

Urbanization in India :

From megacities to urban villages¹

Kamala Marius-Gnanou² and François Moriconi-Ebrard³

Urban growth in India has been very significant during the past decades. The urban population had doubled from 1901 to 1947 and it increased again sixfold from Independence to 2001. One of the most talked about aspects of this growth is the emergence of three agglomerations that have exceeded 14 million inhabitants in 2007⁴, thus belonging to the “megacities” of the world, as defined by the United Nations/ESA (*World Urbanization Prospects*). However, the challenge of Indian urbanisation must not be limited solely to these gigantic cities, but, on the opposite side, to the unclear stratum of localities, this category difficult to grasp statistically, wavering between urban and rural, and which constitutes one of the nation’s identity issues : the small agglomerations.

According to the 2001 population census results, India’s urban population officially amounted to 286,120,000 inhabitants. At this time, it was almost the equivalent of the entire population of the United States of America. Yet, as the urbanisation rate, as defined by the Census of India, remains one of the lowest in the world (28%), and as the natural growth rate of the country remains relatively high (+1,6% / year), it is generally agreed that India is the country which presents the highest potential of urban growth among the world economies.

However, besides this official figure of rate of urbanization, for the first time in the History of India, the number of “villages” having more than 10,000 inhabitants surpassed in 2001 the number of official “towns” and “urban areas” having more than 10,000 inhabitants. If these villages, which are often considered as small towns in most of the other countries of the world, were included in the “urban” category of statistics, the urban rate of India would be significantly higher. In fact, are all these “villages” really rural ? On a scientific point of view, one can put in question, not only the problem of urban growth, but the representation of the phenomenon, in so far as the statistical approach of the urbanization in India does not allow to take in account the dramatic increase of thousands of small-sized urban localities.

Starting from the top of urban hierarchy, this article put in questions the consistency of the official statistical definition of urban areas in India,

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² Reader, Mixed Research Unit Ades (French National Center for Scientific Research / University of Bordeaux-3) and French Institute of Pondicherry (UMIFRE)

³ In charge of research, Mixed Research Unit Sedet (French National Center for Scientific Research / University of Paris-Diderot)

⁴ Source : Geopolis database, F. Moriconi-Ebrard (<http://www.ifpindia.org/Built-Up-Areas-in-India-e-GEOPOLIS.html>)

The “megacities”

The concept of *megacities*, which nourishes a significant media literature at a world scale, is not an Indian category of statistics, but an international one.

Indeed, the Indian official statistics classify cities into 6 categories. The “Class I” groups cities with more than 100 000 inhabitants ; “Class II”, towns with more than 50 000 inhabitants ; “Class III” more than 20 000 inhabitants and so on.

In the 1891 census, the “Class I” numbered 23 cities for an overall total population of about 250 million inhabitants¹. In 2001, there were... 394 ! This type of representation in a system of classes with demographically fixed thresholds in a demographically expanding world, leads mechanically to the image of an urban explosion... which is primarily that of statistical categories !

Indeed, like most other big countries of the World (China, USA, Brazil...), the Indian urban network is not affected by urban primacy². The reason is that, during the past century, the urban system has been dominated, not by one, but by four megacities making up the 4 apexes of a lozenge: Mumbai, Delhi, Kolkata and Chennai (table 1). In 1872, Kolkata was the first agglomeration to exceed one million inhabitants outside industrialised countries. Mumbai took it over in 1991, which comes first as far as international metropolitan economic jobs are concerned. But finally, it is the agglomeration of the political capital, Delhi, which has today reached the top spot. Old capital of the Mogul Empire, Delhi was a modest city of 162,000 inhabitants in 1872. In 1951, the agglomeration was still twice less populated than Bombay and three times less than Calcutta. Delhi started expanding only after the Independence and will reach almost 25 million inhabitants in 2011, compared to 22 million for Mumbai. In 2011, Chennai would be shoulder to shoulder with Bangalore and Hyderabad, with about 8 million inhabitants each.

