Mission Smart Cities: A Step Towards Smart India

Deepa Tandon , Research Scholar Department of Geography, Sri Satya Sai University of Technology & Medical Sciences, Sehore , M.P., India.

Dr. Durgesh Kumar Singh Research Guide, Department of Geography , Sri Satya Sai University of Technology & Medical Sciences, Sehore , M.P., India.

ABSTRACT

The United Nations estimates that by the year 2050, the majority of the world's population would live in urban regions. Better economic and social prospects may entice people to make the journey from the rural to urban centers. This will exacerbate the already significant demand on urban areas' natural resources and ecosystems. To safeguard the long-term well-being of our nation's people, economy, and environment, we need a paradigm shift in urban management to tackle the challenges posed by our nation's expanding urban areas. Every management cycle should be geared toward the development of truly remarkable, ground-breaking, and enduring answers to problems. The notion of the Smart City has evolved through time as a response to the changing nature of contemporary urban environments. A "Smart City" is a city that is progressive, inventive, sustainable, effective, and decent in the future. Data and correspondence innovation (ICT) and big information serve as the core component, coordinating data from the secondary components to help in the smart city management cycle.

ICT and the Internet of Things (IoT) may play a large role in smart city administration and design (IoT). Important data may be found in large databases, but it is important to focus on selecting, isolating, filtering, and disseminating the right data. Connectivity between devices and monitoring of the surrounding environment are made possible by IoT, making it a crucial component of the big data trend.

KEYWORDS: Land, Information, Sustain.

INTRODUCTION

Due to increased needs for housing, gardening, roads, and companies, land will undoubtedly be one of the most critical components in keeping cities sustainable. Maintaining food supplies in the face of climate change is one of the most pressing

issues that may be addressed via responsible land use planning. Simply expressed, geology is a constraining element in the design and development of human settlements. Knowledge of local geology will take primacy when designing eco-friendly megacities. A one-size-fits-all strategy for land management is unlikely to be successful in India, because the proposed "smart cities" would be situated in extremely diverse environments. Depending on its geography, every city will have different issues that will require a tailored approach to municipal management. The management strategy of cities in dry regions, for example, should centre on the development of effective water-gathering technologies and the regulation of particle contamination. However, administration will require extensive data on the region's geology, soil, rock, land use, disaster susceptibility, original land usage, and social components. This enormous dataset will include information gleaned through surveys, observations, geographic information systems, and public records. This enormous dataset has the potential to aid in the development of land assessment methods that will contribute to Sustainable Land Management. This land management plan needs to be based on the Framework for Evaluating Sustainable Land Management. (Smita, 2019)

Goal of the SDGs encourages prosperous cities of the future to implement measures that strengthen urban ecosystems. These cities will require mitigating measures to limit air pollution, urban warming, and vulnerability to catastrophic catastrophes. Due to their location in regions with wildly varying temperatures, India's "smart cities" face a number of hazards that may be directly attributed to the weather. Those in charge of smart cities should make it a top priority to educate themselves on how to spot and counteract these dangers. In order to devise plans to lessen the impact of environmental change on cities, information on the subject is required. Because of the importance of both past and present environmental data to planning, environmental information should include long-term monitoring data on climatic changes. In the urban setting, the most crucial statistics will include precipitation, temperature, stickiness, evapotranspiration, and wind velocity. Any interested party needing access to these datasets should only get in touch with the Indian Meteorological Department (IMD), NASA, or the Indian Space Research Organization (ISRO). In order to better understand the forces underpinning plan formulation, several municipalities are already performing comprehensive environmental monitoring.

There is no hiding the fact that air pollution is an issue that must be addressed sometimes in large urban centers. Air pollution often results from haphazard decisions made in the transportation, business, energy consumption, and waste disposal sectors. The pollution is considered to have an impact on large populations

everywhere in the world. According to the World Health Organization, air pollution causes the early deaths of about seven million people annually. India might be among the countries with the highest rates of air pollution-related illness and death.

