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# **Estimation of Internal Migration in India, 2011 Census based on Life Table Survival Ratio (LTSR) Method**

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## **Abstract:**

*This study estimates the internal migration in India in the Census 2011 with help of Life Table Survival Ratio (LTSR) method, when the direct information related to the migrants is not available. Abridge Life Tables of Indian States and age specific population in two successive Census 2001 and 2011 are taken help for the estimation. Indian interstate migration is highly associated with economic growth trajectory of the States. The study reveals that the conventional pattern of migration from high-income states to low-income states during 1980s and 1990s is widely disturbed during 2000s with the emergence of new pool centres as well as destinations. The share of interstate migration in 2011 has declined to the level of the 1981 Census, which is an indication of increasing nativity of the population. During 2000s, India has produced more emigrants than immigrants, which are just opposite of the 1990s.*

## **Key words-**

*Migration estimation, Life Table Survival Ratio (LTSR), Net Migration Rate, Demographic Dividend, and Economic Growth*

# **Estimation of Internal Migration in India, 2011 Census based on Life Table Survival Ratio (LTSR) Method**

**Avijit Mistri**

## **1. Introduction:**

India has experienced remarkable economic growth during last two-three decades. The 2000s was the best ever decade for Indian macroeconomic performance with a growth rate of income per capita (Net State Domestic Product) 6.1% per annum and almost all the major states recoded higher growth performance (Kumar and Subramanian, 2011). With faster service and manufacturing sector's growth and Foreign Direct Investment, states of India have also been getting wide demographic window of opportunity. There is a wide uneven distribution of labour stock, nearly 43% working age population is possessed by eight Empowered Action Group (EAG)<sup>1</sup> states in the 2011 Census, where income per capita is traditionally low and have performed poorly on different accounts of social and physical infrastructure. Despite having high growth of all states, interstate inequality in terms of income capita per capita is still high (Chandrasekhar and Ghosh, 2012). The proportion of internal migration, including interstate migration, however, responds to that inequality as it was in previous decades.

Even though one-third of the population is migrants by place of birth (PoB), the proportion of interstate migration has remained constantly low over the decades since the 1961 Census. Interstate migration by place of last residence (PoLR) was 3.4% of the total population in 1971, which has declined to 3.2% in the 1991 (Table 1). During 1990s, it has sharply risen around 4% by the both PoB and PoLR. Indirect estimation from the 2011 Census suggests that it may go down to around 3.6%, which is equal to the level of the 1981 Census. This figure can be confirmed by the National Sample Survey (NSS) in 2007-08 which is 3.3% of the total population. This suggests increasing nativity of the population.

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<sup>1</sup> Eight EAG states include Bihar, Jharkhand, Odisha, Madhya Pradesh, Chhattisgarh, Rajasthan, Uttar Pradesh and Uttarakhan.

## 2. Objective:

The study is an endeavour to estimate the internal migration and interstate migration streams in the 2011 Census to identify the emergence of new pool centres as well as destinations, which are highly associated with the growth trajectory of the states during 2000s. It also explores the future storehouse of labour supply with the changing demographic structure and rapid urbanisation in the different parts of India. Apart from these, international migration is estimated during this decade.

## 3. Methodology for the estimation:

Estimation of net migration for 17 major Indian States<sup>2</sup> are made on the basis of population by age of two successive Census 2001 and 2011 and, Sample Registration System (SRS) based abridge life tables (2001-05 and 2006-10) to delineate the interstate migration in 2011. Life Table Survival Ratio (LTSR) method with forward and backward survival ratio estimation is used to estimate net migration. LTSR is the ratio between  ${}_nL_x$  (number of person-years that would be lived within the age interval  $x$  to  $x+n$  by the cohort of 100,000 live birth assumed in a life table) and  ${}_nL_{x+t}$  (i.e.  ${}_nL_x$  of 't' time period) in a life table that expresses survival from a younger age ( $x$ ) to an older age ( $x+t$ ).

$${}_nS_{x+t} = ({}_nL_{x+t})/{}_nL_x \dots\dots\dots (1)$$

Where, S = survival ratio, n = age interval of the studied population, x = exact age of the population or individual, t = time period like 0, 5, 10 years etc. SRS provides the abridge life table during 2000s with split time period 2001-05 and 2006-10. First, 10 year ( ${}_5S_{x+10}$ ) and five year survival ratio ( ${}_5S_{x+5}$ ) are estimated from 2001-05 and 2006-10 life tables respectively, and then the average survival ratio during 2001-10 is calculated (Table 2). The difference between the enumerated population in the Census 2011 and the estimated number expected to survive up to 2011 from 2001 within the individual age group provides information on net migration (Table 3).