Table 1 - Agglomerations of more than 5 million inhabitants in the 2011 horizon :
Evolution of population since 1872

2001 Name	1872	1901	1951	1961	1971	1981	1991	2001	2011
<i>India</i>	199 199	238 339	361 089	439 216	548 161	683 331	844 272	1 028 610	1 292 506
1 Delhi	162	240	1 537	2 527	3 941	5 783	8 723	15 725	24 867
2 Mumbai	652	813	2 967	4 152	6 592	9 422	12 572	16 434	21 780
3 Kolkata	1 093	1 503	4 761	5 903	7 421	9 194	10 916	13 206	16 509
4 Chennai	422	541	1 416	1 729	3 170	4 290	5 361	6 560	8 276
5 Bengaluru	143	162	786	1 207	1 664	2 922	4 087	5 701	7 891
6 Hyderabad	368	449	1 130	1 251	1 815	2 562	4 280	5 742	7 746
7 Ahmadabad	120	186	877	1 206	1 752	2 558	3 298	4 525	6 196
8 Pune	132	164	600	738	1 135	1 686	2 485	3 761	5 461

Population in thousands of inhabitants. Source: Geopolis database.

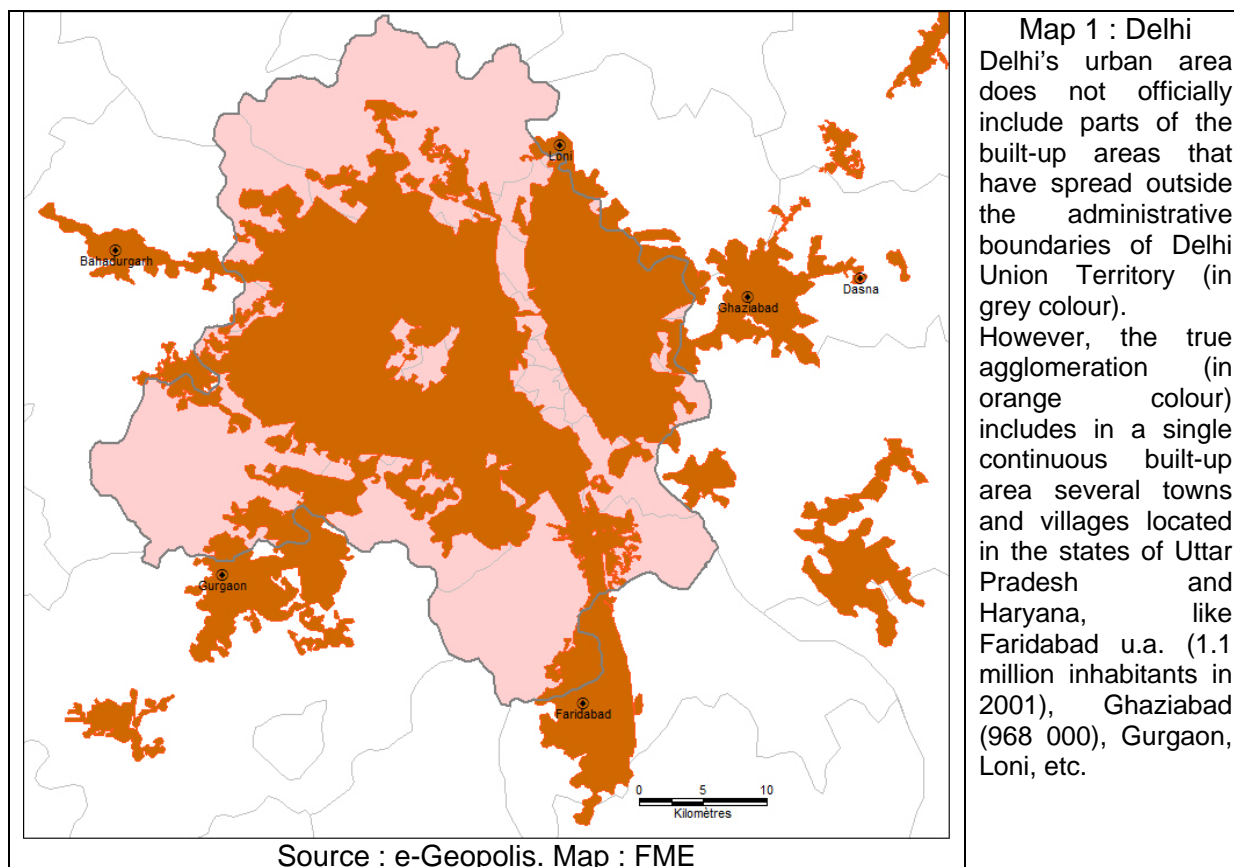
The projections take into account the projections by States made by the Census of India (2001-2031).

The figures in bold characters denote the most populated agglomeration.

