www.ijprems.com
editor@ijprems.com

INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
Vol. 02, Issue 08, August 2022, pp : 19-24

e-ISSN : 2583-1062
Impact Factor : 2.265

REVIEW ON SUCCESS AND FAILURES OF SMART CITY MISSION

Akansha Gupta[*1]

[*1]PG Student, Masters in Urban Planning, Madhav Institute of Technology & Science, Gwalior, Madhya Pradesh, India

ABSTRACT

The Smart Cities Mission, launched in 2015, aims to improve the quality of life in 100 cities and towns in India. Overall, its progress was unequal, as many cities are yet to achieve the desired levels of change. This report examines the first five years of Work, and learns from its successes and failures. It discusses the physical and financial status of projects undertaken to date, and identifies the most important challenges — administrative, financial, and technological — that are hindering progress.

Keywords: SCM, ULB, ABD, UTs, MoHUA, SPVs, etc.

1. INTRODUCTION

The Smart Cities Mission, launched on 25 June 2015, is a joint initiative of the Department of Housing and Urban Development (MoHUA), as well as all regional and union governments (UT). It was originally intended to be completed in 2019-2020, but has since expanded. 100 cities and towns in various provinces and UTs of India have been elected under the SCM — home to more than a third of the country's population. The mission aims to "drive economic growth and improve the quality of life of the people by allowing for the development of the environment and the use of technology, especially technologies that lead to intelligent outcomes," and to ensure that these cities in order to pursue their own interests." In other words, according to MoHUA, "smart cities are cities where people can work."

The selection process began with the identification of a large number of cities on an urban / UT urban basis, as well as the number of official cities in them. A two-stage competition was organized, first between the cities of each region, and then the winners of each round, at the national level. Finally, the top scorers were selected from the existing resource levels, institutional capacity, funding, past history and transformation, and the level of the smart city proposal they presented. In the first round of the tournament in January 2016, 20 cities were selected; this was followed by 13 more in the fast-paced round in May 2016. In September 2016, during the second round, 27 more cities were selected; third, in June 2017, another 30; the fourth in January 2018, the other nine. The Meghalaya capital, Shillong, was designated as the largest city in June 2018.

The geographical distribution indicates that the majority of selected cities are from the following major provinces - Tamil Nadu, Uttar Pradesh, Maharashtra, Karnataka, Madhya Pradesh and Gujarat A few numbers (three or four) come from Punjab, Andhra Pradesh, Bihar and Rajasthan, while the remaining major states - Jharkhand, Haryana, Kerala, Odisha, and Telangana - have one or two.

Another major region, West Bengal, has one such city - New City, an extension of Kolkata. Its regional government initially withdrew from the Mission, saying it was promoting unequal development. In Maharashtra again, opposition groups in charge of the Mumbai and Navi Mumbai municipal organizations opposed some of the terms of the program, especially the constitutional Special Vehicles (SPVs), and refused to participate. They maintain SPVs that will reduce the capacity of the municipal organization.

Only one or two cities have been selected for each mountainous region, in the northeastern provinces, and the UTs. Statistics on selected cities range from as little as 11,201 (Kavaratti in the UT of Lakshadweep) to 12.4 million (Delhi). The population of the selected 100 cities / towns, according to the 2011 Census, is estimated at 130 million. Thus, about 35 percent of the people in Indian cities live in selected cities.

SCM will improve infrastructure and services (i.e., housing, water supply, sanitation, electricity supply, health, education, mobility, security and safety, IT and digital communications), while maintaining a clean and sustainable environment, and strengthening urban governance. The development and implementation of 'smart' solutions to overcome various urban problems is a key factor that separates SCM from previous urban transformation efforts. Solutions can be implemented in many areas, such as pedestrian precinct, which can reduce traffic congestion, air pollution, or maintain and improve open spaces — and thus reduce the temperature and improve the environment. They can be used to promote transport-oriented development (TOD) where housing, jobs, and services are integrated closely with mass transit programs; they can make places more vulnerable to danger by giving early warnings; and they can support mixed land use, which makes that more efficient. Smart solutions can also be used to increase housing opportunities, monitor solar energy needs, ensure better street lighting, build green energy-efficient buildings, and make governance friendly, responsive, transparent, and affordable.

