

Neha Sami, Jessica Seddon, and Arindam Jana

# Density in various forms



- In brief:**
- Indian census data suggests that around a third of citizens live in areas that could be considered urban, with this set to rise to about 40% by 2030.
  - However, in addition to population numbers and density, the criteria to be considered urban also contains a less conventional stipulation that at least 75% of adult main male workers in an area must work in non-agricultural activities.
  - This means that there are many areas that would normally be considered urban but are not. Therefore potential opportunities for growth and development are ignored along with the challenges they pose.
  - The authors suggest that expanding the definition of urban could help guide better investment and would better utilise these areas for India's development and growth

*This project was  
funded by IGC India*

## Background

The Swachh Bharat Mission (SBM) seeks to improve “hygiene, waste management and sanitation across the nation.” It covers a range of investments in “Swachh” – from solid waste management to behaviour change communication across the country. When it comes to human waste, however, it focuses squarely on the citizen interface: the toilet. Although the mission guidelines offer a full range of options and clusters from individual toilets, to community and mobile toilets, it largely emphasises investments in this one aspect of the sanitation chain plus the minimum back end processing required make these receptacles “sanitary.” The urban guidelines call on urban local bodies (ULBs) to facilitate connections to existing sewerage networks within thirty metres of the new toilets, and both rural and urban manuals offer detailed technical suggestions about onsite treatment options for different types of subsoil and population density<sup>1</sup>.

Neither considers the network, nor the deciding criteria choice between network and onsite solutions. Sewage networks, the infrastructure for pooling and treating the waste, are left to other programmes such as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and other state-level initiatives. And the programmes, in turn, focus only on the officially declared urban areas. These, as we will argue here, are a limited subset of the areas that require urban-like infrastructure investments in India.

The momentum for sanitation is growing, but what’s lost in the portfolio of schemes and the division of territory into urban and rural is the basic ability to match infrastructure solution to requirement – the solution to the need. In this case, the right system – networked or not – for collecting, treating, recycling, and disposing of human waste depends significantly on population density. And there are substantial areas with urban-like density outside of the regions that programmes like AMRUT target.

This blind spot extends across a range of targeted investments in India’s infrastructure development. Rural and urban programmes typically ground their eligibility criteria in terms of state-sanctioned urban areas or Census of India definitions. Just over a quarter (26%) of the country lives in settlements that have recognised urban governments (as opposed to panchayat leadership). The census figures suggest that the country is about one-third urban and growing: the official percentage of the urban population in India was 27 per cent in 2001 and 31 per cent in 2011. Projections vary, but 40% urban by 2030 is a common figure in public discussion.

Yet these counts, based on an unusual three-criteria definition of “urban” determined by population size, density, and employment structure, misses much of emerging urban reality that policymakers, private investors, and communities will have to manage in order to meet India’s development goals.

## Overview of research

Our analysis of 2011 census data shows a different picture. Nearly half - 44% - of India’s population already lives in settlements that are large enough and dense enough to be considered urban by the census if their employment structure were less agricultural. This figure is conservative, since it does not consider clusters of settlements that are contiguous, economically linked and together have populations larger than 10,000 persons along with the required density. More than half - 55% - of India

---

<sup>1</sup>Gol (2014). Guidelines for Swachh Bharat Mission (Urban) [http://swachhbharaturban.gov.in/writereaddata/SBM\\_Guideline.pdf](http://swachhbharaturban.gov.in/writereaddata/SBM_Guideline.pdf) and Gol (2014). Guidelines for Swachh Bharat Mission (Gramin). <http://www.mdws.gov.in/sites/default/files/SwachBharatGuidelines.pdf>

lives in settlements that are more than 800 people per square kilometre, twice the density required to be considered urban by the census. Nearly three quarters - 73.7% - live in settlements that have more than 400 people per square kilometre. We are not the first to highlight India's uncounted urbanisation and our hope is that the starkness of the simple census figures will draw more attention to the fact that India is already highly urban.<sup>2</sup>

## Defining what is urban

Most countries define urban in terms of two criteria – some cut-off for population size, and some cut-off for population density. About a quarter of countries use population alone, assuming that density goes along with it. China's definition, on the other hand, focuses on density, with some exceptions for giving areas an urban administrative status. The cut-off points vary, but the underlying point of having two dimensions carries across countries. Human settlements change at higher density and population size. People have more random, unplanned interactions with each other, a condition for violence and tension in some contexts; but also the root of the creativity and innovation for which cities are celebrated. Peoples' activities – the noise from their businesses, the emissions from their cooking, the wastes from their households and excretions – affect each other more. Social norms, regulations, and infrastructure solutions become more important. And the state – or some other kind of social organisation and community action – needs to respond.

