
A Study on the Impact of Smart Cities in Urban development of India – Issues and Challenges

G. VIJAYA

M.A., B.Ed., SET.

Assistant Professor of Political Science, Pingle Government Degree College for Women, Hanamkonda, Warangal
Urban Telangana State. India.

ABSTRACT

India is fastest developing economy in the world, with the complexity is like infrastructure networks which are changing drastically. People are trying to change their life and the shifting from rural areas to urban areas. I will discuss in my paper Modi stated as smart cities mission flagship programme in the 2014 by the BJP Government. The idea of this mission is to develop technology driven cities in India due to fast urban growth citizens suffer from problems like heavy traffic jams, poor waste management, inadequate water supply management, many more to overcome these issues smart cities terminology come existence. It provides the inclusive improvement of smart cities and its challenges while making the smart cities are also discussed. The main themes constitutions of the smart cities like smart governance, smart education, smart living, and smart health care, smart citizens. Initially, the Mission aims to cover 100 cities across the India. The smart solutions and strategies creation good infrastructure and transformation for making a city smart. The Mission may be continued thereafter in the light of an evaluation to be done by the Ministry of Urban Development (MoUD). It aims to focus on area-based development in the form of redevelopment of existing spaces, (Greenfield) to accommodate the growing urban population and ensure comprehensive planning to improve quality of life, create employment and enhance incomes for all-especially the poor and the disadvantaged. On 27th August 2015 the centre unveiled 98 smart cities across India which was selected for this Project. 13 crores population 35 percent of the urban population will be included in the development plans. The Smart City Mission (SCM) operated as a Centrally Sponsored Scheme (CSS). **Key Words:** smart cities impact and development, social issues and challenges, smart solutions, technology, urban development.

INTRODUCTION:

India is one of the fastest growing economies in the world after recording a growth of 5.5 percent annum during 1981-2001. There was further acceleration in GDP growth to 7.7 percent per annum during 2001-2011. The economy has weathered the impact of the global slowdown 2008 much better than most and is well on its way to resuming its journey to 8-9 percent per annual GDP and urban population is 27.8 percent in 2001 31.2 percent in 2011 is estimated to grow 40 percent by 2030 and more than 50 percent by 2050. The population growth in cities is accompanied by infrastructure management and service delivery challenges. The development of smart cities is one strategy being deployed to efficiently and effectively cope with these challenges. urban infrastructure consists of smart governance, smart education, smart living, smart mobility, smart energy, and smart environment, health care. 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 ICT, 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, 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 livable and inclusive besides driving the economic growth.

Constitution (74th Amendment in India - 1992) Act has introduced a new part IXA in the Constitution, which deals with Municipalities in an article 243 P to 243 ZG. It is also known as Nagarpalika Act, came into force on June 1st 1993. It has given constitutional status to the municipalities and brought them under the justifiable part of the constitution. States were put under constitutional obligation to adopt municipalities as per system enshrined in the constitution. Metropolitan area in the country is an area where population is above 10 Lakh (Article 243P). Article 243Q provides for establishment of 3 kinds of Municipalities of every state. Nagar Panchayat, A Nagar Panchayat is for those areas which are transitional areas i.e. transiting from rural area to urban areas. "Governor" will by public notice, will define these three areas based upon the population, density of population, revenue generated for local administration, percent of employment in Non-agricultural activities and other factors. 12th schedule of the constitution of India - urban planning including town planning, regulation of land-use and construction of buildings, planning for economic and social development, roads and bridges, water supply for domestic, industrial and commercial purposes, public health, sanitation conservancy and solid waste management, fire services, fire services, safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded, slum improvement and up gradation, urban poverty alleviation, provision of urban amenities and facilities such as parks, gardens, playgrounds, promotion of cultural, educational and aesthetic aspects.

