Vol. V - No. 1 January - June, 2018

Climate SAR सार

Climate Science And Research

Smart Cities

Climate Change Research Institute
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SmartCity

FROM EDITOR

Global climate change concerns have given a boost for smart city development. Minimization of greenhouse gas emissions, waste utilization, fuel savings and disaster free improved quality of life, are the key goals. Smart cities are booming with innovations such as; e-governance, e-services, e-business, e-learning, e-security, Intelligent traffic control and accident / risk warnings.

It is heartening that smart cities are now in plan of action of Government of India. Utilizing India's strength in Information Technology with the goal to adapt a climate change control strategy by achieving energy & fuel savings to improve quality of life is imperative.

The Climate Change Research Institute has started this Bulletin of Climate Science and Research – 'Climate SAR' for wider dissemination of information about climate change education. In this issue contributed by Dr. Neha Tripathi, you learn about smart cities in India and across the world.

Please do send your feedback to contactus@ccri.in

Dr. (Mrs.) Malti Goel
President, Climate Change Research Institute

WHY CITIES ARE CRITICAL FOR ADDRESSING CLIMATE CHANGE?

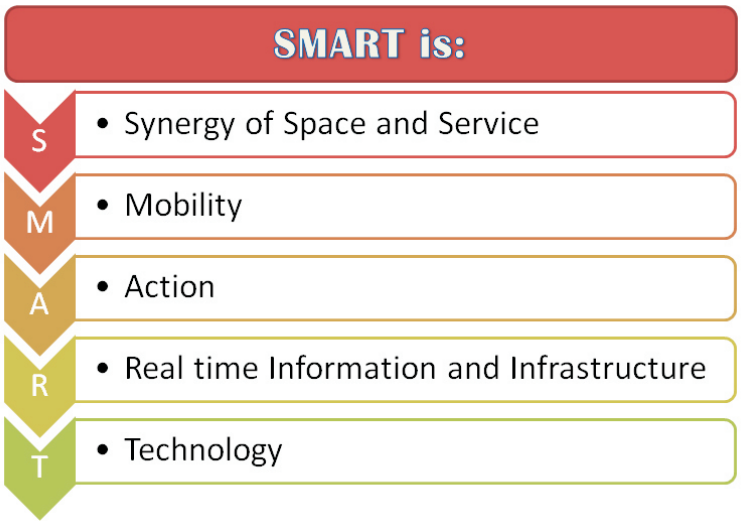
In May, 2007 a major demographic milestone occurred, when the earth's population became more urban than rural – though only a symbolic date calculated from estimation, it is sometimes referred to as the "Urban Millennium."

This was a historic milestone in the history of human settlements. With population becoming more than 50% urbanized the impact of cities on environmental resources, their consumption patterns, their energy consumption, their waste and pollution generation, can no longer be overlooked. These global climate change challenges and the major share of cities in the country's GDP have highlighted the growing importance of cities that was being discussed and debated is now accepted in the context of climate change.

WHAT IS A SMART CITY?

According to 2011 census data, cities accommodate nearly 31% of India's current population and contribute 63% of GDP. By 2030 urban population could be 40% of India's population and contribute 75% of India's GDP. This requires comprehensive development of physical, institutional, social and economic infrastructure. All are important in improving the quality of life and for growth and development. A smart city is expected to fulfil these and require smart services to its people.

Although, there is no one way of defining a smart city, a smart city is expected to improve the quality of life of urban population. It is energy efficient and water smart. Smart cities are clean, green & healthy, and we need them.



ABOUT INDIA'S SMART CITIES MISSION

Launched in 2015, the Smart City Mission is an innovative and new initiative of Government of India to improve the quality of life in Indian cities. It aims to develop 100 cities in India that will provide core infrastructure, a decent quality of life to its citizens, clean and sustainable environment through application of Smart Solutions.

Ministry of Urban Development stated 'The smart city mission is one-of-its-kind and does not start with a definition of a Smart City or sets a-priori Standards for Smart Cities to achieve'. The document provides some definitions within which the cities have to develop their Smart City proposals. With an "area-based" development approach, this initiative differs markedly from previous efforts, which tended to follow a project-based development approach.