www.ijprems.com
editor@ijprems.com

INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
Vol. 02, Issue 08, August 2022, pp : 19-24

e-ISSN : 2583-1062
Impact Factor : 2.265

2. SMART CITIES MECHANICAL DEVELOPMENT STRATEGY

2.1. Area Based Development:

This involves selecting areas of a specific size for redevelopment, re-installation, and green space development. The whole city is not selected. For example, the National Capital Territory (NCT) of Delhi has a total area of 1,483 sq km, which is only 2.2 sq km, administered by a designated New Delhi Municipal Council. Chennai, T. Nagar, spread over about seven square miles, was selected.

Reconstruction means demolishing an existing building site and creating a new building. Examples of this type of development are the Bhendi Bazaar redevelopment project in Mumbai, and the East Kidwai Nagar project in Delhi. Reconstruction, on the other hand, provides for the development of a built-in environment. In this model, existing structures remain the same.

To develop green spaces, new planning, program financing, and start-up tools are used to improve vacant neighborhoods.

2.2. Pan City development:

Here, smart solutions are used in large areas of the city to improve living conditions. This may include setting up an intelligent traffic control system, which can reduce travel time and travel costs, or wastewater recycling and smarter measurement to better control water.

Both of these types of development require planning, implementation, monitoring and funding.

2.3. Planning:

Cities and regional governments are encouraged by MoHUA to submit 'smart city' proposals. It lists leading telecommunications firms and hand-held agencies (both external and domestic) that can provide technical and financial advice. City officials took ideas from residents and other stakeholders to prepare their proposals. Other foreign governments, including those of France, Germany, Japan, and the US, have also provided technical advice.

Each smart city proposal submitted provides a city profile, and describes the city's vision and goals, the model selected for development and the implementation plan. It sets out the proposed projects (such as the provision of electric vehicle charging services), the necessary resources, operational agencies, and the possible completion of projects, as well as a detailed financial plan.

2.4. Implementation:

In order to implement their 'smart city' proposals, cities had to make a special purpose vehicle (SPV), led by a full-time chief executive officer, and have local, regional and local government nominees on its board. SPV can enlist the help of consulting companies, and appoint project management advisors (PMCs).

3. MONITORING:

Guidelines for Objectives [8] provide for the development of a monitoring system, and specify organizational responsibilities for monitoring:

- At the national level, the executive committee (AC) approves proposals, reviews activities, recommends mid-term adjustments, and disburses funding. The national equipment director is in charge.
- At the regional level, a high-level steering committee (HPSC), headed by the state machinery director, oversees the missions. Provides guidance and a forum for the exchange of ideas.
- In the cities, in addition to the SPV, smart city counseling forums (SCAF) have been established to facilitate and facilitate collaboration between stakeholders. The forum was convened by the CEO of SPV.

4. FUNDING:

Central and local governments / cities share equal responsibility for fundraising. A total of INR 1,000 billion has been allocated to 100 cities over the five-year Mission period originally planned. This applies to about INR 2 billion per city per year.

That way government funds will meet less than half the cost of the project. Balance should be collected from internal and external sources, including financial coordinators, internal / local government resources, other central government programs, new approaches (such as municipal bonds, consolidated funds), loans to international and international institutions, and the private sector. sector.

5. CURRENT STATUS OF EQUIPMENT

5.1. National level:

6,130 project tenders awarded to INR 1,814.91 billion were awarded. Of these, 2,898 (47 per cent) projects costing INR 504.22 billion have been completed. In the total amount of tenders awarded, approximately 23 per cent of the total funds

www.ijprems.com
editor@ijprems.com

INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
Vol. 02, Issue 08, August 2022, pp : 19-24

e-ISSN : 2583-1062
Impact Factor : 2.265

disbursed, the institutional and provincial / local government 13 and 10 per cent. percent, respectively. This is very low and needs to be increased. Of all the central government funds disbursed, approximately 94 percent were referred to SPVs. Of the total government and local / local government funds disbursed, up to 71% spent; institution and state expenditure allocation is 48 per cent and 23 per cent, respectively.

