SMART CITIES: A RISING HOPE FOR INDIAN DEVELOPMENT

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ABSTRACT

The need of the hour is for change. As per the famous saying, "Change is the only constant", well-designed and equipped smart technologies have replaced the human capital which is the most precious asset of a developing economy like, India. One of the finest creations of the technological development is the Smart Cities. They have evolved as the provider of efficient services which will eliminate the difficulties, save money, time, and energy and also provide for high-quality services at its best lower prices. This article is an attempt to help for the understanding the concept of smart cities, facilities it will provide to the public, government policies to support smart cities and use the foreign direct investment in the construction and upgradation of the facilities provided by smart cities. Smart cities will be smart with smart buildings, automated operation procedures, lighting and security services etc. Seamless connectivity will support new trends for living, parking services, grocery services, plumbing and other daily needed and essential services.

KEYWORDS: *Smart Cities, Technology, Facilities, Services, Developing Economy, Equipped.*

INTRODUCTION

The world has now changed its dimensions and is witnessing automated technologies, robotization, digital advancements, better working conditions etc. due to the new industrial revolution. There are better investments and production opportunities which have become more profitable and economical with all these developments, which have lead the path to economic growth and sustainable development. India ranking the 10th largest economy in the world, even though standing 2nd position in the global population. For the best economic growth, India still needs to be focused much more that have been consistently growing sectors like Telecom, Infrastructure, Industries, Hospital, Tourism, Information Technology, Service industries, e-commerce in a better and more efficient way. With increasing urbanization, India's urban population is expected to increase from 377 million in 2011 to 600 million people by the year 2031. Almost 50% percent of the total population will live in urban areas. According to a recent report on Indian urban infrastructure and services by a high-powered expert committee set by the Indian government, the urban share of the GDP is expected to rise to 75% in the year 2030 from around 62-63 percent in the year 2009-2010.The number of cities is projected to increase to 87 in the year 2031 from 50 in 2011. Urban areas will be critical to the economic growth of the country and they will require a massive overhaul to accommodate the future population.

The world economy has been seeing rapid increase in foreign direct investment (FDI) for more than three and half decades. They have been the basis of development and growth for most of the developing countries. Singh (2008) **[1]** explains that one of the significant contributions of globalisation in the past is the growing and spreading FDI amongst the countries, contributing significantly to positive effects on the labour productivity of domestic firms. Attracting FDI inflows with favourable policies has therefore become a key battleground in the transition and emerging markets as pointed out by Singh (2008)**[1]** . The New Growth theory states that in order to have higher economic growth, productivity per person should be higher. This will, in turn raise the real gross domestic product (GDP) and

thereby help in satisfying people's pursuit for profits. Therefore, FDI helps the economies

by bringing new growth opportunities and massive profits having spill overs effect across various sectors of the economies in terms of: technical and managerial know how, skill up gradation, better and improved infrastructure, employment opportunities, increased competitiveness and opportunity for local markets to expand globally.

The Smart City Concept- Indian Concept:

According to the famous quote by Mahatma Gandhi, "India lives in its villages." Around 70% of the Indian population lives in rural areas being deprived of the basic facilities of electricity, clean drinking water, good sanitation facilities to lead a healthy life. They lead life being unaware about basic health care facilities, education facilities, enhanced technologies etc.

In 1933, at the height of the great depression, noted British economist John Maynard Keynes wrote an open letter to the President of the United States, Franklin D Roosevelt, encouraging him to enact what came to be known as the New Deal, where investment in infrastructure became the silver bullet to pull the world out of the great depression.

Some of the seeds of today's metaphor for urban modernity; "Smart Cities" originated in the U.S. information technology company IBM when The CEO Sam Palmisano put forward this concept of **Smart Earth**. To cater to this increasing urban population in the future, cities need to plan and provide a suitable environment for future investments, create new jobs and livelihoods, build reliable public infrastructure, provide social services with ample access to

affordable housing and most importantly support efficient use of resources for a sustainable quality of life. In addition to all these, building of "100 New Smart Cities" in India could be boosting of much more economic growth on par with other countries across globe like China (Meixi, Zhenjiang), Abu Dhabi (Masdar), South Korea (Sangdo), Singapore, Malta and Russia (Skolkovo).

According to Frost and Sullivan (2003) smart cities include smart Governance and smart education, smart healthcare, smart building, smart mobility, smart infrastructure, smart technology, smart energy and smart citizen.

The concept of smart cities in India, under the vision of the prime minister is a little broader. The smart cities in India are expected to attract investments, building cities that work well especially for businesses and developing new technologies for communication and dissemination.

