

New Patterns in Indian Urbanization: Emergence of Census Towns

Environment and Urbanization ASIA
6(1) 18-27

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of Urban Affairs (NIUA)
SAGE Publications
sagepub.in/home.nav

DOI: 10.1177/0975425315583755
http://eua.sagepub.com



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Abstract

This study focuses on the new patterns related to urbanization in India from the 2011 census data, particularly with regard to the emergence of the census towns. What forces are involved in explaining the growth of such towns is an important question and this is what the present article tries to explore. The regional spread of these census towns is examined and based on the district-level data, the growth dynamics of such reclassification of areas from rural to urban status is brought out through factor analysis. Further, the viability of such new towns to sustain economic activities and population growth is also discussed. Findings tend to suggest that activities in areas which have already been urban tend to spillover to the rural hinterland and then usher in a change in their classification status, in a limited sense though. On the other hand, the shift of labour to non-farm activities due to the lack of productive sources of livelihood in the agricultural sector is also a strong possibility. Finally, the policy implications are brought out.

印度城镇化的新模式：普查城镇的兴起

本研究根据2011年人口普查数据，着重关注印度城镇化有关的新模式，特别是与普查城镇兴起相关的内容。什么力量导致了这类城镇的兴起，是一个重要的问题，这也是本文试图去阐释的。这类普查城镇在区域的分布是基于区域层级的数据来检验的。区域内从农村到城市的再分类的不断变化的情况是通过因子分析来获得的。此外，文中也讨论了这种新城镇保持经济活动和人口增长的能力。研究结论显示已经城市化地区的活动往往会波及农村腹地，然后迎来它们的分类状况的变化，即使是在有限的程度上。另一方面，由于缺乏在农业领域赖以生存的生产资源，劳动力向非农活动转变也是一个很强的可能性。最后，文章总结了政策的影响。

Keywords

Urbanisation, census towns, statutory towns, agglomeration economies, growth, poverty

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Introduction

Though in the initial stages of development, urbanization follows as an outcome of development, subsequently it also results in development (Fujita and Thisse, 2003; Mills and Becker, 1986). One of the reasons for both being associated with each other is that with urbanization economic opportunities are expected to grow significantly for all sections of the population and thus, an inclusive society is likely to emerge. The interactions among different classes at the workplace and at various facets of life may become so intense that the traditional barriers of caste and religion may get dissipated, offering opportunities to those at the lower echelons to experience upward mobility. This is, of course, only a theoretical expectation, the realization of which depends on a variety of preconditions.

The advocates of balanced urbanization often oppose to population concentration in a handful of large urban centres (Mills and Mitra, 1997). But it is difficult to ignore the positive outcomes or agglomeration economies associated with population concentration (Mills and Mitra, 1997). Productivity gains are higher in large urban settlements and thus, there is a tendency for the new firms to reap the locational advantages (Mitra, 1999). However, beyond a certain stage, these gains tend to get neutralized and subsequently overshadowed by the increasing costs or diseconomies associated with the population increase in large cities.

In the Indian context, many of the megacities which once upon a time attracted much of the investment and accounted for a large component of economic activities have started indicating signs of decline possibly because they have attained the saturation limit. Thereafter, whether the next tier cities are ready to take over the lead role, substituting the role that the megacities once played is an important question. However, this may not follow always. A usual outcome of this is that as a large city becomes saturated, the new economic activities gradually come up in the rural hinterland.

This is the second best solution for the new firms because by doing so they are able to avoid the diseconomies that the core city generates and at the same time they may have access (due to locational proximity) to the agglomeration economies that the core city offers.

In the backdrop of this perspective, we analyze the new trends in Indian urbanization, particularly the small (census) towns which have emerged between 2001 and 2011.

Growth of New Towns

The constituents of urban areas are statutory towns, census towns and outgrowths. The major distinctions between statutory and census towns are as follows: All places with a municipality, corporation, cantonment board or notified town area committee constitute statutory towns. On the other hand, the census towns are defined on the basis of the following criteria: (a) a minimum population of 5,000, (b) at least 75 per cent of the male main workers engaged in non-agricultural pursuits and (c) a density of population of at least 4,000 per sq. km. Even without having an urban local body, an area can become a census town if the process of transformation is fast. The results from 2011 census show a huge number of census towns which emerged in the last 10 years (2001–11, Table 1). A little above 2,500 new towns cropped up during this period, while it had taken India almost 60 years (since independence) to experience only 1,362 census towns. Nearly double the number emerged in just 10 years; what can explain such faster growth?