5.2. State level:

Major provinces have issued additional tenders. Karnataka is top with 821 project tenders awarded, while Manipur, with just seven tenders, is low. In general, smaller provinces, northeastern regions, and UTs have awarded less than 100 project tenders. Of the total number of tenders awarded, Delhi and Nagaland have completed more than 70 percent of their projects, with seven other provinces - Rajasthan, Gujarat, Karnataka, Madhya Pradesh, Goa, Tripura, Andhra Pradesh - they have finished 50-60 percent. However, many other states / UTs are not working properly (see Figure 6). Meghalaya has not yet completed a single project.

The disbursement of both federal and provincial funds to SPVs by tenders awarded to date is more than 80 percent in Arunachal Pradesh and Goa. These are followed by Puducherry, Assam, Haryana, and Mizoram, whose projects exclude 58-75 percent of their projects. Excavations are very low (less than 18 percent) in Jammu and Kashmir, Madhya Pradesh, Punjab, Maharashtra, and Meghalaya.

Overall, disbursements were lower than expected. Many states / UTs are unable to consolidate their budget. Dadra and Nagar Haveli, Assam, Haryana, and Goa are slightly better off than the worst offenders (between 29 percent and 33 percent). Below are a few northeastern provinces, as well as Jammu and ancient Kashmir, Lakshadweep and Telangana.

In terms of expenditure, 26 provinces / UTs spent more than 50 per cent on disbursements. West Bengal and Sikkim have done very well with more than 90 percent usage. Low utility rates were observed in Daman and Diu, Dadra and Nagar Haveli, Puducherry, and Assam.

5.3. City level:

The highest number of project tenders were awarded in Indore (277), followed by Belagavi (219) and Raipur (217). Itanagar and Imphal have issued less than 10 tenders.

In New Delhi, Chennai, and Indore, more than 80 percent of the projects have been completed. In Amaravati, Bhagalpur, Muzaffarpur and Shillong, not a single project has been completed. The cities of Dadra and Nagar Haveli, Puducherry, Bihar and Meghalaya followed. In 61 cities, project completion is less than 40 percent.

Half of the total government funding disbursed, in total for tenders, is more than 87 percent in Dharamshala, followed by Itanagar, Pasighat, Namchi, and Panaji. In the remaining cities, this rate is less than 50 percent. Bareilly, Biharsharif, Thane, and Bilaspur, less than 5 percent. This assignment needs immediate upgrades.

In 64 cities, all funds raised by the Center were transferred to SPVs. In the remaining 36 cities, the share is between 40 and 99 percent. Central government funding disbursements have been very low (less than 50 per cent) in Aizawl, Amritsar, and Jalandhar.

Governments in every 100 cities are failing to raise funds for their partners — an average of less than 45 percent at present. Faridabad and Chennai received the largest share in their provincial government, between 40 and 45 percent. The low-lying cities Srinagar, Kavaratti, and Gangtok. In Karimnagar and Warangal, the data available shows that the Telangana government has not yet released the price at all. The provincial government's budget needs to grow rapidly if SCM is to succeed.

The cities of Rajkot, Indore, Ujjain and Bhopal are the largest producers. Apart from these four, there are seven other cities where consumption is over 90 percent. In 23 cities, it has been less than 50 percent, the lowest (less than 10 percent) in Bhagalpur and Diu.

The ranking of the top five and bottom cities based on different criteria is given below

Mission progress has improved significantly in Tamil Nadu, Madhya Pradesh, and Gujarat. Chennai and Coimbatore in Tamil Nadu, Indore, Bhopal and Ujjain in Madhya Pradesh, and Surat and Rajkot in Gujarat, are repeatedly listed among the best performers in different categories. Other provinces / UTs that have performed well are Delhi, Haryana, Chhattisgarh, Dadra and Nagar Haveli, and West Bengal.

