



SMART CITIES OF URBAN DEVELOPMENT TENDENCY – A PERSPECTIVE

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Abstract

Smart city not as a status of how smart a city is but as a city's effort to make it smart. The connotation of a smart town represents city innovation in management and policy in addition to generation, because the unique context of each city shapes the technological, organizational and coverage components of that metropolis, a smart town may be considered a contextualized interaction amongst technological innovation, managerial and organizational innovation, and policy innovation. A smart city is a city that is well planned, and it provides the cost efficient services, environmental efficiency, and technological sound services for the welfare of the citizens. Smart solutions can be helpful in controlling the ever increasing population in the cities. This paper focus on the building an inclusive framework to view the Warangal smart city of world heritage city and innovation comprised of technology, management and policy.

Keywords: *Smart Cities, Infrastructure, Urbanization, Urban Development, City Planning and Rich Heritage etc.*

Introduction

Smart City is a booming international phenomenon. Smart city word originated back in 1998, but the first funding for smart city came in the year 2000. The six dimensions of a smart city are Smart Economy, Smart Mobility, Smart Environment, Smart People, Smart Living and Smart Governance. Every city can become smarter by focusing on any of the above dimensions. A smart city is a community that is efficient, Sustainable & liveable. The term smart city has become more and more popular in the field of urban planning. Smart cities can work as a tool for controlling the rapid urbanization and various problems caused by the ever increasing urban population. The implementations of the smart technologies can increase the value of the city. Smart city concept introduces new practices and services that highly impacts policy making & planning. The concept is not without challenges, especially in India. For instance, the success of such a city depends on residents, entrepreneurs and visitors becoming actively involved in energy saving and implementation of new technologies. There are many ways to make residential, commercial and public spaces sustainable by ways of technology, but a high percentage of the total energy use is still in the hands of end users and their behaviour. Also, there is the time factor such cities can potentially take anything between 20 and 30 years to build. The 21st Century is facing major challenges for humanity. Due to population growth the resources are under constant threats and always falling short of needs and demands.

Hence now cities have to address various issues such as urban planning, climate change, environmental matters, non-renewable resources, social and economic development, increasing populations, city infrastructures, Governance & Funding etc. Greater emphasis on cities needs 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. Thus in a determined bid to recast the urban landscape of the country to make urban areas more liveable and inclusive besides driving the economic growth.



Smart city concept (AMRUT)

The Union Government has approved the Smart Cities Mission and the Atal Mission for Rejuvenation and Urban Transformation of 500 cities (AMRUT). The 'smart city' concept is explicitly conceived as an instrument for accelerating economic growth in a region. 'Smart' is a term associated with technologies like smart cards. In this sense, smartness refers to a system's ability to detect information, recognize patterns, analyze implications and trends, predict system behaviour and operate in a network involving other systems. Smart technologies are already in operation in parts of everyday life in different ways, and especially in urban management in the developed world. In theory, the smart city concept offers conditions for everyday work and life that lubricate business processes and technical innovation, and thus investment. Currently an aspirational concept in urban, it lacks a single definition. But there is actually a single determining ingredient without which a city cannot claim to be 'smart' easily at least for the Government of India's Ministry of Urban Development's website (www.moud.gov.in) which believes that, 'a smart city is one that uses information technology to solve urban problems'. Such technology is expected to make a variety of urban management and governance processes speedier, more efficient, and responsive to changing conditions in real time. While other desirable values gather around this core in the supportive discourse, they are neither decisive nor necessary for a city to be called 'smart'. For instance, some observers claim that smart cities reveal a concentration of high value (smart) workers sometimes called the 'creative class'. Enhanced liveability is also often argued to be a characteristic feature of these cities, which are also claimed to be potentially more sustainable because their embedded ICT infrastructure can allow energy and resources to be managed and consumed efficiently. Many such claims refer sometimes to the actual achievements of a few pilot 'smart cities' (e.g. Singapore, Barcelona, Rio de Janeiro), and at others only to potentials.

