

# Smart Cities & Challenges in India - A Vision

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**Abstract - India is the 10th, largest economy in the world, even though standing 2<sup>nd</sup> position in the global population. And 70% of GDP is coming from urban areas, while we are just investing 1.70 for urban development. For the best economic growth, India still needs to be focused much more on the consistently growing sectors like, Infrastructure, Industries, Hospital Services, Tourisms, IT, Foreign Direct Investments, Research & Development under PPP model, foreign collaborated Higher Education Systems, Service Industries, e-Governance in a more better way. So it is the need of an hour that India needs to concentrate in constitution of 100 Smart Cities in fourth coming years under the visionary of Prime Minister Shri. Narendra Modi to upsurge more Gross Domestic Products (GDP). This research article is focusing on the essence of Smart Cities and conceptual views about Smart Cities by different practitioners. More over this paper is also discussing about “Smart Cities – Six Dimensions” in details for understanding this new urban paradigm shift phenomenon. Besides these, this research manuscript also talks about the Smart Cities enablers comprising of Internet of Things technologies and testimonies of different world Smart Cities applications. The best part of this article is depicting of prerequisite considerations “How to set up 100 New Smart Cities in India” with some models and examples.**

**Keywords - Smart Cities; Technology Transfer, 100 New Smart Cities; Challenges, Six Dimensions;**

## I. INTRODUCTION

India is the 10th, largest economy in the world, even though standing 2<sup>nd</sup> 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 Tourisms, IT, Foreign Direct Investments (FDI), Research & Development under PPP model, Foreign collaborated Higher Education systems, Service Industries, e - Governance in a more better way. 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).

*“Smarter cities use the system of systems to their advantage when supporting the needs of each citizen through social programs, healthcare and education.” – IBM Smarter Planet*

*“Today, cities are in competition – same as companies. They are looking for ways to create jobs, drive profitable growth and productivity, become more efficient and - most importantly - increase the quality of life for residents. At Cisco, we are proud to partner with the City of Hamburg and Hamburg Port Authority to foster innovation and help embrace the opportunities offered by the Internet of Everything,” – CISCO for Smart City*

According to the State of World Population Report, for the first time in human history more than half of the world’s populations 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. *By 2030, 6 out of every 10 people will live in a city, and*

by 2050, this proportion will increase to 7 out of 10 people. India is also not exception in the urbanization, the urban population which was 2.96 billion in 2000 has been estimated to be 3.77 billion in 2010.

CENSUS	2001	2011	DIFFERENCE
INDIA	102.9	121.0	9.0
RURAL	74.3	80.3	9.0
URBAN	28.6	37.7	9.1

If we go for India's urban population statistics, in 2011 it was clyster clear that the level of urbanization in India was vastly increased from 27.81% (2001) census to 31.16% (2011) census. Kingsley Davis used the term "over-urbanization where in urban misery and rural poverty exist side by side with the result that city can hardly be called dynamic" and where inefficient, unproductive informal sector becomes increasingly apparent. Another scholar depicts urbanization in India as pseudo urbanization where in people arrive in cities not due to urban pull but due to rural push. In essence, there was an early account of new town experiment in India as a novel production of built up environment.

## II. NEED OF HOUR

According to Volker Buscher et al., the challenges of climate change, population growth, demographic change, urbanisation and resource depletion mean that the world's great cities need to adapt to survive and thrive over the coming decades. With a rapid increasing urbanisation, India's metropolitan cities like Mumbai, Delhi, Chennai, Calcutta, Hyderabad, Bangalore and Ahmedabad and Tier-II cities including Lucknow, Pune, Jaipur, Bhubaneswar, Nagpur, Surat, Vizag, Coimbatore, Mysore and Agra to name a few are now facing prodigious social and environmental issues. These issues could be high urban densities, illegal slums built in open areas, shortage of electrical power and gas, insufficient and inefficiency medical services and corrupted governance. There is a tremendous pressure on civic infrastructure systems like water supply, and drainage, solid waste management etc. The most important problem in all the cities has been housing, the unexpected and huge scale arrival of migrants from rural to urban areas. Poor in infrastructure, with high and increasing unemployment rates and deeply influenced by various criminal networks in most of metropolitan cities are also problematic.

