

THE INDIAN PERSPECTIVE OF SMART CITY AND THEIR SUSTAINABLE GROWTH

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Abstract :

Cities have been the engines of economic growth since the industrial revolution. While effective at catalyzing prosperity, city development has not always been “smart” sacrificing human health, for instance, for greater productivity. Smart cities are now emerging. Leading smart cities such as Stockholm, Barcelona, New York, Vienna, and Toronto have incorporated efficiency into buildings, infrastructure, and social spaces using technological advancements, increasing the livability, workability, and sustainability of these places. Inspired by these smart city developments, India is planning to build 100 smart cities in various parts of the country. This research presents insight into how smart cities are likely to evolve in India, by studying the priority areas considered in planning smart cities. It presents both the citizen and city official perspectives of smart cities. The Results indicate that citizens value living, followed by mobility, environment, governance, and economy, whereas the city official prioritize living, followed by environment, economy, mobility, and governance. This research further evaluated the titles of planned smart city projects to determine how many of them can be categorized as smart. The analysis also revealed how city size influences the priorities of citizens and city officials, indicating that the notion of a smart city in India may be context specific. Index Terms—Smart City, Smart Cities Mission, People’s Perspective, Smart City Characteristics.

Key words : *Perspective, smart cities, sustainable, characteristics, models.*

Introduction:

India is amongst the many developing countries witnessing a rapid rural to urban shift. This change is reflected by the greater decadal growth of the urban versus rural population. As India becomes increasingly urban, sustainability issues will become more and more important in determining the quality of life of urban residents, the economic productivity of its cities and the state of its natural environment. Between 2001 and 2011, 92 million people were added to the urban population, the largest decadal increase in the last one hundred years, and for the first time, the net addition to urban population exceeded that of the rural population heralding a demographic turning point towards an increasingly urban future. But what constitutes sustainability and how it should be pursued as a policy goal is contested and shows considerable variation both in theory and practice. In the first part of this paper, different conceptual perspectives on urban sustainability are examined, namely, sustainability as understood from the Brundtland Commission’s report, sustainable urban form as defined by planners, and the political economy approach of structuralist and post-structuralist scholars urban sustainability



is examined as policy in the Indian context, from the period before economic liberalization to the present and changes in policy are discussed. The current thrust on smart cities and gigantic urban-industrial corridors indicate that the scale of thinking about the urban has changed. The final section turns to the implications of the proposed policies in the context of land availability and sustainability.

Conceptual Perspectives on Urban Sustainability:

The meaning of sustainability and how it can be achieved in the urban context must be the starting point for any deeper understanding of national policy on sustainability. Three conceptual approaches to sustainability are now discussed to show the different meanings it has and how policy prescriptions emanating from them would vary. Globally, the notion of smart cities is not new. The smart city concept was introduced in the late 1990s. The European commission during this period supported the initiatives like “Euro Cities”, There are multiple ideas, definitions and approaches to smart cities . An analysis of international approaches and the underlying semantics reveals that the concept has only evolved partially. This includes non clarity in definitions, indicators and measures, and standardisation of critical aspects. There is no ‘one size fits all’ model for smart cities that can be replicated in India.

Why smart city needed ? :

By the year 2030, 60% of the population is expected to live in cities resulting in heavy strain in energy, transportation, water, building and public places. There is an increasing need for the smart city which is both efficient , sustainable and can generate economic prosperity and social well being.

Definition of smart city :

There is no specific definition for smart city.’ The objective of smart cities mission is to promote cities that provide core infrastructure and give a decent quality of life to its citizens a clean and sustainable environment and application of ‘Smart’ solution. ITU defines a ‘ Smart Sustainable city as an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and service, and competitiveness , while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects.

Smart city concept :

- Smart citizen
- Smart Governance and smart education
- Smart health care
- Smart Building
- Smart mobility
- Smart Technology
- Smart Energy.

The core infrastructure elements in a smart city would include.

- Adequate water supply.