Can all this be attributed to globalization, reforms and other policy changes resulting in a major shift of activities even in the rural areas so as to allow the settlements to wipe out their rural designation and

Table I. Statutory and Census Towns in 2001 and 2011 across States and Union Territories

	Urbanization (%)			No. of Statutory Towns			No. of Census Towns			
	2001	2011	Increase	2001	2011	Increase	2001	2011	Change	% Distribution
AN	32.63	35.67	3.04	7	9	2	3	5	2	0.08
AP	27.3	33.49	6.19	117	125	8	93	228	135	5.33
ArP	20.75	22.67	1.92		26	26	17	1	-16	-0.63
AS	12.72	14.08	1.36	80	88	8	45	126	81	3.20
BH	10.46	11.3	0.84	125	139	14	5	60	55	2.17
CH	89.78	97.25	7.47	1	1	0	1	1	0	0.00
CT	20.08	23.24	3.16	75	176	101	22	13	-9	-0.36
DN	22.89	46.62	23.73	2	1	-1	0	5	5	0.20
DD	36.26	75.16	38.9	0	2	2	2	6	4	0.16
DL	93.2	97.5	4.3	3	59	56	3	110	107	4.23
GJ	37.36	42.58	5.22	168	195	27	74	153	79	3.12
GO	49.8	62.17	12.37	14	30	16	14	56	42	1.66
HP	9.8	10.04	0.24	56	56	0	1	3	2	0.08
HR	28.92	34.79	5.87	84	79	-5	22	74	52	2.05
JH	22.25	24.05	1.8	44	40	-4	108	188	80	3.16
JK	24.85	27.21	2.36	72	86	14	3	36	33	1.30
KE	25.96	47.72	21.76	60	63	3	99	461	362	14.30
KR	33.99	38.57	4.58	226	220	-6	44	127	83	3.28
LK	44.47	78.08	33.61	0	3	3	0	6	6	0.24
MG	19.58	20.08	0.5	10	10	0	6	12	6	0.24
MH	42.43	45.23	2.8	251	256	5	121	279	158	6.24
MN	23.88	30.21	6.33	32	29	-3	5	24	19	0.75
MP	26.67	27.63	0.96	339	366	27	55	113	58	2.29
MZ	49.63	51.51	1.88	22	23	1	0	0	0	0.00
NL	17.74	28.97	11.23	8	19	11	1	7	6	0.24
OR	14.99	16.68	1.69	107	107	0	31	116	85	3.36
PB	33.95	37.49	3.54	139	143	4	18	74	56	2.21
PO	66.57	68.31	1.74	5	6	1	1	4	3	0.12
RJ	23.39	24.89	1.5	184	187	3	38	112	74	2.92
SK	11.1	24.97	13.87	8	8	0	1	1	0	0.00
TN	44.04	48.45	4.41	721	721	0	111	376	265	10.47
TR	17.02	26.18	9.16	13	16	3	10	26	16	0.63
UP	20.78	22.28	1.5	638	648	10	66	267	201	7.94
UT	25.67	30.55	4.88	74	74	0	11	41	30	1.18
WB	27.97	31.89	3.92	123	126	3	255	780	525	20.73
IND	27.82	31.16	3.34	3,799	4,041	242	1,362	3,894	2,532	100

Source: Population Census, 2001 and 2011.

acquire the urban status? If so, do these towns have adequate urban facilities to accommodate the new activities and population growth? These are some of the questions which have to be looked into meticulously before we start rejoicing about the rapid growth of new towns.

We may start the analysis by looking into the locational aspects of these new towns. Are they mostly situated in the neighbourhood of very large cities? If so, we can then explain their emergence and growth in terms of the second best solution, as mentioned earlier, that the firms seek when a large urban settlement tends to become saturated. If new activities come up in nearby small towns in a big way due to want of space in the large cities, it is natural that migration of population will also be directed to these towns. On the whole, these towns may be treated as the satellite towns growing in response to the spur of economic activities.