The Importance of Smart Cities in India

India's urban population is currently around 31 per cent of the total population and it contributes over 60 per cent of India's GDP. India's is urbanizing at an unprecedented rate, so much that estimates suggest nearly 600 million of Indians will be living in cities by 2030, up from 290 million as reported in the 2001 census. With about 30 village dwellers moving every minute from villages to become city dwellers, not many villages will be left India at the end of this century. Today's cities face significant challenges –increasing populations, environmental and regulatory requirements, declining tax bases and budgets and increased costs. Moreover, the cost of Information and Communication Technologies has plunged making it economical for the government to implement them. Citizens are increasingly getting instant, anywhere, anytime, personalized access to information and services via mobile devices and computers. And they increasingly expect that same kind of access to city services. With increasing urbanization and the load on rural land, the government has now realized the need for cities that can cope with the challenges of urban living and also be magnets for investment. The announcement of '100 smart cities' falls in line with this vision.

The 2012 Smart Cities and Communities agenda of the European Union followed the wider agenda 21 of the United Nations and yet brought much clarity to the approach by seeing the task as a partnership of energy, transport and information and communication technologies (ICT) in urban areas. The solutions conceptually include applied innovation, better planning, a more participatory approach, higher energy efficiency, better transport solutions, intelligent use of Information and Communication Technologies (ICT), etc.



After analyzing the initiatives globally, certain common themes do emerge for formation of Smarter cities and communities, namely: Energy, transport and information and communication technologies (ICT) seen as parallel and interdependent factors for smartness in urban areas.

World over, technologies are enabling smarter solutions. Technology innovation is helping better collection, processing and analysis of data through conventional and crowd/social media methods.

Mission of Smart City

Across the world, the stride of migration from rural to urban areas is increasing. By 2050, about 70 per cent of the population will be living in cities, and India is no exception. It will need about 500 new cities to accommodate the influx. Interestingly, urbanisation in India has for the longest time been viewed as a by - product of failed regional planning. Though it is inevitable, and will only change when the benefits of urbanisation overtake the costs involved, it is an opportunity for achieving faster growth. With increasing urbanisation and the load on rural land, the government has now realised the need for cities that can cope with the challenges of urban living and also be magnets for investment. The announcement of '100 smart cities' falls in line with this vision. A 'smart city' is an urban region that is highly advanced in terms of overall infrastructure, sustainable real estate, communications and market viability. It is a city where information technology is the principal infrastructure and the basis for providing essential services to residents. There are many technological platforms involved, including but not limited to automated sensor networks and data centres. Though this may sound futuristic, it is now likely to become a reality as the 'smart cities' movement unfolds in India. In a smart city, economic development and activity is sustainable and rationally incremental by virtue of being based on success-oriented market drivers such as supply and demand. They benefit everybody, including citizens, businesses, the government and the environment.

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 'smarter 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 China 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, Amsterdam, Cairo, Lyon, Málaga, Malta, the Songdo International Business District near Seoul, Verona etc. India is drawing on the development of smart cities at the global level. Prime Minister Narendra Modi's vision 'Digital India' has a plan to build 100 smart cities across the country. Modi in his speech said, "Cities in the past were built on riverbanks. They are now built along highways. But in the future, they will be built based on availability of optical fiber networks and next - generation infrastructure." Digital India envisages making India a leader in digitally delivering services in the health, education, banking sectors. Modi announced an investment of \$1.2 billion in smart cities with more funding coming from private sectors and abroad.

Under the Smart Cities Mission, each selected city would get central assistance of Rs.100 crore per year for five years. Smart City aspirants will be selected through a 'City Challenge Competition' intended to link financing with the ability of the cities to perform to achieve the mission objectives. Each state will shortlist a certain number of smart city aspirants as per the norms to be indicated and they will prepare smart city proposals for further evaluation for extending Central support.