Another big problem that has been due to the gigantic increase in the population has been the enormous amount of solid waste generated. Most of the Indian cities are suffering from problems of severe air pollution and traffic congestion. Poverty-led migration has encouraged very poor quality of urbanization followed by misery, poverty, unemployment, exploitation, rapid growth of slum, inequalities, degradation in the quality of urban citizen life. The grate Indian management guru C.K.Prahald said in 2009 that if the existing Indian cities are not to turn into slums, we need to build 500 additional cities. In addition to this according to a study by consulting firm of Booz and Company also an average of 30 people will move from rural areas to the city for every minute in India, so the country is set to build 500 new cities over the next 20 years to house 700 million more city dwellers by 2050. IBM's report on "A Vision for Smarter Cities" also says that on an average 30 people will migrate from rural area to urban areas in the next 36 years (2050), so we need to create 500 cities, in order to prevent urban complications in the future. In order to solve all these kinds of problems, the new urbanism principle has come up in the form of "Smart Cities", where all city sub components are marrying with technologies to provide Quality of Life (QoL). So India needs to plan for the rejuvenation of its existing cities as well as build new cities with proper planning and use of

new technology in the fourth coming years.

### III. CONCEPT OF SMART CITIES

Smart Cities is the one of the most buzz words along with its sister technologies like Internet of Things (IoT), Mobile Robots, Big Data Analytics (BDA), Human Augmentation and Cloud Computing. The phrase “Smart Cities” has emerged in the past few years, yet conferences, companies, citizens, and cities around the globe have become enamored with the concept. Smart Cities concept is the new paradigm shift in the new urbanization principles as well as post internet era. All the business corporate houses, software developers, practitioners, national politicians, policy makers, architects, builders, academicians, researchers and last but not least city dwellers are collectively running behind to construct ‘Smart Cities’. “ The use of Smart Computing technologies to make the critical infrastructure components and services of a city – which include city administration, education, healthcare, public safety, real estate, transportation, and utilities-more intelligent, interconnected, and efficient” .

*The vision of the Smart City concept is to improve the capabilities and simplify numerous problems of the city through optimized energy consumption, carbon emission mitigation, maximum recycling, smart transportation, 24×7 services for inhabitants and intelligent security.*

And also the concept of Smart City will provide the effectiveness for operational performance, controlling and monitoring of the city which leads to create new economic models, improve the quality of life and finally sustainable development. Smart City so features arts and entertainment, attractions, recreation, festivals, restaurants, hospitals, banks, government and corporate offices and then most famous devotional places. A Smart City is one that uses technology to transform its core systems and optimize the return from largely finite resources. By using resources in a smarter way, it will also boost innovation, a key factor underpinning competitiveness and economic growth. Investment in smarter systems is also a source of sustainable employment

*Livability, workability and sustainability are the goals.* Smart cities use information and communications technologies to achieve them.

The three core functions of Smart Cities are:

- Collect: information about current conditions across all responsibility areas (power, water, traffic, weather, buildings, etc.)
- Communicate: information, sometimes to other devices, sometimes to a control center and sometimes to servers running powerful software.
- Crunch: data, analyzing it to present information, to perfect (optimize) operations and to predict what might happen next.



## IV. SMART CITIES AND TRADITIONAL CITIES

*Six Dimensions*

The characteristics of Smart Cities are varies from city to city. But according to Giffinger, R et al. , Smart Cities can be identified into six main axes or dimensions. These axes are (1) Smart Economy (2) Smart Mobility (3) Smart Environment (4) Smart People (5) Smart Living (6) Smart Governance. And these six axes are based on traditional regional and neoclassical theories of urban growth and development. In particular, the axes are based on theories of regional competitiveness, transport and ICT economics, natural resources, human and social capital, quality of life, and participation of citizens in the governance of cities.