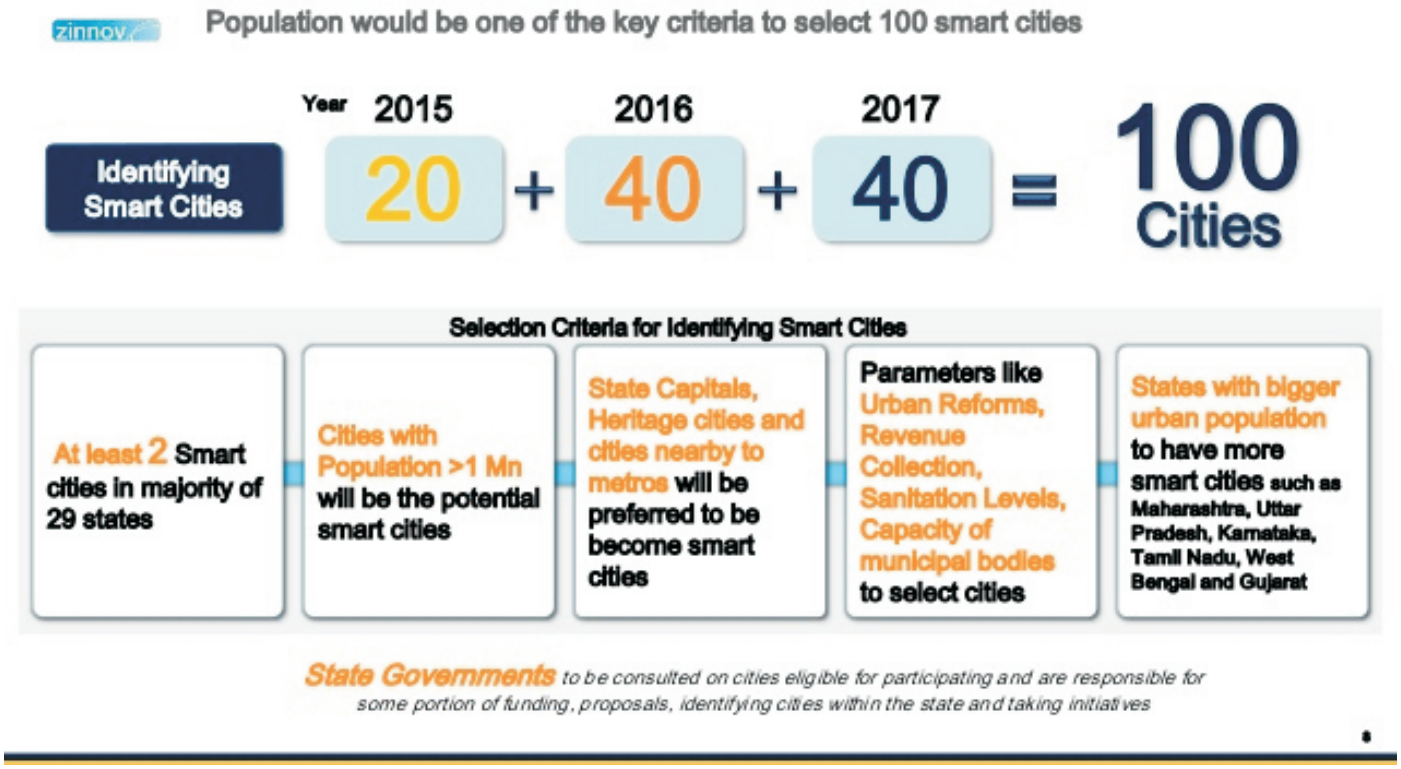
CORE INFRASTRUCTURE

Core elements of a smart city are:

i. **Adequate water supply**
ii. **Assured electricity supply**
iii. **Sanitation and solid waste management**
iv. **Efficient urban mobility**
v. **Affordable housing**
vi. **Robust IT connectivity and digitalization**

SELECTING SMART CITIES IN INDIA

The city challenge selection process consisted of two stages. First, the Ministry of Urban Development (MoUD) chose a certain number of cities from each state to be included using a set of equitable criteria.The equitable criteria gave equal weight to the urban population of the state or union territory and the number of statutory towns in the state or union territory. An intrastate competition followed to shortlist the potential smart cities from each state or union territory in accordance with the total number of cities allocated to it.The state mission directors and state-level High Powered Steering Committee evaluated cities within each state.



A smart city has

- Good governance with citizen participation,
- Sustainable Environment
- Emphasis on Health and Education
- Safety and security of citizens.