"Smart Cities" was one of Modi's principle guarantees in the run-up to his race in 2014. After the decision, Modi revealed a goal-oriented arrangement characterizing the key components of

100 smart cities he wants to build up crosswise over India, and Finance Minister Arun Jaitley apportioned US\$1.2 billion for Smart Cities in the 2014-2015 budget.

The Indian Economic Survey 2017-18 estimated that the country will require \$4.5 trillion infrastructure investment by 2040. Much of this infrastructure investment will need to be focused on urban India, as by 2030, 40% of the country's population, or 600 million people, will reside in cities. Even more importantly, India requires 700 to 900 million square meters of residential and commercial space (equivalent to Chicago) to be built every year from now till 2030 to accommodate this 600 million i.e. 70% of India of 2030 will be built in the next decade. Taking cognisance of the growing need and importance of urban development, PM Narendra Modi embarked on the world's most ambitious planned urbanisation programme. In June 2015, he launched three flagship missions, namely, Pradhan Mantri Awas Yojana (PMAY), Smart Cities Mission, and Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

According to the planning commission 12th five year plan, the smart cities would be engines of growth as they would increasingly compete for investments nationally and internationally too. Therefore, cities must provide world class infrastructure and services at affordable costs to give a competitive edge to the economic activities they host. Besides, cities should be able to provide basic services to migrant workers, their families and other vulnerable sections of society including women and children.

Figure1.1: The Smart Solutions of Smart Cities

Smart cities is an innovative initiative by the Government of India towards improving the quality of life and attracting people and investment, setting in motion a virtuous cycle of growth and development. Urban areas are expected to house 40percent of India's population and contribute 75 percent of India's GDP by 2030. This requires comprehensive development of physical, institutional, social and economic infrastructure. Smart cities is an innovative initiative by the Government of India towards improving the quality of life and attracting people and investment, setting in motion a virtuous cycle of growth and development.

Review of Literature:

Smart city is a new urban concept and is not used in a consistent manner. Smart city entails sustainable development, sound economic growth, and better quality of life for their citizens (Census of India, 2011) **[2].**They associate smart with achieving policy success in their jurisdictions. Dicken (2011) **[3]** recognized smart city as an "urban labeling" phenomenon. The label smart city is a nebulous concept and is inconsistent.

"A city that monitors and integrates conditions of all of its critical infrastructures is a smart city" (Gupta, 2014) **[4].** 'It is a type of cities that uses new technologies to make them more liveable, functional, competitive and modern through the use of new technologies, the promotion of innovation and knowledge management" Carlino, (2011) **[5].** "Smart cities are often small and mid-size metropolitan areas containing flagship state universities. Smart cities are centers of higher education" (Hoff, 2020) **[6].** Sassen (1991) **[7]** considers it to be a collection of smart computing technologies. Smart city is an admired city, a vessel to intelligence, but ultimately an incubator of empowered spaces." (Friedmann, 1986) **[8]** Smart city is such city "when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance."(Allam, 2018) **[9].**

To build smart cities there are utilities using smart technology that is needed to translate the data that is captured to intelligence and then knowledge. Not just stopping at the knowing something an action has to be taken where intelligence comes into play and steps like actuation, where action is taken with monitoring and controlling that action to give the desired results (Aurigi, 2005) **[10].** More intelligent utilities under city management especially the public utilities and services in smart cities needs a massive and intricate multi-dimensional calculations and its analysis, leading to data mining on cloud computing platforms. A smart city's representative characteristics are that smart cities are superior for offering digital securities systems and intelligent services. (Bhattacharya et al., 2015) **[11].**

The existing funding options primarily used by government and entrepreneurs mainly comprises of the PPP which is defined as "the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector", Bank financing, Capital and Money market instruments etc. Debt and equity are not merely alternative modes of finance, but are also alternative modes of governance. Corporate governance is meant to create some rules and regulations which would ensure that external investors and creditors in a firm can get their money back and would not simply be expropriated by those who are managing the firm.

Conceptualising Smart Cities: Opening New Opportunities for India:

According to the State of World Population Report, for the first time in human history every 10 people will live in a city, and by 2050, this proportion will increase to 7 out of 10 people. Smart cities are considered to be critical necessity at the face of growing more than half of the world's population were in urban areas. Besides this according to Global Health Observatory (GHO) which is part of World Health Organization (WHO) revealed that by 1990, less than 40% of global population lived in a cities, but as of 2010, more than half of all people lived in an urban area. It is a new concept in India enthusiastically proclaimed by the new government keeping in mind the urgency and need of urban life. Smart cities aim to reduce anticipated complexities and

expenses that accompany future urbanization. Hence, integration of Information and Communication Technology (ICT), energy efficiency and sustainability form the backbone of these cities. For enabling and supporting these initiatives, the smart cities also require accountable, empowered urban local bodies. Overall, smart cities promise to provide a quality of life that can support future generations sustainably. Urban areas are expected to house 40percent of India's population and contribute 75 percent of India's GDP by 2030. This requires comprehensive development of physical, institutional, social and economic infrastructure. Smart cities is an innovative initiative by the Government of India towards improving the quality of life and attracting people and investment, setting in motion a virtuous cycle of growth and development.