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<sup>2</sup> The Abridge Life Tables for all the 35 States/United Territories (UTs) in India during 2000s are not available. Thus the study is limited only the 17 major states, those play vital role to the interstate supply and demand of the labour and major contributor of the Indian economy.

$$\text{Forward Survival: Net } M' (x) = P_{x+n, t+n} - S. P_{x,t} \dots\dots\dots(2)$$

$$\text{Backward Survival: Net } M'' (x) = (1/S). P_{x+n, t+n} - P_{x,t} \dots\dots(3)$$

$$\text{Average: Net } \underline{M} (x) = (\text{Net } M' + \text{Net } M'')/2 \dots\dots\dots (4)$$

M(x) is the net migration of the survivors among person aged 'x' at the first Census (2001) in a particular area will be x+n at the next census (2011).  $P_{x,t}$  is the population aged 'x' in that area at the first Census and  $P_{x+t, t+n}$  is the population aged x+n years in the same area at the second Census. The Net forward survival ( $M'$ ) is always lower than the backward estimation ( $M''$ ). An average of the two, therefore, yields the perfect estimation (Table 3).

Net migration, positive or negative in a state, expresses the gaining or losing of the population by the state respectively. Within the limits of the techniques, only 10+ people's migration could be estimated. So, the migration for age 10 and below is adjusted with the help of NSS, 2007-08. Interstate migration for age 10 and below was estimated 1.7 million, which was 0.17% of the total population in 2007-08. The adjusted figure for 2011 Census for this group is 2.1 million.

The difference between total in-migrants (39.7 million) and out-migrants (43.2 million) that is net migration in India is estimated -3.43 million in 2011. Total interstate in-migration and out-migration excluding immigrants and emigrants respectively, would always be equal in a country. Therefore, some immigrants and emigrants are included within the estimations, 39.7 and 43.2 million respectively. It is very difficult to discern the immigrants and emigrants from the respective figures without calculating net migration of all the States/UTs, where the study is only confined to the 17 States. The average figure of the both that is 41.4 million and adding with adjusted figure, 2.1 million for age 10 and below, finally get estimated internal interstate<sup>3</sup> migration around 44 million equal to 3.6% of the total population in 2011. Likewise (Table 3), the net migration of all the 17 major States are estimated (Table 4).

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<sup>3</sup> The interstate migration in absolute term was 42.3 and 41.2 million by PoB and PoL in the previous Census 2001.

## **4. Discussion:**

### **4.1 Changing streams: new origins and destinations**

During 1980s and 1990s, the observed pattern of internal migration flow was from high-income states to low-income states (Kundu, 2007; Srivastava, 2011). This pattern is widely disturbed during the 2000s, according to the estimation (Table 4). The positive net migration rate has gone down in the 2011 Census, compared to the 2001 for high-income states like Maharashtra, Haryana, Punjab and Gujarat. Some middle income states, namely Tamil Nadu and Karnataka, have recorded highest net gain. Meanwhile, another set of middle-income states, West Bengal and Himachal Pradesh, have recorded negative in 2011 from previous Census. On the other hand, some low-income states' negative net migration rate is estimated to reduce, and some of them even turn into gainers.

In Bihar, the net migration rate was -2.7% in 2001 and it rose to -5.64% in the estimation of NSS, 2007-08. In 2011, it is estimated a decline to -3.39% from 2007-08. Though the estimated net migration rate is higher than the 2001 Census, the annual growth of gross in-migration rate that is 127% is far higher than the growth rate of annual gross out-migration, 30.7%. It infers that more number of people is migrating into Bihar than migrating out. Likewise, Odisha and Uttar Pradesh are estimated to reduce their net rate in 2011 compared to the previous census. In Madhya Pradesh, Tamil Nadu and Jammu and Kashmir, net migration rates were negative in 2001, but these turn into positive in 2011, among these Tamil Nadu exerts a huge pull that makes it the highest ranking in terms of net gain. It is followed by Karnataka and Maharashtra (Fig. 1).

Decline of negative net migration as well as turn into the positive of the hitherto lagged states, such as Bihar, Odisha and Madhya Pradesh, could be attributed with high per capita growth rate during the 2000s (Chandrasekhar and Ghosh, 2012). Both Bihar and Odisha improved 5% point per capita growth rate of NSDP along with Gujarat between 2001 and 2009 compare to the period, 1993-2001 (Table 5). Furthermore, in crisis years 2007-09, due to the openness of the economy when most of the highest growth states' had decelerated, Bihar recorded highest per capita growth rate, 8.43% followed by Kerala (7.48%), Haryana (7.43%) and Gujarat (6.81%).

