

Challenge of Making Smart Cities in India

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Abstract :

The Indian government has launched the Smart Cities Mission on June 2015 with the aim of providing better quality of life to the citizens in 100 cities of the country. This paper describes the main features of the Mission and attempts to explain the challenges in the way forward. The information provided in the paper is presented in six sections. Section on highlights the unique characteristics of India's cities and establishes the need for better urban negative effects of urbanization to which include informal growth in pre-urban areas, escalation water crisis, social exclusion, extension of slums, and mismanagement of solid waste. In the next section, the impact of past urban reform initiatives is discussed and attention is drawn to the difficulties being faced in overcoming some enduring challenges. It is emphasized that civic institutions should correctly understand a city's social, economic and physical requirements and its diversity, and respond accordingly. At the same time, citizens should show a greater sense of civic responsibility.

Introduction :

A noticeable global phenomenon is the concentration of people in cities and urban agglomerations (UAs). It is common knowledge that people tend to live and work in an urban setting because the available opportunities help them progress in their lives. Cities of developing countries such as India prominently display these trends. At the same time however, urban condition in India are exceptionally different and complex. For instance, although India's urban population proportions and comparatively less than the global average (31.15 per cent as per the 2011 Census of India), the size of the population is huge (377.11 million) and is growing by the day. City/urban agglomeration (UA) level data show as many as 53 recording a population of over a million, including three namely Delhi, Mumbai and Kolkata – that are over 10 million (Census of India, 2011a).

Though there are many genuine reasons for the difficulties experienced in Indian cities, one could also say that to a great extent the problem lies in the disconnect between what is needed to be done for the urban society and what is being done by the stakeholders in governance. A continuation of this pattern of growth and governance is quite likely because the intensity and commitment with which the matter needs to be dealt with is simply lacking. For example, sufficient efforts and interventions are not being made to improve the situation in rural area and in small and medium towns. Many are in a state of utter neglect, as evident from the abysmally poor ns of their residents. One implication of this negligence is out migration of a large number of people to prosperous cities, which offer some kind of respite. But, it urbanization is to benefit the nation and the society. The current pattern in India is that city densities are increasing by the day and the obvious consequence of a governance deficit is deterioration in the urban quality of life.

Urbanization concerns in India:

A visit to any Indian city reveals the general state of affairs. The entire urban landscape looks affairs. The entire urban landscape looks rather like an unplanned sprawl with built up residential and commercial structures mushrooming haphazardly. Maintenance and upkeep of public places is generally lacking. A closer assessment shows noticeable imbalances in physical development and in the level of basic infrastructure and services within and between cities. While the rich live in planned and well-serviced gated complexes, households belonging to the low income group reside in informal settlements and slums with insufficient or no access to civic services. Mobility is severely impaired due to insufficient public facilities, and irregularities in traffic management often result in road accidents. When it rains, water logging happens at many places, which further restricts mobility. As urbanization has brought together people from diverse

social, cultural, economic and religious backgrounds, the problem of stress, violence and crime is rising. Assault on women has emerged as a major problem. In this respect, data released by the National Crime Records Bureau show Jodhpur (Rajasthan), Delhi and Gwalior (Madhya Pradesh) as the top three Indian cities, which are most unsafe for women (The Indian Express, 2016b). Another problem is the frequent occurrence of violence between religious communities. Ahmedabad (Gujarat) is a notable example where religious violence between the Hindus and Muslims has erupted on numerous occasions. Such incidents have created an environment of fear among the masses, and led to social polarization (PRIO and ORF, 2016; Rediff.com, 2014). Thus, Indian cities do not represent examples of planned, equitable, safe and sustainable development. This current state of affairs can be attributed to the fact that many parts of the urban setting remain completely ungoverned and unregulated, and thus a large number of citizens/informal sector workers/commercial establishments utilize public spaces and drive their motor vehicles in a disorganized manner. It is pertinent to gain a deeper and wider understanding of the difficulties that beset India's urban sectors.

