Rapid urbanization has brought along a slew of rapid measures with a mission to prepare for the stress and strain cities of the future are likely to experience. With almost 31 per cent of the current Indian population falling in the urban category, approximately 400 million more will be added to that growing tribe by 2050. Startling as it may sound, but according to the Ministry of Housing and Urban Affairs (MoHUA), the largest urban transformation of the 21st century is happening in India. The traditional and historical human habitat is changing and more people are living in cities than in villages.

The urbanization trend is much faster in India than other developing countries. Population residing in urban areas in India was 17.97% in 1961

FUTURE CITIES

Escalating urbanization has been gnawing the resources reserve and putting a lot of stress on the city infrastructure pushing for the need for expediting the need to build Smarter Cities, a mission that has been under way since 2015. Has the mission managed to find its path and funding? Will the mission be able to succeed? Garima Pant explores.

that has increased to 31.16% in 2011 with annual growth rate of 2.76%. As per the U.N. World Urbanization Prospects report, in 2018, about 34% of India's population currently lives in urban areas. The persistent load on city infrastructure requires smart and efficient services and systems to improve the living of residents.

This transition to urban life is slowly becoming prominent in India as well. And this mega transformation is adding undue stress on the city infrastructure. With this growing pace of urbanization, the need to renew the cities to handle the population pressure has made the governments sit up and take notice and take corrective action. While urban life offers greater access to essential services and education system, the infrastructure is often developed at the cost of green spaces.

"The prominent use of concrete and steel in urban planning has created what is known as 'grey' infrastructure. Although, it is not possible to be completely reliant on green infrastructure, the balance of grey and green must be recognized to offset the environmental impact of how we live, and how our infrastructure and housing are created. The global attention is now being focused on this rapid urbanization processes and their social, economic and environmental implications," says **Subhash Sethi, Chairman, SPML Infra Limited.**

The government's mission to attain urban transformation is yet to gather the desired pace to make the Indian cities become cities of the future. "To achieve sustainable growth, the cities will have to become more livable and safer with clean air; adequate infrastructure; reliable utilities; and opportunities for learning and employment. He said, the solution lies in inclusive urbanization processes that prioritize quality of life for all, focusing especially on the needs of vulnerable urban groups for employment, housing, sanitation, healthcare and education," said **Hardeep S. Puri, Minister of State (I/C) for Housing and Urban Affairs (MoHUA)** at a public event.

He further added that the unique pattern of urbanization is not a corollary, but a driving force of this growth story. According to PIB, the minister also informed that currently all 100 Smart Cities have established their SPVs, constituted their City Level Advisory Forum (CLAF) and all cities have appointed PMCs, indicating that all these Smart Cities are in Mission mode. He further informed that Integrated Command and Control Centres (ICCC) becoming operational in 15 cities has resulted in enhanced efficiency in governance, management of traffic, law enforcement, improved citizen grievance redressal and reduced criminal incidents on city streets and public spaces. Cities and municipalities selected in initial rounds have already started investing in smart city projects, taking help of the technology to find solutions from making large number of population digitally literate, managing traffic congestions during rush hour to predicting flood threats or finding a solution to the impending water as well as energy crisis for providing reliable water supply and electricity on 24x7 basis among others.

Since the government does not prescribe any particular model to be adopted by the smart cities, each city has to formulate its own concept, vision, mission and plan that is appropriate to its local context, resources and levels of ambition. The consolidation of such efforts in the right direction will help India better harness ideas and capabilities, bringing together insights and expertise from leading technology players and learning from developed economies.

"ICCCs have also reduced traffic violations, improved efficiency in solid/liquid waste management, water and wastewater management as well as air quality management", he said. The Minister also laid emphasis that the time has come when the need for the City governments to take 'digital leadership' has become more pronounced and "Making cities 'Data Smart' is key in realizing the full potential of technology interventions and innovation ecosystems in cities.

Sethi adds that according to the recent data from the Ministry of Housing and Urban Development, which is overseeing the initiative, show that all 100 Special Purpose Vehicles (SPVs) are formed for the development of 100 smart cities. The 100 City Level Advisory Forums (CLAFs) have been constituted along with the appointment of 100 Project Management Consultants (PMCs) to oversee the progress. Under the mission, a total of 5,151 projects worth ₹ 2.05 lakh crore has been sanctioned and a further 3,423 projects worth ₹ 1.31 lakh crore is under various stages of tendering. ₹ 14,236 crore worth of works related to smart city development has been completed and

works worth ₹ 86,693 crore is under execution. Apart from project progress, 16 Smart City Centres has already been operationalized. It is estimated that the development works for the first 20 smart cities will be completed by 2021 as per the progress being monitored.