This Mission of building 100 smart cities intends to promote adoption of smart solutions for efficient use of available assets, resources and infrastructure with the objective of enhancing the quality of



urban life and providing a clean and sustainable environment. Special emphasis will be given to participation of citizens in prioritizing and planning urban interventions. It will be implemented through 'area based' approach consisting of retrofitting, redevelopment, pan-city initiatives and development of new cities. Under retrofitting, deficiencies in an identified area will be addressed through necessary interventions as in the case of Local Area Plan for downtown Ahmedabad. Redevelopment enables reconstruction of already built-up area that is not amenable for any interventions, to make it smart, as in the case of Bhandi Bazar of Mumbai and West Kidwai Nagar in New Delhi. Pan-city components could be interventions like Intelligent Transport Solutions that benefits all residents by reducing commuting time.

Under smart cities initiative, focus will be on core infrastructure services like: Adequate and clean Water supply, Sanitation and Solid Waste Management, Efficient Urban Mobility and Public Transportation, Affordable housing for the poor, power supply, robust IT connectivity, Governance, especially e-governance and citizen participation, safety and security of citizens, health and education and sustainable urban environment.

Smart City Action Plans will be implemented by Special Purpose Vehicles (SPV) to be created for each city and state governments will ensure steady stream of resources for SPVs.

Challenges of Smart City Mission

1. Providing clearances in a time bound manner: it will be crucial for the smart city dream to come true. For timely completion of project, all clearances should use online processes and should be cleared in a time bound manner. A regulatory body should be set up for all utility services so that level playing field is made available to the private sector and tariffs are set in a manner that balances financial sustainability with quality.
2. Financing smart city: finance will play a crucial role the success of the smart city mission. One needs to be seeing how these projects to be financed as majority of project need would move through complete private investment or through PPPs (public private partnership). Both the central government as well as state governments would be interested only in Viability Gap Fund (VGF).
3. Reliability of utility services: For any smart city in the world, focus is on reliability of utility services be it electricity, water, telephone and broadband services. Similarly, municipal services such as water supply, drainage, solid waste management need to be of high quality and should be available.
4. Capacity building program: Building capacity for 100 smart cities is not an easy task and most of the ambitious projects get delayed due to lack of quality manpower both at the center as well as states. Investment in capacity building programs have a multiplier effect as it helps in time bound completion of projects and also helps in designing programs, developing faculty, building databases as well as designing tool kits and decision support systems. And all these have a lag time so capacity building needs to be strengthened right at the beginning.
5. Extensive usage of ICT: An extensive use of ICT enabled services will need a sound communications backbone and the best example for this is Singapore. Cities to become smart, it is essential that the governance structure is also smart. Therefore, urban local bodies would need to make effective use of ICTs in public administration to connect and coordinate between various departments.



Need of Smart Governance

This aspect is the backbone of smart solutions. Smarter governance is enabled through more informed decision making and participation of disparate opinions and agendas towards overall betterment of cities and communities. There is a tremendous scope for real smartness in the decision-making and governance processes in cities. If smartness can be seen as an ability to govern intelligently and fairly, including an ability to sense issues, study and analyze them, identify systemic responses to the same, link resource sensibilities to prioritization, effective implementation and contracting systems, supervision and assessment of programmes in terms of outputs and outcomes; build and learn from the links in the ecosystem; smartness is the need of the hour. It is also an attribute that is increasingly getting lost in a clamor of competitive stakes and processes and in an emphasis on techniques rather than genuine expertise. We need smartness in urban governance desperately. Such smartness would refrain from instant solutions and utopias that sell dreams and generate despair. A key attribute of smart governance would be the simultaneous engagement of technical knowledge and traditional wisdom through a people-centered process of participation and institution building. Most of our cities in India are characterized by auto-construction and it is only through respect for these processes on the ground accompanied by an awareness of forthcoming challenges that we may be able to deal with emergent challenges such as climate change and sustainability. Diverse local solutions informed by a global sensibility rather than homogenous global solutions that exclude local complexity may be the - need of the hour. These can help to generate opportunities that local people can participate in. Smart urbanization before smart cities.

