Analysis of Status and Performance of Smart City Mission in India: An Overview

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ABSTRACT

Smart City Mission (SCM) is one of the flagship schemes (25th June, 2015) by Central Government of India. By smart we mean that the city is more sustainable, efficient, and live able for all urban dwellers. Another name of Smart City is Digital City or Wireless City or Future City. The main objectives of this research paper is to know the various components and features of smart city, to examine the current status and performance of smart city, to find out the challenges of implementing of smart city in India. The entire study is based on secondary sources of data. The study reveals that Tamil Nadu and Uttar Pradesh states are utilizing top fund under Smart City Mission. Smart cities are vital for a sustainable future and this mission is a step in the right direction. However, the process of a smart city transformation journey does not happen overnight. It is one of Central Government dream project which be achieved by 2030.

KEYWORDS: Digital City, Infrastructure, Mobility, Sustainable Development, Technology

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INTRODUCTION

Across the world, the stride of migration from rural to urban areas is increasing leaps and bounds. By 2050, about 70 per cent of the worlds population will be living in cities and towns and India is no exception. With more than 75 years of independence (Azadi ka Amrit Mahotsav), India contributes to providing its citizens with a better quality of life and better services. Smart City Mission (SCM) is one of the flagship scheme (25th June, 2015) by the Central Government of India under Ministry of Housing and Urban Affairs (MoHUA) for the development of 100 cities with the mission of driving the economic growth and improving the quality of life urban dwellers in the aspects of E-Governance, pure drinking water supply, transportation, entertainment, safety and security, delivery of govt services, water management etc. In smart city, there is use of digital technologies to enhance the quality of life and standard of living of its citizen. A city can be defined as Smart when a wise management especially through ICT- based technology, sustainable and inclusive development of city for all urban dwellers for sustaining of high quality of life. By smart, we mean that the city is more sustainable, efficient, and liveable for all urban dwellers. The term Smart city has been introduced in the year 1990s, however only in mid 2010 this concept has bloomed and through discussed t by Town Planners, Academician, Administrators, Urban Geographers, Regional Planners, Economist, etc. Another name of Smart City is Digital City or Wireless City or Future City. Today the concept of smart city is viewed as a vision, manifesto or promise aiming to constitute the 21st century sustainable and ideal city form.

The Smart Cities Mission is an innovative and new initiative by the Government of India to drive economic growth and improve the quality of life of people. 100 smart cities would easily bring crores of Indian citizens under smart and transparent e-Governance and improve their lifestyle easily. This wonderful project will help to reduce poverty, better disaster management and improve the infrastructure in the selected cities. Smart City Concept has derived

from five different aspects such as Sustainable Cities, Smart Cities, Urban ICT, Sustainable Urban development, Sustainability and Environment Issues etc.

Joshi, Saxena and Saksham (2016) studied an integrated framework of developing smart cities of India. The researchers discussed the problems with growing population and fast urbanization can be tackled only through the concept of smart city. A smart city is a futuristic approach which ensures optimum use of limited resources, make cities more proficient, sustainable, and livable. Researchers identified 6 important pillars which can help smart cities initiative a successful project {SMELTS}. Detailed study of it will help the government in smart governance, and to achieve it managerial implications. Researchers pointed those major issues of smart city like Project Size, Multiple Goals, Social Challenges, technological, Economical Challenges, Climate Distortion and many more can be solved only when we shift from technology to established smarter system which can enhance the use of resources. **Varghese Paul (2016)** in his work "Exploring Other Concept of Smart- Cities within the urbanizing Indian context" has focused on the concepts of smart cities within the Urbanizing Indian context. With rampant increase in urbanization, he highlighted the current realisms of first proposed smart city of India – Dholera and its developmental issues. The researchers also explained the model of smart village proposed by Dr. A. P. J Abdul Kalam. He explained how the first smart city already experiencing a teething problems. In the expedition to develop the new green field scheme – Dholera has already run into issues where the local population is not taken into confidence, they were least informed of Dholera as SIR. There are many parameters on which country is lacking in developmental process, rather than focusing for solving wider ranger problems government must try to look at narrow solutions and try to jump ahead of the possibilities. **Parishwad and Trishubh (2014)** analyzed the rating of smart city in India. The researchers focused on the infrastructural development for the smart urban development in India. They pointed out the need of establishment of parameter particular to Indian standard for development of smart cities. They analyzed major initiatives taken in service delivery across India. The researchers focused on concise comparison of smart city development on global scenario. Consideration of different factors, parameters expressed that urban development is a complex process in different dimension and evaluation. India barely paid attention to its urban transformation. India needs to build infrastructure on grand scale to meet the need of their