The fast pace of urbanization in India, combined with a lack of environmentally conscious design, has resulted in some of the world's dirtiest big cities. Realize that your physical health is a resource that might increase your income and the economy's overall productivity. To effectively combat air pollution in India's "smart cities," new approaches and tools must be developed. To ensure the long-term success of smart cities, continuous monitoring of air quality is required, as are the identification of root causes and the development of appropriate mitigation strategies. (Sławomira, 2016)

Organizations like the Central Pollution Control Board (CPCB) and the State Pollution Control Board (SPCB) should have sufficient monitoring stations to keep up with the Air Quality Index (AQI) on a regular basis. Satellite data may also be used to learn more about things like weather patterns, western disturbances, and the areas connecting smart cities. When several experts or contaminations mix with different parts of our ecosystem, exhaust clouds and acid rain may travel great distances. If experts can anticipate how a toxin will change over time, they will be better prepared to take precautions. Smart cities may be able to reduce air pollution through the use of environmentally friendly automobiles, bike lanes, more green space, renewable energy sources, and better waste management.

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Urban Green Spaceis a huge help to the management of a few biological systems (urban green space). UGS includes things like forests, farms, marshes, rest spaces, and gardens. Administrators of biological systems provide value and environmental fairness through the protection and upkeep of UGS. Some of the environmental services available deal with fisheries management, crop management, carbon sequestration, health benefits, tourist sector redirection, fertiliser, air decontamination, wetland and water cleansing, urban cooling, and noise reduction. When it comes to fixing a wide range of issues that plague cities, the aforementioned environmental administrations are invaluable tools. The high levels of air pollution in India have necessitated spending more than 27 percent of the country's gross domestic product on healthcare. Wearing UGS has the potential to greatly lessen the dangers of breathing in polluted air. Vegetation filters the air, getting rid of pollutants including ozone, sulphur dioxide, nitrogen dioxide, carbon monoxide, and particle matter. Parks and other green spaces strategically placed in urban centres can help reduce noise pollution, which will be a serious issue in the "smart cities" of the future.

Noise pollution is something that trees and plants may help mitigate in a number of ways. Wetlands will be useful for several things, including reducing the risk of flooding, feeding fish, and cleaning up wastewater. The typical woods will help restore a polluted environment and create new urban green spaces since they serve as a local quality bank for plants and other species. Before developing a UGS, it is important to plan ahead and take into account social and biological aspects. UGS planning and design need information about society, the environment, geography, geology, and biology. The acquired social data will consist of things like population shifts and the requirement for UGS. Rational data is required for UGS planning and preparation. Delhi's biodiversity parks are a step in the direction of a more natural UGS. In the preliminary phases, resources like the Global Forest Watch, the Wetland Atlas, and the Geographic Information System (GIS) will prove valuable. Information about plants, animals, and ganoids of various sizes can be found through dispersed exploration, forest offices, and community-based study organizations. (Kristian, 2016)

The growth of smart cities requires the implementation of sustainable energy, water for residential and commercial use, urban sanitation, and waste management systems. Water supply, waste water, and disinfection issues will be tackled by smart cities using state-of-the-art technology, goods, arrangements, and frameworks. Additionally, public transportation is crucial to the success of smart cities. Therefore, a study of urban transportation frameworks in India is required to provide new and enhanced public transportation infrastructure (including metros, monorail, cable cars, streams, sidewalks, bike tracks, roadways, and so on).

In order to deploy smart information technology and communications, it is necessary to construct a dependable wired and wireless broadband network and to ensure its availability across the city. So-called "smart cities" aim to improve residents' quality of life through the use of ICT by giving them more say over their city's various communication infrastructures. India has an advantage over other nations due to its enormous pool of highly qualified medical experts and relatively affordable healthcare expenditures. India's healthcare sector is booming because to rising incomes, better access to advanced medical treatment, and a heightened awareness of the need of maintaining personal cleanliness. How individuals learn will evolve as a result of smart education. E-learning, accessible through desktops, laptops, tablets, and mobile phones, is quickly replacing traditional textbooks as the preferred method of instruction for both students and teachers. School districts should update its infrastructure and implement cutting-edge technologies to provide constant communication between students, faculty, and the outside world.