Below, we examine some of these hypotheses based on several indirect indicators. The simple correlation between the number of statutory towns and the census towns is positive as per both 2001 and 2011 censuses (0.43 and 0.44, respectively) and states with more number of statutory towns registered a greater number of increase in the census towns over 2001–11 (0.45). The states which had more number of census towns in 2001 also registered a larger increase in the number of census towns over 2001–11 and this correlation is strong (0.89).

A regional distribution of new census towns from Table 1 is indicative of the fact that most of them are concentrated in Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh (UP) and West Bengal (alphabetical order).¹ Of them, Maharashtra, Tamil Nadu and West Bengal are relatively industrialized, whereas Kerala's growth dynamics is unique with a lead role played by the plantation sector. So it is only UP which has experienced very many new towns notwithstanding moderate growth. However, it can partly be attributed to its sheer size—one of the states which have a very large number of districts.

Since West Bengal, Maharashtra, Tamil Nadu, UP and Kerala are some of the states which recorded a large number of new census towns, using the district-level data, we try to verify the association between the number of new census towns in 2011 in a given district and the number of statutory towns in a given district or the number of class I cities in 2001/the population living in the largest class I city in the district (Table 2). Some of these variables are correlated though the degree of correlation is not very strong. However, the *t*-ratio corresponding to the number of statutory towns or class I cities in a given district is statistically significant in West Bengal, Maharashtra and Tamil Nadu. In UP, the number of statutory towns or class I cities is not a significant determinant of the number of census towns but the population in the largest class I city is. On the other hand, in Kerala, only the number of statutory towns is statistically significant. More importantly, there are several districts which do not have a single class I city and yet they have census towns.

On the whole, the number of statutory towns of all sizes is rather positively associated with the number of census towns (though the correlation is only moderate), implying that urbanization as a whole seems to be expanding from the spillover of the existing urban localities into the rural hinterland. As Bhagat (2011) points out, urbanization increased faster than expected over the decade 2001–11. Also, for the first time since independence, the absolute increase in the urban population was higher than that in the rural population. The non-statutory census towns numbered 1,362 and were home to 21.0 million people in 2001. These numbers increased to 3,892 and 58.6 million, respectively, in 2011. This growth of 37.6 million people amounts to 41 per cent of the total growth of the urban population in the decade 2001–11 (Bhagat, 2011).

In order to explore further the role of the existing urban centres in reinforcing the transformation process in the rural areas and thus ushering in a change in their locational status (from rural to urban), we have tried to assess the association between the urbanization level in a district and a range of socio-economic and demographic variables pertaining to the rural areas in the same district. This is pursued on

Table 2. Relationship between the Number of Census Towns and Statutory Towns across Districts

	Dep Variable: No. of Census Towns in the District					
	West Bengal	West Bengal	Maharashtra	Maharashtra	Tamil Nadu	Tamil Nadu
No. of Statutory Towns in the District 2011	2.44 (1.74)*		1.11 (3.15)**		0.50 (3.89)**	
No. of Class I Cities in the District 2011		3.62 (2.19)**		4.00 (3.90)**		7.41 (2.64)**
Population in the Largest Class I City in the District in 2011						
Intercept	24.48 (1.91)*	29.37 (3.01)**	-0.18 (-0.06)	2.73 (1.19)	0.61 (0.18)	4.5 (0.94)
Adj R2	0.10	0.17	0.21	0.35	0.33	0.26
N	19	19	35	27	32	32
		Uttar Pradesh	Uttar Pradesh	Uttar Pradesh		Kerala
No. of Statutory Towns in the District 2011		0.20 (1.46)				7.35 (2.57)**
No. of Class I Cities in the District 2011			2.10 (1.51)			
Population in the Largest Class I City in the District in 2011					3.46e-06 (2.69)**	
Intercept		1.98 (1.44)	1.83 (1.00)	2.73 (2.84)**		-0.16 (-0.01)
Adj R2		0.03	0.04	0.11		0.30
N		70	52	51		14

Source: Author's calculation based on population census data.

