Built Environment Issues in India and an Approach to Mitigation

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ABSTRACT: The criticality of urban environments is illustrated by the fact that most of today's global environmental problems can be traced back, directly or indirectly, to urban areas and urban lifestyles which have become the preferred choice for a majority of humanity. Along with the benefits of urbanization and agglomeration come environment and social ills including lack of access to drinking water and sanitation, pollution and carbon emissions etc. The quality of the built environment in our towns and cities has a crucial impact on the way they function. Well-designed buildings, streets, neighborhoods' and districts are essential for successful social, economic and environmental regeneration.
This paper looks at the critical effects of urban areas and identifies information as a key policy input. It focus on some recent issues of our built environment in India.

I. URBANIZATION IN INDIA

Rapid urban development leads India to a path of emerging economic hub internationally. Urbanization in India is growing day by day from 6th five year plan (1980-1985) India has reached to its recent smart cities concept. Government announced the ambitious programmed of building 100 smart cities in India. The idea behind is to rejuvenate the ailing urban system, improve urban infrastructure, quality of life and achieve sustainable and inclusive development besides other things. Tremendous demographic pressure, inadequate infrastructure and resources to cater to the population which runs in billions, unplanned growth of the peri-urban sprawls characterize India's urban environment.

India is urbanizing at the rate of 2.47% (annual rate of change 2010-15 est). Nearly 31.3% or 37.71 million of its total 1.21 billion population is now urban (Chandramouli, 2011). According to McKinsey Global (2010), by 2025 it will add 215 million to its cities which will raise the urban population to 38%. Not only this, by 2025 Mumbai and Delhi, its two megacities will become number two and three in the world ranking with expected population of 26.4 and 22.5 million respectively. The rising population and its migration will put tremendous pressure on its megacities, 7395 towns and 1456 urban agglomeration (as per Govt. of India 2011 census) for improved infrastructure and better service delivery. Rising population, rapidly changing demography, rising resource and infrastructure deficit, slack urban governance and poor service delivery are some of the major urban challenges in India which reflect on basic urban amenities such as water, sanitation, sewage, road, transportation among other.

II. CHALLENGES OF URBANIZATION IN INDIA

Urbanization is a major challenge of the 21st century. While it has somewhat stabilized in the developed nations of the west, countries like India, China, Nigeria are urbanizing at a much faster pace. As per World Urbanization Prospect 2014, Revision report India is projected to add 404 million urban dwellers, China 292 million and Nigeria 212 million between 2014-2050. This will add additional pressure to the existing urban centers and also create the demand for more efficient and socio-economically and environmentally sustainable cities.

The growth of Indian cities has been organic. On the socio-economic and cultural spectrum they offer a wide variety in terms of range and kind. The heterogeneous nature adds to the complexity of urban planning as well. The lack of planned development of Indian cities is the result of spatial planning not being central to the socioeconomic planning and result in adverse nature of built environment.

The question inevitably arises - where is the gap, whether at the policy or at implementation level? A democratic constitution that India has, nurtures the ideal of social inclusion in words and spirit. Good governance and satisfactory service delivery are some of the basic expectations of the people from the government.

For better urban functioning change is required at levels of policies, institutions and governance simultaneously.

III. INDIAN BUILT ENVIRONMENTAL ISSUES

The urban area is the ultimate creation of the human mind and need. It is an aggregation of people and activities unparalleled in the history of civilization. Yet the city is only a recent invention. Its development and the spread is so quick that we have often failed to look at its carefully and see just what effect it has on its people. An urban area is designed for what are called four safeties. These are structural safety, which ensure that the structure and services are safe and durable and will not collapse; fire safety, which prevents due to fire and offers protection to urban area from fire; health safety, which ensure adequate provision of livable environment; finally construction safety, which avoid hazards to people during construction. But these safeties, though necessary, Indian urbanization trend is unable to fulfill all these safeties. Major aspects in which India is facing problem regarding its built environment are:-

A. Built Environmental Condition
Health conditions of urban inhabitants and their economic productivity in India have been significantly impaired by poor and unregulated urbanization which leads to degradation of built environment. Recent problems that come forward in urban areas are urban areas are behaving as a heat land, degradation of air quality very recent is SMOG problem in Delhi, urban flood condition due to heavy storm water in urban area. All conditions are linked with each other directly and this leads to effect adversely to built environment. World Bank study concludes that India's annual environmental damages conservatively amounted to 4.5 percent of the gross domestic product at 1992 values.

