International Journal of Advanced Research in Management and Social Sciences
ISSN: 2278-6236
Impact Factor: 6.943

SUSTAINABLE URBAN DEVELOPMENT: THE CONCEPT OF SMART CITY

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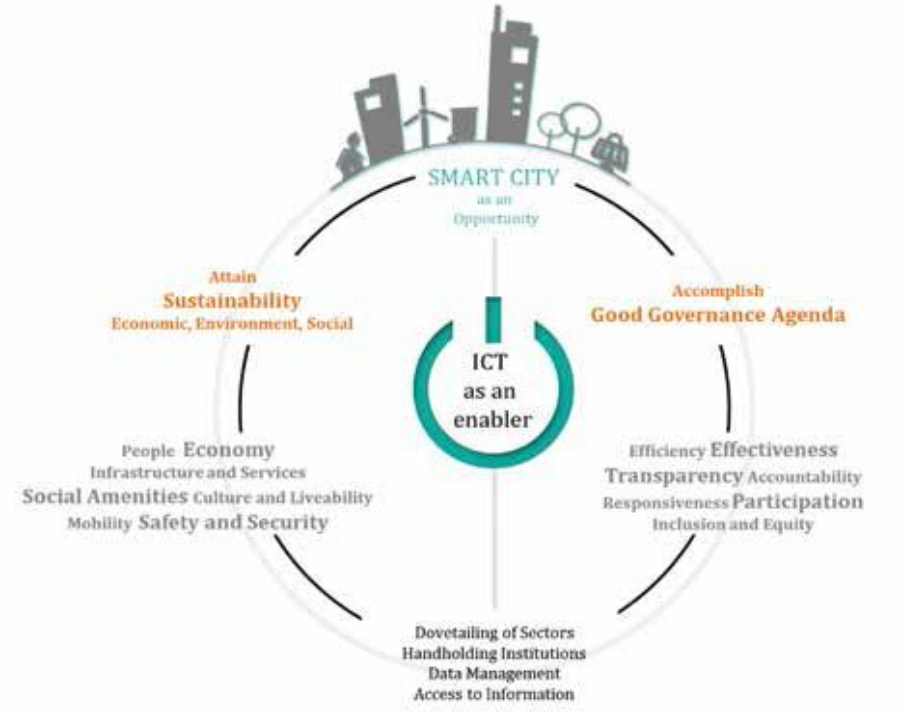
Abstract: *In the imagination of any city dweller in India, the picture of Smart City contains a wish list of infrastructure and services that describes his or her level of aspiration. To provide for the aspirations and need of the citizen, urban planners ideally aims at developing the entire urban eco-system, which is represented by the four pillars of comprehensive development- institutional, physical, social and economic infrastructure. This can be al long term goal and cities can work towards developing such comprehensive infrastructure incrementally, adding on layers of 'Smartness'. A Smart City would have a different connotation in India than say, Europe. Even in India there is no one way of defining a Smart City.*

Keywords: *Smart city, Sustainable, Eco system, Smartness, Urbanis*

INTRODUCTION

The 21st century is facing major challenges for humanity. Due to the population growth the resources are under constant threats and always falling short of need and demands. Hence now cities have to address various issues such as ICT, Urban planning, climate change, environmental matters, non-renewable resources, social and economic development, increasing populations, city infrastructures, Governance and Funding etc. Greater emphasis on cities needs cities need cities to think independently for economic growth and sustainability of various infrastructures. This has resulted into need for "Smart Cities", where resources can be effectively shared and good governance achieved for smooth citizen empowerments.

Across the world, the stride of migration from rural to urban areas is increasing. By 2050, about 70% of the population will be living in cities, and India is no exception. It will need about 500 new cities to accommodate the influx. While the urban population is currently around 31% of the total population, it contributes over 60% of Indians GDP. It is projected that urban India will contribute nearly 75% of the national GDP in the next 15 years. It is for this reason that cities are referred to us the 'engines of economic growth and ensuring that they function as efficient engines is critical to our economic development.