Notes: ** denotes significance at 5 per cent level and * at 10 per cent level.

the basis of factor analysis. In factor analysis, each factor can be said to be a linear combination of a group of variables:

$$F(j) = \sum_{i=1}^n B(ij)X(i) + e(j)$$

$j=1 \dots k, \text{ and } i=1 \dots n$

where F is the factor, $X(i)$ is the i th variable and $B(ij)$ is the factor loading corresponding to the variable $X(i)$ in the j th factor and e a random error. It resembles the multiple regression model but the basic difference between them is that the factors are unobservable, whereas in a multiple regression model we have the observed values on both dependent and independent variables. In factor analysis, the factors are the hypothetical constructs which can be estimated only from the observed data on the variables X s (Herman, 1967). The number of factors (k) chosen is usually less than the number of variables ($i=1.2 \dots n$) under consideration though the number of factors produced can be as many as the number of variables. In other words, only the significant factors, that is, the factors with eigenvalues or latent roots greater

than 1 are taken into account. Eigenvalue is computed as the sum of the square of the factor loadings of all the variables on a given factor. Eigenvalue is a measure of the amount of variation accounted for by a factor. Though the input matrix for factor analysis is built on the basis of the correlation between the variables, the factor analysis enables to visualize the co-movement of a group of variables.

The variables considered in the factor analysis pertain to the following rural-specific variables at the district level: HHSZ, the household size; CHILD–WOM, the proportion of children to women; WFPR, the main workforce participation rate; LIT, the literacy; SC, the percentage of scheduled caste population; OTHERACT, the percentage of workers engaged in non-household manufacturing and services; CUL, the percentage of workforce engaged as cultivators; AGLAB, the percentage of workforce engaged as agricultural labourers; MFGHH, the percentage of workers in household industries; F/M, the female–male ratio in the population, BPL, the percentage of households below the poverty line; AVMPCE, the average monthly per capita consumption expenditure; INEQ, the inequality in terms of the difference between the minimum and maximum value of the consumption expenditure. In addition to the rural-specific variables, we have considered URBN which is the percentage of the population in the urban areas in the district.

Along with urbanization, the rural growth is expected to rise as urbanization is a concomitant of expansion in economic activities. Agglomeration benefits associated with urbanization are likely to result in enhanced productivity growth (see Mitra, 1999) which can also be reflected in rural per capita income and consumption expenditure through the rural–urban inter-sectoral linkages. The increased work participation rate in the rural areas, change in the occupational structure away from farm towards non-farm prompted by rural diversification and reduction in rural poverty are some of the expected outcomes. Based on the village-level data and countrywide National Sample Survey (NSS) data, Himanshu et al. (2013) observed the growing importance, and influence, of the non-farm sector in the rural economy between the early 1980s and the late 2000s. Besides, this non-farm diversification, though it has been quite a sluggish process, in terms of distributional incidence has been pro-poor. Further, they noted that the non-farm sector is not only increasing incomes and reducing poverty but also tends to be breaking down barriers to mobility among the poorest segments of the rural society. This is again likely to raise urbanization through migration. Himanshu et al. (2011) also noted a close association between urban poverty reduction and rural non-farm growth (and accompanying rural poverty reduction). Both through an increase in rural non-farm employment and wages, the beneficial effects were realized. Lanjouw and Murgai (2010) brought out a clear-cut link between urban poverty decline and rural poverty decline in India which was not seen from the studies based on data for the pre-reform period. The association between urban development on the one hand, and improvement in rural livelihoods on the other was envisaged through the impact of urban development on rural non-farm diversification. So in their conceptualization, the causality runs from urbanization to rural poverty decline. One may further hypothesize that the demographic variables such as household size and child–woman ratio also decline with urbanization.

Keeping in view some of these interesting patterns, the analysis in this article is pursued at the district level. Most of the variables included in our analysis are for the year 2011 (taken from population census) and only poverty, inequality and monthly per capita consumption expenditure are for the year 2011–12 (taken from NSS).