'Good governance' is the '*mantra*' (strategy) of Bihar's growth story<sup>4</sup>. Established the law and order on strong base, implementation of multifarious schemes for the provision of basic amenities, health and education, accentuating the socioeconomic development of minorities, resulting in the creation and improvement of job opportunities could be the reasons for retention of the people in domicile as well as attracting the migrants to return home. On the one hand, the massive investment in public sector, adaptation of wide industrialisation policies with transformation of old rules and regulations with strict governance and opening their markets, resulting in the creation of job opportunities in industry and business in other two states, Madhya Pradesh and Odisha exert significant inflow of population (Kundu, 2007). Unfortunately local populations are not able to take benefit of these developments due to their low level of literacy and skill (Kundu, 2007).

On the other hand, during 1993-2001, Himachal Pradesh (5.24%), West Bengal (5.04%) and Rajasthan (4.34%), these were top in the per capita NSDP growth rate, but in 2000s, these walked into negative. This can be taken as a reflection to the negative shift of net migration from the positive one for Himachal Pradesh and West Bengal, and more negative performance for Rajasthan.

Restoration of peace and working environment, Central and State Governments' wide range of incentive packages especially for Kashmiri migrants to return and habitation in the valley, providing grant for acquiring a new house, one time grant for resuming agricultural activities, free transit accommodation, scholarships for student, continuation of the benefits they avail as migrants in Jammu or elsewhere and creation of new jobs are the probable reasons for positive net migration in Jammu and Kashmir in the 2011 Census just after experienced a long insurgency during 1990s.

#### **4.2 International migration: more emigrants than immigrants**

According to the estimation, India's net migration rate is negative, -0.33% equalled to -3.34 million in 2011 which was positive, 0.09% or 0.74 million in 2001. It is supported by NSS,

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<sup>4</sup> Bihar's Chief Minister, Nitish Kumar made this comment in his first visit to Pakistan on 10 November 2012. The Times of India. <http://timesofindia.indiatimes.com/india/Nitish-Kumar-in-Pakistan-says-good-governance-mantra-of-Bihars-growth/articleshow/17169939.cms> (retrieved 01.02.14)

2007-08 which has estimated -0.26% or -2.6 million migrants. It indicates that during 1990s, India gained more immigrants compared to emigrants; during 2000s, India has walked just opposite. Kerala, Andhra Pradesh and Punjab were the major supplier of overseas migrants in 2001. Kerala's robust per capita growth rate from 4.1% to 7.5% during 2000s matches with decline net migration rate, but rest are not.

### **4.3 Demographic dividend: turn into boon or a bane**

India is in the pick on demographic dividend where more than 60.5% population belongs to 15-59 age groups, among them 43% are in EAG states. Three states, namely Bihar, Uttar Pradesh and Rajasthan, the net migration rate are still high. Furthermore, they possess highest proportion of 0-14 aged population, 40.2%, 35.7% and 34.6% respectively in 2011 (Fig. 2). Besides, studies suggest (Aiyar and Mody, 2011; Kumar and Subramanian, 2011) that the effect of the growth of working age in the total population on the growth of the country's NSDP per capita during 2000s is significantly negative. EAG states have not been able to fully utilise their young population, despite having robust growth in some States, namely Bihar and Odisha, during 2000s. These infer that Bihar, Uttar Pradesh and Rajasthan will remain future storehouse of labour supply as previously. Besides, if they are not able to properly utilise their current and future large 0-14 year cohort after 10 years through skill development, the demographic window of opportunity will turn into a bane instead of a boon (Kumar, 2013).

### **4.4 Distresses and migration:**

Until 1990s, migrations in India were driven by distress. During 1990s, the distress becomes less important (Kundu and Saraswati, 2012). Gradually declining share of adult male (15-59 years) migrants, increase of family-migration, increase in the share of business and studies related migration, decline in search for employment or better employment reflect that<sup>5</sup>. During 2000s, the poverty has recorded a sharp decline from 37.2% in 2004-05 to 29.8% in 2009-10 (Planning Commission, 2012). Wide implementation of Mahatma Gandhi National Rural Employment Guarantee Act (MGNAREGA), Indira Awaas Yojana (IAY), Rajiv Awas Yojan (RAY), etc., and other state and community specific programmes by

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<sup>5</sup> Findings are from the comparative analysis between NSS, 1999-2000 and NSS, 2007-08.



different state governments have reduced the level of distress that ultimately retains the mobility. Moreover, in most of the cases, to avail the facilities needs to be present in domicile state. Portability of provisions is still not available in India.

