ORIGINAL RESEARCH PAPER

Engineering

CHALLENGES FACED IN SMART CITIES MISSION IN INDIA

Dr. Jyotirmoy Sarma

ABSTRACT

In India, under Smart City Mission, large urban infrastructure development works are taken up by Central and State Governments in 100 cities of the country. The effort is really commendable. When there is progress in infrastructure development works in the selected cities, the Smart City Mission is also facing several challenges, which need to be overcome. The paper highlights some of the challenges faced by the Smart City Mission.

1. INTRODUCTION AND CONTEXT:

Govt. of India has initiated Smart City Mission covering 100 cities of the country. In the mission, smart urban infrastructure have been planned and constructed in the selected cities. Such effort by Government deserves appreciation as the constructed infrastructure has started giving benefits and conveniences to people. But, in spite of best efforts, the Smart City Mission is facing some challenges and these needs to be addressed. This will be useful, as more cities and towns of India may be covered under Smart City Mission in future.

2. Analysis of Smart City Mission:

Government of India (GoI) along with State Governments is developing 100 smart cities in the country by creating new and rehabilitating existing infrastructure in these cities. These cities are intended to change the socio-economic scenario of the country by improving the lives of the people and boosting economic growth. The basic objective of the Smart City Mission is to develop cities that provide core infrastructure, give decent quality of life to its citizens, a clean and sustainable environment and information and communication technology (ICT) based public utilities with focus on sustainable and inclusive development. *IN EACH OF THE CITIES COVERED UNDER SMART CITY MISSION, PROJECTS ARE DEVELOPED, DESIGNED AND IMPLEMENTED AT TWO LEVELS. THEY ARE:*
- *PAN CITY,* in which projects are developed, designed and implemented city-wide.
- *AREA BASED DEVELOPMENT,* in which a Pilot Area in each city is developed as a smart neighborhood.

Pan-city development mostly includes application of information and communication technology (ICT) based smart solutions to the existing city-wide infrastructure. Pan-city solutions aim at benefitting entire city through application of Information & Communication Technologies resulting in improvement in governance, infrastructure and services.

In Area Based development, core infrastructure and ICT based public utilities are provided within a pilot area of the city. Generally, this pilot area constitutes about 10% of total area of the city. The types of core infrastructure developed in the ABD area includes:
i) Basic – Transportation, Electricity, Renewable Energy.
ii) Environmental – Water Supply, Solid Waste Management, Waste Water Management, green areas.
iii) Social – Health, Safety, Education.
iv) Tourism & Leisure – Development of tourism and allied cultural and leisure infrastructure.

The most prominent ICT based infrastructure developed in all smart cities is an integrated central command center (ICCC) and infrastructure linked to the ICCC, which includes a ICCC building along with data center, intelligent traffic management system, City CCTV surveillance system, public address systems, emergency call box, etc. These ICT based infrastructure are developed on PAN city basis.

The idea of developing core infrastructure in the ABD area is that other areas of the city will be developed in a similar manner in future. Works generally taken up within ABD areas in all smart city projects includes:
i) Development of smart roads and road junctions along with cycle track, footpath, road furniture, green zone, drains and utility duct
ii) Development of smart classes in existing Government schools, which includes repair of schools, installation of IT equipment and digital course contents for smart class rooms
iii) Construction smart toilets at public locations, where sensor based technologies are installed to bring in convenience in use of the toilets
iv) Installation of water ATMs at public locations, where drinking water as per BIS standard is provided to citizens
v) Installation of health kiosks or Heath ATMs for use by general public for diagnosis of a large numbers of health parameters at low cost
vi) Installation of E Kiosks at public locations for providing city level information and citizen services from various departments
vii) Development of vending zones at selected locations
viii) Development of parks and green areas
ix) Retrofitting of existing market areas
x) Undergrounding of existing electrical cables and other utilities
xi) Installation of smart meters and SCADA(Supervisory Control and Data Acquisition) in water supply systems
xii) Development of river bank

Although the above mentioned works are being developed within the ABD areas of the cities, in some smart cities, some of the above works are now taken up on PAN city basis.

Apart from the works mentioned above, some infrastructure works undertaken in cities are to meet specific needs as per development vision and theme of the city.

3. Major Findings and Conclusions:
i) Many cities included in the Smart City Mission do not have adequate basic urban infrastructure such as water supply, sewerage, storm water drainage, solid waste management and urban roads. In smart city proposals prepared for these cities, provisions for improvement of basic infrastructure on PAN city basis, are not included. Only ICT based infrastructures are proposed on PAN city basis. In the absence of adequate basic urban infrastructure, provision of ICT based infrastructure in PAN city looks superfluous.

ii) The basic concept of smart city project involves upgrading and providing basic municipal infrastructure only in ABD areas of the cities, while ICT based projects are proposed on pan city basis. ABD area generally comprise of about 10% of the PAN city area. Hence, basic infrastructure works developed in ABD area are not visible to general public.

iii) In some cities covered under the smart city mission, selection of ABD areas is erroneous. In those cities, basic infrastructure in ABD areas is already developed. This has lead to development of unnecessary works in the ABD area, while basic infrastructure facilities in the cities as a whole are deficient.

iv) It has been found that SPVs or implementing agencies of many smart city projects are understaffed. In fact, in spite of best efforts, the SPVs are not able recruit adequately qualified professionals to manage the projects. This has resulted in delay in project implementation.

v) The Chief Executive Officers of many smart city SPVs are on duty Municipal Commissioners and they do not have time and skills to manage the projects. There has been high dependence on Project Management consultants hired by the SPV.

vi) Project Management Consultant hired in many cities were also understaffed and the team does not have qualified professional to manage the projects. This has resulted in delay in project development, preparation of detailed project reports, bid documents and processing of bids for award of works to contractors.

vii) In projects funded by World Bank, Asian Development Bank and other external funding agencies, standard bidding documents suggested by the funding agencies are followed. These bidding documents are based on FIDIC documents. Use of these documents results in efficient bid and contract management. In smart city mission, no standard bidding documents are followed by the implementing agencies. As a result, used bidding documents in many cities are technically deficient. This has resulted in inadequate contract management and will create more contract litigations.

Disclaimer:
The findings and conclusions presented in the paper are personal opinion of the author.