Urbanization is a part of the development process in backward stagnant societies the process of urbanization is rather slow. Because cities fail to offer employment opportunities to people living in the countryside. It is fast rapidly growing economies where newly established industries and ancillary activities continuously provide jobs to people who wish to migrate to cities. It is not a new concept for rapid urbanisation, under this programme creation of economic infrastructure and digitalisation in 100 cities in many fields for the smart India. The vision of the smart city concept is to improve the capabilities and simplify numerous problems of the city through optimized energy consumption, carbon emission, mitigation, maximum recycling, smart transportation, Closed Circuit Television (CCTV) installation, internet things, urban informatics, traffic management, Health care, e-governance, e-participation, and built environment, 24×7 services for inhabitants and intelligent security and development of urban regional forces. The characteristics of smart cities vary from city to city. Smart Cities can be identified in six main dimensions. These are 1. Smart economy, 2. Smart mobility, 3. Smart environment, 4. Smart people, 5. Smart living, 6. Smart governance. And these six axes are based on traditional regional and neoclassical theories of urban growth and development. As a great first step, 100 smart cities have been identified. For the number enthusiasts, the five states with the largest number of future smart cities could be Uttar Pradesh - 13, Tamil Nadu -12, Maharashtra -10, Madhya Pradesh -7, Karnataka -6, and Gujarat - 6, each state and union territory would get at least one each the total 100 smart cities finalised by the Government of India. Attention is being paid to make use of technology to improve water

management processes, apart from ensuring that cleanliness of public places is duly maintained. And of course, digitalisation of the law and order functions is very much in area of focus.

Objectives of the study:

1. To study improve and performance of the administration, planning and decision making, transparency, with less cost and time maximise benefits of smart cities.
2. To study enhance accountability and, successful implementation of the public sector and private sector issues and challenges.
3. To find out the creation socio - economic infrastructure in the selected cities throughout the country.
4. To know the need of smart cities and analyze factors influencing and indicates the urban development.

METHODOLOGY:

This research paper seeks to explore these potential differences. The Indian perspectives of smart city was obtained by analyzing tree defferent data sources they are a citizen survey a list of planned smart city projects and smart ciy vision the cities considered in this study were grouped into various clusters based on their population. The impact of population size on citizen's priority and focus areas expressed in the vision statements. It is exclusively based on secondary data, which is collected from various books, journals, publications, articles, Indian economic survey, economic and political weekly, economic times, Indian economic journal, government website etc. The role and importance of smart cities in urban development in India and which is focus on the urbanisation, modernisation, and digitalisation.

Scope of the study:

This study covers the issues and challenges of under the smart cities in India and urban development. And performance of the admistration, planning, decision, and creation of socio and economic infrastructure in the selected smart cities and various fields.

Need of the study:

Two and a half years after announcement of the smart city mission 6.4 percent of the total identified projects have been completed with utilisation of just 1.6 percent of the total envisaged investment of Rs 1,38,730 crore (17.36 billion euro). Many projects are stuck as local governing bodies are unable to raise money using their own resources many cities are also facing resistance in execution of projects as citizens have opposed user charges for services provided under the smart city mission.

Importance of the study:

India has bright prospects of smart cities with the support of the government of India the foundation year efficient planning for designing smart cities in whereas cities and well defined policies give support for the successful execution of smart cities mission smart cities projects can have good impact on the quality of life of the citizens some of the major challenges towards completion of smart city mission are discussing the accurate background model for smart city, societal adequacy and lack of awareness about ICT, difficulty in upgrading the old cities has smart cities has smart cities, a requirement of efficient coordination, efficient governance, the requirement of funds.

Along with the urbanization the people of the rural areas have a tendency to migrate towards the urban areas. The union cabinet on 29th April 2015 cleared a project to develop smart cities. Rs. 48,000 crore has been allotted for 100 smart cities, now renamed SCM each city would get Rs. 100 crore every year from the centre for five years. The remains money has to come from the states, urban bodies and the consortium that they form with corporate entities. Also 10 percent of budget allocation will be given to states and union territories as incentive based on achievement of reforms during the previous year. State governments will need to ensure steady stream of resources for the SPVs. At the time of formally announcing the smart cities project, the Union Budget had allocated Rs. 7,016 crore for it. However, in the February 2015.