The speed of urbanization poses are unprecedented managerial and policy challenge, yet India has not engaged in a national discussion about how to handle the seismic shift in the makeup of the nation. As the urban population and incomes increase, demand for every key service such as water, transportation, sewage treatment, low income housing will increase five to seven fold in cities of every size and type. The government has now realized the need for cities that can cope with challenges of urban living and also be magnets for investment. The announcement of 100 smart cities falls in line with this vision.

CONCEPT OF SMART CITY

The concept of Smart Cities originated at the time when the entire world was facing one of the worst economic crises. In 2008 IBM began work on a 'Smart Cities' concept as part of its smarter planet initiative. By the beginning of 2009 the concept had captivated the imagination of various nations across the globe. Countries like South Korea, UAE and Chain began to invest heavily into their research and formation. Today, a number of excellent precedents exist that India can emulate, such as those in Vienna, Aarhus, International Business District near Seoul, Verona etc.

SILENT FEATURES OF SMART CITIES

There are three silent features of the smart city conceived in India.

1. Competitiveness:

Competitiveness refers to a city's ability to create employment opportunities, attract investments, experts, professionals and people. The ease of being able to do business and the quality of life it offers determines its competitiveness.

2. Sustainability:

Sustainability includes social sustainability, environmental sustainability and financial sustainability.

3. Quality of Life:

Quality of life includes safety and security, inclusiveness, entertainment, ease of seeking and obtaining public services, cost efficient healthcare, quality education, transparency, accountability and opportunities for participation in governance.

MEANING OF SMART CITY

The first question is what is meant by 'Smart City'? The answer is, there is no universally accepted definition of a Smart City. The conceptualization of Smart City varies from city to city and country to country, depending on the level of development, willingness to change and reform, resources and aspirations of the city residents. A Smart City would have a different connotation in India than say, Europe. Even in India there is no one way of defining a Smart City.

Some definitional boundaries are required to guide cities in the mission. In the imagination of any city dweller in India, the picture of Smart City contains a wish list of infrastructure and services that describes his or her level of aspiration. To provide for the aspirations and need of the citizen, urban planners ideally aims at developing the entire urban eco-system, which is represented by the four pillars of comprehensive development- institutional, physical, social and economic infrastructure. This can be al long term goal and cities can work towards developing such comprehensive infrastructure incrementally, adding on layers of 'Smartness'.

In the approach of Smart City mission, the objective 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' solutions. The focus is on sustainable and inclusive development and the ideas are to look at compact areas, create a replicable model which will act like a light house to other aspiring cities. The smart Cities mission of the Government

is a bold, new initiative. It is meant to set examples that can be replicated both within and outside the Smart Cities, catalyzing the creation of similar Smart Cities in various regions and parts of the country.

The core infrastructure elements of Smart City :

a. Adequate water supply,
b. Assured electricity supply,
c. Sanitation, including solid waste management,
d. Efficient urban mobility and public transport,
e. Efficient urban mobility and public transport,
f. Affordable housing, especially for the poor,
g. Robust IT connectivity and digitalization,
h. Good governance, especially e-Governance and citizen participation,
i. Sustainable environment,
j. Safety and security of citizens, particularly women, children and the elderly, and
k. Health and education.

As far as Smart Solutions are concerned, an illustrative list is given below. This is not, however, an exhaustive list, and cities are free to add more application.

SMART SOLUTIONS FOR SMART CITY

I. E-Governance and Citizen Service.
   1. Public information, Grievance Redressal.
   2. Electronic Service Delivery
   3. Citizen Engagement.
   4. Citizens – City's eyes and Ears.
   5. Video Crime Monitoring

II. Waste Management.
   1. Waste to Energy and fuel.
   2. Waste to Compost.
   3. Waste Water to be Treated.
   4. Recycling and Reduction of C&D Waste.

III. Water Management.
   1. Smart Meters and Management.

2. Leakage Identification, Preventive Management.
3. Water Quality Monitoring.

IV. Energy Management.

1. Smart Meters And Management
2. Renewable Sources of Energy.
3. Energy Efficient and Green Buildings.

V. Urban Mobility.

1. Smart Parking.
2. Intelligent Traffic Management.
3. Integrated Multi-Modal Transport.

VI. Others.

1. Tele-Medicine and Tele Education.
2. Incubation/ Trade Facilitation Centers
3. Skill Development Centers.

Accordingly, the purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes. Area based development will transform existing areas (retrofit and redevelop), including slums, into better planned ones, thereby improving livability of the whole City. New areas (Greenfield) will be developed around cities in order to accommodate the expanding population in urban areas. Application of Smart Solutions will enable cities to use technology, information and data to improve infrastructure and services. Comprehensive development in this way will improve quality of life, create employment and enhance incomes for all, especially the poor and the disadvantaged, leading to inclusive Cities.

