https://doi.org/10.20896/3jstx354

REVIEW OPEN ACCESS

A Decade of Smart Urbanism in India through the Smart Cities Mission (SCM): A Perspective

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Abstract

India is at the forefront of Asia's urban transformation, with its urban population projected to reach 814 million by 2050. The Smart Cities Mission (SCM), launched in 2015, aimed to modernise 100 cities by integrating smart technologies to enhance governance, infrastructure, and quality of life. Initially influenced by Western smart urban models, SCM implementation followed a top-down approach, yet over time, cities have adapted smart initiatives to local needs. At the same time, centralised projects such as Integrated Command and Control Centers (ICCCs) shaped early implementations, decentralised, community-driven adaptations have gained prominence. Cities like Bhubaneswar, Indore, and Varanasi have prioritised inclusive urban services, including transportation, sanitation, and cultural heritage conservation. Despite significant achievements, future smart urbanism must prioritise smaller cities, marginalised communities, and ecological sustainability. Emphasising participatory governance, gender-sensitive planning, and nature-based solutions can foster a more inclusive, equitable, and resilient urban future for India.

Keywords: Smart Cities; Smart Urbanism; Smart Cities Mission; India; Asia; Global South

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Introduction

India, China, and Indonesia are leading Asia's urbanisation, making it the world's largest urban continent. By 2035, India alone is projected to have nearly 675 million urban dwellers, a figure expected to rise to approximately 814 million by 2050 (UN DESA, 2018). In response to pressing urban challenges and the need for enhanced urban efficiency, cities worldwide are increasingly adopting smart, data-driven urbanism. Urban streets are now equipped with technology sensors, surveillance cameras, and smart urban networks, while citizens at home are integrating smart home infrastructures through high-speed fibre-optic networks, facilitating a more seamless and efficient urban lifestyle (Kitchin et al., 2017; Marvin et al., 2015).

In the introduction to their book *Inside Smart Cities*, Andrew Karvonen, Federico Cugurullo, and Federico Caprotti assert that "while the smart city is being realized in tangible and ordinary locales, there is scant evidence and critical reflection on how this is taking place" (Karvonen et al., 2018, p. 1). This perspective article aims to offer insights into how smart urbanism has evolved in India over the past decade, mainly through the Smart Cities Mission (SCM). It presents evidence of reinvention, grounded successes, emerging realities, and the associated challenges.

Although the smart city concept initially emerged in the Western world, it has gained increasing traction in developing countries, where governments seek to enhance urban living standards by adopting smart technologies and digital infrastructure (Das, 2019). During the early and mid-2010s, as the global enthusiasm for smart cities peaked, Asian cities followed suit. Notably, Songdo, located near Seoul, was widely promoted as the world's most advanced smart city and a model for future urban development. Recognising these developments, India soon became captivated by the potential of smart urban technologies, as major technology corporations exerted influence over policy discussions in New Delhi.

Historically, India's aspiration for modern urban development can be traced back to Jawaharlal Nehru, the country's first Prime Minister, who was inspired by Western urban planning principles. Following India's independence, Nehru invited Le Corbusier to design Chandigarh, a planned city located near the foothills of the Himalayas, approximately three hours from Delhi. This was followed by the planned development of New Delhi as a post-colonial federal capital, symbolising modernity beyond the colonial legacy of British India. Nearly five decades later, in 2013, the Bharatiya Janata Party (BJP), under the leadership of Narendra Modi, revived a similar vision of cities as engines of opportunity. During the 2013–2014 election campaigns, the BJP pledged to modernise India through the development of 100 smart cities, aligning with its vision of *acche din* (a better tomorrow).

Following the BJP's victory in the 2014 General Elections, Narendra Modi assumed office as Prime Minister and initiated the SCM . The federal government formally launched the SCM with significant media attention, extensive international coverage, and ambitious investment commitments amounting to tens of billions of dollars. The policy circles of New Delhi soon became hubs for smart city consultants, urban solution providers, and policy experts eager to contribute to India's modernisation.

The SCM, overseen by the federal Ministry of Urban Development (MoUD, 2015), established two primary objectives: fostering economic growth and improving the quality of life for urban residents. To achieve these goals, the Ministry invited state governments to submit smart city proposals, from which 100 cities would be selected through multiple rounds of evaluation. Private sector participation was actively encouraged, with national and multinational corporations playing a significant role in shaping urban policies, implementing smart technologies, and operating digital infrastructure (Das, 2019). With lucrative investment opportunities at stake, corporate

stakeholders often viewed the SCM through a profit-driven lens.