The Rural, Urban, and Urban difference, Average annual growth rates, Density of Population in India From: 1950-51 – 2010-11.

Year	India Population (%)	Rural population (%)	Urban Population (%)	Deference in urban Population (%)	Decadal growth percent	Average annual growth rate percent	Density of population PerSqKM
1951	36.1	82.7	17.3	-	13.31	1.25	117
1961	43.92	82.0	18.0	1.3	21.64	1.96	142
1971	54.82	80.1	19.9	2.6	24.80	2.20	178
1981	68.33	76.7	23.3	3.9	24.66	2.22	230
1991	84.64	74.3	25.7	2.4	23.87	2.16	173
2001	102.87	72.2	27.8	2.1	21.54	1.97	324
2011	121.02	68.8	31.2	4.0	17.64	1.64	382

Source: Indian Economy Latest Edition.

The above table shows that the compared to rural and urban population in India. India is second stage of demographic transition theory this stage the growth of population is rapidly increased. The rural population is 82.7 per cent, urban is 17.3 percent in the year 1951. The difference gap between two decades is 2.6 percent i.e. 1951 - 71. The rural population is 68.8 percent, urban 31.2 percent in the year 2011. The decade's gap (difference) is 4.0 i.e. 2001 - 2011. The previous experience some cities are rapidly developed and some other are in low, by this a large gap about the creation of infrastructure between urban to urban, and city to city this kind of obstacles solved by the smart cities programme.

A smart city is an urban region that is highly advanced in terms of economic 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, but not limited to automated sensor networks and data centres. The conceptualisation 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 connections in India than, Europe. Even in India, there is no way of defining a smart city. Water and sewerage provision, waste water treatment, primary education and health care, slum up gradation, Local roads and public transport, solid waste management and sanitary landfills, maintenance of cremation and burial grounds, street lights, public parks and playgrounds, libraries, a total of Rs 98,000 crore has been approved by the Cabinet for development of 100 smart cities and rejuvenation of 500 others. For Smart Cities Mission, Rs

48,000 crore and for Atal Mission for Rejuvenation and Urban Transformation (AMRUT), a total fund of Rs 50,000 crore has been approved by the Cabinet. Most of the smart cities will be brown field (old) ventures and will be implemented through an 'area-based' approach including retrofitting and redevelopment. There will be green field (new) projects, too, that will focus on development of new cities. Focus will be on core infrastructure services like adequate and clean water supply, sanitation and solid waste management, efficient urban mobility and public transport, affordable housing for the poor, power supply, robust information technology connectivity governance, safety and security of citizens, health and education, and sustainable urban environment.

It is set to take steps within the current financial year, there were already smart city construction projects in India including Lavasa (Maharashtra), GIFT (Gujarat), Smart Kochi (Kerala), Mahindra World City Chennai (Tamilnadu) and Jaipur (Rajasthan) in different operational modes including Public Private People Partnerships (PPPP). It is a good sign for the government of India to start constructing 100 Smart Cities across the India by in collaboration with multinational companies under PPPP model, which will really increase our national economy. As smart city is a system complicated and complete so, at a time we cannot construct entire 100 smart cities in India which is very expensive and very tedious job. It can be explained in two ways, the first one is converting brown field cities (the existing cities) into smart cities by deploying technology in all the pillars of the city.