SMART CITY RELATIONSHIP WITH SUSTAINABLE URBAN DEVELOPMENT

Human development since the Industrial Revolution has had serous impacts on the environment, and the growth and destructive actions of human society have resulted in negative impacts on the Earth's sub-systems. We are therefore facing a systematic sustainability challenge, wherein human behavior cannot continue on the same course without, having significant negative impacts on future generations' ability to meet their needs; reaching sustainability will require significant and widespread changes in human

behavior. The global urbanization trend is creating an urgency to find smarter ways to manage the accompanying challenges. Sustainable cities have become a highly desired goal for future urban development. For the scope of this thesis, we focus on the concept of Smart Cities, defined as cities where investments in human and social capital(transport) and traditional and Modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance. Smart cities highlight important aspects of sustainability, such as the need for responsible resource management, energy efficiency, and citizen engagement. However, the smart city concept can only help a city to reach sustainability if it allows it to function within the natural boundaries of the Earth. Given the present day understanding of the smart city concept can only help a city to reach sustainability if it allows it function within the natural boundaries of the Earth. Given the present day understanding of the smart city concept, it is unclear whether it holds the necessary characteristics to ensure that sustainable development can occur. Smart cities are highly complex and interdependent, since they are built from large, interconnected systems. Studying them would therefore require an approach that works well in complexity. By studying the smart city concept through a Strategic Sustainable Development approach, One is able to examine it from a systems perspective, and evaluate whether sustainability can be reached in a strategic manner.

CONCLUSION

To speed up growth for a slowing economy and create a consuming class of city dwellers, the role of a municipal body is crucial. Since the Smart City initiative is cutting out aggressive State spending, municipalities have to generate funds from private investors and take capacity building measures to initiate big projects. Before jumping into the deep end with urbanizing 100 small towns that have met the “Smart City” criteria, the government should consider whether its financing model is feasible. And simultaneously mayors and commissioners should be trained to design new projects and tap into local resources. Otherwise, the Smart City Mission will turn into an unattractive proposition right from the municipal level, which is its core. In this era of digitization, it is interesting to see the nation’s leader envision such a future. On paper, the initiative seems to be an ideal plan for the poverty stricken economy, but given the high levels of bureaucracy, it will be interesting

to see how it plays out. The move is very much in the right direction: execution, however, will be, key.

To insure better living environment within the context of rapid urban population growth a new phenomena of smart city appeared. Government of India has rightly planed to develop our cities in smarter ways is really a good intention in spite of so many challenges ahead in the process of development. Government has to enact new urban laws for better development and their strict enforcement to get positive results. To get positive result citizens of the country shall have to be smart and government has to implement scheme, training programme to make aware about to become smart citizens. Roles and the responsibility of the officers implementing the ideas shall be made aware about pros and cons for their ineffective working.

Almost all cities (and municipalities and regions) want to be 'smart', there is no accepted definition of what this means in practice – be it in technological, developmental, or administrative terms. A Smart city is more than a digital city. A Smart City is one that is able to link physical capital with social on and to develop better services and infrastructures. It shall be able to bring together technology, information, and political vision, in to a coherent programme of urban and service improvements.

It is a mistake to think that making smarter cities requires just more investment in IT what cities need to be able to do is to use IT as a means to deliver local aims and objectives. The most important issue confounding efforts to make cities smarter is not the development of appropriate technologies per se, but to tackle the difficulties in changing organizations and existing ways of working to use these new technologies to deliver smarter cities.For cities in the 0.2 to 1.0 million population ranges shall be made mandatory to proceed for smart city, because success can be achieved by principal of part to whole development. Migration to major cities can also be restricted if smart cities are development at lower level.

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