#### **4.5 Exclusionary urbanisation vs. migration:**

It has been widely argued that the big cities are following the pathway of exclusionary urbanisation, where poor migrants or lower socioeconomic categories are prohibited or discouraged to get into the urban centres. Meanwhile, the migrants from relatively high socioeconomic strata or urban-elites are highly welcomed by the governance intentionally (Kundu, 2011). It is defined as 'elite capture' (Kundu, 2011). The 'big-city bias' in the design of RAY is its refection (Kundu, 2013). To attract the global capital as well as boost up the economic growth, only the big urban centres (Class-1 and metro cities) are made shiny, fabricated and structured, barring the floating rural poor and displacing the slums. As a consequence, low rate of urbanisation in most of the large and metro cities, resulting into low rate of migration. That is the probable explanation of the decline rate of net migration in Maharashtra, Gujarat and Andhra Pradesh despite having a high rate of NSDP per capita during 2000s. In Maharashtra, there is one mega city, six metro cities/urban agglomerations (UAs) and 44 Class-1 cities, likewise Gujarat has four metro cities/UAs and 29 Class-1 cities and Andhra Pradesh has three metro cities/UAs and 44 Class-1 cities.

#### **6. Conclusion:**

Finally, it is concluded that the overall internal migration is expected to decline in the 2011 Census from 30% in 2001. The declining trend of estimated interstate migration is one of the indications. The sluggish rate of urbanisation in most of the metro cities and Class-I towns which hold most of share of urban population<sup>6</sup> also argue in the favour of the declination. The Indian economy is growing at a faster pace, where cheap labour supply is one of the important catalysts of that. The labour force is unevenly distributed. But, rising nativity of the people response to the economic growth in the negative way, therefore, it needs to be examined with empirical rigour.

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<sup>6</sup> Total 53 Metro cities in 2011 hold 42.6% of the total urban population, which is equal to 160.7 million people.

Apart from labour migration, a substantial proportion of age 10 and below is associated migrants, who move with households or family members, and move after birth. Due to the limitation of LTSR methods, it is not possible to estimate accurately. The LTSR estimation is highly based on life table which is constituted with the help of age specific mortality condition of an area/state/country. The average mortality condition during a certain period provides the proper death scenario of a particular area. The average age specific death rate (ASDR) during 2000s for all the states, evens all the districts in a state, and separately for rural and urban, are not available regular basis. Therefore, intrastate/inter-district migration, another facet of internal migration in India, is not possible to estimation. However, in India, interstate migration is highly predominated by the labour to balance the supply and demand of work force, generated by regional inequality. Where the working force that is aged 15-59 is concerned, LTSR methods are the appropriate technique for the estimation.

## References:

1. Aiyar, S. and Mody, A., 2011. The Demographic Dividend: Evidence from the Indian States. WP/11/38, *International Monetary Fund*. <https://www.imf.org/external/pubs/ft/wp/2011/wp1138.pdf> (retrieved 11.03.14).
2. Census of India, 1961; 1971; 1991 & 2001. Migration Tables (CD ROM). Registrar General and Census Commissioner of India, Government of India, New Delhi.
3. Chandrasekhar, C. P., and Ghosh, J., 2012 (May 14). Growing Differences in State Per Capita Income. *The Hindu*. <http://www.thehindubusinessline.com/opinion/columns/c-p-chandrasekhar/growing-differences-in-state-per-capita-incomes/article3418631.ece> (retrieved 14.03.14).
4. Kumar, U., 2013. India's Demographic Transition: Boon or Bane? *Asia and the Pacific Policy Studies*, 1(1), pp. 186–203.
5. Kumar, U., and Subramanian, A., 2011. Indian's Growth in the 2000s: Four Facts. WP 11-17, *Peterson Institute for International Economics*. <http://www.iie.com/publications/wp/wp11-17.pdf> (10.03.14).
6. Kundu, A., 2007. Migration and Urbanisation in India in the Context of Poverty Alleviation. Paper presented at *International Conference and Workshop on Policy Perspectives on Growth, Economic Structures and Poverty Reduction*. Beijing, China, 7-9 June.