Provinces / UTs where significant development is required include Bihar, Punjab, Telangana, Puducherry, Meghalaya, Goa, Mizoram, Jammu and Kashmir, Sikkim, Assam, Lakshadweep, Dadra and Nagar Haveli, Daman and Diu. Bhagalpur, Muzaffarpur and Bihar Sharif in Bihar, Amritsar and Jalandhar in Punjab, as well as Karimnagar and Warangal in Telangana are prominent among the five lower cities on different terms.

6. PROJECT IMPLEMENTATION: EXTENSIVE SCOPE, MIXED OUTCOMES

The smart city projects are different. Other examples:

- On June 18, 2020, MoHUA issued a directive directing SPVs to prioritize projects that help build resilience to COVID-19. In response, Dehradun has set up a COVID-19 care unit under SCM, as well as a 400-bed facility at Doon Medical College. Jammu has introduced an e-pass emergency evacuation system during the closure and control room COVID-19. Kalyan-Dombivali has transformed the MIDC Savlaram stadium into an 185-bed intensive care unit. Srinagar introduced six mobile applications, and established the COVID-19 call center. Thane has created a digital platform (named DigiThane) to provide information on popular sites and content areas, medical and testing centers. The Tumakuru Integrated Command and Control Center (ICCC) coordinates the control of COVID-19. Bengaluru was one of the first cities to set up a COVID-19 room that provided a free telemedicine facility even before the closure was announced.
- Agra has established four small skills development centers to provide training in traditional skills, zardosi (gold embroidery), and stone embossing. Links 104 women's support groups (SHGs) with skills development centers and other livelihood interventions. It also improves street vending, and improves housing for poor families.
- Tirupati promotes local arts and crafts through digital training. It has created a digital platform that allows artists to share designs with handicrafts.
- Thiruvananthapuram has set up three smart books, with renovated facilities, upgraded workplaces, and CCTV monitoring. It incorporates GPS Automotive Industry Standard (AIS) GPS systems into 15 e-auto and 15 e-rickshaws, provided to female drivers from the lower extremity (BPL) category.
- Coimbatore reclaims eight lakes, upgrades to the lake area, provides open recreation areas, restaurants, open plazas, bicycle tracks, springs, and the construction of a theater. It also uses obotic machines (called Bandicoot V 2.0) to clean and open septic tanks and tanks, thus eliminating manual fishing.
- avaratti has installed rainwater harvesting system. Its solid waste management system has changed - decomposing debris is buried to produce manure, recycled waste is processed, while waste is incinerated.
- Prayagraj has installed a plastic conversion plant for 2 MT diesel. It can convert 100 kg of plastic / polythene into 40-60 liters of diesel, a function that also produces natural gas.
- Mangaluru has started six solar projects on the roof of government buildings with installed capacity of 393 KW. Similarly in Salem, 872 KW solar panels installed on top of 86 company buildings, are expected to reduce electricity costs by INR 6 million annually over the next 25 years.
- The Greater Warangal creates cycling facilities and pedestrians within 40 kilometers of road. [Newtown, Kolkata has also set a limitless three-kilometer cycle track. Surat has launched a leased bicycle project, to set up 42 bicycle stations with 1,160 bicycles. To date, 61,000 people have registered to use the facility.
- Surat also provides facilities such as better roads, footpaths, resource crossings, central parking, fishing grounds, art galleries, children's playgrounds under the Mission and expanding its green cover near the canal. Solapur rebuilds stadium.
- Madurai improved access to 14 gems near the Meenakshi Temple, setting up a two-kilometer-long stone trail, an arrival plaza, and a jewelry store.
- Tumakuru police have launched a mobile app called Lockdown House Monitoring to improve security in the city, which residents can download and seek police assistance.

Overall, the cities included in the Mission work for data-driven governance. To date, 70 of them have established Integrated Management and Control Centers (ICCC) to monitor the environment / traffic / water logging / legal status and order, which facilitates decision-making and day-to-day operations. These institutions have partnered with relevant government departments to oversee the COVID-19 response and assist in managing the problem. The services offered include dedicated hospital handling application lines, COVID-19 tropical monitoring, air capacity, hospital bed availability, number of patients in the ICU, and ambulance services.

