Rejuvenating Urban Infrastructure: A Contrasting Study of AMRUT Mission and Smart Cities Mission

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Abstract - The importance of urban infrastructure is paramount for promoting sustainable and inclusive urban growth. Urban infrastructure is the foundation for the functioning, growth, and development of urban areas. Unplanned growth of cities would lead to negative outcomes which would affect various sections of the society. All people across the world desire better quality of life. Most of the people migrate to urban areas expecting better standard of living. Hence it is the responsibility of the administrators to ensure the welfare of its citizens. Urban infrastructure is a broader concept which include several components such as water supply system, sewerage, sanitation, transport, communication, parks, housing, public safety systems, flood management system, healthcare, education and so on. Each of these components has significant impact in ensuring better quality of life an individual. Realizing the importance of urban infrastructure, government of India introduced two urban infrastructure development schemes simultaneously in 2015, namely AMRUT mission and Smart Cities Mission. Both missions involve huge resource utilization. Some areas of both missions are complementary in nature. Understanding the missions in depth would help to identify the strength and weakness of both the missions and aid various stakeholders in their decision-making process. As per official statistical data, there are 7935 towns in India which are at different level of infrastructure development. Proper technical and financial support should be provided to these cities for its growth and development there by to ensure the quality of life of citizens.

Keywords: Urbanization, Urban Infrastructure, AMRUT mission, Smart Cities mission.

I. INTRODUCTION

Urbanization leads to the expansion and concentration of population in urban areas which leads to various infrastructural complications especially the need for quality basic urban infrastructure. Urban infrastructure is the cornerstone of survival of all cities and towns across the world. It acts as the foundation for the functioning, growth, and development of urban areas. Unplanned growth of cities would lead to disastrous outcomes which would affect all strata of the society. All people across the world desire better quality of life. Most of the people migrate to urban areas expecting better standard of living. Hence it is the responsibility of the administrators to ensure the welfare of its citizens. Urban infrastructure is a broader concept which include several components such as water supply system, sewerage, sanitation, transport, communication, parks, housing, public safety systems, flood management system, healthcare, education and so on. Each of these components has significant impact in ensuring better quality of life an individual. As in the case of social development, urban infrastructure also has pivotal role in economic development of the nation. The importance of urban infrastructure is paramount for promoting sustainable and inclusive urban

growth. As cities continue to expand and population increase, a well-developed infrastructure becomes essential, providing key services like clean water, sanitation, transportation, and housing. Effective urban infrastructure not only improves living conditions but also boosts economic growth and public health. Additionally, it contributes to environmental sustainability by enabling efficient resource management and reducing pollution. As per the census 2011, there are 7935 towns in India, which consists of 4,401 statutory towns and 3,894 census towns. It is the responsibility of administrators to provide better living conditions to the citizens in these towns. After realizing the vital importance of urban infrastructure, the governments are framing policies and initiates missions to improve the outlook of cities.

STATEMENT OF THE PROBLEM

Cities are the core of the socio-economic development of any country so as in the case of India.

The perceptions about a city differ among different people. Many factors such as age, gender, needs & wants, education, health etc. may influence that perception. With a population nearing 1.45 billion, India is at present the second most populous nation in the world. But it is expected to overtake

China as the most populous nation soon. It is estimated that around 31% of Indian population resides in urban areas which contribute 63% of the GDP of the country (Census, 2011). Also, it is anticipated that by the year 2030, urban population of India will increase to 40% and the GDP contribution will rise to 75%. Better city planning and management is required to curb the challenges posed by urbanization and ensure quality of life of citizens. This calls for the substantial development of physical, institutional, social, and economic infrastructure components.

Both AMRUT mission and Smart Cities Mission are pan India urban infrastructure development schemes launched by the union government. Both the schemes involve huge resource allocation in finance, personnel, material, and other elements.   respective strengths, weakness, and areas for improvement. It helps policymakers, urban planners, citizens, and other stakeholders to make informed decisions to achieve balanced, inclusive, and sustainable urban development.

OBJECTIVES OF THE STUDY

The present study is carried out with the following main objective.

To review the objectives, thrust areas, implementation strategies, and funding of AMRUT mission and Smart Cities Mission.

METHODOLOGY

The research design of this study is descriptive in nature. It describes the general components of both missions and its present status. The study compares the objectives, major thrust areas, funding, and implementation strategies etc. of both missions. The study is exclusively based on secondary data where the contents obtained via books, journal articles, newspaper reports, theses, and websites. In addition, statistical data were collected from census reports, reports of Press Information Bureau, Ministry of Housing and Urban affairs.