These figures contradicts the UN’s projection that Mumbai, with an expected population of 26 million in 2015, would become the world’s second largest agglomeration. The slightly higher growth rate of Delhi’s population is not only responsible for this results, but the official statistical definition given by the Census of India, which minimize the real population of Delhi agglomeration (map 1).

¹ Total population of India in the current borders (excluding Pakistan, Bangladesh and Burma)

² Primacy index is defined as : (population of city of rank 1) / (population of city of rank 2). According to the theories of probability (Pareto), a primacy is “abnormally” high if it is more than 2 According to Moriconi-Ebrard (1994), the average national primacy index was 5.3 at a world scale. In India the primacy index has never surpassed 1.5 since the modern population censuses exist (1867-1872)



The middle agglomerations

In this period of liberalism, it is useful to note the important role that the hierarchy of public institutions plays on the shape of urban networks.

At the highest level, the fast growth of the Indian national capital clearly shows that there exists a form of centralisation in India.

This hypothesis is also confirmed at the level of the Indian States, when we observe the primacy of their political capitals : the most dynamic agglomerations are pre-eminently big political, cultural and administrative centres of their State, of which some are demographically comparable to big European States (table 2).

Table 2 : Evolution of urban primacy in some of the large States of the Union

State	Population (2006)	Capital	Second agglomeration	1951 Primacy	2001 Primacy
Maharashtra	105 740	Mumbai	Pune	4.4	4.9
West Bengal	85 768	Kolkatta	Asansol (2001), Kharagpur (1951)	36.7	12.4
Tamil Nadu	65 435	Chennai	Coimbatore (2001), Madurai (1951)	3.9	4.5
Andhra Pradesh	81 219	Hydebarabad	Visakhapatnam(2001), Vijayawada(1951)	7.0	4.3
Karnataka	56 647	Bengaluru	Hubli-Dharwad (2001), Mysore (1951)	3.2	7.1
Rajahstan	62 951	Jaipur	Jodhpur (2001), Ajmer (1951)	1.5	2.7
Bihar	91 631	Patna	Gaya	2.1	4.3
Assam	28 896	Guwahati	Silchar (2001), Dibrugarh (1951)	1.2	4.4

Source : e-Geopolis

One also denote the influence of the administration's geography at the district level, territorial subdivisions of sizes comparable to French "departments", whose administrative centres have often highly polarised the urban population stratum that forms the horde of middle-sized agglomerations.

Beyond these political factors, the geographic distribution of Indian cities remains, like in the rest of Asia or in Egypt, closely linked to the proximity of

agricultural fertile and irrigated lands. Indo-Gangetic Plain, deltas and coastal plains of the South, mountainsides and wet plains of Kerala : the density of city seedbeds remains closely correlated to the rural density. The only ones that do not follow this heritage of ancient agricultural economy, are a chain of towns with a long tradition of commerce, handicraft and industry, such as in Gujarat.

This data, similarly to the unpublished cartography of seedbed of urban areas and towns of more than 20 000 inhabitants (map 2), allows to put into perspective certain perceived ideas regarding the “coastalisation” of the Indian economy. Likewise, contrary to a widespread idea among Indian planners, there are no urban corridor formations at the national scale, but only vast metropolitan areas at the periphery of large agglomerations such as Delhi, Mumbai-Ahmedabad or along certain valleys of the south, like that of the Cauvery.

The small agglomerations

But among all these aspects that mould the extreme diversity of forms of Indian urbanization, the most recent remarkable phenomenon is the recent proliferation of small agglomerations (1951 and 2001 maps).

A comparison helps throw light on the situation of India. Up till the 1980s, the United States had the highest urban population in the world : 1,353 agglomerations of more than 10,000 inhabitants counted for 215.2 million inhabitants in 2000. This figure is very similar to that of the population of Indian towns and urban areas of more than 10,000 inhabitants in 1991 : 209.5 millions persons lived in 2,759 units classified as towns or urban areas, according to the legal definition. However, beside these official 2,759 urban units, 2,779 villages of more than 10,000 inhabitants were not officially included in the urban category. In fact, there were finally 5,538 agglomerations of more than 10,000 inhabitants in India, which is four times more than in the United States and on an area three times smaller.