7. Kundu, A., 2011. Politics and Economics of Urban Growth. *Economic and Political Weekly* 46(20), pp. 10-12
8. Kundu, A., 2013. Making India slum-free: vision and operational. *Economic and Political Weekly*, 58 (17), pp. 15-18
9. Kundu, A., and Saraswati, L. R., 2012. Migration and Exclusionary Urbanisation in India. *Economic and Political Weekly*, 47(26 & 27), pp. 219-227.
10. Planning Commission, 2012. Press Note on Poverty Estimates, 2009-10. Press information bureau, Government of India, [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf) (retrieved 12.08.14)
11. Sample Registration System (SRS), 2001-05; 2006-10. SRS Based Abridged Life Tables 2003-07 to 2006-10. Registrar General and Census Commissioner of India, Government of India. [http://www.censusindia.gov.in/vital\\_statistics/SRS\\_Based/SRS\\_Based.html](http://www.censusindia.gov.in/vital_statistics/SRS_Based/SRS_Based.html) (retrieved 16.02.14).
12. Srivastava, R., 2011. Labour Migration in India: Recent Trends, Patterns and Policy Issues. *The Indian Journal of Labour Economics*, 54(3), pp. 411-440.
13. UNO Manual VI, 1970. *Methods of Measuring Internal Migration*. United Nations Publication, New York

**Tables:**

Table 1 Internal Migrants in Population Census, 1960-2011						
Migrants	Percentage to total population					
	1961	1971	1981	1991	2001	2011 (estimated)*
Total migrants (PoB)	30.8	28.7	29.4	26.6	29.3	-
Total migrants (PoLR)	NA	29.1	30.3	27.0	30.1	-
Interstate migrants (PoB)	3.3	3.4	3.6	3.3	4.1	around 3.6
Interstate migrants (PoLR)	NA	3.4	3.5	3.2	4.0	
PoB and PoLR imply place of birth and place of last residence respectively; NA- data not available; *estimated by Life Table Survival Ratio (LTSR) method. Source: Computed using data from Census of India for different years.						