The concept of "smart administration" centers on modifying existing government practices to increase data transparency and enhance service delivery. The public may find it easier to interact with government institutions if they adopt new technology like e-services, social media, apps, and other online platforms. Improvements in management and a fresh approach to promoting public services are priorities.

Cities in India are home to around 31% of the population and generate 63% of GDP (GDP). Urban regions would need to provide 75% of India's GDP by 2030 while simultaneously providing homes for 40% of the population. Much expansion of enabling economic, social, and institutional frameworks is required. All of these factors play a role in boosting morale and luring new residents and companies, kicking off a virtuous cycle of expansion and improvement. Intelligent urban planning is a positive development.

The Indian government's Smart Cities Mission is an innovative approach to boosting the economy and improving the lives of the country's citizens. To achieve this goal, it promotes regional development and restricts novel approaches in order to guarantee optimal outcomes for locals. (Milan, 2017)

In a smart city, the most important needs and chances to improve people's lives are given the most attention. For them to work, they use a variety of methods, such as new technology and information, best practices in urban planning, public-private partnerships, and changes in how they do things. People are more important to them than things.

The mission of "Smart" technology is to help cities become better places to live, both environmentally and socially, for their citizens. The plan is to examine specific neighborhoods and provide a blueprint that may be utilized by other cities aspiring to expand in a way that is equitable and environmentally responsible. The Smart Cities Mission's ultimate objective is to have comparable Smart Cities created across the country, therefore it's developing replicable models that can be utilized in and out of the Smart City itself.

At least one Smart Solution is used city-wide in the activities of Container City.

• Build up territories bit by bit. Here are three models of how to do this.

• Retrofitting,

• Redevelopment,

- Greenfield

The center infrastructure components

- Satisfactory water supply,

- Assured electricity supply,

- Sanitation, including strong waste management,

- Efficient urban versatility and public vehicle,

- Affordable lodging, particularly for poor people,

- Robust IT availability and digitalization,

- Good administration, particularly e-Governance and resident investment,

- Sustainable environment,

- Citizenssafety and security, especially ladies, kids and the old, and

- Health and education.

All 50 states and the District of Columbia have gotten their Smart City totals, which were worked out using objective criteria. The equation doesn't make a difference between the total number of cities and the total number of cities that are incorporated (50:50). Using this formula, each State/UT will have a fixed number of possible Smart Cities, with at least one in each. In each State/UT, there will be coverage for the number of possible Smart Cities shown. Using this method, some AMRUT assets have also been moved.

After the Mission has been going on for two years, Smart Cities will be looked into to see if they are a good idea. Based on an analysis of how many states and ULBs took part in the Challenge, the Ministry of Urban Development may need to change how many potential Smart Cities are in each state.

The Central Government plans to give Rs. 48,000 crores to the Mission over the course of five years, which is about Rs. 100 crores for each city each year on average. The Smart City Mission would be run as a Centrally Sponsored Scheme (CSS). The State/ULB should also contribute the same amount under the same conditions. This

would bring the total amount of money available from the State/ULB for developing Smart Cities to about Rs. 1 lakh crore.

India is holding a competition called the India Smart Cities Challenge-External Website that will open in a new window to help and encourage local governments as they come up with smart ideas to improve the lives of their citizens. One hundred cities and towns competed in the first round for subsidies from the Ministry of Urban Development. (Jawaid, 2015)

DISCUSSION

Information and communication technology is solely used for water management, leaving the rest of the ecosystem neglected. There hasn't been a lot of study into the environmental impacts of big data operations or how to put such data to use in India yet. Problems in India include (i) a failure to share information across the public and commercial sectors, (ii) the mining and extraction of meaningful data from a variety of sources, and (iii) the application of meaningful data to the development and management of strategy.