According to the Ministry of Urban Development, the core elements of India's Smart Cities are:

1. Adequate Water Supply

2. Assured Electricity Supply

3. Sanitation, including Solid Waste Management

4. Efficient Urban Mobility and Public Transport

5. Affordable housing, especially for the poor

6. Robust IT connectivity and Digitalization

7. Sustainable Environment

8. Health and Education

9. Safety and Security of Citizens (especially women, children, elderly persons)

10. Good Governance, especially e-Governance and Citizen Participation

In its two years at the centre, BJP-led NDA government has managed to achieve growth of 7.6 per cent. A major portion of this growth story should be attributed to government's efforts towards improving FDI flow in India. In November 2015, it reformed the FDI norms and made it more investor friendly. To talk about construction sector, in particular, there were three path-breaking reforms. Earlier, the FDI policy enforced conditions with regards to project status, project size, lock-in periods, etc. due to which the eligible options in real estate projects for foreign investors were limited predominantly to large projects with development size of over 0.54 million sq. ft. With the relaxation in FDI norms where the government removed all these caps, the entire real estate became accessible to foreign investors. As per a report entitled "Opportunities for foreign investors in Indian Real Estate", global real estate consultancy (Cushman & Wakefield) reported that the total private equity investments from foreign funds in Indian real estate increased 33%, from USD 1,676 million in 2014 to USD 2,220 million in 2015. It also reported that owing to high property prices and high investment potential, Mumbai was accounted for about 35% of the total foreign investments in 2015, followed by Delhi NCR accounting for about 25% of the investments. By duly identifying the potential of FDI, the Government is keeping no stone unturned. Its initiative of developing 100 Smart Cities is one such masterstroke which will, potentially, draw more FDI into the economy. It has so far announced 33 cities out of which 13 were announced recently. Minister for Urban Development,

Venkaiya Naidu, while announcing these names, said, "New urban sector initiatives in India have a total investment potential of $15 billion at the moment". Creating new smart cities across India may be looked as a strategy to pitch more cities accessible to Foreign Investments and release pressure off the existing urban cities. This smart move will regularize the flow of foreign funds across the country.

Foreign Direct Investment Policies of Construction Sector:

→ The construction industry makes up for a major part of India's GDP. Being a significant contributor to the GDP of India, the industry acts as a gateway for more opportunities. Investment in the construction industry in India, therefore, directly leads to the country's economic development. The Construction industry in India consists of the real estate as well as the urban development segment.

→ 25.05 bn FDI equity Inflows in Construction Development during April 2000 – September 2018

→ $540 mn overseas investment in the Construction Industry In India during April 2007 – March 2018

→ $13.4 bn FDI in Construction Development In North India and South India in construction (infrastructure) activities during April 2000 – September 2018

→ To help attract foreign funds in construction of townships, hospitals and hotels, the government relaxed the FDI policy for this sector by easing exit norms and reducing built-up area and capital needs.

→ The revised norms relating to construction development sector has been notified by the Department of Industrial Policy and Promotion (DIPP). India allows 100 per cent FDI in the sector through the automatic route. The new policy has done away with the three-year lock-in period for repatriation of investment.

→ US$ 90 billion was allocated for the infrastructure development in 2018-19. Which will ultimately generate revenue of US$ 739 billion by 2022 and US$1 trillion by 2025, giving employment benefits to around 44 million population.