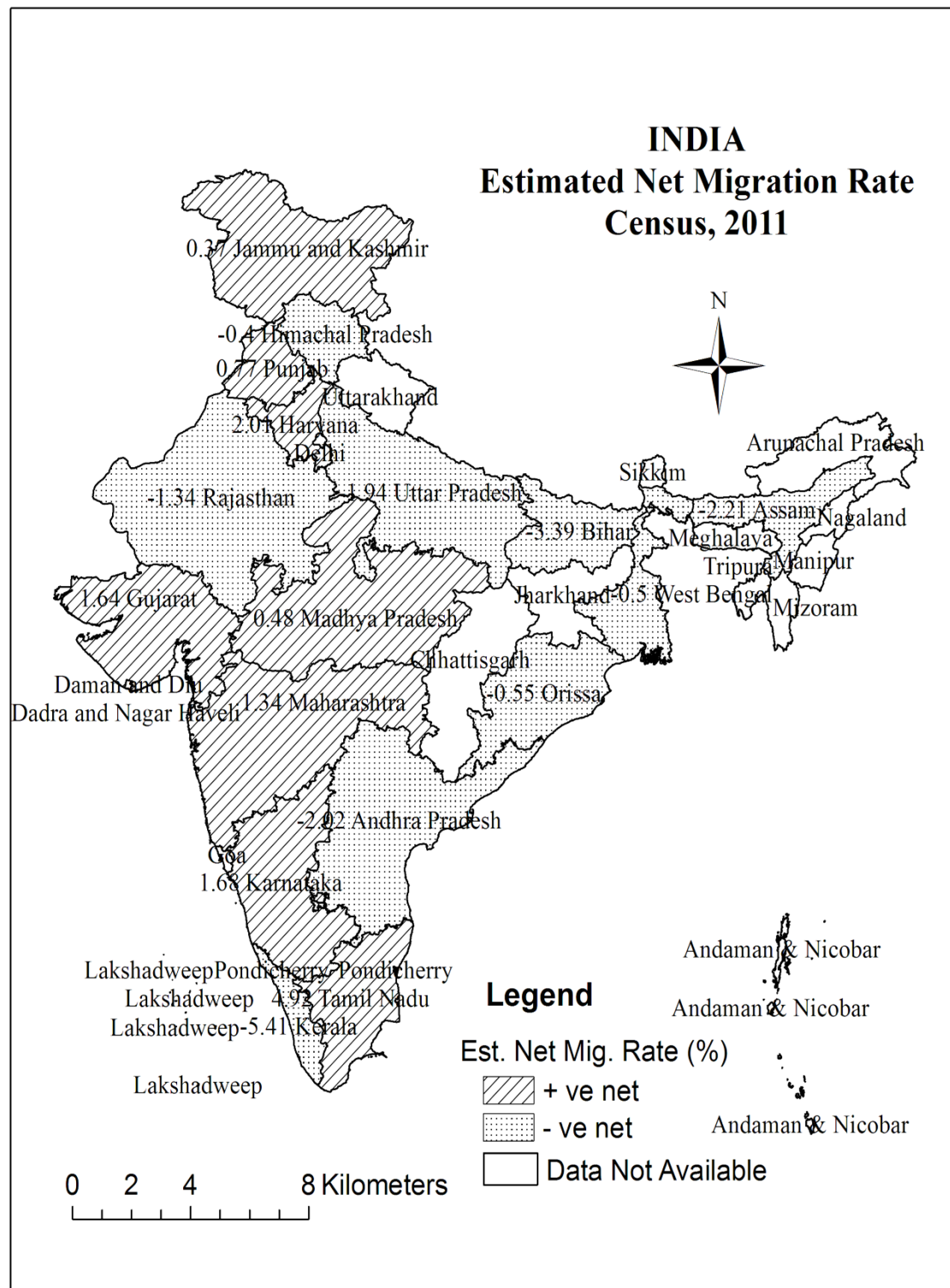
<b>Table 2</b> Computation of Life Table Survival Ratio (LTSR) during 2001 to 2011, India							
Life Table 2001-05		10 Year Survival Ratio	Life Table 2006-10		5 Year Survival Ratio	Age- Interval (x to x+n)	Average Survival Ratio (2001-11)
Age- Interval (x to x+n)	nLx		Age- Interval (x to x+n)	nLx			
1	2	3	4	5	6	7	8
0-1	94,960		0-1	95,781			
1-5	369,058	0.9766	1-5	375,305	0.98689	0-5	0.9857
5-10	456,159	0.9871	5-10	464,909	0.99479	5-10	0.9908
10-15	453,179	0.9843	10-15	462,485	0.99459	10-15	0.9880
15-20	450,268	0.9794	15-20	459,981	0.99174	15-20	0.9847
20-25	446,067	0.9760	20-25	456,180	0.98990	20-25	0.9823
25-30	440,997	0.9723	25-30	451,572	0.98856	25-30	0.9789
30-35	435,375	0.9662	30-35	446,406	0.98545	30-35	0.9747
35-40	428,765	0.9562	35-40	439,910	0.98328	35-40	0.9657
40-45	420,641	0.9390	40-45	432,554	0.97531	40-45	0.9509
45-50	409,980	0.9097	45-50	421,873	0.96277	45-50	0.9300
50-55	394,997	0.8632	50-55	406,166	0.95032	50-55	0.8918
55-60	372,951	0.7936	55-60	385,987	0.92033	55-60	0.8332
60-65	340,953	0.6990	60-65	355,234	0.87278	60-65	0.7534
65-70	295,956	0.5847	65-70	310,042	0.80777	65-70	0.6535
70-75	238,342	0.4622	70-75	250,443	0.72232	70-75	0.5455
75-80	173,059	0.2581	75-80	180,901	0.62876	75+	0.3577
80-85	110,156		80-85	113,743	0.45724		
85+	98,521		85+	95,820			
Source: Col 1, 2, 4 and 5 from Sample Registration System (SRS), Government of India; Col 3, 6, 7 and 8 are computed by formula (1) in LTSR method.							

