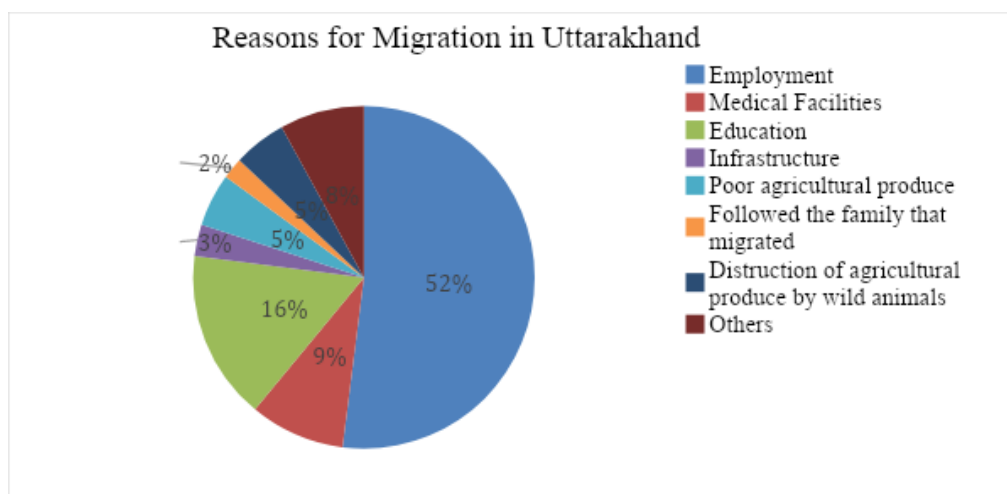


Figure: 7

Source: Authors' Calculation based on RDMC Report, 2019

Therefore, an average of 52% of the migrants had migrated from rural areas of Uttarakhand to urban areas in search of better employment opportunities and higher expected wages, as explained by the Harris-Todaro Model.

But owing to the nationwide lockdown and lack of job security, a total of about 2,15,875 migrants returned to the state in the period March 2020- June 2020. The district-wise distribution of the returnees is given below: -

Table 3: Data on Reverse Migration in Uttarakhand during Lockdown

Sl. No	Name of District	Number of Returnees/ Reverse Migration
1	Almora	43784
2	Nainital	9650
3	Pithoragarh	5451
4	Champawat	15097
5	Bhageshwar	1925
6	Udham Singh Nagar	21958
7	Pauri Garhwal	60440
8	Chamoli	5877
9	Dehradun	2254
10	Haridwar	3136
11	Uttarkashi	19405
12	Tehri Garhwal	19242
13	Rudraprayag	7656
Total		215875

Source: Interim report of Rural Development & Migration Commission (RDMC), 20 June 2020