Informal growth in pre-urban areas:

One of the ill effects of urbanization is uncontrolled population and physical growth in pre-urban areas. Those people who are unable to live in prime areas of a city due to the affordability factor find pre-urban areas as ideal places to reside and operate from. Haphazard growth occurs because pre-urban areas are weakly governed. Two factors are responsible for this problem. First, there is lack of clarity among the government agencies on the physical boundaries of the pre-urban areas. Neglect in monitoring physical development in such areas over a period of time allows migrant settlers to carry out constructions many-a-times extend into the adjoining rural area. Due to this reason, neither the urban nor the rural agencies come forward to take ownership of pre-urban areas, and their administration gets neglected. Secondly, rural-urban jurisdiction ambiguity also prevents the agencies from formulating and applying appropriate land and building regulations.

The pressure created by urbanization has thus a severe impact on the pre-urban areas, which suffer from a host of social, economic, development and environment problems. For example, there is a sharp increase in population densities and in the number of unauthorized residential, commercial and industrial structures. Physical changes are carried out unlawfully without any reference to local development plans, development controls and building bye-laws, while necessary approvals usually not sought.

Social exclusion:

The Indian government has a clear legislation and policy for protecting the rights and welfare of poor communities living in cities. For this purpose, a wide range of pro-poor schemes have been implemented from time to time. Empirical studies, however, reveal that the benefits of various development schemes are partly reaching the intended beneficiaries. This is noted in the city of Varanasi (Uttar Pradesh), which is the parliamentary constituency of the current Prime Minister, Narendra Modi. In this city, the plight of handloom weavers is deplorable. Their silk weaving activity and income are adversely affected by numerous problems, including growth of power (electric) looms, exploitation by middle men, rising prices of computer-generated design cards used by them to print creative designs on the silk fabric, as well as poor working conditions within their houses. In the opinion of handloom workers, sufficient measures are not being taken by the concerned government agencies to address their concerns.

The rapidly transforming and rich city of Pune (Maharashtra) presents a case of food insecurity. This is the impression among the slum dwellers who face difficulties in availing food grains and kerosene from fair price shops as per their entitlements. Such problems occur not because of food shortages in the city but due to misappropriation of food grains, which are solely meant for public distribution (Info change Agenda, 2014). Another area of exclusion is housing. This is noted in Ahmedabad city, where poor communities have been relocated to the city periphery because land was needed for a river front development project with

respect to one case of relocation, proper housing and basic facilities of sanitation, as well as transport, health and streetlights have not been provided nor any employment opportunities created due to which the relocated families are facing great hardship.

Extension of slums:

In India, as in many developing countries, urbanization has led to the formation of slums. These are areas where the poorest of the poor live. Their houses are worn down, basic civic amenities are usually not available, and the environmental conditions in the area are unfit for human habitation. Slums have come up because of migration and the city. Governments' inability to create an affordable housing stock for the poor migrant population. Due to negligence in monitoring vacant lands, poor migrants build temporary structures for living. Even when legal provisions are introduced for reserving houses for the poor in the housing stock created by the private builders, these are not adhered to.

In terms of numbers, about 5 per cent of India's total population and 17 per cent of its total urban populations live in slums. Between 2001 and 2011, the slum population of India grew by 25 per cent (Census of India, 2011b). A worrying trend is the emergence of slums in some Northern and Northeastern States, which previously did not report their existence. Five cities – namely Vijayawada and Greater Visakhapatnam (Andhra Pradesh), Jabalpur (Madhya Pradesh), Greater Mumbai (Maharashtra), and Meerut (Uttar Pradesh) have recorded over 40 per cent slum households. With regard to the status of amenities available to the slum dwellers, the all-India data show that many slum households do not have drinking water source (43 per cent) and toilets (34 per cent) within their premises (Census of India, 2011c).

Escalating water crisis:

Human settlements require a sufficient and equitable supply of water. But the reality in most Indian cities is that this goal is far from achieved. In planned residential colonies, for example, piped municipal water is received for about 2 hours each in the morning and evening, and the water supply and pressure have gone down significantly over the years. The quality of water is another issue. In view of the current situation, residents make their own arrangements for obtaining, storing and treating water. They install powerful electric motors to forcefully pull water directly from the pipeline during supply hours, install underground/overhead water storage tanks, and buy water purification systems to protect their health. These measures have had a direct impact on their income, as observed from the increasing private (individual) costs of inadequately provided public services and infrastructure. As for unplanned colonies and slums, they present a contrasting picture of major water inadequacies. Formal systems (piped supply) have generally not been put in place and hence illegal ground water extraction is rampant. These practices have led to declining ground water levels.