<b>Table 3</b> Estimation of Net Migration Using Life Table Survival Ratio Method with Forward and Backward Estimation in India, 2011 Census									
Forward Survival Ratio							Backward Survival Ratio		Expected Net Migrants 2011 (average)
Age Group	Census, 2001	LTSR*	Age Group	Expected Survivor, 2011	Census, 2011	Net Migrants	Expected Survivor, 2001	Net Migrants	
1	2	3	4	5 = (2×3)	6	7 = (6-5)	8=(6/3)	9 = (8-2)	10 = [(7+9)/2]
0-5	110,447,164	0.9857	10-15	108,869,264	132,672,220	23,802,956	134,595,108	24,147,944	23,975,450
5-10	128,316,790	0.9908	15-20	127,140,857	120,488,253	-6,652,604	121,602,655	-6,714,135	-6,683,369
10-15	124,846,858	0.9880	20-25	123,351,382	111,389,804	-11,961,578	112,740,261	-12,106,597	-12,034,088
15-20	100,215,890	0.9847	25-30	98,678,015	101,388,091	2,710,076	102,968,202	2,752,312	2,731,194
20-25	89,764,132	0.9823	30-35	88,174,879	88,575,514	400,635	90,171,988	407,856	404,245
25-30	83,422,393	0.9789	35-40	81,658,471	85,124,762	3,466,291	86,963,560	3,541,167	3,503,729
30-35	74,274,044	0.9747	40-45	72,396,259	72,423,176	26,917	74,301,659	27,615	27,266
35-40	70,574,085	0.9657	45-50	68,156,755	62,305,364	-5,851,391	64,515,161	-6,058,924	-5,955,157
40-45	55,738,297	0.9509	50-55	53,001,667	49,058,972	-3,942,695	51,592,029	-4,146,268	-4,044,481
45-50	47,408,976	0.9300	55-60	44,090,331	39,139,286	-4,951,045	42,085,270	-5,323,706	-5,137,376
50-55	36,587,559	0.8918	60-65	32,627,048	37,658,276	5,031,228	42,229,515	5,641,956	5,336,592
55-60	27,653,347	0.8332	65-70	23,039,862	26,452,121	3,412,259	31,748,874	4,095,527	3,753,893
60-65	27,516,779	0.7534	70-75	20,731,385	19,206,903	-1,524,482	25,493,333	-2,023,446	-1,773,964
65-70	19,806,955	0.6535	75-80	12,944,536	9,231,641	-3,712,895	14,125,705	-5,681,250	-4,697,072
70-75	14,708,644	0.5455	80-85	8,023,083	6,219,677	-1,803,406	11,402,476	-3,306,168	-2,554,787
75+	14,589,943	0.3577	85+	5,218,268	5,068,096	-150,172	14,170,072	-419,871	-285,021
Total	1,025,871,856		Total	968,102,063	966,402,156	-1,699,907	1,020,705,869	-5,165,987	-3,432,947
<b>Net migration Rate (2001-2011)=</b> [(Total estimated net migrants)/ (Total population of 2001 Census)] × 100 = (-3,432,947/ 1,025,871,856) × 100 = -0.33% *Life Table Survival Ratio (average) computed using SRS based Abridge Life Tables, 2001-05 and 2006-10									
Source: Computed using data from Census of India, 2001 and 2011; Technical assistance from UNO Manual VI, 1970.									

<b>Table 4</b> Net Interstate Migration Rate (per 100 of population) for Major States during 1991-2011			
State	Census, 1991-01	NSS, 2007-08	Census, 2001-11 (estimated)
1	2	3	4
Andhra Pradesh	-0.31	-0.87	-2.02
Assam	-0.69	-0.50	-2.21
Bihar	-2.67	-5.64	-3.39
Gujarat	1.67	1.63	1.64
Haryana	4.07	3.52	2.01
Himachal Pradesh	0.98	-	-0.40
Jammu and Kashmir	-0.42	-1.24	0.37
Karnataka	0.29	0.97	1.68
Kerala	-0.57	-4.43	-5.41
Madhya Pradesh	-0.04	-0.68	0.48
Maharashtra	3.02	4.10	2.70
Orissa	-0.65	-1.26	-0.55
Punjab	1.66	1.27	0.77
Rajasthan	-0.59	-0.93	-1.34
Tamil Nadu	-0.68	-1.42	4.92
Uttar Pradesh	-2.04	-3.10	-1.94
West Bengal	0.37	1.34	-0.50
India	0.09	-0.26	-0.33
Source: Col. 2 Computed using data from Census of India, 2001, Col. 3 Computed using data from NSS-64 round and Col. 4 estimated by LTSR using data Census of India, 2001 and 2011, and SRS			

