

SMART CITY AND URBANISATION IT'S PROBLEMS AND CHALLENGES FOR IMPLIMENTING IN INDIAN PERSPECTIVE

Srinivasa. K.R.

Associate Professor

Department of Economics, Government First Grade College, B.H Road, Tumkur

ABSTRACT

The economic dimensions of India's urbanisation challenge are large, but the social and cultural factors resulting from the sudden urban demographic bulge also present a daunting challenge. It is believed that much of the socio-economic upheavals look potentially surmountable through poverty alleviation and job creation. It is in this context that one must identify the pillars of a sustainable urban dispensation. India is projected to add 404 million people to its urban population between 2014 and 2050. The annual growth in urban population in India between 2010 and 2015 was 1.1% – the highest among the major economies, according to the UN World Urbanisation Prospects report 2014. Indian cities already contribute more than 62% to our national GDP.

A city that has an advanced model of technology but is badly planned, with outdated legal frameworks or lacking a good financial model, will only aggravate the dysfunction in the city. A 'smart city' is a city that uses technology in a 'smart' way to reinforce the pillars of urbanization."— Dr. Joan Clos, executive director, UN-Habitat.

At a time when the idea of a 'smart city' dominates policy discourse, India is faced with a very real urbanisation challenge. The socio-spatial hierarchy in the country's ever-expanding cities is growing deeper, even as inequalities of income, access and opportunities remain un-arrested.

INTRODUCTION

The ever-growing Indian cities are also emerging as poverty centres. Two Indian metros, Delhi and Mumbai, were among the ten largest urban agglomerations in the world in 2014, while another, Kolkata, is set to be among the world's top 15 by 2030, according to the UN.

There were 0.9 million homeless people in urban India as per the Census data of 2011, in addition to a slum population of roughly 65 million (or 17% of urban India). People from India's distressed rural areas, home to 833 million people, are migrating in large numbers to urban centres. Migrants make up a sizeable chunk of India's urban population, last recorded at 35% by the National Sample Survey Organisation in 2007-08. On a globally comparable index developed by the UN, the proportion of urban population living in slums in India is in fact higher.

Affordable housing is at the heart of building inclusive cities. India's ambitious 'Housing for All' project aims at providing a home to every poor urban household by 2022. More than 90% of the housing shortage in urban India is faced by economically weaker sections and low-income groups, according to government data. At the same time, 7.5 lakhs apartments remain unsold across the Mumbai Metropolitan Region, the National Capital Region, Bengaluru, Pune, Chennai, Hyderabad and Kolkata, indicating the high demand-supply mismatch. While demand is mostly in the affordable housing segment, the supply is high in the higher-price segments. In addition, McKinsey in 2014 estimated that 33% of existing houses in India are of sub-standard quality.

Water supply and sanitation facilities are crucial to the sustenance of urban life, regardless of income status. As of today, piped water, which is anyway available to only about half of the urban population, is never distributed for more than a few hours per day. The amount of Non-Revenue Water, which basically means water unaccounted for (i.e. leakages, stealing, unauthorised connections, collection inefficiencies, etc.), is incredibly large, at anywhere between 40% to 70%. One is only reminded of the same situation with power transmission and distribution losses in urban India (estimated at 27% by ICRA). Only about 18% of slum areas have precarious access to piped water. Non-notified slums (which amounts to 60% of all slums) are completely deprived of water supply.

As per 2005-06 National Family Health Survey, only about 47% of the slum population has access to basic sanitation facilities (flush or pit), which means about 35 million people in urban India – akin to the population of Canada – are living in unsanitary and potentially hazardous conditions. Of the total urban population, about 83% have access to sanitation facilities.

INDIA'S UNPLANNED URBANISATION IS FAR FROM 'SMART'

While the government talks about smart cities, the reality of India's urbanisation is a web of increasing inequalities and powerless local authorities.

STATE OF OUR CITY GOVERNMENTS

Following the 74th amendment to the constitution, constitutional status has been vested upon urban local bodies (ULBs) and specific civic responsibilities allocated to them. Schedule 12 of the constitution provides a list of subjects under the purview of ULBs. The list includes urban planning, regulation of land use, construction of buildings, roads and bridges, water supply, sanitation and solid waste management, environment, and the provision of urban public amenities and conveniences. These cover two of the most crucial components of successful urbanisation: infrastructure and basic amenities/services.