*General list of Smart Cities Dimensions.*

	The Problem	The Smart City Solution
<b>Planning</b>	<ul style="list-style-type: none"> <li>• Ad hoc and decentralized</li> <li>• Cost savings aren't realized</li> <li>• Limited potential for scalability of investment</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinated and holistic</li> <li>• Resources are shared</li> <li>• Cost savings are fully realized</li> <li>• Investments are scalable</li> <li>• Improved city planning and forecasting</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• Runs inefficiently</li> <li>• Costs more money and resources to run</li> </ul>	<ul style="list-style-type: none"> <li>• Optimized with cutting-edge technology</li> <li>• Saves money and resources</li> <li>• Improved service-level agreements</li> </ul>
<b>System operators</b>	<ul style="list-style-type: none"> <li>• Guess at infrastructure conditions</li> <li>• React to problems</li> <li>• Can't deploy resources efficiently to address problems</li> </ul>	<ul style="list-style-type: none"> <li>• Enjoy real-time reporting on infrastructure conditions</li> <li>• Predict and prevent problems</li> <li>• Deploy resources more efficiently</li> <li>• Automate maintenance</li> <li>• Save money</li> </ul>
<b>ICT investments</b>	<ul style="list-style-type: none"> <li>• Piecemeal and siloed</li> <li>• Deliver suboptimal benefit</li> <li>• Don't realize economies of scale</li> </ul>	<ul style="list-style-type: none"> <li>• Centrally planned</li> <li>• Deployed across city departments and projects</li> <li>• Deliver optimal benefit</li> <li>• Provide maximum value and savings</li> </ul>
<b>Citizen engagement</b>	<ul style="list-style-type: none"> <li>• Limited, scattered online connection to citizens</li> <li>• Citizens can't make optimal use of city services (or easily find them)</li> </ul>	<ul style="list-style-type: none"> <li>• Complete and singular online presence</li> <li>• Citizens can easily find and use services</li> <li>• Citizens can participate in smart city initiatives</li> <li>• Two-way communications between government and people</li> <li>• Specialized services focused on the individual citizen</li> <li>• Citizens can both contribute to and access real-time intelligent city data</li> </ul>
<b>Sharing data</b>	<ul style="list-style-type: none"> <li>• Departments and functions are siloed</li> <li>• Departments rarely share data and collaborate on initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Departments and functions are integrated and/or shared</li> <li>• Data is shared between departments and better correlated with other data services</li> <li>• Results are improved</li> <li>• Costs are cut</li> </ul>

Smart Economy (Competitiveness)	Smart People (Human Capital)	Smart Living (Quality of Life)
Innovative spirit Entrepreneurship Economic image & trademarks Productivity Flexibility of labour market International embeddedness Cooperation between the public and private sectors City competitiveness	Level of qualification Capability standard Affinity to lifelong learning Social and ethnic plurality Flexibility Creativity Cosmopolitanism or Open-mindedness Participation in public life People with professional Techniques	Cultural facilities Medical service Health conditions Individual safety Housing quality Education facilities Touristic attractiveness Social cohesion Intelligent green building sustainable groups
Smart Governance (Participation)	Smart Mobility (Transportation)	Smart Environment (Natural Resources)
Public participation in decision-making Transparent governance Digital Infrastructure Public and social services 24×7 Emergency System Political strategies & Perspectives Policies & Regulations Urban digitalization Urban monitoring and measuring	Travel choices Local accessibility (Inter-) national accessibility Availability of ICT- infrastructure Innovative and safe transport systems Improving transportation congestion, energy conservation and carbon reduction	Attractivity of natural conditions Air Pollution Environmental protection Sustainable resource management Energy conservation & Renewable energy Decrease in the amount of

## V. SETTING UP 100 NEW SMART CITIES

The statement from India's Prime Minister about the 100 cities is keen interesting. Smart Cities too soon become a reality in India. But of course they may not be like Singapore, Sydney, San Francisco, New York, Hong Kong or Helsinki. Before Prime Minister Narendra Modi's vision of building 100 Smart Cities, is set to take shape within the current financial year, there were already Smart City construction projects in India including Lavasa (Maharashtra), GIFT (Gujarat), Smart Kochi (Kerala), and Mahindra World City – Chennai (Tamilnadu) and Jaipur (Rajasthan) in different operational modes including Public Private People Partnerships (PPPP).

It is a good sign for the government of India to start constructing 100 New Smart Cities across the nation by in collaboration with multinational companies under PPPP model, which will really increase our national economy. As Smart City is a system of systems and a very complex, we cannot construct entire 100 New Smart Cities in India which is very expensive and very tedious job. These are very long term projects. The constitution of 100 Smart Cities is could be in two ways, the first one is converting Brown Field Cities (the existing cities) into Smart Cities by deploying technologies in all the pillars of the city. The design and development of Smart City infrastructures for the existing cities includes defense, energy generation and distribution, healthcare, housing, and transportation is a complex process.

First of all, put all the sub systems of city into proper system. Once the major elements of governance, energy, mobility, public service, safety, security, healthcare, research, and education and real estate *assets* are in right place, Internet of Things (IoT) technologies and analytics can help the city to transform itself into liveable, sustainable and smarter. For Instance in Bangalore, entire city is covered with more than 300 Internet Protocol (IP) cameras which will give security solutions for the citizens and in the same way, the Surat (Gujarat) city security pilot project.