I argue that the implementation of the smart city initiative in India was largely top-down, meticulously orchestrated by the federal ministry, which provided a standardised framework of objectives and deliverables for selected cities. Scholars such as Datta (2015) and Prasad et al. (2021, 2023) contend that, even in post-colonial India, the smart city agenda followed a neo-colonial trajectory, adhering to Western-centric models of urban development.

The selection of cities occurred through multiple rounds, ultimately identifying 100 cities based on competitive proposals. Initially, 20 cities were designated as "lighthouse cities," serving as prototypes for subsequent mission phases. Bhubaneswar emerged as the highest-ranked smart city proposal and was the first city selected under the SCM, primarily due to its emphasis on citizen-centric urban services. The rationale behind the lighthouse cities was to develop them as model smart cities, enabling other selected cities to emulate and adapt best practices. Over five selection rounds, all 100 cities were ultimately chosen.

A Decade of Smart Cities Mission (SCM)

Since the inception of the SCM, numerous cities have successfully implemented smart technologies, modernised urban infrastructure, and improved governance mechanisms. Key advancements include enhanced water, sanitation, and hygiene (WASH) services, traffic management systems, and urban park development, all aimed at improving urban livability and quality of life. According to the federal Ministry of Housing and Urban Affairs, as of December 2024, nearly 91% of the total projects under the SCM had been completed, demonstrating significant progress in reshaping India's urban landscape.

While all SCM cities were required to develop Integrated Command and Control Centers (ICCCs) and implement both pan-city and area-based projects, certain cities have adapted smart urbanism to local contexts beyond federal directives. For instance, Bhubaneswar prioritised public transportation by launching the MoBus initiative and enhancing public safety for women. The city also focused on water accessibility by installing water ATMs at strategic locations. Indore emphasised the development of informal vending zones through local innovations, while Surat concentrated on WASH infrastructure and public transportation improvements. Heritage cities such as Varanasi and Agra tailored smart urbanism to enhance tourism and cultural heritage, with Varanasi focusing on WASH initiatives and ghat redevelopment along the River Ganga (Das et al., 2024). Meanwhile, Pune, Bhubaneswar, and Indore have promoted placemaking by developing pedestrian-friendly spaces, urban parks, and cycling infrastructure to support sustainable living.

Despite investments in technological installations such as ICCCs, smart traffic management systems, and public Wi-Fi zones, the localised, context-specific projects mentioned above have been more positively received by residents, contributing to tangible improvements in urban living. The process of decentralising decision-making advocated through provincialisation, has allowed local authorities and communities greater control over smart urbanism projects. This shift has curbed the top-down imposition of technology, enabling grassroots innovation and adaptation (Das et al., 2024). By fostering community engagement and participatory governance, cities have had the opportunity to critically assess ideological assumptions and shape smart urbanism in ways that align with local needs.

The context-specific nature of smart urbanism underscores that what constitutes a "smart city" varies across regions, influenced by factors such as urban density, economic development, cultural norms, and governance structures. Provincialisation highlights the locally embedded character of smart urban projects, demonstrating that smart urbanism is not a universal concept but an adaptive process shaped by regional conditions and intersectional considerations (Das et al., 2024).

Way Forward

While the SCM has achieved notable successes over the past decade, future iterations must prioritise smaller cities, particularly in India's hill states and the northeastern region, rather than focusing on metro-centric smart projects (see, Bunnell & Maringanti, 2010). Greater attention should also be given to expanding access to urban infrastructure in informal settlements, slums, and marginalised communities, ensuring a more equitable and inclusive urban transformation.

Additionally, gender considerations and an ageing population must inform smart city planning, as these demographic factors influence technology adoption and everyday urban life. Moreover, smart urbanism should not be confined to technological solutions alone—nature-based solutions must also be embraced, particularly in addressing climate challenges such as urban flooding, air and water pollution, and ecological sustainability.

A shift towards a "slow ideology"—one that emphasises sustainability, deliberation, and context-sensitive development—can counterbalance the rapid, profit-driven globalisation of urban spaces. By integrating localised, participatory, and environmentally conscious strategies, India's smart city initiatives can evolve toward a more holistic, meaningful, and inclusive model of urban development.

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Conflict of Interest

Based on secondary information and data, this is a critical perspective on 10 years of India's Smart Cities Mission (SCM). Therefore, it does not require ethical approval. Moreover, I have no conflict of interest to declare.