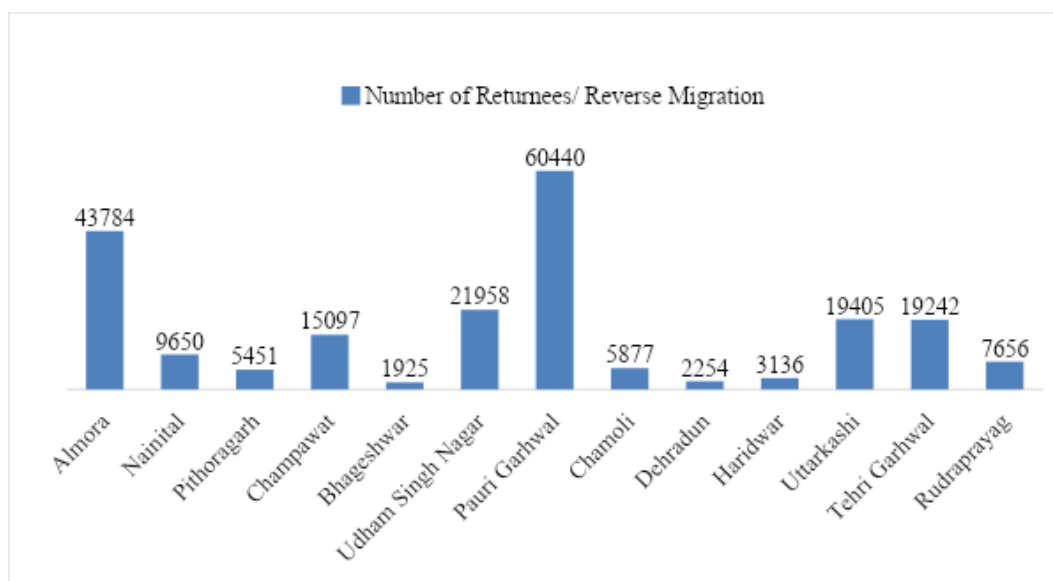


Figure: 8

Source: Authors' Calculation based on RDMC Report, 2020

This may be a short-term reverse migration because of the Covid- 19 pandemic, but this is a golden opportunity for the Uttarakhand Government if the people who have returned can be motivated to stay back, by generating better employment opportunities, infrastructure facilities, better livelihood opportunities, education and health facilities. The government should incentivize horticulture, dairies, goat rearing and animal husbandry to generate better income prospects for the returnees as unemployment was the major reason for out-migration from the rural areas. The state government is also planning to support the state's traditional crops and encourage traditional farming through better irrigation facilities in hilly areas. It can also give incentives like interest-free loans and subsidized electricity for start-ups in the hilly regions coupled with creating maximum awareness regarding all these initiatives for the holistic and inclusive development of the state.

5.0 Policy Recommendations

The adverse impacts generated due to the COVID-19 crisis affect all aspects of life and the resumption of normalcy in the lives of these migrants is a tough task. It is an undeniable fact that optimum socio-economic policies can mitigate the ill effects of a pandemic while the wrong ones only magnify the problems. Based on lessons learned during the COVID-19 pandemic and our empirical observations, we propose the following measures for better management of the future of internal migration: -

5.1.0 Employment

According to Clement Imbert and John Papp (“Labour Market Impacts of social Programs”, 2015), the availability of employment in local public works significantly influences out-migration despite the higher earnings available outside the villages. Therefore, it reduces the seasonal distress migration. The employment provisions available locally for migrants need to be strengthened to reduce the gap between expected wages at the source and the destination. Local employment generation also comes with increased assurances and proximity to safety in case of unprecedented circumstances such as COVID-19. This can be achieved either by expanding schemes like MGNREGA or by creating more by increased government spending on local public works along with provisions of easy bank credits for the rural people for village enterprises.

5.2.0 Social Protection

PDS rations need to be to all the recipients irrespective of their domicile status without leakages. The distribution of free rations and the One Nation, One Ration Card scheme of the central government is a healthy step in this direction. Along with this, it is important to strengthen the institutional framework for supporting migrants by cash transfers to their bank accounts and extending food subsidies. With the loss of jobs leading to a reduction in remittances to the workers’ respective households, a loss in purchasing power of these workers will result in a depressed demand even if normality is restored in the future. Cash in hands of workers ensures that workers have enough resources to sustain livelihood in case of any crisis and also ensures that some kind of consumption is restored in the future. Special care needs to be taken in the case of women migrants. Women’s issues have been largely neglected in both the narrative and policy responses by the state. This needs change which not only protects migrant women at the workplace but also provides social support like adequate sanitation and healthcare facilities. Schemes to ensure better participation in the labour market through self-help groups (SHGs) and also access to finance and cheap credit schemes also need to be further incentivized so that migrant women have a reliable support structure available to them.

5.3.0 Health

Migration back to urban areas in the post-Covid scenario will create a highly vulnerable situation as most of the urban PHCs are inaccessible for migrants due to various reasons. Moreover, the lack of housing and sanitation facilities available for migrants will make them further vulnerable. The extension of vaccination and increased testing in rural areas is also required. The mental health concerns of the migrants need to be addressed by better

communication and helplines as they face enormous stress, anxiety at the destination even under normal circumstances.

5.4.0 Governance

There is a need to develop comprehensive policies for the migrants in urban areas. The urban growth must be coupled with sustainable livelihoods for the migrants. The “Unlocking the Urban: Reimagining Migrant Lives in Cities Post-COVID 19” report by the Aajeevika Bureau has suggested a number of issues in this regard, such as the lack of political agency of migrant workers, misaligned local governance initiatives and discrimination based on origin, caste, ethnicity or sex. Rather than limiting migration, the state governments should honestly work towards providing sustainable livelihoods in the urban areas to restart the urban economy along with improving rural employment opportunities. Real-time accurate data is a sine qua non for effective governance in this field. The central government should incentivise improved data gathering instruments, which can be handled digitally through a central database for efficient implementation of relief programs. More frequent and detailed migration surveys can also be held, which track mobility trends and constraints in an accurate manner.