Issues and Challenges of Smart Cities in India:

Financing to smart cities - The High Power Expert Committee (HPEC) on investment estimates in urban infrastructure has assessed a per-capita investment cost (PCIC) of Rs 43,386 for a 20 years period. Using an average figure of 1 million people in each of the 100 smart cities, the total estimate of investment requirements for the smart city comes to Rs 7 lakh crore over 20 years. This translates into an annual requirement of Rs 35,000 crore, one need to see how these projects will be financed as the majority of project need would move through complete private investment or through PPPs (public-private partnership). Smart cities project is not smartly privileged, unfortunately, when it comes to funding. Financing is said to be one of the biggest challenges when it comes to the smart city challenge. The total investment approved under the smart city plans of 90 cities has gone up to Rs 1, 91,155 crore.

Availability of master plan- Most of our cities don't have master plans or a city development plan, which is the key to smart city planning and implementation and encapsulates all a city needs to improve and provide better opportunities to its citizens. Unfortunately 70-80 percent of Indian cities don't have one. Fruitful implementation of a project can be done only if there is a co-ordination between various government bodies. There is a need of proper regulation when it comes to planning for the development of smart cities. Both horizontal and vertical co-ordination is the requisite right now.

Financial sustainability of ULBs- Most ULBs are not financially self-sustainable and tariff levels fixed by the ULBs for providing services often do not mirror the cost of supplying the same. Inadequate cost recovery will lead to continued financial losses, most cities in India do not have their master plans and development plans in place. This is a tragic situation if we talk about developing them into smart cities. The presence of both the requisites is the key to the implementation and encapsulation of the smart city project as that is where the changes would be monitored and there is

no other way to make it simple, better and efficient, unfortunately most cities in India lack the presence of it.

Technical constraints of ULBs- Most ULBs have limited technical capacity to ensure timely and cost-effective implementation and subsequent operations and maintenance owing to limited recruitment over a number of years along with inability of the ULBs to attract best of talent at market competitive compensation rates. The entire smart city plan is a one big plan which should get all the clearances if not before time then on time, everything should be online and timely which unfortunately is not happening in this case. The most important step to be taken in this context would be setting up a single regulatory body which monitors all the requisite approvals for the project, doing this will address two major issues one of co-ordination and one would be the timely execution, also the body should be solely responsible to cater to the financial requirements.

Retrofitting existing legacy city infrastructure to make it smart- There are a number of latent issues to consider when reviewing a smart city strategy. The most important is to determine the existing city's weak areas that need utmost consideration, e.g. 100 percent distribution of water supply and sanitation. The integration of formerly isolated legacy systems to achieve citywide efficiencies can be a significant challenge.

Three tier Governance- Successful implementation of smart city solutions needs effective horizontal and vertical coordination between various institutions providing various municipal amenities as well as effective coordination between central government (MoUD), We are very much aware of the unfortunate fact that India as of now is not that equipped when it comes to skilled manpower and advanced technology requirements for developing 100 smart cities. That is a huge number and requires lot of skilled efforts. If we talk about creating skilled labour and capacity building, not much funds have been allocated by the centre and state in such initiatives. Providing clearances in a timely manner- For timely completion of the project, all clearances should use online processes and be cleared in a time-bound manner, a regulatory body should be set up for all utility services so that a level playing field is made available to the private sector and tariffs are set in a manner that balances financial sustainability with quality. This point probably was meant to be from the first as this is the root cause for all above challenges. But if we talk about it solely this is also a major challenge. Corruption is responsible for all the co-ordination mismatch and time lag happening. The financial constraint also somehow creeps in because of this issue. It is a challenge which has always been a reason for non-execution or ineffective execution of most big projects in the country.

Dealing with a multivendor environment- Another major challenge in the Indian smart city space is that (usually) software infrastructure in cities contains components supplied by different vendors. Hence, the ability to handle complex combinations of smart city solutions developed by multiple technology vendors becomes very significant.

Reliability of utility services- the focus is on reliability of utility services, whether it is electricity, water, telephone or broadband services. Smart cities should have universal access to electricity 24x7 this is not possible with the existing supply and distribution system. Cities need to shift towards renewable sources and focus on green buildings and green transport to reduce the need for electricity.

