

The smart cities: a story of urban transformation

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Cities around the world are juggling with problems that inherent with rapid urbanization and development. The rapid urbanization is putting a lot of pressure on the available infrastructure facilities like water, sanitation, housing, educational institutions, waste management, hospitals, and mobility etc. in the urban areas. As a result, the vision of urban transformation often gets delayed or side-tracked, especially in a highly-developing country like India. Some of the roadblocks in the path of urban transformation are as under:

a) Urban Sprawl – Rigid master plans, stringent development controls and building bylaws in terms of zoning regulations, floor space index (FSI), ground coverage, setbacks and high restrictions hinder the cities to grow in a compact form (Brueckner 2007). There are very few Indian cities that have a timely updated development plan. These land use plans are usually not integrated nor made in consultation with the mobility plans or socio-economic development plans of the city (World Economic Forum 2016). This induces urban sprawl that results in expansion of the city and its encroachment upon rural land. Urban sprawl causes various issues of urbanisation such as environmental pollution, traffic, congestion, depletion of green areas, increases commuter trip lengths personal motor vehicle ownership thereby, increasing the cost of providing infrastructure and public services (Zhang 2015).

b) Poor Urban Infrastructure – The growth of India's urban population has not been accompanied with an adequate increase in basic urban infrastructure and services and the Indian cities are severely lacking in basic infrastructure and service provisions like water shortage; insufficient access to clean

drinking water; lack of affordable housing for the marginalized sections of the society; inadequate public transport; congested roads poor segregation of solid waste; low sewage treatment; unaffordable and poor quality of healthcare facilities; inadequate educational facilities and many others. In fact, the cities and towns are unable to provide basic amenities to its citizens even at their current population levels. Poor infrastructure adversely affects the ability of cities in attracting investment in this globalized world. Coping cost as well as loss of productivity due to poor infrastructure has been also been documented in the Twelfth Five Year Plan (2012-17) (Planning Commission, Government of India 2013). The incidence of such coping cost is disproportionately higher for the economically weaker section (EWS) and other vulnerable groups, not only due to deficiency in provision of such facilities itself but also due to the their ability to access even freely provided amenities.

c) Insufficient Resources with Urban Local Bodies (ULBs) – In India, the ULBs are not able generate enough revenue to build new urban infrastructure. According to HPEC (2011), the revenue collected by ULBs in India is less than 0.9% of the country's GDP and is considerable less than that of countries like Brazil (7.4%) and South Africa (6%). Some of the key reasons behind the poor state of municipal finances are the narrow, inflexible and non-buoyant tax base; broken financial accounting and audit systems and the inability of municipalities to levy and recover taxes and user charges. The primary sources of revenue for urban local governments are property taxes and user charges, however, low tax rates, under valuation of property, slack enforcement and poor collection efficiency has resulted in an inadequate

revenue base for the ULBs to carry out urban development projects (World Economic Forum 2016). For example, the Economic Survey 2017 highlighted that cities like Bengaluru and Jaipur collect only 5–20 percent of their property tax potential.

d) Absence of Robust Framework of Urban Planning, Plan Enforcement and Project Development – For efficient urbanization, urban planning should take precedence to usher urban development and infrastructure creation.

Development projects have two prerequisites: spatial planning and financial management. Development of physical or social infrastructure in a city must be based on a comprehensive spatial development plan. This prevents piecemeal and haphazard development of cities. A robust framework for the preparation, implementation and enforcement of spatial plans is a non-negotiable condition for the success of developmental projects. Similarly, strategic measures for prudent financial management need to be adopted to ensure revenue maximization, cost optimization and increased transparency in financial operations. In India, the urban planning framework is weak and needs to be strengthened. As per Census 2011, about half of the 4041 statutory towns do not have a master plan. Moreover, the master planning approach, which is focussed on zoning, land use and FSI control, lacks spatial development aspect and is thus, not able to guide the long-term vision for the city. There are serious shortcomings in the current master plan framework with respect to plan preparation, implementation and enforcement such as limitation of the master plans to municipal limits and its lack of consonance with regional development; poor sectoral integration within departments due to lack of data, mapping and Geographical

Information System (GIS) tools; the gestation period of the entire process of plan preparation, consultation and notification is very high leading to a change in the actual ground condition.

e) Inadequate Human Resource Capacities – There is a severe shortage of human resource capacities in the urban sphere at all levels, especially the ULBs. The municipalities are heavily under-staffed and moreover there are significant gaps in the skills required in urban management and the skills available. Professional municipal cadres do not exist and the recruitments rules are also saddled with old job descriptions. Capacities in structuring and implementing PPP projects are severely lacking at both institutional and individual levels. This results in lack of technical expertise in the ULBs, thereby, making the city officials unequipped to deal with urban challenges. As a result, support from the private sector is often sought by many cities to resolve urban issues (World Economic Forum 2016). Capacity building efforts in the past have mostly focussed on training only and not much emphasis has been given on strengthening the education system, developing contextual research and knowledge development programmes and promoting knowledge exchange and peer to peer learning for quick dissemination of new knowledge and best practices as well as learning from each other. Thus, the huge capacity gaps in urban planning and management needs to be bridged.