II.   REVIEW OF LITERATURE

An overview of current literature related to AMRUT and Smart Cities Mission are presented below.

Agrawal, K. (2016) [4] expressed that AMRUT focuses on the development of basic urban infrastructure will facilitate the development of a city as smart city in future. The researcher pointed out the role of Project Development and Management Consultants in providing end to end assistance to local/state government at various stages of project implementation. Lion share of the cities in India is not equipped with a master plan or city development plan which is a serious challenge in the implementation of smart cities. Also, the study explains that some of the infrastructure segments are under the threat of corruption. Hence author suggests that keen observation of fund management and civic

engagement are very important in the implementation of urban infrastructure development missions like smart cities.

(Sarma,2020) [1] is of the opinion that SLIP submitted in connection with AMRUT mission does not indicate the year of completion of proposed project, projected population, extended analysis of the drawbacks etc. The study recommends that sectoral master plans should be prepared for various infrastructure components of AMRUT. **(Aravindan, V.N, & C B, 2020)** [2] describes the present urbanization situation in Kerala. Authors argue that cooperative federalism principle is followed in AMRUT mission as there is equal responsibility is ensured with state government in project management. **(Saha, 2020)** [3] claims that the priority of public expenditure diverted from health and education segment to the promotion of basic civic amenities such as water supply, sanitation, and housing. The recently launched urban development schemes such as AMRUT, Smart Cities Mission, HRIDAY, and Swatch Bharath Mission indicates this shift. Author also suggested that Smart cities mission should give emphasis to social capital, social sustainability, and social justice in their project management.

Based on the literature review it is understood that it is essential to conduct a study for the comprehensive understanding of AMRUT mission and Smart Cities Mission. This study helps to assess the approach followed in both missions on various parameters. It adds value to the topic of urban management and offers suggestions to improve the effectiveness of these initiatives.

III.   DATA ANALYSIS

Smart Cities Mission

This mission was launched by the Prime Minister in 2015. The desired outcome of Smart Cities Mission is to improve the infrastructure through the application of smart solutions which leads to the sustainable development and ensures the quality of life of people. This mission targets inclusive development of urban clusters that create a prototype that can serve as a beacon for other aspiring cities. Smart cities mission aims to transform cities as places which is liveable, sustainable, and economically efficient places with plenty of opportunities which work for its people to follow their diverse interests.

Smart Cities Mission covers the following vital infrastructure components:

- Water supply
- Electricity supply
- Sanitation, including solid waste management
- Urban mobility and public transport
- Housing, especially for the poor
- 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.

Strategies

Smart cities mission follows an area-based city development approach, which include three strategies such as Retrofitting, Redevelopment, Greenfield plus a pan city initiative. These are briefly explained below.

Retrofitting

This approach focuses on city improvement in an existing built-up area consisting of more than 500 acres which is selected in consultation with citizens. More sophisticated infrastructure solutions and smart applications will be integrated into the existing infrastructure which results in the replication of city with in a short span of time.

Redevelopment

This approach targets city renewal or replacement of existing infrastructure with new plan layout utilizing mixed land use and increased density. more than 50 acres of land identified with the coordination of citizens and local government will be renewed by mixed land use, higher FSI and high ground coverage.

Greenfield

Under this approach more than 250 acres of vacant areas will be identified and smart solutions will be applied with innovative planning and implementation tools. It also aims at housing for disadvantaged sections of the society. Greenfield developments are undertaken considering the population concentration in the outgrowths. The land chosen for greenfield development may be located within the limits of ULB or Urban Development Authority.

Pan city development

It deals with the integration of customized smart solutions with the present infrastructure of the city. It involves the utilization of technology, information, and data to enhance the current infrastructure and services. For instance, Intelligent traffic management systems to reduce commute time is a part of pan city development.

Each city will adopt either retrofitting, redevelopment, or greenfield development models, or a combination of these approaches, alongside a Pan-city feature incorporating Smart Solutions.

Selection of cities under Smart Cities Mission

Total hundred cities all over India are selected for smart cities mission. Cities are selected through a city challenge competition. the primary stage of city challenge is an intra-state competition where the state prepares the list of potential smart cities based on the conditions put forward by the central government. The next stage is an all-India level competition where the hundred potential smart cities will prepare proposal with the support of a consultant from the panel of ministry of urban development and an international level agency such world bank, ADB, UN Habitat etc. By the end of second stage, the proposals prepared by the smart cities will be evaluated by an expert panel. If the proposal is approved by the panel, the potential smart city could proceed to implement the projects. The Special Purpose Vehicle setup by the respective smart city is responsible for the execution of projects.