7. GOVERNMENT MEASURES TO SUPPORT SCM

MoHUA has embarked on a number of initiatives to improve the impact of SCM. The following paragraphs describe some of them.

- Digital infrastructure and tools to ensure data acquisition and capacity building were developed under the National Urban Digital Mission (NUDM) launched on 23 February 2021. Examples include the India Urban Data Exchange (IUDX), an open source platform that will provide data. in many urban indicators. The Smart Cities Open Data Portal is another example, created to develop products and build solutions. The third example SmartCode, which will meet the need for urban software development, provided data and solutions to various urban problems.

- Skills development is enhanced through the National Urban Learning Platform (NULP). It conducts practical training programs to build leadership qualities and facilitate relationships. It registers creators of information, combines skills, and makes these available to participants.

- Ease of Living Index (EoLI) 2020 is listed in 111 cities so that local governments can be informed of the welfare of their citizens. It shows the gaps in city policies, planning and implementation, and offers the opportunity to close it. Bengaluru and Shimla are ranked high in their population categories (i.e. above and below one million) in this regard, while Srinagar and Muzaffarpur are low.
- The Municipal Performance Index (MPI) 2020 is also listed in 111 cities. This describes the level of urban governance (municipal performance). The Indore and New Delhi municipal councils are ranked among the best in its population categories (i.e. above and below one million), while Guwahati and Shillong have the lowest rates.
- The India Smart Cities Awards Contest (ISAC) is organized annually from 2018 to recognize the best performing cities. A special prize was also launched for the third edition of the competition in 2020 to recognize the newest responses to the COVID-19 disaster. Winners of the award, announced in the fourth edition on 25 June 2021 were Chennai (Cycle 1), Kalyan-Dombivali and Varanasi (Cycle 2), Bengaluru (Cycle 3) and Saharanpur (Cycle. 4).
- More than 10,000 internships have been awarded under the Urban Learning Internship Program (TULIP), launched on June 4, 2020, providing learning opportunities for new graduates.

8. IMPORTANT CHALLENGES

Slow progress in launching the Smart Cities Mission is a matter of concern. In total, less than 50 percent of the projects have been completed by the end of the six-year Mission period.

8.1. Management:

SPVs do not work well. In Panaji, for example, which was among the selected cities during the acceleration cycle in May 2016, SPV operated without the Board for more than a year. Four Board positions are still vacant. There have been a number of audit violations, including failure to file official returns between 2016-17 and 2017-18.

Misunderstandings of data, and analytics to provide effective solutions have also created difficulties. But MoHUA, in partnership with Tata trusts, has begun implementing training programs for city data officers.

The director of Ludhiana Smart City Company Ltd (LSCL) has expressed public dissatisfaction with the implementation of the projects, the maintenance of which has resulted in a lack of co-operation between many government departments.

8.2. Finance:

An analysis of the financial data reveals that the Agency, along with many provincial and local governments, find it difficult to raise funds, transfer them to SPVs, and use them effectively.

In Srinagar, for example, the Institute has released INR 1.27 billion. However, national / local government has provided only INR 200 million.

The former CEO of Faridabad Smart City Ltd (FSCL) acknowledged that financial planning and the world of monetization were major obstacles, noting that the financial situation of Faridabad Municipal Corporation was weak. Of the 23 projects in Faridabad, only six have been completed.

Similarly, Imagine Panaji Smart City Development Ltd (IPSCDL) is affected by the delayed funding of the Goa government. The institute has released INR 1.96 billion for the development of Panaji, but the national government has only transferred INR 1.18 billion to the IPSCDL. There was also a flaw in the transfer of the same grant to the IPSCDL.

8.3. Technology:

Smart cities rely on sensors and devices connected to networks and systems that generate large amounts of data, are vulnerable to cybercrime that can be confidential, block access to essential services, and gain access to security cameras. Data needs adequate protection.

Although this has not yet happened in India yet, in Oldsmar, Florida, in February 2021, such robberies have had serious consequences. “The culprit increased sodium hydroxide levels (which are used to control acid levels and extract metals from drinking water) into the water a hundred times more than usual.” Excessive sodium hydroxide can cause serious health problems, including bleeding, vomiting, pain, and new. However, in the case of Florida, effective monitoring helped restore the system to normal.