surging urban population by ICT. We can truly use smart city as the parameters and rating as a tool to benchmark with other cities to draw lesson from better performing. **Soni Nupur (2020)** studied a review and analysis of smart city in India. The researchers focused on smart city mission in India along with key components, advantages and disadvantages. By highlighting the building blocks of smart cities she also explained how smart cities will provide several benefits if Intelligent Technology is included in human life. Along with this, she also mentioned how these technologies will not fix basic urban problems and data of every action is collected and monitored and measured can be considered as intrusion of privacy. Smart city mission is an innovative and new initiative by the government of India to drive economic growth, improve quality of life and harnessing technology as a means to create smart outcome for citizens. She observed that how urban people will start demanding of intelligent cities with sustainable environment and higher quality of life because smart cities promise social, environmental, economic sustainability. By 2030 all major cities of the world will be on the path of becoming smarter. **Kunkulol and Waghmare and Ashish (2016)** discussed the development and progress of smart city in our country. The researchers advocated that urbanizations and its accelerating expansion led the present government to build a robust infrastructure at the forefront agendas. They prepare outlines of opportunities landscape for smart cities. To support Indian government initiative, they enable as solution providers to take standard of current situation. After short listing of cities on economic criteria and geographical inclusivity they focused on questions like What, How, Where, When and conditionality of smart cities. They pointed at the implementation stage of smart city in India like GIFT City, Wave City – IBM based, Lavasana City, Palava City and the key features of these cities covered under bilateral technical collaborations. They also focused on Varanasi Kyoto Agreement and observed that how India has become attractive Investment Destination. They analyzed that technologies utilizations of modern management system and PPP are key for success of such projects. They suggested that smart city valuation framework should be developed for cities interested in a inclusive and realistic development process. **Rana, Luthra and Mangla (2018)** examined the barriers to the development of smart cities in Indian context. From a review of existing literature views of experts of this areas they identified the most important barriers coming in front of smart city development process on the basis of Fuzzy Analytical Hierarchy Process technique. Their

worked explored 31 barriers of smart cities development and divided into 6 broad categories. The most significant categories of barriers are Economics, Technology, Social Environment, Legal and ethical. To help policymaker in improving their sustainability in an Indian context, they pointed and recognized priorities barriers linked to smart cities. The recognized barriers may be evaluated farther to know their causal relation in smart city development initiative through DE MATEL/ Fuzzy and Grey Technique. In order to avoid resistance from stakeholders and government employee toward various aspects of smart cities should be explored by utilizing established theories and models. **Badnakhe, Rushikesh and Biswal (2017)** studied the role of the Remote sensing for creation of smart cities in India. They mainly focused on the important components for constructions of smart cities of India. They have over reviewed in smart-on-smart monitoring in governance, waste management, safety purpose, transportation, energy and health care. Leverage technology and modernize city, infrastructure can only be helpful to improve efficiency and capacity of city services. Arrays of applications in smart like health monitoring, electricity, water distribution system etc can play an important role of advanced sensing. Multidisciplinary collaborations are required which will be challenging in this path. There are numerous challenges to be solved before full ubiquitous cities become a reality. **Ahmed and Shalbbya (2020)** examined the practices, gaps, and current status of the smart cities in India. They looked government policies, issues and gaps which slow down the growth of smart city with the increase of populations. Review of publically available documentation is used here as a qualitative research tool. The framework of smart cities looks good on papers but not in reality. They discussed the five round and selected cities mission and the results have been broken into various sections like – Practices of cleaner productions- like Model villages, Make in India, Skilled India, Clean India, Solar Power, Digital India. Smart growth issues like Public service, Resource management, governance participation, attainment of funds etc. And gaps affecting smart cities are political gaps, financial gaps, social gaps, service gaps etc. Enhancing involvement of citizens at all stages of smart cities and dynamics consultation of PPP alliance will naturally mitigate the challenges involved with adopting clear pro current and practices and promote the phase of smart city growth.