- Assured electricity supply.
- Sanitation, including solid waste management.
- Efficient urban mobility and public transport.
- Affordable housing, especially for the poor.
- Robust IT connectivity and digitalization.
- Good Governance, especially e- Governance and citizen Participation.
- Sustainable environment.
- Safety and security of citizens, particularly women , children and the elderly, and health and education.

Smart city Features :

- Promoting mixed land use in area- based development.
- Housing and inclusiveness.
- Creating walkable localities.
- Preserving and developing open spaces.
- Promoting a variety of transport options.
- Making Governance citizen-friendly and cost effective.
- Giving an identity to the city.

Strategy of Smart City:

The strategy components of area-- based development in the smart cities mission are as detailed below

- Retrofitting will introduce planning in an existing but up area to achieve smart city objectives, along with other objectives, to make the existing area more efficient and livable.
- Redevelopment will effect a replacement of the existing built up environment and enable co creation of a new lay out with enhance infrastructure using mix land use and increased density.
- Greenfield development will introduce most of the smart solution in a previously vacant area using innovative planning plan financing plan implementation tools with provision for affordable housing specially for the poor.
- Greenfield development could be located either within limits of the ULB or within the limits of the local urban development authority.

System integrator:

In order to fulfill the conditions prescribed by the guidelines smart command and control centers should have the following elements

- City backbone Network
- City Surveillance
- Smart street lighting
- ICT enabled solid water management
- Smart traffic
- Smart parking



- Environmental sensors
- City Bus intelligent Transport systems
- Smart Governance and Citizen Service

Smart city in India:

The concept of private cities is gradually going acceptance in India. India's economy is expanding rapidly. By 2030 it is expected to have grown by five times beyond largely by the countries urban centers during the same periods, the countries labor force is expected to grow by 270 million workers, with urban jobs accounting for 70% of that growth. Today India is less than 30% urban and the quality of life in its Cities is chronological law. However with $\frac{2}{3}$ of GDP already generated in India's Cities and rural to urban migration patterns accelerating, the country faces a critical challenge managing this rapid urbanization in a way that enhance the livability of India's urban spaces

Smart Cities Awas Yojana Mission was launched by Prime Minister Narendra Modi in June 2015. A total of Rs. 980 billions has been approved by the Indian Cabinet for development of low smart cities and rejuvenation of 500 other s Rs. 48000 crore for the smart cities mission and the total funding of Rs. 50,000/- crore for the smart cities mission Atal mission for Rejuvenation and urban Transformation has been approved by the cabinet.

Positive Impacts of Smart city Concept :

- It will lower the pressure on current cities.
- It will provide more job opportunities .
- It will provide vibrant market for agro and industrial products.
- It will play paramount effect in development of surrounding areas .
- It will reduce inter state migrations drastically.
- It will provide better educational opportunities to surrounding rural areas.
- It will support and incubate host state's culture as well as socio-economic domains.

The Negative Impact :

As indicated, there can be positive effects of the Smart City plan in India. However, the expansive growth of IT with many engineers being consulted can be a negative consequence for planners and architects. The government should consider the viewpoints of planners, geographers and architects, along with IT professionals to have a holistic approach towards Smart Cities. The ways in which people are impacted in Smart Cities and how the infrastructure can benefit humans is a core-component of urban planning. Planners must be consulted for Smart City growth, however, the government has vastly focussed on the Information Technology aspect of the Smart City without considering the city as a structure and bottom-up strategies towards city planning. A purely technical city might have many negative implications such as lack of human contact and lack of face-to-face interactions which are a necessity according to the 'happy city' index. The happy city index indicates that one of the main reasons for happiness in cities is the need to communicate and co-exist as a community in a city.

Conclusion :

This research started with some fundamental inquiries about smart cities. That is above



paper we took an insight into India's smart cities mission. Various aspects of mission such as smart city concept , features, strategy, integrator, guidelines, implementation details positive impacts and challenges are studied. The smart cities mission is good initiative and if implemented properly and effectively will lead to a better life for its citizens and thereby leading India to a better future.

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