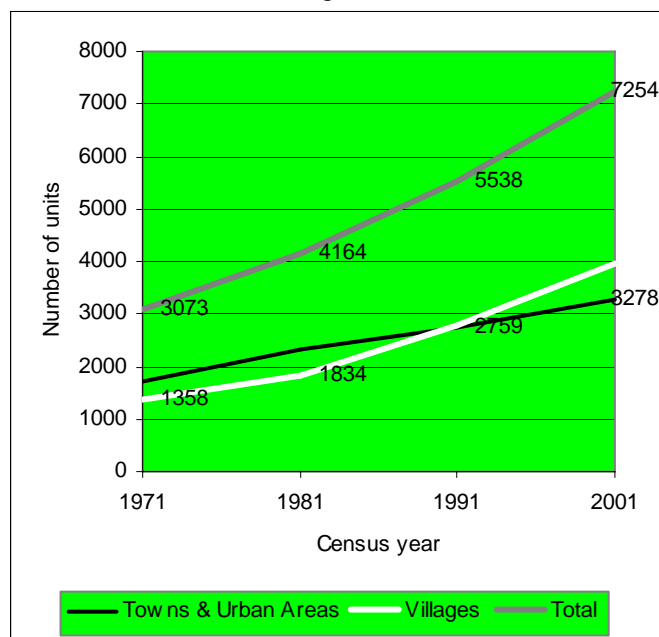
The official Indian definition of urban is nowadays rightly criticised by many specialists have (Landy, p. 188, Sivaramakrishnan et al., p.19). This definition is based on 3 conditions : a population higher or equal to 5,000 inhabitants, 75% of male workforce working outside the agricultural sector and a minimum density of 400 inh./ km².

This definition induces a great lability of localities at the bottom of the urban hierarchy. In the context of an urban growth, everyone can understand that the application of this definition enables the incoming of new localities in the urban category at each new census. But, the outcoming of hundreds of cities that return to the category of “villages” therefore disappearing from the current “urban” statistics, appears less understandable.

Thus, the increase in the number of “cities” between two censuses reflects in fact the difference between rural agglomerations that become urban (“incoming”) and urban agglomeration that return to the rural category (“outgoing”). These hesitations prove in any case that the bottom of the urban hierarchy is a continuum with uncertain threshold.

In this context, the reasoning of observers who rely on official urban growth rates or global figures referring to categories, are distorted. The problem in studying the urbanisation of India today is as well the proliferation of small cities as the *representation* itself of this phenomenon. Yet, it is precisely in this category of localities that we presently observe the most intense changes (table 3), which brings to the problem of metropolitanisation and urban villages (Mac Gee, 1992, Denis, 2006).

Table 3. Number of cities and villages of more than 10 000 inhabitants*



* Including Assam in 1981 (estimated population)

Conclusion

The contraction of the population growth in megacities can first be explained by a decrease in the natural growth rate, which is related to the decrease of the fertility rate, which is more rapid in urban areas than in the rural areas. The map however shows that this factor is blurred by significant regional differences that remain at the national level : the fertility rate decreases faster in the South than in the North. Then, the residential mobility which had fuelled the rural exodus towards big agglomerations, tends nowadays to be replaced by pendular mobility, related to the development of transport networks. The mobility itself is rendered profitable by the high residential densities of the peripheries, which is often the case in the rural peripheries Southern Asia. It is precisely in this type of areas that we can observe a strong growth which conducts to a proliferation of thousands of new small agglomerations. According to the *Census of India*, the rural exodus represents less than 20% of all migrants in 2001 and. If we add to this figure the inter-urban migrations, it amounts to a third of all the migrants. In fact, since decades, the migrations within the Indian Territory have been mostly movements within the rural zones (60% of total migrants).

Without denying the importance of megacities in the new Indian economy, it is necessary to give further attention to the spectacular development of small towns whose classification as rural or urban will prove to be an identity issue for India.

The objective of the e-geopolis project is precisely to clarify these problems, using a single definition at world scale. This definition is based on :

a) a simple morphological criterion through space and time : the continuity of built areas (200 meters between constructions).

For instance, in this paper, we have shown that this definition allows to compare the population size of Delhi and Bombay agglomeration. The Geopolis definition allows to eliminate the technical or methodological bias of the official definition, linked in the case of India to the problem of the spread of an agglomeration over different administrative entities.

b) a single thresholds (10,000 inhabitants) applied at a world scale, even if the national definition uses an other threshold.

For instance, the minimum population size for an agglomeration to be urban is 200 inhabitants in Denmark, 2,000 in France, 10,000 in Greece... Using a same threshold is the only way to compare statistical indicators such urbanization rate, number and density of agglomerations.

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