Citizen being the Core

Durga Shankar Mishra, Secretary, Ministry of Housing and Urban Affairs had recently emphasized and shared, as reported by the PIB, that citizens are at the core of Smart City Mission and added that it has the largest level of citizen engagement. Outlining the parameters for Smart Cities with efficient use of resources; cooperative and competitive federalism; integration, innovation and sustainability; technology and inclusiveness being the core elements. "The Smart Cities Mission is an innovative initiative by the Government to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens" he said. "The objective is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions", he added.

Elaborating further, the Secretary had said that cities in India have become a centre of focus for business and are a means to enhance livelihoods.

"The plans announced by the Government for 100 smart cities and 500 Atal Mission for Rejuvenation and Urban Transformation (AMRUT) cities are being implemented in a structured approach towards urban management. These programmes have opened up avenues for local industry and global players to participate in the development of cities across such sectors as utilities, housing, mobility, telecommunications, information technology, healthcare, education and recreational facilities. The Government has shown commitment by allocating funds to these programmes" he informed.

A Smart City is not only about managing roads and traffic. It requires making smart to all the services, institutions and environments from hospitals and schools to libraries and parking lots to utilities, fuel stations, police and fire administrations as well as all stake holders and users of such services in ensuring that their cities are safe, secure and more efficient. "The major strength of a smart city are increased standard of living to make life easier of its citizens. The resources are managed efficiently where the technology is used to support the water and electricity supplies to not only provide uninterrupted services but also to check the misuse of it due to human error and correct the same from a central unit. It will also support the efforts of lowering the city pollution by making use of smart transport system with well-connected public transport for efficient commute. The technology will also support pre-information about any natural calamity which can save lot of human life and with constant watch; city becomes much safer as crime can be curbed before it happens," adds Sethi.

S. No.	Name of State/UT	Name of City	Round 4 Score (%)
**Winning Cities in Round 4 (In order of merit)**
1	Dadra & Nagar Haveli	Silvassa	70.45
2	Tamil Nadu	Erode	70.32
3	Daman & Diu	Diu	69.96
4.	Bihar	Biharsharif	69.06
5	Uttar pradesh	Barelly	68.44
6	Arunachal Pradesh	Itanagar	68.35
7	Uttar Pradesh	Moradabad	68.31
8	Uttar Pradesh	Saharanpur	68.13
9	Lakshadweep	Kavaratti	66.36

Source: Smartcities.gov.in

Implementation Woes

However, implementation of these projects is not going as per the desired pace. "To be fair, there are various bottlenecks preventing speedy implementation of these projects. Similar projects are implemented at a much faster speed in developed countries. Some of the challenges in India are doubtlessly related to hard issues such as land acquisition, buy-in from resistant stakeholders, and so on," says **Santhosh Kumar, Vice Chairman, ANAROCK Property Consultants.**

There are many challenges that needs to be addressed including investment gaps, funding issues, land acquisition and environmental clearance, lack of coordination between various government agencies, inappropriate structuring of projects, lack of proper dispute resolution mechanism, payment and execution delays, old methods of construction and lack of adoption of innovative technologies etc. "It is also possible that some of the projects may fail or may be terminated prior to the project term for a number of reasons including changes in government policy, failure by the developer or the government to perform their
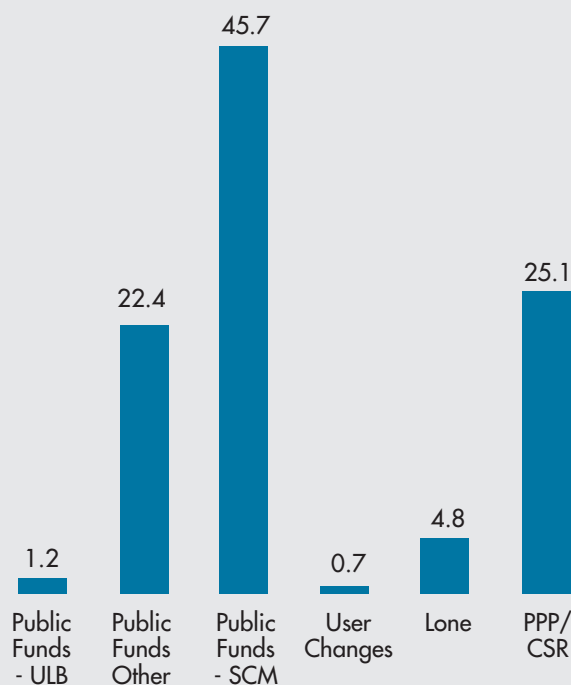
obligations or indeed due to other external circumstances. A comprehensive plan is required to ensure that the funds, which are being allocated, are put to use. The government should regularly follow-up with the respective departments and monitors the situation through a proper planning and monitoring body which can assess the development and trouble shoot regularly so that actual work gets done," shares Sethi.