Based on the three significant factors with eigenvalues greater than 1, some of the results are quite interesting (Table 3). First of all, with urbanization, several social, economic and demographic variables tend to improve. Rural non-household manufacturing and services increase with urbanization (factor 2). In other words, districts with higher urbanization level are able to witness a rural transformation in terms of changes in activities which are endemic to the shift in the classification of areas from rural to urban status. The rural

Table 3. Results from Factor Analysis Based on District-Level Data

Variables	Factor 1	Factor 2	Factor 3
RHHSZ	-0.6615	-0.1201	-0.0750
RCHILD-WOM	-0.8758	-0.1914	-0.2291
RWFPR	0.4826	-0.2138	0.1992
RLIT	0.6064	0.2863	0.2864
RSC	0.1626	0.0470	0.0835
ROTHERACT	0.1095	0.7814	0.2365
RMFGHH	-0.0320	0.1394	-0.0442
RCUL	-0.1466	-0.9115	-0.1291
RAGLAB	0.0393	0.0829	-0.1217
RF/M	0.4391	-0.0442	0.0058
RBPL	-0.1700	-0.1488	-0.5527
URBN	0.1797	0.3859	0.2479
RAVMPCE	0.2638	0.2676	0.7903
RINEQ	0.1938	0.1964	0.6557
Eigenvalue	3.92	1.90	1.69
Explained Variation	0.4115	0.1987	0.1775

Source: Authors' calculations.

Notes: No. of Observations: 608.
R represents rural areas.

child–woman ratio and household size also decline with urbanization level. On the other hand, rural work participation rises in response to urbanization, suggesting possibilities of spillover of urban-based activities to the rural areas which in turn raises demand for rural labour in the rural non-firm sector. Thus, a shift away from cultivation going hand in hand with urbanization is discernable (factor 2).

Also growth, inequality, poverty and other development indicators including the urbanization level in the district are related though the factor loadings are much lower in magnitude in factors 1 and 2, implying the absence of a strong association. It is only in factor 3 that growth–inequality–poverty–urbanization nexus gets sharper. On the whole, districts with higher level of urbanization are associated with reduced rural poverty incidence and higher levels of growth and other development indicators though inequality is likely to rise in the process. Again, such districts with better outcomes are also able to witness higher female–male ratio in the rural population. Hence, based on the district-level data, it may be concluded that urbanization delivers better outcomes in terms of not only economic indicators but also social and demographic indicators in the adjacent rural areas though such processes are on a limited scale.² Sharma and Kumari (2012) in fact, argued that rural areas within a distance of 20 km from the urban centres do not require to be addressed separately as far as the poverty reduction strategies are concerned. The investment in the urban areas can essentially take care of the issues related to rural development. However, rural areas which are not close to the urban centres need to be tackled exclusively.

All this tends to suggest that the growth of new towns being related to the spillover effect of very large urban centres is valid to some extent. With the exhaustion of further scope for the expansion of the existing large cities, the nearby areas tend to get urbanized to some extent and operate as satellite towns conducting activities by and large similar to what the large centres do. However, the correlation is not

strong which points to the importance of the other factors as well. Though the factor analysis results also present evidence in favour of spillover effects of urbanization, the existence of other forces cannot be ruled out. Towns emerging as a transformation process occurring in the rural areas are indeed an important aspect of urbanization in India. Population growth and diversification of activities in the rural areas are an endemic part of this transformation process. However, there is ample evidence to suggest that a large component of the rural non-farm sector activities is not induced by demand side factors alone. Agricultural stagnation and the lack of scope to enhance productive employment opportunities in the agriculture sector are some of the possible factors responsible for a residual absorption of labour in low-productivity non-farm activities. The lack of rural industrialization seems to have aggravated the 'employment problem' in the rural areas. On the whole, these new towns do not seem to have emerged in response to agricultural prosperity. Hence, the contribution of these towns to wealth formation rather seems to be negligible.