The three big metro India are among the 10 most polluted cities in world. Six of India's largest cities are suffering from worse air quality. Growing numbers of automobiles exacerbated the problem, apart from this the burning of biomass, wood and coal for domestic cooking in urban slums is another contributory factor in air pollution. Bad air quality not only effects the urban environment but also participates in global warming, to this India is contributing about 8 percent.

Economic use of scarce surface and ground water to meet the basic needs is perhaps the most important challenge facing India today. Poor quality and maintenance of water supply networks results in leakage of scarce water, contributing o low water availability in summer. As of 1997, 90 percent of the urban population had access to water supply facilities that reduce to 88 percent in 2000, pointing to the deteriorating conditions.

Water treatment and supply methods are so poor that urban areas are losing about 25 to 50 percent of water. Untreated sewage and sanitation are the primary reason of degradation of water quality and loss, as per statistic in 1997, 49 percent of urban population had facilities of sewage treatment, in 2000 it rise to 55 percent. Sewage network is provided in less than 20 percent of India's cities; even here facilities are partial.

B. Urban Health and Environment
Poor urban environment quality linked with many diseases. During 19th century, cholera was recognized as a waterborne disease. In 20th century Indian is facing various airborne diseases. Social and environmental conditions were merely seen as contributory factors to the spread of diseases-bearing pathogens. Unplanned urbanization, and the resulting deterioration in basic services, has increased respiratory and gastrointestinal infections in urban areas.

C. Urban Environment and Infrastructure
It is now recognized that having adequate urban infrastructure in place is vital for accelerated economic development as also for a healthy living environment. Along with central government, state government are playing an increasingly important role in developing infrastructure such as water supply and waste water, solid wastes, and hazardous waste disposal systems. However, these initiatives are far from sufficient to meet the existing gaps and growing demands.

The major plan schemes under urban infrastructure include:

a. Integrated development of small and medium towns.

b. Mega city infrastructure development

c. Special component plan for the national capital region planning board.

d. Accelerated urban water supply programmes.

e. Low cost sanitation.

f. Urban transport

The India infrastructure report had estimated an annual requirement of fund of rupee 2,80,000 million for providing water supply and sanitation facilities to the urban population. The central government is planning to augment the financial resources available for waste water projects by allowing privatization. The ministry of environmental and forests has provided funding to several cities to conduct surveys on urban solid waste disposal.

D. Clean Production and Environmental Management in Urban Centre
Many urban centers in India are transforming themselves into hubs of industrial production. They are the "back office" of large cities in country. The quality of life in these centers will suffer unless a policy of clean urban industrial production is followed.

An important input that can influence policy formulation in this direction is public awareness and participation.

IV. APPROACH TO URBAN ENVIRONMENTAL REGENERATION

Urban areas are complex and dynamic systems. They reflect the many processes that drive physical, social, environmental and economic transition and they themselves are prime generators of many such changes. The urban area is the ultimate creation of the human mind and need. Urban environmental regeneration is define as: comprehensive and integrated vision and action which leads to resolution of urban environmental problems and which make urban area more livable space. For proper urban environmental intervention we should have an environmental assessment; mapping and environmental management plan. Rapid urban environmental assessment is more or less anthropological and community focused as cities involves much larger population and spatial area. The assessment process includes three steps- preparing questionnaires for environmental data, preparation of environmental profile, and finally discussion with experts. Environmental management planning provides improve and protect environment quality for urban residents. It includes mitigation measures and identification of problem and most important the land use controls to fulfill all requirements to inhabitant along with all kinds of services.

V. LAND USE CONTROLS

Urban development plan formulation and implementation has notified all the sincere measures for land use and development of cities, but with recent issues it should be modified. The areas of incompatible land use should be identified and accordingly, the source or the receiver should be shifted. This may include relocation of industries, commercial areas, market area, transport lines, etc. the incompatibility may also be avoided by providing buffer between the source and the receiver. Zoning for urban development must include all kinds all development aspects and uses, zoning include zone for industries, residence, green patches, sanitary lines etc. land zoning around pollution sources are extremely important, it should plan according to the type of pollution source.

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