Objectives of the Study:
The main objectives of this research paper are-
1. To know the various components and features of a Smart cities in India.
2. To examine the current status and performance of smart cities in India.
3. To find out the challenges of implementing of smart city in India.

Database and Research Methodology:
The entire research work is based on secondary sources of data. The data has been collected from the Ministry of Housing and Urban Affairs, the Government of India, various Newspapers, Journals, Books etc.

Result and Discussion:

Table 1.1: Phase-Wise Selected Smart City in India

Phase wise/ Round Wise Development	Selected Cities
1st Phase of Smart City Selected (20 City, January 2016)	Bhubaneswar, Pune, Jaipur, Surat, Kochi, Ahmedabad, Jabalpur, Viskhapartanm, Solapur, Devangere, Indore, New Delhi, Coimbatore, Kakinada, Belagavi, Udaipur, Guwahati, Chennai, Ludhiana, Bhopal
2nd Phase of Smart City Selected (13 City, May 2016)	Chandigarh, Bhagalpur, Faridabad, Lucknow, Raipur, Ranchi, Dharamsala, Warangal, Panaji, Agartala, Imphal, Port Blair, New Town (Later it is withdrawn)
3rd Phase of Smart City Selected (27 City, September 2016)	Amritsar, Kalyan, Ujjain, Tirupati, Nagpur, Manglore, Vellore, Thane, Gwalior, Agra, Nashik, Rourkela, Kanpur, Madurai, Tumakuru, Kota, Thanjavur, Namachi, Jalandhar, Shimoga, Salem, Ajmer, Varanasi, Kohima, Hubli-Dharwad, Aurangabad, Vadodara
4th Phase of Smart City Selected (30 City, June 2017)	Thiruvanthapuram, Naya Rapur, Rajkot, Amravati / Vijayawada-Guntur, Patna, Karimnagar, Muzaffarpur, Puducherry, Gandhinagar, Srinagar, Sagar, Karnal, Satna, Bengaluru, Shimla, Dehradun, Jhansi, Pune-PCMC, Bilaspur, Pesighat, Jammu, Dahod, Thoothukudi, Tiruchirapalli, Tirunvelli, Tiruppur, Aizwal, Prayagraj, Aligarh, Gangtok
5th Phase of Smart City Selected (10 City, June 2018)	Erode, Saharanpur, Moradabad, Bareilly, Silvasa, Itanagar, Diu, Kavaratti, Bihar Sharif

Total Selected Smart City 100

Source: Ministry of Urban and Housing Affairs Report, 2015-2022

Table 1.2: Current Status and Performance of Smart City Mission, 2022-23

Particulars	Numbers
Cities	100
Projects	7763 Projects / 1,81, 575 crores
Amount (INR)	76000 Crore (Rs. 100 crore per Year on Average)
Tendered	6809 Projects / Rs189,737 Crores
Work Order Issued	6222 Projects / Rs 164,888 Crores
Work Completed	5134 Projects / Rs 94,673 Crores
Top Fund Utilisation State under SCM	Tamil Nadu (3932 Crores) Uttar Pradesh (2699 Crores)

Source: Ministry of Urban and Housing Affairs Report, 2022

Table 1.2 shows the current status and performance of Smart City Mission. The table 1.2 shows that there are 7763 projects are taken and 6809 tenders taken, 6222 projects work orders issued and among them 5134 projects are completed under Smart City Mission.

Components of Smart City:

➢ **Smart Buildings:** Availability of ICT Infrastructure, Housing Quality, Albedo control, Green Building, Efficient building and homes, Affordable housing especially for the poor.