To ensure its continuous availability in the wake of global warming has become one of the most serious concerns of our century. Water is one of the most vital natural resources. For this reason, the United Nations has declared 2005–2015 to be the "Global Decade for Action 'Water forever,'" emphasizing the critical role that water will play in ensuring humanity's survival into the future. Studies show that global warming and other alterations to Earth's natural design are leading to the drying up of stream basins before they reach the ocean. Given the rising relevance of water shortage throughout the world, India's fast depletion of its surface water resources has become a key problem in international relations. Access to clean water is essential to the functioning of urban and peri-urban social systems, and a lack of this resource might have far-reaching effects on a nation's economy and way of life. Groundwater depletion, water theft during distribution, and issues with economic evaluation and allocation for farmers and families are all potential threats to the sustainability of smart cities. It is essential for intelligent cities to work toward water sustainability and to investigate potential new avenues for doing so. For India's watershed management, wetland support, step well recharge, and water harvesting projects, robust cost estimations are required. Society must rely on the multiple government organizations responsible for the collection, management, and distribution of water to make the most of its limited supply. The importance of water, the necessity of water conservation, and the value of keeping water bodies clean should all be emphasized in public education. The Central Ground Water Board (CGWB), the Water Resources

Division, the Water System and Flood Control Office, and the Ministry of Water Resources, Stream Development, and Ganga Revitalization should all work together to keep a watch on water supplies.(Joshi, 2016)

The huge urban population concentration will necessitate massive housing, lighting, transit, and water management energy investments. India's rapidly expanding urban population means that the country must find ways to accommodate their needs, and efficient energy use might play a crucial role in doing so. It's common knowledge that per capita energy consumption has a direct bearing on the rate of human progress. As part of its strategy to construct 100 new smart cities and offer capacity to all by 2022, India aims to generate 175 GW of environmentally friendly power, mostly for satisfying the energy demand in smart cities. In the absence of thorough forethought, achieving one's goals and reducing one's carbon footprint both rely significantly on reliable and cost-effective electrical energy. Important steps include expanding the use of commercial zones as a replacement for residential areas, using photovoltaic boards (PVCs) as a source of street lighting, and developing electric automobiles as a viable transportation option. Additionally, smart cities may play a significant role in reducing the price of power. Putting more emphasis on energy-efficient green construction practices may assist reduce consumption? As the world continues to industrialize, more and more cities have been built using impermeable materials like blacktop for their roads and other solid designs, creating "urban warming islands" with average temperatures significantly higher than those induced by external factors. There has to be a fair balance between cities' energy needs and their effects on the environment. Gathering information in advance via ICT, communication, and different phases is essential for staying in sync with state electricity loads up, the Ministry of Power, and the Ministry of New and Renewable energy. Planning for energy efficiency might benefit from looking at the energy ages of carbon-reducing cities like Singapore's smart cities and China's main cities. (Kaur, 2015)

CONCLUSION

The increase of communication and information technologies around the turn of the twentieth and the early decades of the twenty-first century indicate the emergence of a new type of society that places a premium on cutting-edge information and technology. As a result of these advancements in society, the notion of the city was born, with technologically advanced urban areas often scoring best. More and more people are moving to so-called "smart cities" as a result of the proliferation of this type of civilization, which makes it possible for networks to continuously improve. The innovative parts of a "Smart City" may be put to use in many different areas, from administration to business to environmental protection to the economics, and play a

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significant part in resolving urban issues. Research on the supposed capacity of Smart City apps to give remedies is prompted by the increasing incidence of these issues. It is not for want of effort that fewer states have attempted to link logical and mechanical arrangements to development plans, and even fewer have formulated particular measures centered on their execution. Accordingly, nations that collaborate on R&D will be in the greatest position to govern and control global information flows. These nations are crucial to the health of the global economy and to its further growth.

"Smart cities" are urban regions that rely on the electronic innovations supplied by the information innovation period since information is the most comprehensive system of data and information and many professionals have established conceptions of these words and features.

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