Funding

As of July 3, 2024, the 100 cities involved in the mission have completed 7,188 projects, which constitute 90% of the total projects, with a total expenditure of ₹1,44,237 crore. The remaining 830 projects, valued at ₹19,926 crore, are nearing completion. Regarding financial progress, the mission was allocated a GOI budget of ₹48,000 crore for the 100 cities. As of now, ₹46,585 crore (97% of the allocated GOI budget) has been released to the 100 cities, and 93% of these funds have been utilized. Full GOI financial support has been provided to 74 out of the 100 cities.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

AMRUT mission was launched by the honourable prime minister of India in June 2015. The AMRUT mission is an initiative to improve basic amenities in the urban areas to improve the quality of life of citizens especially the poor and disadvantaged strata of the society.

Infrastructure components covered under AMRUT mission are the following

i. water supply,

ii. sewerage facilities and septage management,

iii. storm water drains to reduce flooding,

iv. pedestrian, non-motorized and public transport facilities, parking spaces, and

v. enhancing amenity value of cities by creating and upgrading green spaces, parks and

recreation centres, especially for children.

Apart from the main infrastructure components mentioned above, Reforms management and support and capacity building are also part of AMRUT mission.

Selection of cities under AMRUT mission

Five hundred cities of India are AMRUT mission cities. These five hundred cities consist of all capital cities/towns of states or union territories, all cities, and towns with at least one lakh population, heritage cities, cities on the main course of the rivers, cities representing hill states, islands, and tourist attractions.

AMRUT follows project-based approach where the Ministry of Urban Development approves the State Annual Action Plan submitted by the states yearly and the states will approve individual projects at their end. This approach facilitates the joint participation of central and state governments which promotes the idealism of cooperative federalism.

Funding

AMRUT was initiated as a Centrally Sponsored Scheme for five years from FY 2015-16 to FY 2019-20 with an outlay of Rs.50,000. The composition of the fund is as follows:

Project fund -80% of the annual budget apportionment

Incentive for reforms- 10% of annual budget apportionment

State funds for Administrative & Office expenses (A&OE)- 8% of the annual budget apportionment

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As per the latest available data State Annual Action Plans (SAAPs) of all the States/Union Territories (UTs) Summing up to ₹77,640 crore for the entire Mission period, has been approved by the Ministry of Housing and Urban Affairs, which includes earmarked Central Assistance (CA) of ₹35,990 crore.

To date, States/UTs have initiated 5,873 projects valued at ₹82,222 crore. Out of these, 4,676 projects worth ₹32,793 crore have been completed, while another 1,197 projects valued at ₹49,430 crore are underway at various stages of implementation. Additionally, approximately ₹66,313 crore worth of projects have been physically completed, with an expenditure of ₹59,615 crore incurred.

IV.   SUGGESTIONS

➢ Out of 7935 towns in India, AMRUT mission covers 500 cities while smart cities mission covers 100 cities. After evaluating the impact of outcomes on the transformation of cities and quality of life of citizens, it should be expanded to other cities of India as well.

➢ Incentive based approach-based fund allocation in AMRUT and competition-based selection of smart cities is a good idea to ensure effective utilization of all resources and curb malpractices and delay.

➢ In smart cities mission, mostly resource efficient and developed cities are included. There is a chance of disparity in regional development where the less developed cities hardly get support to upgrade to smart infrastructure solutions. It should be addressed with serious attention.

V.   CONCLUSION

These schemes address the pressing needs of urbanization in India, aiming to create sustainable, efficient, and liveable urban environments.   Both missions highlight the improvement in the quality of life of citizens across various cities of India. India is one of the densely populated and urbanizing country in the world. Human resources are the core of the socio-economic development of this nation. Provision of better basic amenities is essential for the survival of citizens and sustainable development of cities. AMRUT is a great leap to achieve this mission. AMRUT lays down a better foundation for basic infrastructure upon which smart infrastructure solutions are developed. Smart urban infrastructure applications are need of the hour in this globalization era. Some areas of the both missions are complementary in nature. Both missions adopt different strategies. So, by evaluating the effectiveness of outcomes better practices can be identified.

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