Another case is Smart Grid technology in Delhi, in which power generation, distribution, prevention of loss, consumer's services and billing are completely automated in some part of the Delhi. Digital Information and Communications technologies together and act on information, such as information about the behaviours of suppliers and consumers, in an automated fashion to improve the efficiency, reliability, economic, and sustainability of the production and distribution of electricity. **In Vellore**, smart water distribution is successfully implemented by testing of water quality, sanitation, distribution, prevention of leakages, automatic billing. E-seva is one of best e-governance project implemented in Andhra Pradesh, in which all the public can find online land records, passports, date of birth, death certificates, electricity, water payment via online. But in Smart City all these public services should be integrated and available in a single mouse point click in online. So we need to work for in all SEZs, tier1 and tier2 cities to convert into smart. First do with existing cities like Mumbai, Chennai, Calcutta, Delhi, Bangalore, Hyderabad, Jaipur and Surat etc.

The second way is construction of entire new Smart Cities (Green Field Cities). Delhi - Mumbai Industrial Corridor (DMIC) is India's most ambitious Infrastructure programme aiming to develop new industrial cities as "Smart Cities" and converging next generation technologies across infrastructure sectors in the first phase. Though central government allocated 7060 crores for creation of 100 Smart Cities for initiation, there needs to be huge investments from Multinational Corporations under PPP or PPPP model or in collaborations with the technological partners and public participation.

The collaborated companies should get good fiscal policies, so that they can come forward to set up Smart Cities. The State governments, and real estates also should be in active participation to full fill creation of Smart Cities. Thanks a lot for the Japan Government to give their hand in economically in setting up 7 Smart Cities across nation and including Dholera (Gujarat) and Dadri (UP). There is a talk that one more Industrial Corridor is coming up between Bangalore and Chennai which can consists of Smart Cities. Apart from these, Third Industrial belt is going to come up in between Chennai – Visakhapatnam and going to consists some more Smart Cities. While constructing new cities we have to consider a lot of factors in term of investments, land acquisition, socio economic, international embeddedness etc. In terms of Land acquisition problems, we should prefer Vertical Smart Cities like Singapore, GIFT (Gujarat-India) and rest of the places, we can go ahead for Horizontal Smart Cities (Lavasa, Masdar (UAE)) constructions. More over building of Smart Cities should make sure for (24×7) water along with sanitation and recycling, smart electricity connection through ZigBee technology, intelligent traffic (GIS, GPS) and transport systems that use data analytics to provide efficient solutions to ease commuting, automated home, office surveillance security systems, requiring minimal human intervention, and Wi-Fi powered open spaces and houses that ensure always-on, high- speed band width connectivity availability. We should also follow ITU, IoT-A, IEEE, IPSO and other international standards in terms of Smart Cities building and in terms of technology development, interoperability and legal aspects to smoothen cities building. We have to take Korea and China as a role models as they are into mounting of more Smart Cities.

## VI. SMART CITY CHALLENGES

The India Smart Cities Challenge is a competition designed to inspire and support municipal officials as they develop smart proposals to improve residents' lives. Cities will compete in the first round – with the best proposals receiving funding from the Ministry of Urban Development.

The India Smart Cities Challenge is designed to inspire greater creativity from municipal officials and their partners, more involvement and inspiration from citizens, and the development of proposals that will produce concrete benefits in peoples' lives. people every minute from rural areas, the Government has introduced the 'Smart City Challenge', handing over the onus of planned urbanization to the states. In the approach to the Smart Cities Mission, the objective is to promote cities that provide core infrastructure and offer quality of life to citizens, a clean and sustainable environment and application of 'smart' solutions. Those states that measure up to the guidelines and

nominate cities could get funding of Rs 100 crore per year per city for the next five years.

The funding is a golden chance for states to rejuvenate their urban areas but the Smart Cities Mission still has its own challenges to face. Here are the top 10:

*1. Retrofitting existing legacy city infrastructure to make it smart:*

There are a number of latent issues to consider when reviewing a smart city strategy. The most important is to determine the existing city's weak areas that need utmost consideration, e.g. 100-per-cent distribution of water supply and sanitation. The integration of formerly isolated legacy systems to achieve citywide efficiencies can be a significant challenge.