Easy means of mobility for the migrants between their source and destinations also need to be developed to avoid such impulsive unplanned mass displacement. Therefore, there is a need for increased surveys and research to enable policy-makers to appreciate the complementarities between urban informal and formal economies, rural and urban economies and the role of rural-urban migration in the progress of both rural and urban areas. Rural-urban migration is a resource that needs to be tapped, along with agglomeration economies in cities during India's structural and spatial transformation processes to effectively reap the benefits of the demographic dividend and to enable the country to move faster towards the status of a developed country.

6.0 Conclusion

This paper examined the rural-urban migration stream in India and analyzed the impact of the Covid-19 pandemic on the migrants as they were forced to reverse migrate to their home state owing to the lockdown imposed by the Central Government. The phenomenon of migration is closely connected with the Harris-Todaro Model. Since 2001, the population has been increasing exponentially and along with it, the rural to urban migration is also growing. Keeping in mind the trends and patterns of 2011, it can be forecasted that in the next census rural to urban migration will once again emerge as the biggest migration stream with Maharashtra and the

Southern States accounting for the majority of migrants. Regression Analysis showed that a state with a high NSDP has a high in-migration rate, this confers the economic perspective of a migrant too where he thinks that these states can offer a better standard of living to them. In contrast, unemployment is negatively related to the in-migration rate as more and more people join the labour force, fewer job vacancies are available. The situation worsened in the wake of the Coronavirus pandemic amidst which most of the day labourers and workers were rendered unemployed. There has been large-scale reverse migration from the urban areas to the source states during the pandemic. While this phenomenon may be detrimental to some states like Bihar and Uttar Pradesh where resources are already constrained, this is a golden opportunity for a state like Uttarakhand where, as evident from the case study, more than 2 lakh people returned to their former uninhabited "ghost" villages. Therefore, the governments in such states need to tap the incoming human resources for inclusive growth and restarting the development process.

A developing country like India can reap the benefits of migration only if the respective state builds and improves the infrastructural base such as housing, health and sanitation, drinking water and education. When these socio-economic variables are improved, correspondingly it will be easier for the migrants to get employed and contribute to NSDP. The so-called 'BIMARU' states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh have plenty of resources and a labour force that can transform the entire migration statistics of India if initiatives are taken in the right direction. A more formal look towards the existing policies and rules governing migration is needed to ensure the proper utilization of the migrant population. Developmental policies often lack planning and the migrants are not benefited from that. It is the need of the hour to re-look into and optimally design both rural and urban development policies so that the rural-urban migration of workers is a virtue rather than a burden.

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Appendix**Inter-State Migration in India (Duration 0-9 Years) Census 2011**

Migration Streams	Inter-State and Intra-State Migration			Percentages	
	Persons	Males	Females	Males	Females
Rural to Rural	69,101,488	15,703,614	53,397,874	27.67%	51.02%
Rural to Urban	32,157,462	15,032,795	17,124,667	26.48%	16.36%
Urban to Rural	11,455,247	4,710,395	6,744,852	8.30%	6.44%
Urban to Urban	32,948,025	15,045,081	17,902,944	26.51%	17.11%
Unclassified	15,762,506	6,267,889	9,494,617	11.04%	9.07%
Total	161,424,728	56,759,774	104,664,954	100	100

Reasons for Migration (Duration 0-9 years) Census 2011

Reason for Migration	Persons	Males	Females	Percentages	
				Males	Females
Work/Employment	4,759,027	15,483,60	3,210,667	3.62%	3.07%
Business	1,313,809	955,410	358,399	2.23%	0.34%
Education	5,150,144	3,002,207	2,147,937	7.01%	2.05%
Marriage	60,175,497	1,490,508	58,684,989	3.48%	56.07%
Moved after Birth	20,934,838	10,989,683	9,945,155	25.66%	9.51%
Moved with Household	35,536,725	15,249,778	20,286,947	35.61%	19.38%
Other	19,619,441	9,588,581	10,030,860	22.39%	9.58%
Total	147,489,481	42,824,527	104,664,954	100	100

Inter-State Migration in India (Duration 0-9 Years) Census 2001

Migration Streams	Inter-State and Intra-State Migration			Percentages	
	Persons	Males	Females	Males	Females
Rural to Rural	53,354,376	11,745,104	41,609,272	36.13%	63.97%
Rural to Urban	20,595,231	10,307,198	10,288,033	31.70%	15.82%
Urban to Rural	6,266,503	2,580,705	3,685,798	7.94%	5.67%
Urban to Urban	14,388,774	6,589,445	7,799,329	20.27%	11.99%
Unclassified	2,955,436	1,287,992	1,667,444	3.96%	2.56%
Total	97,560,320	32,510,444	65,049,876	100	100