➢ **Smart Environment:** Attractive natural conditions, less pollution, environmental protection, sustainable resource management, Smart Wireless cable, Sustainable Development.

➢ **Smart Energy:** Solar Energy, Smart grid, Smart Electric metering, Gas distribution and renewable energy, Efficient Solid Waste management, managing energy consumption, Adequate Electricity Supply.

➢ **Smart Public Services and IT Communication:** Public Safety, Healthcare, Education, Smart Traffic Control System, Reducing crime rate, Adequate Clean Water Supply, Water Resource Management, Smart Medical Treatment, Smart Disaster Management, Citizens Participation, Safety and Security of citizens particularly women, Child and Elderly, Provide best medical treatment and Education facilities, Women Empowerment, Robust IT connectivity and digitalization, Artificial Intelligence.

➢ **Smart Transportation:** Local accessibility, Sustainable, Innovative and Safe transport System, Electric vehicles, CNG-used vehicles, Improve Walkability and Cycle Paths.

➢ **Smart Governance:** Digital Birth and Death Certificates, Building Plan Approval, Utility Bills, Property Tax, E-Procurement, Personnel Management, Good Governance especially E-Governance, Transparency, Accountability and Opportunities for participation in government.

Features of Smart City:

1. Smart E-Governance
2. Broad Roadway
3. Smart Traffic Control
4. Smart Mobility Aspect (Under Ground Sub-Way, Foot over the bridge with Escalator)
5. Smart Public place and Parking facilities
6. Wi-Fi Facility
7. Sensor Fitted Street Light
8. Urban Green Belt
9. Smart Parking
10. Barrier Free Roadway
11. Solid Waste Management
12. Wireless Technology
13. Intelligent Business Management System
14. Creative and Meaningful use of Public-Private Partnership
15. Use of Technologies For Safety and Security
16. Smart Energy
17. Smart Affordable Buildings
18. Smart cities provide several environmental benefits through reduced greenhouse gas emission
19. Underground Sewerage and Drainage
20. Underground Electric Cables and Wires

Challenges for Smart City Mission:

➢ Lack of Co-ordination between Central Government, State Government and local Government

➢ Corruption

➢ No proper management of the cities in terms of a Master Plan or City Development Plan

➢ Lack of Cooperation from the Public

➢ Technical Constraints

➢ To build 100 Smart Cities is not an easy project, It is a dream project of the Government of India

➢ Low budget year by year

➢ Lack of awareness of the people about the concept of a smart city

➢ Safety and Security of public data (Hackers).

➢ Migration of People towards the urban area

➢ Rampant Urbanization and Sub-Urbanization

➢ No Strong Framework for Development

➢ Multiple Policies and Projects for Urban Areas

➢ Overlapping Powers

➢ Issue of Funding

Conclusion:

Most of the cities in India are faces various problems like traffic congestion, crowding of people, air pollution, scarcity of resources, problems of space, garbage problems, lack of greenery, cleanliness, lack of affordable housing, unplanned and unhapazzard growth and development of city and sub-urban areas, informal real estate markets, lack of infrastructure, inadequate transport facilities, poor sanitation, poor electricity supply, crime, inadequate clean water supply, economic, rural to urban migration, political and technological problems poor governance arrangements, etc. are leading the urban citizen's life unhappy. Thus, Smart City Mission is a way to resolve these problems. Moreover, proper assessment of technology alternatives, public-private partnership and the utilization of modern management systems and technology will be playing a vital role in the completion of this dream project. However, the process of a smart city transformation journey does not happen overnight. This Smart City Mission will also promote various schemes such as Make in India, Skilled India, Clean India, Digital India programmes, Atma Nirbhar Bharat, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Pradhan Mantri Awas Yojna-Urban (PMAY-U), National Urban Livelihood Mission (NULM), National Urban Digital Mission (NUDM), National Urban Learning Platform (NULP), Swachh Bharat Mission (SBM). Smart cities are vital for a sustainable future and this mission is a step in the right direction. Last but not least smart city development is more concerned with making progress as concerned with the smart indicators and providing digital and smart services to the urban dwellers rather than rating the city.

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