It is undeniable that urbanization is an emerging reality for which one needs to prepare. Such planning includes gaining realistic estimates of patterns of migration, their location, educating and skilling people and freeing them from distress, enabling infrastructure development at the growth centers and fostering institutions that are democratic, decentralized and engaged in smart decision making. The current pattern of developing smart cities is evidently not aimed at creating an opportunity structure for a 'neo-urban class (distinct from an as paritional neo middle class) but rather excludes it and may create more barriers for urbanization.

New cities might be necessary but not as bracketed, exclusive developments but those that give genuine opportunities for employment and are livable. The case for new cities has not yet been made systematically. We don't know for sure, for instance, that the old cities cannot accommodate current and medium term future needs within their (sometimes already expanded) boundaries. However, assuming that there is a need for new cities, these must be seen as opportunities for doing much better than existing cities on key fronts: equitable allocation of land and infrastructure for housing and livelihoods for all sections of society, based on the needs existing (not idealized) realities suggest; systematic integration of the most. Policy must protect all rural land performing essential functions from predatory urbanization under the smart cities initiative. The smart cities proposal clearly envisages big changes of land use from non-urban to urban and industrial uses. It is imperative that this be regulated scientifically as suggested by the Draft 'National Land Utilization Policy', Government of India. This document recognizes the competing claims on land, especially those of economic production, agriculture as well as the sustenance of natural water systems. It notes that India has 17% of the world's population on 2.4% of the global land area.

Making of smart cities

The Government of India has identified 98 urban locations to be converted as smart cities, covering 13 crore people (out of 1.2 billion population) and accounting for over 35 per cent of the country's total



urban population. The idea is to ensure high quality of life comparable with any developed European city and fulfilling the aspiration of the vast middle - class city dwellers to avail the best quality urban life. To build smart cities, India allocated Rs 6,000 crore (\$962 million), and this huge investment is expected to transform existing cities into high-class urban areas, with adequate clean water supply, 24/7 electricity supply, proper sanitation system, efficient mobility and public transport, affordable housing for the poor, robust IT connectivity and digitalisation, besides good governance and citizen participation. However, the key question and debate, making headlines in the country is whether the vast poor or lower middle-class population in the country would be able to afford to stay in these smart cities. So, what should the government do to make these new smart cities more inclusive so that all classes, irrespective of their financial status will afford to stay and enjoy quality services? It is thus extremely crucial to carry forward the objectives of smart cities along with crafting public policy to retain the distinct socio-cultural identity of the marginalised and deprived groups by ensuring dignified living space along with sustained source of income. High Indian population is setting the groundwork to become knowledge around 31% of the total population, it contributes more s GDP. It is projected that contribution will increase to nearly 75% of the From global experience, it is ascertained that a country's urbanise relatively slow but the pace of urbanise up thereafter, till it reaches about 60 cue from this, India is at a point of transition and needs to plan its urban areas well. While urban population is, currently, around s GDP. It is projected that contribution will increase to nearly 75% of the national GDP in the next 15 years. From global experience, it is ascertained that a country relative up thereafter, till it reaches about 60 cues from this, India is at a point of transition and needs to plan its urban areas well. Among the top ten mega single Smart City appears in the list of first four mega Chennai. These cities, especially Greater Mumbai, contribute a significant share to country it is probable that converting these mega Smart Cities may yield a higher contribution to the current GDP. To prepare cities to cope with the challenges of urban living and also attract investment, the Government of India (GoI) announced a '100 Smart Cities 15 for the development of end technology infrastructure that includes comprehensive IT infrastructure, a network of sensors, cameras, wireless devices and data centers for efficient and effective delivery of essential sanitation, recycling, managing traffic, transportation systems, etc. Broader elements to be incorporated into a smart city include Smart Energy, Smart Environment, Smart Communications, Building and Smart Governance. The main focus of government behind the development of smart cities is to transform India into a digitally empowered economy. The cities with ongoing or proposed smart cities include Kochi in Kerala, Ahmedabad in Gujarat, Aurangabad in Maharashtra, Manesar in Delhi NCR, Khushkera in Rajasthan, Krishnapatnam in Andhra Pradesh, Ponneri in Tamil Nadu and Tumkur in Karnataka. Many of these cities will include special investment regions or special economic zones with modified regulations and tax structures to make it attractive for foreign investment. This is essential because much of the funding for these projects will have to come from private developers and from abroad.