India, on the other hand, conflates the basic demographic and physical aspects of cities with the aspirations for what these settlements will produce. The census definition adds a third criterion: that areas can only be urban after the transition from agriculture to industry and services has happened. The official definition for being recognised as urban in the census (not necessarily having an urban form of local government, which is a separate issue) is that a settlement has at least 10,000 people, a density of 400 people per square kilometre, and at least 75% of adult main male workers in non-agricultural activities. This last criterion is usually considered an *outcome* of urbanisation, not a defining characteristic. Even those countries, such as Japan, that do include an employment structure criterion for urbanisation generally set the cut-off lower. Using Japan's 60% non-agricultural workforce cut-off on 2001 Indian data, for example, would bring India's level of urbanisation to nearly 40% of total population.

This restrictive approach to counting urban leaves India with a significant blind spot in addressing the pressing challenges of laying the foundations for harnessing its unique demographic position (lots of young workers) in a resource-constrained (water and land in addition to finance) setting. Nearly half of the population lives in urban-like conditions with rural-like jobs and social conditions. This has to change, but its evolution will be unlike the paradigmatic shift from rural, agrarian, conditions to denser, larger, urban-like labour markets.

Underestimating the level of 'urban-ness' in India means that we ignore potential opportunities for

---

<sup>2</sup> We are not the first to highlight India's under-counted urban. If the entire population living within commuting distance of cities and their labour markets were counted as "urban," for example, as much as 52 per cent of India would have been considered "urban" in 2001. (Uchida and Nelson, 2010). Chandrasekhar (Chandrasekhar, 2011) analysed National Sample Survey data from 2009-10 and estimated that roughly 8 million workers residing in areas that the census considers rural areas travel to work in urban areas. They constitute about 9 per cent of the total urban non-agricultural workforce. Others have focused on the physical rather than labour market realities, and argued that all agglomerations that have a population greater than 10,000 and appear to have contiguous built-up area should be counted as "urban", thereby estimating that 37 per cent of India was urbanised in census 2001 (Denis and Marius-Gnanou, 2011). This study defines agglomerations based on contiguous built-up area and then sums the local unit populations from administratively defined settlements.

growth and development that exist in these spaces, but also fail to deal with the challenges that they pose. It has implications for investment in social and physical infrastructure, the development of appropriate governance and governmental structures and frameworks, and the approach to economic and social policy and planning in India. Denis et al<sup>3</sup> remind us this uncoun­ted urban population, what they call “subaltern urbanisation,” is a force to be reckoned with, politically, economically, and otherwise. The dynamism of these areas comes from an agency of “people on their own.”

## Conclusion

Helping “people on their own” become part of a larger, sustainable, “nation on the rise,” requires acknowledging India’s actual urban status. This will mean expanding and reprogramming investments in social and physical infrastructure to enable the residents of these areas to cope with the challenges that greater densities bring. For example, improving sanitation and waste management as the illustration at the beginning indicates. Our limited acknowledgement of urban-like density in infrastructure investments is contributing to public health risks from air pollution to water-borne illness. The move to extend the reach of LPG as a cooking fuel and support advanced low-emission biomass stoves in rural areas marks important progress in this context. Chimneys simply make indoor air pollution an outdoor hazard in higher-density areas.

Ensuring that the uncoun­ted urban evolves on a sustainable trajectory and meets the expectations we now have for “cities” will also require investing in schools and healthcare facilities as well as recreational spaces. Increasing the number of thriving, employment-generating urban settlements will mean developing new programmes and schemes and sharpening the focus of existing ones to enable a successful transition from agricultural to non-agricultural occupations in areas that are already coping with other urban pressures.

Failing to see this part of urban India - being dense about the reality behind the data - could lead to us wasting India’s one of India’s most important assets, the dynamism of its people and the communities around them.

---

<sup>3</sup> Denis, E., Zerah, M-H, P. Mukhopadhyay (2012). “Subaltern Urbanisation in India,” *Economic and Political Weekly* Vol. 47, Issue No. 30, 28 Jul, 2012.