→ Taking cognisance of the growing need and importance of urban development, PM

Narendra Modi embarked on the world's most ambitious planned urbanisation programme. In June 2015, he launched three flagship missions, namely, Pradhan Mantri Awas Yojana (PMAY), Smart Cities Mission, and Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

• **Pradhan Mantri Awas Yojana (PMAY)** is predicated on the vision of providing each Indian a home he/she can call his/her own. To meet this objective, we need to build 1crore dwelling units in urban spaces as had been assessed by the states and UTs. 81 lakh homes have already been sanctioned, 48 lakh grounded for construction, and 26 lakh homes have been completed and handed over. Crucial aspect of the Mission is that the title of the home will be in the name of the lady of the house or co-jointly, providing a major fillip to women's empowerment. The scheme through its four verticals— In Situ Slum Redevelopment (ISSR); Affordable Housing in Partnership (AHP); Credit Linked Subsidy Scheme (CLSS) and

Beneficiary Led Construction (BLC)—offers a bouquet of options to the beneficiaries and states/UTs . The Mission looks at the daunting issue of slums; it focuses on affordable housing; it provides for a very attractive interest subsidy for those wanting to avail a housing loan; and it provides assistance to those who already own land but find it difficult to raise the necessary resources to construct a house. 81, 63,251 houses have been built between 2017 and 2019.

- The objective of the **Smart Cities Mission** is to build the next generation of Indian cities, where infrastructure is easy accessible and affordable, and where citizen-government engagement is efficient and effective. It aims to achieve this by adopting the latest in technological advancement — whether it is RFID tags that make garbage collection easier or integrated traffic management systems that ease road congestion—technology offers 'smart' solutions to many of our infrastructure challenges. Simply put, technology allows urban governance systems to do more with less, thereby easing the resource deficit burden. The total investment in the Smart Cities Mission is envisaged to be over Rs 2, 05,000 crore through 5,151 projects. 896 projects worth approximately Rs 15,000 crore have been completed and another 1,895 projects worth Rs 75,000 crore are under implementation. The mission works closely with private players, including international firms, to leverage their capital, expertise, human resource, and technology. So far, under public-private participation model, 65 projects worth over Rs 2,000 crore in 26 cities have been completed. 116 projects worth over Rs 10,000 crore in 45 cities are being implemented; and 91 projects worth over Rs 9,600 crore in 36 cities are in advanced stages of tendering. Moreover, 10 leading international companies are participating in at least 40 of the 100 selected Smart Cities.

- **AMRUT** complements the efforts of both PMAY and the Smart Cities Mission. It seeks to provide water supply, sewerage, urban transport, and safe public spaces to residents of urban centers in 500 cities with populations over 1, 00,000. The total mission outlay is expected to be Rs 1, 00,000 crore. Projects worth Rs 4,263 have already been completed and contracts worth another Rs 61,093 crore have been awarded. AMRUT is predicated on the PM Modi's motto of 'cooperative federalism', i.e., state governments take the lead in all three aspects of infrastructure development: (a) designing schemes based on the needs of their respective cities; (b) creating State Annual Action Plans (SAAP) for execution of programmes; and (c) monitoring the progress once funds are released. This is planned to provide a home for every Indian by 2022.

CONCLUSION:

A smart city is all about building connections which transcend geography- something more deep-rooted and emotional. The notion of Smart Cities is a major part of how cities across the globe are approaching the future. In the academic literature and practice, Smart Cities are generally focused on heavy investment in state-of-the-art ICT, especially ICT-based sensors, to offer big data that will be analyzed in real-time to lead to informed decision-making.

India's planned urbanisation programme can be termed the 21st century's New Deal. It is for the first time that a democratically elected government, in a federal framework, in partnership with the private sector, is quite literally 'building' a nation from bottoms-up. Add to this the imperative of building green and resilient infrastructure; what we get is a development model that is a first

of its kind. Put another way, what India is doing today in its urban spaces, the rest of the world will do tomorrow.

Excerpts from the Recommendations of the 12th Plan Working Group on Urban Strategic Planning- Capacity Building

- Setting up Indian Institutes of Urban Management

- Create a Reform and Performance Management Cell (RPMC) in the Government of India (and at state level and in large cities) with a multidisciplinary team undertaking activities like:

- Promote think tank initiatives in urban policy

- Declare leading institutions as Centers of Excellence

- Create a Scheme for funding Strategic (Spatial) Planning Research through Centers of excellence.

- Create an annual forum for sharing of research outcomes

- Establish new schools of planning and enhance capacity of existing ones

- Producing new breed of professionals and training the resources who are already carrying out these functions.

- Funding for training & certification of in-service personnel as well as for producing more planning professionals

- Central funding for creation of state level data infrastructure for planning

These recommendations can be kept in view or as role norms to be followed to achieve the dream of India as a hub for Smart Cities and their developed facilities to set up an example of becoming a role model for developing nations and economies worldwide.

An assessment needs to be conducted to identify the changes needed in India's urban planning acts and regulations and the provisions of different plans.

"A smart city is a city where humans, trees, birds and other animals grow with all their glories, imperfections, freedom and creativity. They are not just cities of technology but cities of love, life, beauty, dignity, freedom and equality."

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