Promoting mixed land use in area-based developments: planning for 'unplanned areas' containing a range of compatible activities and land uses close to one another in order to make land use more efficient. The States will enable some flexibility in land use and building bye-laws to adapt to change; Housing and inclusiveness: expand housing opportunities for all; iii. Creating walk able localities reduce congestion, air pollution and resource depletion, boost local economy, promote interactions and ensure security. The road network is created or refurbished not only for vehicles and public transport, but also for pedestrians and cyclists, and necessary administrative services are offered within walking or cycling distance;



Preserving and developing open spaces: parks, playgrounds, and recreational spaces in order to enhance the quality of life of citizens, reduce the urban heat effects in Areas and generally promote eco-balance; Promoting a variety of transport options: Transit Oriented Development (TOD), public transport and last mile para-transport connectivity;

Making governance citizen-friendly and cost effective—increasingly rely on online services to bring about accountability and transparency, especially using mobiles to reduce cost of services and providing services without having to go to municipal offices; form e-groups to listen to people and obtain feedback and use online monitoring of programs and activities with the aid of cyber tour of worksites.

Why proposed ideas important for the city

1. As cities in rapidly developing economies continue to mature, talent becomes an increasingly valued resource, especially when combined with technological innovation. Demand for highly skilled, creative workers is expected to almost double by 2020 in mature economies.
2. The management and operation of transport systems have an important influence on the economy of cities. Well-managed, easily accessible public transportation attracts workers into cities, brings commuters to and from work, and moves goods from where they are produced to where they are consumed. Congestion negatively impacts the quality of life in a city by decreasing personal and business productivity, lowering air quality and creating noise pollution.
3. Cities with lower crime and better emergency services find it easier to attract and retain a diverse and higher - quality skilled workforce.
4. A strong education system focused on lifelong learning is critically important in a city's efforts to attract and retain skilled and diverse workers.
5. Smarter healthcare supports a more productive workforce as it reduces risks to health and improves general well-being.

Conclusion

The prime goal is to beautify the pleasant of urban life by means of addressing deficiencies in the center infrastructure. Expectations in numerous quarters may be high however the mission may be very realistic and practical in its intentions and objectives." "There are thirteen cities from Uttar Pradesh, 12 from Tamil Nadu, 10 from Maharashtra, seven from Madhya Pradesh and 3 each from Bihar in the listing," Naidu stated. But, the competition is some distance from over as the Centre proposes to take in the development of 20 out of the 100 as clever cities in the first phase, with the last towns might be taken up thereafter. All the a hundred cities might be given Rs 2 crore each for guidance of the master plan and the equal must be submitted to the Union government inside 100 days of the notification.

Based totally on the merit of the master plans, every of the selected 20 cities can be given Rs a hundred crore first of all. In all, each city might be funded to the extent of Rs 500 crore in a phased way. While Telangana is confident that Hyderabad and Warangal will make it to the primary list of 20 cities, AP is banking on Vizag and Tirupati, however is doubtful about Kakinada. Consistent with assets, the Centre could not trouble the notification on Thursday as there was a tie among towns from the equal country in some times.



The entire country has been divided into nine regions for the smart city initiative. Andhra Pradesh, Telangana, Karnataka and Goa fall in the eighth region. To help the contenders with the preparation of the master plans, the Centre has appointed 11 consulting firms. Each city was accorded points based on various parameters like tax collection, online grievance redressal system, the financial health of the municipalities, etc. Among the southern states, Tamil Nadu secured the highest number by bagging 12 cities in the list of 100, while Kerala secured only Kochi. Overall, UP bagged the highest number of 13 cities to make it to the list of 100.

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