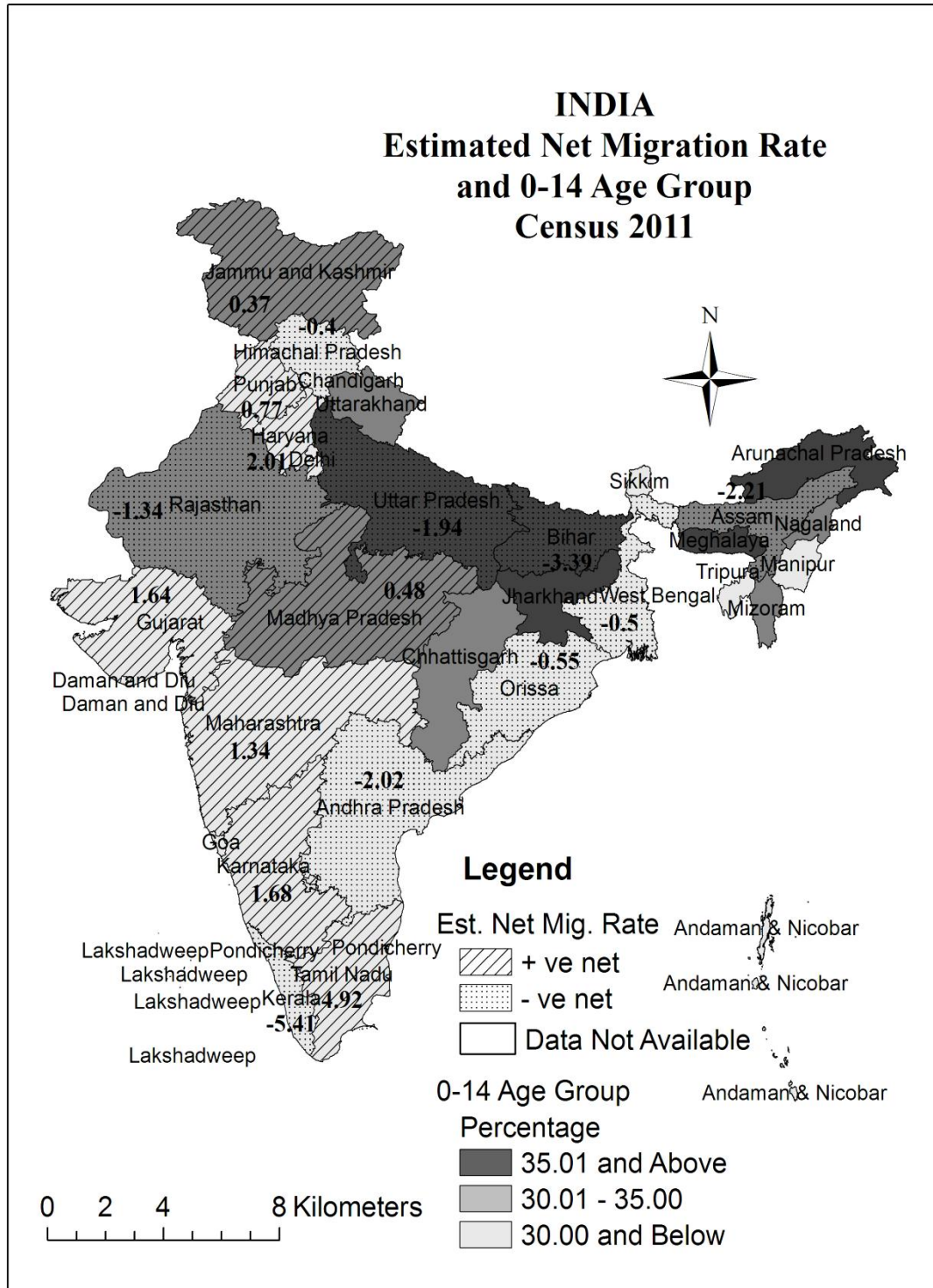
<b>Table 5</b> Per Capita Growth Rates (%) of Net State Domestic Product (NSDP) in Some Major States during 1993-2009				
State	1993-2001	2001-09	Pre-crisis	Crisis years
			2001-07	2007-09
Andhra Pradesh	4.33	6.43	7.11	4.38
Assam	0.40	3.53	2.90	5.42
Bihar	1.41	5.86	5.01	8.43
Gujarat	3.36	8.19	8.65	6.81
Haryana	3.50	6.98	6.84	7.43
Himachal	5.24	5.15	5.82	3.14
Jammu and Kashmir	1.55	3.50	3.29	4.12
Karnataka	4.09	5.57	6.69	2.20
Kerala	4.05	7.54	7.57	7.48
Madhya Pradesh	2.13	3.37	2.61	5.63
Maharashtra	2.38	8.13	8.71	6.39
Orissa	2.05	6.58	6.98	5.39
Punjab	2.09	4.92	4.67	5.67
Rajasthan	4.34	3.75	3.80	3.60
Tamil Nadu	3.99	6.75	7.03	5.92
Uttar Pradesh	1.31	3.88	3.64	4.58
West Bengal	5.04	5.00	4.78	5.67
India	3.34	5.85	5.86	5.83
Source: Kumar and Subramanian, 2011, p.14				

**Figures:**



**Figure 1** Figure 1, Estimated net migration of the major States in India





**Figure 2, Estimated net migration rate and 0-14 aged population in India, 2011**