He also adds how participation of the people is a must for effecting reforms, adopting technologically advanced smart solutions, doing more with less during implementing and designing post-project structures in order to make the smart city developments sustainable. The use of ICT and especially developed mobile-based tools will help in achieving the desired involvement of citizens.

Technology adoption and implementation is still a challenge. There are also some undesirable impacts or costs associated with our current urbanization model, ranging from increased costs of providing public infrastructure and services, transportation and higher costs of living. It is also to be considered if there is a social acceptance to the concepts. Sethi adds how another big challenge comes in the form of technology innovation as which particular technology to be implemented which can support the services much longer. "Smart Cities are projects, which will live for 50–60 years requires a cautious approach as to which innovations to bank on. The technology is fast changing and the one being adopted currently will it be able to support the innovation in a long period of time and can be improvised with better innovation down the years," he shares.

According to a study by the Centre for Policy Research, 'the sources of finance for the SCM are varied and the study finds that the bulk (almost 70%) is sourced from public sources. The next largest contributor is the private sector through

SOURCES OF FUNDING FOR SCM CITIES AS A PERCENTAGE (ALL 99 CITIES)

Category	Value
Public Funds - ULB	1.2
Public Funds Other	22.4
Public Funds - SCM	45.7
User Changes	0.7
Lone	4.8
PPP/CSR	25.1

Source: Centre for Policy Research

PPP initiatives and CSR (approximately 25%), followed by loans (under 5%) and user charges (under 1%).' The study further elaborates how the range of budgets for the top 99 cities varied between a little over INR 500 Crore (Kavarati, Lakshwadeep) to almost INR 6000 Crore (Chandigarh). Within this scale, cities primarily focused on budgets under INR 2000 crore (57 cities), followed by those between INR 2000 – 4000 Crore (38 cities) and only a handful opted for budgets above INR 4000 crore.

The smart city development needs huge investments and it is possible to raise these funds through innovative financing. "The land resources of a city offer attractive opportunities for raising large amounts. The property development with increased FAR would be enough to fund the entire transport infrastructure required in the city. There is

potential for such development in many other parts of the city, such as the railway stations, the inter-state bus terminals, major commercial centers, etc. Apart from this, there are other sources available in the city, but a choice may have to be made based on the ease of collection and larger policy considerations by the government. The fact remains that financial resources will not be a constraint to building urban India if there is a willingness to look at innovative ways of financing as well as adopting policies that encourage private spending," adds Sethi.

Sandeep Gulati, MD, Egis India believes that the major reasons why we are struggling for finances are delays and lack of clarity at the planning and implementation levels. "Once this is taken care of, I am sure the funding will also get taken care of on its own. A robust financial model with clear milestones of financial requirements, clarity on legal framework like land acquisition etc is the basic requirements for financing," adds Gulati.

While the impending election results will further decide the pace at which the mission takes the next few steps, the need and necessity to keep the mission going is the need of the present as well as the future cities for the urban dwellers to live a better life. EPC World

SIZE OF AREA IN SMART CITIES (NO. OF CITIES), BY ROUND (ALL 99 CITIES

Legend:
- 0.1-99 Sq Km
- 100-199 Sq Km
- 200-299 Sq Km
- 300-399 Sq Km
- 400-799 Sq Km

Round	0.1-99	100-199	200-299	300-399	400-799
Round I	4	8	3	1	4
Fast Track	7	3	2	1	
Round II	13	8	6		1
Round III	15	10	4		1
Round IV	7	2			

Source: Centre for Policy Research