Related Problems

But are these census towns well equipped with infrastructure and basic amenities to assure a reasonable quality of life? Extraction of resources in these towns might have taken place in a completely unplanned manner. The residential and infrastructural facilities in these towns are inadequate to keep pace with the new activities that are spilling over as a result of saturation of the large urban centres. The new towns do not have enough living space to accommodate the migrant workers who are supposed to move in with an increasing concentration of activities. As migration is usually more than the actual number of job vacancies, it would mean that the surplus labour would get residually absorbed in low-productivity jobs. Does it not then mean that the problem of slums would be severe sooner or later? Though the very large cities also have had similar problems, there have been several support mechanisms at the same time. Besides, the real earnings in the informal sector have been higher in the large cities than in small towns. The capacity of the small towns to provide for the population is highly limited even after discounting for the scale factor that the large cities enjoy. There are problems relating to generation of resources required for sustainable development.

Another way of looking at these towns is to understand the changing land use pattern in the rural areas adjacent to the large urban centres. If the agricultural land is being increasingly used for non-agricultural purposes as the city limit tends to expand, such new towns come up in the vicinity of the very large cities. If such new towns grow purely in response to the dynamics of agricultural growth and the subsequent demand for trading or other non-agricultural activities, the outcomes are desirable. But the urbanization spillover effect which ushers in a major change in land use patterns may pose threat not only in terms of food security but also in terms of sustainable livelihood for those who lose their agricultural land. The mismatch between the demand for and the supply of labour can be serious in these towns keeping in view the employability issue. Of course, trade-offs to a certain extent between growth and loss of agricultural land are inevitable. But then, sufficient safety nets need to be created to meet the deficiencies and new challenges.

The next question is whether these new towns as a spill of very large cities are the proper substitutes of the second-rank cities which are expected to play the role of engine of growth once the megalopolises or very large cities meet the saturation point. Usually in the urban economics literature, we have learnt that once the largest cities exhaust the economic opportunities the second-rank cities come up to replace them in terms of investment, growth and employment generation. These cities are certainly much better off in terms of infrastructure compared to the new small towns. But for them to take over the lead role, a

proper coordination between the state and those who have a thorough understanding of the growth dynamics of the urban space is essential. It is most unfortunate that in the Indian context, no clear-cut initiative for urban investment or planning is taken by examining the growth potential of different cities and towns with an economic-cum-geographic perspective.

Conclusion

This article focussed on some of the new trends in Indian urbanization as brought out by the 2011 population census data. A number of new census towns have emerged which are in fact a manifestation of rural areas undergoing a rapid process of transformation. In terms of the definitional criteria, these centres have become urban while the urban local bodies still do not exist, implying non-recognition of these areas as urban by the Government of India. Based on certain direct and indirect methods, one important question which is explored in the article is whether such transformation of rural into urban area is a result of ever-expanding activities in the large urban areas and then spilling over to the rural hinterland. Evidence is supportive of such a pattern on a limited scale, though. With a rise in the urbanization level across districts, the rural-specific development indicators are seen to improve. For example, rural poverty tends to decline and growth, workforce participation rate and rural diversification are positively associated with urbanization at the district level. However, these associations are not too strong and thus, the other forces leading to rural transformation cannot be ruled out and those forces are not necessarily the positive drivers. The shift from agriculture to rural non-farm activities in several situations unfolds a movement from one class of low-productivity activities to another. Thus, there is no marked improvement in development indicators alongside a rise in urbanization. For example, rural poverty tends to decline with urbanization in the district though the association is not very strong. In order to strengthen the positive spillover effects of urbanization on the rural economy, a number of policy initiatives need to be pursued. It is pertinent to strengthen the rural–urban ties in terms of infrastructure base, provision for skill improvement for the rural population and creation of productive jobs in the rural non-farm sector. The growth of rural non-farm sector activities for the productive utilization of the surplus workforce in the agriculture sector is of great importance. Initiatives in this direction can result in ‘generative’ urbanization. Many of the census towns which have been identified in the recent population census need a close intervention. Whether they have the adequate base to accommodate the non-agricultural activities, population increase to take place in the coming years and the concentration of new activities which may come up subsequently is a pertinent issue.

Notes

1. West Bengal accounts for 20.74 per cent, Kerala 14.3 per cent, Tamil Nadu 10.47 per cent, Uttar Pradesh 7.94 per cent, Maharashtra 6.24 per cent and Andhra Pradesh 5.33 per cent of the new census towns.
2. The phenomenon of exclusionary urbanization is quite significant in the Indian context (Kundu, 2009).

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