Government of India has released a list of 98 cities nominated for its smart cities mission. Key focus areas of the mission include provision of clean water supply, sanitation and solid waste management, efficient mobility and public transport, affordable housing and government.
(Please see 98 Cities Map on the back cover)

EXAMPLES OF SMART CITIES ACROSS THE WORLD

Worldwide, common emphasis in "smart cities" is the application of technology to city planning and management, that leads to greater optimization of time and resources. Hence, all over the world, countries are taking initiative to make their cities smart. At present, 'smart city' is more of an aspirational term than a reality. However, some of the smart cities across th world have been identified by various organisations and research institutions.

Top 5 Smart Cities across the world in 2015 and 2016

S. No	2015	2016
1.	Barcelona, Spain	Singapore, Republic of Singapore
2.	New York, USA	Barcelona, Spain
3.	London, Great Britain	London, Great Britain
4.	Nice, France	San Francisco, USA
5.	Singapore, Republic of Singapore	Oslo, Norway

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The Singapore from lowest in top five in 2015, topped the list in 2016 and Oslo, Norway was added in 2016.

In 2014, Singapore launched a landmark Smart Nation program through which it is gathering unprecedented amounts of data about all aspects of city life. Singapore has employed the use of sensors throughout the city to accumulate large amount of data and monitor aspects such as parking, traffic and cleanliness.

For taking Smart initiatives in the energy sector, the city deployed a mobile app developed by the local utility company 'Singapore Power' that enables the people to analyse their bills, payment updates and offers to submit the meter readings.

In 2015, a smart waste management program was introduced that included the launch of smart waste bins. As a part of the initiative, monitors and sensors were equipped on the lids of the bins that gather information pertaining to waste disposal and transfers the details to the central garbage authority.

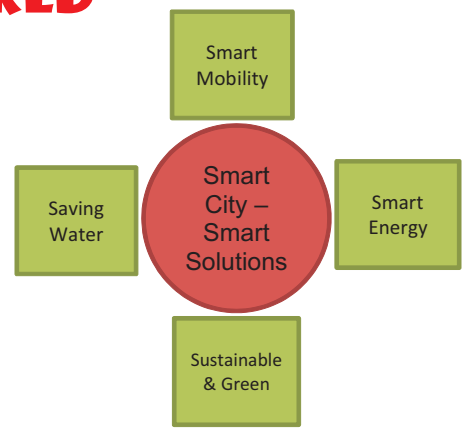
OTHER SMART CITIES IN THE WORLD

Barcelona in 2012, deployed responsive technologies across urban systems including public transit, parking, street lighting, and waste management. Barcelona has employed many smart solutions to keep its population moving freely, including smart parking and traffic systems to monitor congestion.

It invested in clean transport, with its fleet of hybrid buses and 'Bicing' – which is a smart cycling initiative that allows passengers access to over 400 bike stations through a yearly subscription or phone payments. With a municipal network of 500km of optical fibre, free WiFi routed via street lighting, and sensors to monitor air quality, parking spaces and even waste bins, Barcelona has been at the cutting edge of testing the internet of things (IoT).

London ranks among the best cities for international outreach, human capital, innovative economies, and WiFi hotspots. London also features underground WiFi, smart parking services, oyster card systems, utilized innovative technology to facilitate smartphone usage, along with improving health of its citizens, and environmental services.

London is using smart technology to help tackle congestion and has invested heavily in transport technology. It is also investing in smart traffic technology, which has traffic lights responding in favour of buses and congestion tax.



San Francisco is using smart technology to tackle traffic congestion in city. As a result, San Francisco is among the leaders in smart parking, vehicle sharing services and internet speeds.

With the use of smart ticketing to streamline public transport processes and smart parking (which allows authorities to adjust parking prices in areas based on the number of available spaces) the city is investing in technology to help people move freely throughout the city.

Oslo This Norwegian capital has introduced smart traffic measures by implementing licence plate detectors to calculate accurate congestion in the city and it is also currently building cycling tracts to promote non-motorised mode of transport.

It has future plans to introduce smart transport technology and improving its emissions, including aiming to ban cars in the city centre by 2019, redrawing its entire transport network by 2020 cutting fuel emissions by 50%, and be 95% climate neutral by 2030.

98 Smart Cities in India

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