Capacity building programme- 100 smart cities is not an easy task and most ambitious projects are delayed owing to lack of quality manpower, both at the centre and state levels. In terms of funds,

only around 5 percent of the central allocation may be allocated for capacity building programs that focus on training, contextual research, knowledge exchange and a rich database. Investments in capacity building programs have a multiplier effect as they help in time-bound completion of projects and in designing programs, developing faculty, building databases as well as designing tool kits and decision support systems. All the above points are exemplary of the fact that the smart city project although being a dream project has many implementation challenges. The project had been launched with different names many times but the final outcome is still awaited.

India's SCM hopes to revolutionize city life and improve the quality of life for India's urban population. It would require smart economy, bright people, smart organization, smart communication, smart engineering, smart transit, fresh environment and bright living. Nevertheless, with mass migration leading to basic publications, like water shortages and overcrowding, the rate at which these cities will be developed will be the key. Several initiatives are being led by the Government of India to convert 100 cities into smart cities. The government is concentrating on encouraging Public Private Partnership (PPP) for successful implementation of the smart city project in India. Financial and IT services sectors are on the priority list of the government to garner investments from leading companies such as Cisco, Synoate, Knight Frank and AECOM India. The real challenge before the Government is to build inclusive smart cities for all its residents, regardless of whether they are rich or poor. These smart cities would concretize the dream of every Indian to live in an urban city. Not only there will be cleaner streets but also advanced public transport and other well managed infrastructural facilities. The big challenge will be to create self-sustaining cities, which create jobs, use resources wisely and also train people. Even though it is Rs. 7060 Crores for the initial investment for set out Smart Cities, let we put hands together to make India more economically brighter. In addition, to this global warming can be reduced in constituent of this Smart Cities. Let us hope that soon India will provide Quality of Life, better life to its citizens on par with other Smart Cities like Barcelona, Helsinki, and San Fransco, New York, Singapore. Smart cities are equitably distributed across all the states.

Suggestions:

1. The first priority should be given to 100 smart cities for the rapid development The proper utilisation of resources and budget to aware the society for way of clean and green and swatch cities.
2. The only way out is planned urbanization. Public and private bodies must join hands and come up with smart, sustainable and long-term solutions.
3. Creating thriving and self-sufficient urban spaces will not only ensure inclusive growth but also contribute to overall economic advancement. The future of India lies in cities and we must fortify the mif the country has to prosper.
4. It is extended 100 cities to 1000 cities throughout the country increase financial sources constitute a special body for inclusive and sustainable development in India.

Conclusions:

Smart solutions for smart cities the government is taking initiatives to provide smart solutions in the major components of smart cities. It will help to drive the various innovative solutions that incorporated to make cities smart. The government is playing a vital role during progress of a smart city the growth of smart cities is good in later years compare to earlier years the current growth of

smart cities will strengthen the assimilation of resources in India. To make existing cities as smart cities or quite challenging the challenges faced during the constructions of smart cities can be overcome by providing a good economic structure and with good governance smart cities can provide a sustainable environment with innovations using information communication technology such as big data plot forms, artificial intelligence and the internet of things IOT make smarter in a much better way. Introducing the concept of smart cities in India is a great idea but due to increasing poverty rate, lack of infrastructure and basic amenities, the cities might have to face a lot of challenges. Before initiating the project, the government should try to attend to the basic issues of the nation such as implementing a proper drainage system, providing good water, sanitation and health care facilities etc. Smart cities could thus be the catalysts for digitalisation of surveillance systems that can be automated to generate near – real time triggers and alerts while also respond to advanced queries and searches seamlessly. At the same digitalised surveillance could help smart city projects get to speed quicker with regard to their economic, environmental, as well as citizen – centric goals. After all cities that are safe to live, communicative, and do business in a sustainable manner only can be truly SMART. We welcome to the future of 100 Smart Cities in India, with a positive way collectively and cheerfully.

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