*2. Financing smart cities:*

The High Power Expert Committee (HPEC) on Investment Estimates in Urban Infrastructure has assessed a per-capita investment cost (PCIC) of Rs 43,386 for a 20-year period. Using an average figure of 1 million people in each of the 100 smart cities, the total estimate of investment requirements for the smart city comes to Rs 7 lakh crore over 20 years (with an annual escalation of 10 per cent from 2009-20 to 2014-15). This translates into an annual requirement of Rs 35,000 crore. One needs to see how these projects will be financed as the majority of project need would move through complete private investment or through PPPs (public-private partnership).

*3. Availability of master plan or city development plan:*

Most of our cities don't have master plans or a city development plan, which is the key to smart city planning and implementation and encapsulates all a city needs to improve and provide better opportunities to its citizens. Unfortunately 70-80 per cent of Indian cities don't have one.

*4. Financial sustainability of ULBs:*

Most ULBs are not financially self-sustainable and tariff levels fixed by the ULBs for providing services often do not mirror the cost of supplying the same. Even if additional investments are recovered in a phased manner, inadequate cost recovery will lead to continued financial losses.

*5. Technical constraints of ULBs:*

Most ULBs have limited technical capacity to ensure timely and cost-effective implementation and subsequent operations and maintenance owing to limited recruitment over a number of years along with inability of the ULBs to attract best of talent at market competitive compensation rates.

*6. Three-tier governance:*

Successful implementation of smart city solutions needs effective horizontal and vertical coordination between various institutions providing various municipal amenities as well as effective coordination between central government (MoUD), state government and local government agencies on various issues related to financing and sharing of best practices and service delivery processes.

*7. Providing clearances in a timely manner:*

For timely completion of the project, all clearances should use online processes and be cleared in a time-bound manner. A regulatory body should be set up for all utility services so that a level playing field is made available to the private sector and tariffs are set in a manner that balances financial sustainability with quality.

*8. Dealing with a multivendor environment:*

Another major challenge in the Indian smart city space is that (usually) software infrastructure in cities contains components supplied by different vendors. Hence, the ability to handle complex combinations of smart city

solutions developed by multiple technology vendors becomes very significant.

#### *9. Capacity building programme:*

Building capacity for 100 smart cities is not an easy task and most ambitious projects are delayed owing to lack of quality manpower, both at the centre and state levels. In terms of funds, only around 5 per cent of the central allocation may be allocated for capacity building programs that focus on training, contextual research, knowledge exchange and a rich database. Investments in capacity building programs have a multiplier effect as they help in time-bound completion of projects and in designing programs, developing faculty, building databases as well as designing tool kits and decision support systems. As all these have a lag time, capacity building needs to be strengthened right at the beginning.

#### *10. Reliability of utility services:*

For any smart city in the world, the focus is on reliability of utility services, whether it is electricity, water, telephone or broadband services. Smart cities should have universal access to electricity 24×7; this is not possible with the existing supply and distribution system. Cities need to shift towards renewable sources and focus on green buildings and green transport to reduce the need for electricity.

## VII. INDIA'S BIG SMART CITY CHALLENGE

Urbanization can be simply defined as the rise of cities vis-a-vis the rural landscape. As a country moves ahead on the road to progress, cities tend to take center stage. In that manner, the rise of cities has often been construed as an indicator of development and progress. The case has been no different when it comes to India. While the pace of urbanization was a bit slack in the early years post-independence, it has really picked pace in the past few decades, especially in the post-1991 phase. Coupled with economic growth and expanding markets, the urban population now stands at around 30% of the overall pie.

Yet, the picture of an urban India is far from rosy. From economic reforms to demographic dividend in the form of a young population, India has many things going for it. However, there is some more ground to cover if India is to shed its 'developing country' tag and emerge a superpower. This can happen only when urbanization (read planned urbanization) is given due attention. Upgrading existing cities and creating new ones are prerequisites for economic.

Why India needs more planned cities?

A 2010 study conducted by McKinsey Global Institute (MGI) points out that urbanization in India has been a victim of systemic inefficiencies and policy vacuum. While India's population is no doubt increasing, quality of life of citizens in urban areas is declining. Moreover, unchecked migration from rural areas is only putting further strain on the infrastructure in cities. The result is water and power shortages, lack of proper sewage collection and treatment, overburdened transport systems and unplanned constructions.

It is imperative then to not only create new 'smart' cities, but also upgrade the existing ones. Developing newer cities will bridge the rural-urban divide. This will in turn reduce social inequity, one of the biggest psychological benefits of planned urbanization.