Reasons for Migration (Duration 0-9 years) Census 2001

Reasons for Migration	Persons	Males	Females	Percentages	
				Males	Females
Work/Employment	14,446,224	12,373,333	2,072,891	37.6%	3.2%
Business	1,136,372	950,245	186,127	2.9%	0.3%
Education	2,915,189	2,038,675	876,514	6.2%	1.3%
Marriage	43,100,911	679,852	42,421,059	2.1%	64.9%
Moved after Birth	6,577,380	3,428,673	3,148,707	10.4%	4.8%
Moved with Household	20,608,105	8,262,143	12,345,962	25.1%	18.9%
Other	9,517,161	5,164,065	4,353,096	15.7%	6.7%
Total	98,301,342	32,896,986	65,404,356	100	100

Data for Econometric Analysis based on 2001 Census

States/UTs	In-Migrants from other States	Population (Pi)	In-Migration Rate (INMR)	Unemployment Rate	Literacy Rates (%)	Per-capita NSDP (\$)	Poverty Rate (%)	GFCF (\$ Mn)
Andaman & Nicobar Islands	29,538	280,661	10.52	3.4	81.30	23658	20.99	4.7
Andhra Pradesh	421,989	66,508,008	0.63	0.8	60.47	16574	15.77	21040.7
Arunachal Pradesh	71,789	864,558	8.3	0.5	54.34	14726	33.47	---
Assam	121,803	22,414,322	0.54	3.9	63.25	12447	36.09	22114
Bihar	460,782	64,530,554	0.71	1.8	47.00	6554	42.6	3962.9
Chandigarh	239,263	642,015	37.27	0.7	81.94	48292	5.75	362
Chhattisgarh	338,793	17,614,928	1.92	---	64.66	10808	---	6903.5
Dadar and Nagar	47,649	138,477	34.41	1.0	57.63	---	17.14	6849.8
Daman & Diu	48,362	101,586	47.61	1.0	78.18	---	4.44	4439.7
Delhi	2,172,760	9,420,644	23.06	4.7	81.67	38975	8.23	4446.3
Goa	120,824	1,169,793	10.33	9.3	82.01	38989	4.4	3822.8
Gujarat	1,125,818	41,309,582	2.72	0.4	69.14	17227	14.07	53882
Haryana	1,231,480	16,463,648	7.48	0.8	67.91	24423	8.74	23930.6
Himachal Pradesh	188,223	5,170,877	3.64	1.2	76.48	21824	7.63	4387.9
Jammu & Kashmir	86,768	7,718,700	1.12	1.1	55.52	13859	3.48	866.8
Jharkhand	502,764	21,843,911	2.3	---	53.56	9980	---	31123.5
Karnataka	879,106	44,977,201	1.95	0.7	66.60	17352	20.04	34768.5
Kerala	235,087	29,098,518	0.81	8.2	90.86	19809	12.72	6615.5
Lakshadweep	4,444	51,707	8.59	19.4	86.66	---	15.6	
Madhya Pradesh	814,670	48,566,242	1.68	0.5	63.74	11150	37.43	16557
Maharashtra	3,231,612	78,937,187	4.09	1.4	76.88	21892	25.02	85459.5

Manipur	4,529	1,837,149	0.25	1.9	70.50	12157	28.54	6.2
Meghalaya	33,710	1,774,778	1.9	0.4	62.56	14910	33.87	88.1
Mizoram	22,599	689,756	3.28	0.9	88.80	16635	19.47	---
Nagaland	33,594	1,209,546	2.78	2.4	66.59	15699	32.67	39.1
Orissa	229,687	31,659,736	0.72	1.9	63.08	10208	47.15	7322.8
Pondicherry	105,208	807,785	13.02	4.0	81.24	34190	21.67	1675.3
Punjab	811,060	20,281,969	3.4	1.8	69.65	25986	6.16	9939.9
Rajasthan	723,639	44,005,990	1.64	0.4	60.41	12840	15.28	12103.6
Sikkim	22,519	406,457	5.54	2.8	68.81	15305	36.55	---
Tamil Nadu	270,473	55,858,946	0.48	2	73.45	20319	21.12	57566.5
Tripura	40,262	2,757,205	1.46	1.2	73.19	14933	34.44	67.8
Uttar Pradesh	1,079,055	132,061,653	0.81	0.8	56.27	9721	31.15	30707.6
Uttarakhand	352,496	7,050,634	5	----	71.62	14932		1457
West Bengal	724,524	68,077,965	1.06	2.8	68.64	16244	27.02	16281.3

----- Data Not available