Mismanagement of solid waste:

Cities generate enormous quantities of solid waste and therefore mechanisms have been created for its collection and disposal. The sanitary condition of Indian cities is, however, unsatisfactory, as waste is often dumped by the generators at inappropriate places such as roadsides, vacant lands, open drains and surface water bodies. The situation is better at places where door-to-door collection services are available. But service providing agencies sometimes commit irregularities in handling waste. Sufficient efforts are not being made to segregate waste at source and hence the quantities generated are huge (CPCB, 2012). Such practices also rule out the possibility of recycling, as all types of waste gets mixed up. There are delays in the removal of waste from intermediate collection points, and at the final disposal sites, sufficient space for storing waste is not available. The heaps of waste lying at disposal sites is also a threat to human health because during the rainy season, water dissolves toxic waste materials and contaminates surface and ground water. As the capacity of dumping sites in some cities (such as Delhi and Ahmedabad) is exhausted, there

are instances of waste being dumped by city governments on vacant lands in pre-urban areas lying outside city limits.

Enduring challenges:

Notwithstanding these recent initiatives, the fundamental question remains as to why Indian cities are unsustainable and inequitable. Indeed, when compared with global cities, Indian cities continue to lag behind on numerous development parameters despite the existence of an urban governance machinery at the national, state and local level, as well as democratic institutions, high GDP, availability of financial and manpower resources and implementation of a series of reform measures.

There are several answers to this question, including the following:

1. While most of the ingredients needed for the urban transformation exist, their full potential remains underutilized.
2. There is negligence in monitoring the progress of development schemes and in the upkeep of public places.
3. Sufficient efforts are not being made to understand the working conditions of functionaries (i.e., local government officials and elected representatives) and their grievances.
4. Governance practices are influenced by numerous internal and external forces. In other words, due to vested interests, civic officials and elected representatives do not perform their duties efficiently and at times indulge in corrupt practices.
5. When citizens see a management and governance deficit, many of them operate in an irresponsible manner.

Conclusion:

The present leadership of India has launched the Smart Cities Mission in June 2015 with the aim of giving a better quality of life to the citizens in 100 existing cities covering all States and Union Territories in the country. A five year timeline has been kept for completing the development projects proposed for each city. During the past one year, preparatory work has been done at the national, state and local level to take the Mission agenda forward. As per the current status of the Mission, some cities have prepared their smart city plans and constituted Special Purpose Vehicles for implementing the projects. The Union Urban Ministry is urging governments at the State/UT/local level to take pro-active steps in mobilizing matching amount of funds, as well as in preparing and implementing the projects on time, so that the completion deadlines are met. The ADB and World Bank have also agreed to extend a loan for the implementation to bankable projects. An appraisal of India's Smart Cities Mission attempted in this paper reveals that after nearly one year since the launch of the mission, the process of physical transformation of cities is yet to begin. Hence, it may be concluded that only when the projects begin to be implemented, it will be clear how much and by when success is achieved. For the success of the Mission, this study lists down the following propositions:

1. Government departments and residents in India will have to respond in a proper and responsible manner if the vision is to be achieved.
2. Centre, State and local leadership must work together to find ways to deal with the complicated environment that currently hampers urban development in a big way.
3. Opportunities should be created for a continuous exchange of ideas and experiences, and the knowledge thus generated should be utilized in refining the smart city strategy.
4. Smart city plans should also contain recommendations on managing neglected problems, such as public safety and security; water, drainage and sanitation deficiencies; traffic congestion and vehicular emissions; environmental degradation; encroachments and unauthorized constructions;

haphazard growth in pre-urban areas; poor management of religious and cultural festivities at public places.

5. Manpower, financial and technical capabilities of traditional urban local institutions should be strengthened by organizing useful training programmes, and the higher tiers of the government should offer the necessary support to ensure that the lessons during training are successfully implemented.
6. Civic agencies should be adequately empowered for project implementation and enforcement of laws.
7. State and local governments should be assisted in increasing their tax and non-tax revenues for day-to-day city management, as well as for meeting the costs involved in implementing new development projects.

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