9. CONCLUSION

There has been progress on a variety of smart projects in 100 cities and towns selected under the Smart Cities Mission. Completed projects provide social and economic benefits, especially in the neglected sections of the population of these cities. However, this study also shows that several cities are lagging behind in project implementation. There is no doubt

that the COVID-19 epidemic has hindered progress, but there are also various administrative and financial reasons for poor performance.

In some cities, SPVs set up to implement a policy do not work well because of poor management, technical skills, and finances. Deficiencies were identified in data management and analysis, digital standards, wallet consolidation, output, and usage.

9.1. This report makes the following recommendations:

- SCM should be a long-term plan, not limited to five or six years as currently thought. India's cities are underdeveloped, and given the level of governance, as well as the social and economic problems facing these cities and towns, any change will take a long time. Critics of SCM performance so far should see that rapid change is not possible when local governments are financially constrained and large sections of society are poor. But even governments should refrain from making unfulfilled promises.
- Many projects have to be identified to meet the city's needs. During the current hurricane season of 2021, it has been observed that drainage systems in many selected cities have not yet ensured proper rainwater management.
- Training programs should be designed to build the administrative and financial capacity of SPV-employed staff and local urban bodies. Training needs must be properly identified. SPVs should be supported with adequate funding, qualified staff, and appropriate resources.
- Research studies should be conducted on SPVs in cities that are lagging behind in practice to determine why. Available data shows that, for example, not a single project in Amaravati, Bhagalpur, Muzaffarpur and Shillong, has been completed.
- The institution, together with the provincial governments and local urban structures, must make a concerted effort to raise funds. Additional income needs to be taxed effectively, and access to other sources of revenue. Municipal borrowing capacity needs to be linked. In the US, for example, North Cascades Bank provides financing (from simple loan documents to complex loan solutions) to local governments throughout Washington State to fund major projects and resources. Similarly, Ameris Bank provides financial support to many US cities, towns, and regions.
- The process of transferring funds from the Center to the provincial governments / urban bodies to the SPVs should be simplified.
- Great efforts must be made to maintain the infrastructure created under the Machinery.
- The role of Integrated Command and Control Centers in cities should be expanded. In cities such as Moscow, such centers effectively provide a wide range of services, including traffic management, health care, and security services.
- Smart cities should be made safer online by ensuring data security and encryption.

ACKNOWLEDGEMENTS

I express my deepest gratitude to my project guide Prof. Anjali Patil, whose encouragement, guidance and support me to develop an understanding of the subject. Prof. Harshita Mishra Course Coordinator of Master In Urban Planning Department, Madhav Institute of science and Technology for providing their invaluable advice and for providing me with an environment to my project successfully. Finally, I take this opportunity to extend my deep appreciation to my family and friends, for all that they meant to me during the crucial times of my project.

10. REFERENCES

[1] Ministry of Urban Development, Government of India. Retrieved from : http://moud,gov.in/hriday

[2] Smart cities, Government of India. Retrieved from: http://indiasmartcities.in/site/index.aspx

[3] Ministry of Housing and Urban Affairs (MoHUA), “Vision”.

[4] India.Gov.In. (n.d.). *Smart Cities Mission: A step towards Smart India*. Retrieved from India.gov.in: https://www.india.gov.in/spotlight/smart-cities-mission-step-towards-smart-india

[5] Smart cities in India http://www.rvo.nl/sites/default/files/Smart%20Cities%20India.pdf (Accessed on 18 January 2016)

[6] Smart Cities Program Dashboard. https://smartcities.gov.in/dashboard Smart City Hub. “India’s 100 Smart Cities Mission is flawed.” November 17, 2017. https://smartcityhub.com/governance-economy/indias-100-smart-cities-mission-is-flawed/

[7] “Smart city quarterly snapshot”PwC=> http://www.amchamindia.com/wpcontent/uploads/2017/12/AMCHAM-PwC-Smart-Cities-Report.pdf