Chapter 6
Smart Cities Project:
Some Lessons for Indian Cities

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ABSTRACT

The smart cities mission of the Government of India has opened up new pathways for urban redevelopment and transformation. But given the limited resources available with a developing country, a more pragmatic approach would be to first learn from the best international experiences and approaches and then implement those in Indian context. With this view, the chapter examines some of the best practices related with different aspects of a smart city and suggests their relevancy for the development of smart cities in India. The study found that by focusing on the five core areas (i.e., urban mobility and public transport, safety and security of citizens, health and education, water management, and robust IT connectivity and social networking) the concerned authorities in India can successfully achieve their goal of urban redevelopment and transformation with scarce resources. Limitations and scope for future research are discussed in the end.

INTRODUCTION

As per the Census of 2011, around 31 percent of Indian population resides in urban areas and they contribute 63 percent to India's GDP. But with increasing urbanization, this number is expected to rise by 2030 with 40 percent people living in urban areas while contributing 75 percent to India's GDP (Ministry of Urban Development, 2015). This increased influx in the cities certainly requires proper planning of all aspects including development of economic, social, physical and other infrastructure. Well planned cities would not only enhance the quality of life of the residents but would also attract tourists and investments. Thus, by aiming at Smart Cities, the Indian Government has taken a right step for uplifting the face of the country by developing citizen friendly and sustainable cities in India.

DOI: 10.4018/978-1-5225-9199-3.ch006

A Smart City refers to a city that "uses information and communications technology (ICT) to enhance its livability, workability and sustainability" (Berst et al., 2013, p. 2). In simpler terms, this job consists of three steps: "collecting, communicating and crunching" (Padode et al., 2016, p. 12). The first step involves collecting information through sensors and other devices. In the next step, data is communicated using wireless and wired networks. Last step involves crunching or analysing the collected data in order to understand the current as well as future situation. For this, a new type of intelligent infrastructure is required - "an innovative and open platform based on smart sensor networks that can help forward-looking cities more predictably integrate a complex suite of services cost-effectively, at pace and at scale" (Sensors for Smart Cities, 2015, p. 1).

Ideally, a Smart City aims at developing a comprehensive eco-system which requires development of institutional, physical, social and economic infrastructure (Ministry of Urban Development, 2015). It's quite a big challenge for cities with limited resources to conceptualize and adopt practices and technologies to have a right-mix of infrastructure which would enable them to transform into a Smart City. As per the United Nations ESCWA Report (2015, p. 29), there are five "High Priority Pillars" of a Smart City development. The report emphasises that if focus is put on these dimensions or pillars, then the transformation planning and strategic development becomes more feasible and successful. Similarly, the Ministry of Urban Development in India has also given ten core infrastructure elements for a Smart City. These elements in alignment with the "High Priority Pillars" are shown in the table 1 below:

Data in table 1 shows that there are a number of core infrastructural elements essential in the development of a Smart City, e.g., public transport, sanitation, affordable housing, good governance, sustainable environment, etc. The present paper focuses on one area under each broad priority area category. For instance, under transport area the paper examined some of the best ways to channelize urban mobility and public transport. In case of public safety and security, the paper examined best techniques of taking care about safety of citizens. Among public services, health and education are chosen because these form the core elements for building up social infrastructure of the country (World Economic Forum, 2016). Out of various utilities, water management is taken up in this paper as there are around 76 million people in India who do not have access to safe water (Burgess, 2016). Moreover, provision of safe drinking water and proper disposal of waste water is regarded as a precondition for healthy and disease free citizens of a nation. In the last, under IT connectivity and social networking the paper focuses on significance of IT infrastructure and digitalization.

Since the announcement of Smart Cities Mission in India in 2014, various studies have been conducted which have vividly described the essentially required components of Smart Cities and how they can be

Table 1. High priority pillars and core smart city infrastructure elements for India

S. No.	High Priority Pillars	Core Infrastructure Elements
1.	Transport	Urban Mobility and Public Transport
2.	Public Safety and Security	Safety and Security of Citizens
3.	Public Services	Health and Education, Sanitation, Affordable Housing & Good Governance
4.	Utilities	Water Supply, Electricity Supply & Sustainable Environment
5.	Social networking	Robust IT Connectivity and Digitalization

Source: Adapted from United Nations ESCWA (2015) & Ministry of Urban Development (2015).