The MGI study titled 'India's urban awakening: Building inclusive cities, sustaining economic growth' estimates that by 2030, 40% of India's population will be living in cities. This makes it all the more crucial for us to ensure that the process of urbanization occurs in a smooth and phased manner.

A carefully planned city will attract investments, create jobs, have strong infrastructure, and most importantly, up

the standard of living of its citizens. Going ahead, the contribution of cities to India's GDP will only increase. If in 2008, cities accounted for 58% of the national GDP, by 2030, this figure is expected to go up to 70%. To adequately leverage this, India needs livable and productive cities.

#### VIII. WHERE ARE WE LAGGING NOW?

Lost somewhere between the labyrinth of local and state bodies, municipal corporations, urban development agencies, corruption and political will, India's urban spaces are struggling to breathe. If unplanned growth of cities continues, their state will only get more deplorable.

There has to be better cohesion between the various agencies responsible for urban development and planning. Sewage treatment, provision of clean water to citizens, robust healthcare systems, efficient transport networks and strong governance must form the blueprint of re-designing existing cities and creating new ones. Technology can go a long way in helping realize the creation of smart, safe and sustainable cities. Every urban plan will need to have a long-term view only then will economic growth happen. A myopic approach can prove disastrous.

To address such issues of scalability, one needs proper research mechanism in place. Sometime back The Energy and Resources Institute (TERI) and United Technologies Corporation (UTC) launched the Center of Excellence for Energy Efficient Buildings in India, which will conduct a pan-India study of 100 buildings across various climatic zones, covering cities such as Allahabad, Ajmer, Vishakhapatnam, Varanasi, Delhi-NCR, Mumbai, Chennai, Bengaluru, Kolkata, Hyderabad, Pune, Ahmedabad, Surat, Jaipur etc. These cities have been shortlisted based on Smart Cities program, and are most likely to be chosen for it. This study can thus lay the groundwork for agencies to plan their growth accordingly.

##### *The road ahead*

For long, urban planning has not featured on the national agenda as prominently as it is seen now. Creation of 100 smart cities was one of BJP government's key election promises. With a view to modernizing India and accelerating the process of urbanization, Modi had envisioned creation of 100 smart cities. The idea was to develop satellite towns of larger cities and modernize existing mid-sized cities. In keeping with the PM's vision, Finance Minister Arun Jaitley, while presenting his first Budget last year, set aside Rs 7,060 crore towards this. Jaitley had also announced relaxation of foreign direct investment norms so as to attract overseas capital. These announcements were as refreshing as they were promising.

The government has even gone ahead and defined the process after detailed consultation. A framework has been created, based on which cities will be selected in the days to come. Once, these cities are chosen, the next stage of making them smart will kick in. To ensure that the cities are not merely 'smart' in terms of technology alone, the eligibility conditions are quite holistic. For instance, to participate in the 'Smart City Challenge', any applicant city needs to have a vision document and a city development strategy in place, progress under Swachh Bharat Mission is another condition, timely payment of salaries to municipal staff is another, and finally, there needs to be an information and grievance redressal mechanism with a e-newsletter in place. From the lot of applicants, a final set of cities will be chosen that would be turned 'smart'.

In a country such as India, that witnesses unchecked migration to urban areas, creation of smart cities is nothing short of a landmark move. It has the potential to improve the administrative process and also provide citizens access to quality healthcare, education, sanitation and governance.

So far only private construction companies had come forward and developed or proposed to develop smart cities. That the central government identified this issue and gave it a national thrust brought cheer to the general public.

With overpopulated cities and their strained infrastructure, India is already in the midst of an urban crisis. The only way out is planned urbanization.

Public and private bodies must join hands and come up with smart, sustainable and long-term solutions. Creating thriving and self-sufficient urban spaces will not only ensure inclusive growth but also contribute to overall economic advancement. The future of India lies in cities and we must fortify them if the country has to prosper.

## IX. CONCLUSION

We are really lucky to have our great visionary leader like Shree Narendra Modi in institution of 100 New Smart Cities. Even though it is 7060 Cr for the initial investment for set out Smart Cities, let we put hands together to make India more economically brighter. In addition, the global warming can be reduced in constituent of these Smart Cities. Let us hope soon India will provide Quality of Life (QoL) to its citizens on par with other Smart Cities like Barcelona, Helsinki, San Fransco, New York, Singapore. Welcome to the Future of 100 Smart Cities in India, with a positive way collectively and cheerfully.

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