The 13th Finance Commission first recommended a fixed percentage share of the central divisible tax pool for ULBs. However, that share remains below 2% and is converted into 'grant-in-aid' so as to conform to the constitution that underscores the primacy of state governments in local matters. Thus, administrative devolution – in addition to financial devolution – remains half baked. The 14th Finance Commission, citing lack of mandate, desisted from making further reforms with regard to ULBs.

A global comparison of municipalities is revealing. While the share of local governments in total Chinese government revenue is 25%, the share in India is 3%, indicating the parlous state of finances in India's mushrooming urban habitats.

The share of property tax, which is the mainstay of municipal revenues in India, in the country's GDP is lower than the global average, even than that of its BRICS counterparts.

Expenditure-wise too, India's local government spending is way below comparable economies. The OECD publishes data with respect to local government spending (as a share of GDP), but does not include data on China and India.

The available Indian data on local government expenditure does not incorporate rural local bodies. According to the 13th Finance Commission report, ULBs' expenditure as a share of GDP was 1.54 % in 2007-08. Since data for combined local government share is unavailable for India, it makes sense to consider analogous data by considering the expenditure of ULBs as a share of *urban GDP* (which is 62 % of total/national GDP, last estimated). This share calculates to about 2.48% during the given year.



Remarkably, many of these planned futuristic high rises will grow out of existing buildings by using columns installed in chimney ducts to vertically support the new structures. Other plans make use of disused railway lines or repurpose existing structures. All eight typologies have the same goal: to make Paris a model green city. Aside from foliage, the smart buildings will use a number of other green technologies including:

- Solar voltaic panels
- Solar heating systems
- Hydro-electric power
- Water re-purification and recycling systems

Wind turbines and flexible photovoltaic textiles will also be used to produce energy and vertical gardens will both purify the air as well as provide space for the farming of vegetables hydroponically.

SMART GREEN CITIES OF TODAY

SmartCity Kochi, located in the Kerala Special Economic Zone in India, is the latest in a series of business townships built by the SmartCity Group. An earlier development in Malta was awarded a Leadership in Energy & Environmental Design (LEED) Silver certificate by the US Green Building Council. Due for completion by March 2015, SmartCity Kochi's first building will be a LEED Platinum building with 85 per cent energy efficiency.

Some of the steps the developers took in order to achieve this rating include:

- Preservation of the natural terrain and flora
- Solar outdoor lighting
- Rainwater harvesting
- Environmentally responsive building

The building envelope includes double-glazed windows to minimise heat transfer. Inside, natural ventilation systems and passive cooling minimise the need for air conditioning.

Perhaps the most ambitious smart city development is the Fujisawa Sustainable Smart Town (Fujisawa SST) located on the outskirts of Tokyo in Japan, aimed at bringing energy to life. Working together with Fujisawa City and 11 partner companies including Panasonic Corporation as the lead organiser, plans were unveiled to create Fujisawa SST in 2011. The city went into full-scale operation in November 2014.

Over 85 percent of the world's population will likely live in a city by the end of the 21st century. Today in a special hour-long broadcast, we're exploring what the urban centers of the future will look like. This is what you'll hear today:

THE TOP 10 IMPLEMENTATION CHALLENGES FOR SMART CITIES IN INDIA

- 1. Retrofitting existing legacy city infrastructure to make it smart:** There are a number of latent issues to consider when reviewing a smart city strategy. The most important is to determine the existing city's weak areas that need utmost consideration, e.g. 100-per-cent distribution of water supply and sanitation. The integration of formerly isolated legacy systems to achieve citywide efficiencies can be a significant challenge.
- 2. Financing smart cities:** The High Power Expert Committee (HPEC) on Investment Estimates in Urban Infrastructure has assessed a per-capita investment cost (PCIC) of Rs 43,386 for a 20-year period. Using an average figure of 1 million people in each of the 100 smart cities, the total estimate of investment requirements for the smart city comes to Rs 7 lakh crore over 20 years (with an annual escalation of 10 per cent from 2009-20 to 2014-15).)
- 3. Availability of master plan or city development plan:** Most of our cities don't have master plans or a city development plan, which is the key to smart city planning and implementation and encapsulates all a city needs to improve and provide better opportunities to its citizens. Unfortunately 70-80 per cent of Indian cities don't have one.
- 4. Financial sustainability of ULBs:** Most ULBs are not financially self-sustainable and tariff levels fixed by the ULBs for providing services often do not mirror the cost of supplying the same. Even if additional investments are recovered in a phased manner, inadequate cost recovery will lead to continued financial losses.
- 5. Technical constraints of ULBs:** Most ULBs have limited technical capacity to ensure timely and cost-effective implementation and subsequent operations and maintenance owing to limited recruitment over a number of years along with inability of the ULBs to attract best of talent at market competitive compensation rates.
- 6. Three-tier governance:** Successful implementation of smart city solutions needs effective horizontal and vertical coordination between various institutions providing various municipal amenities as well as effective coordination between central government (MoUD), state government and local government agencies on various issues related to financing and sharing of best practices and service delivery processes.
- 7. Providing clearances in a timely manner:** For timely completion of the project, all clearances should use online processes and be cleared in a time-bound manner. A regulatory body should be set up for all utility services so that a level playing field is made available to the private sector and tariffs are set in a manner that balances financial sustainability with quality.
- 8. Dealing with a multivendor environment:** Another major challenge in the Indian smart city space is that (usually) software infrastructure in cities contains components supplied by different vendors. Hence, the ability to handle complex combinations of smart city solutions developed by multiple technology vendors becomes very significant.

- 9. Capacity building programme:** Building capacity for 100 smart cities is not an easy task and most ambitious projects are delayed owing to lack of quality manpower, both at the center and state levels. In terms of funds, only around 5 per cent of the central allocation may be allocated for capacity building programs that focus on training, contextual research, knowledge exchange and a rich database.
- 10. Reliability of utility services:** For any smart city in the world, the focus is on reliability of utility services, whether it is electricity, water, telephone or broadband services. Smart cities should have universal access to electricity 24×7; this is not possible with the existing supply and distribution system. Cities need to shift towards renewable sources and focus on green buildings and green transport to reduce the need for electricity..

WHAT'S THE PROBLEM?

- Evangelical sloganeering from science, technology and engineering – which proclaim the smart city as the solution to all urban ills – has drowned out criticisms from the social sciences about the human problems they create.
- These problems are particularly evident in purpose-built smart cities such as Dholera, India, where farmers have been dispossessed of their land in order to build the city; in Masdar in the United Arab Emirates, which sacrificed its zero-carbon features after the global financial crisis; and in Songdo, South Korea, which has so far remained a ghost town.
- All of these cities have reneged on their grandiose pledges to address the issues which accompany migration, urban population growth and climate change.
- Taken together, new and retrofitted smart cities create uneven geographic development. They further marginalise farmers, informal workers, micro-entrepreneurs and indigenous people living in villages, small towns and poor urban neighbourhoods. Yet they are still uncritically adopted by developing countries as good examples of urban innovation.

CONCLUSION

For those with a stable roof over their heads, quality of living is also impacted by the overcrowdedness that Indian cities face. Already, population density in Indian cities is ludicrously high. According to UN data on population density (people per square kilometre), Indian cities are among the most densely populated in the world.

Another figure worth looking at is vehicular population. Most Indian metros are generally a traffic nightmare, especially during rush hours. Indian cities have low vehicle per capita, given the huge population and low per capita incomes. But while India's road network grew at an annual rate of 4% since 1951, the number of vehicles plying on our roads has increased at a rate of nearly 11%. This inevitably leads to choking of roads and increasing pollution. On a global comparison, India's vehicle per kilometer of road is also among the lowest in the world ranked at 129th among a list of 141 countries. This data crucially excludes two-wheelers. According to recent Ministry of Road Transport and Highways data, two-wheelers (scooters, motorbikes) accounted for as much as 71.8% of the 141.8 million vehicles plying in 2011. One can imagine what vehicular density will look like in India once a globally comparable index is arrived at with two-wheelers accounted for.

REFERENCES

1. Funding Opportunity: Grants for Gambling Research (Round 9) —Melbourne, Victoria
2. Research Week — Perth, Western Australia
3. A Fragile Inheritance: Radical Stakes in Contemporary Indian Art— University of Sydney, Australian Capital Territory
4. Sydney Asian Art Series lecture by Saloni Mathur: A Fragile Inheritance — Sydney, New South Wales
5. Geography of the World's Plant Populations — Sydney, New South Wales
6. India smart city plan policies publications. New Delhi. And Internet sources.