

“Future of Smart cities Project in India”

Binay Kumar Mohanty , Research Scholar, Bharati Vidyapeeth (Deemed to be University) Institute of Management and Research, New Delhi.

Dr. Amarjit R Deshmukh, Associate Professor, Bharati Vidyapeeth (Deemed to be University) Institute of Management and Research, New Delhi.

Mr. Yashwant Kumar, Assistant Professor, Bharati Vidyapeeth (Deemed to be University) Institute of Management and Research, New Delhi.

Dr.Parul Agarwal, Associate Professor, Bharati Vidyapeeth (Deemed to be university) Institute of Management & Research, New Delhi .

ABSTRACT:

Nagpur has emerged as the topmost smart city in India. In just five months, Nagpur has beaten other cities chosen before it to get the best implementation of smart city plan. A recent stock-taking exercise conducted by urban development ministry has revealed that Nagpur, though chosen as a smart city in September 2016 much after 33 smart cities in two previous rounds has achieved the best investment conversion ratio. India's smart city program hopes to revolutionize city life and improve the quality of life for India's urban population. In the absence of a zonal plan, many parts of Dehradun have witnessed haphazard development over the year, which has already caused much damage to the vision of a planned smart city. Smart City would require smart economy, bright people, smart organization, smart communication, smart engineering, smart transit, fresh environment and bright living. Nevertheless, with mass migration leading to basic problems, like water shortages and overcrowding, the rate at which these cities will be developed will be the key. Several initiatives are being led by the Government of India to convert 100 Cities into Smart Cities. Government to Actively Use PPP Route and Encourage FDI for Effective Implementation of Smart Cities Project in India.

INTRODUCTION

Talking about smart cities, the very first thing that strikes our mind is- What is a Smart City? Actually, there is no such pre-defined definition for a smart city but yet while generally defining it, a smart city would be - “A 'smart city' is an urban region that is highly advanced in terms of overall infrastructure, sustainable real estate, and communications and market viability. It is a city where information technology is the principal infrastructure and the basis for providing essential services to residents.” (Puri, 2014)

The Origin

The idea of smart cities came into the picture when most of the Nations were facing Economic Crises. In 2008, IBM came up with a project on ‘smarter cities’ as a part of its Smarter Planet initiative. By the end of 2009, the concept caught the attention of many countries across the world. In effect, a lot of countries can now act as precedents for the Indian version of the Smart City Project for a sustainable inclusive development in the country.

The Smart City Scenario in India

The Smart City Mission, a bold new initiative was launched by the Government of India under Prime Minister Narendra Modi in 2015. The apex committee involved in the mission is the Ministry of Urban Development (MoUD). It aims at developing 100 cities of India as Satellite Towns of larger cities and modernizing existing (developing) cities. The main focus is on inclusive sustainable development and to create a applicable model which will act like a guide to other aspiring cities. The 3 main basic models that are being used are – Retrofitting, Redevelopment and Greenfields (areas around the city to accommodate the expanding population).

The selection of 100 Smart Cities is all through a competition conducted by Bloomberg Philanthropies. Furthermore, there's a separate Smart City Council which is a congregation of smart city practitioners and experts, with a 100-plus member and advisor organizations operating in over 140 countries. There will at least be one city selected from each state. The following criteria will be taken into account during the Final Selection of the Cities:

International Journal of Research in “Future of Smart cities Project in India”

1. Implementation of E-governance and Online Grievance Redressal Mechanism.
2. Publication of E-newsletter.
3. Putting all Public Expenditure online for public.
4. Swachh Bharat Abhiyaan: At least 5 % increase in coverage of latrines since 2011 consensus.
5. Track record of paying salaries to employees.
6. Track record of Urban Reforms and Citizen Participation.

Also, there are 3 models of development of the selected cities.

1. Retrofitting (500 Acres): Planning in an existing built-up area with the help of Citizen Participation

Example: Bhendi Bazaar in Mumbai

2. Redevelopment (250 Acres): Replacing an existing built-up by a new one by way of mixed land use.

Example: Kidwai Nagar in Delhi

3. Greenfields: Introducing Smart Solutions in already vacant areas.

Example: GIFT City in Gujarat.

Smart City Scenario in Pune

Pune is the Cultural Capital of Maharashtra as well as the one of the IT and Corporate Hubs in India. The City has strong key strengths – Culture, Heritage, Capital and Business Environment. Hence, the Vision of the Project is to make Pune the most liveable city in India.

Citizen Engagement

The very first and the most important step is to make the citizens participate. This is done through physical door to door form distribution, TV and Radio shows, open house with citizens, citizen competitions, Pune Smart City Mobile Application and likewise.

The 9-phase Pune Citizen Engagement Model:

1. Envision
2. Diagnose
3. Co-create
4. Refine
5. Share
6. Area selection

International Journal of Research in “Future of Smart cities Project in India”

7. Competition and Profiling
8. Engagement with residents
9. Sharing and Acceptance

Pan City Initiatives

The Pan City Initiatives focus on only two issues:

1. Mobility:

a) Smart Pune’s Public Transport Systems to improve availability, reliability and passenger comfort.

b) Smart Pune Traffic Management System: Increase in the use of Public Transportation to reduce the moving traffic and congestion. It will increase the average speed of Pune cars from 18 kmph to 30 kmph.

Introduction of Metro Rail, Cycle Docking Stations and improved Bus Services will eventually improve the traffic conditions of the city.

2. Water:

Smart Water Solutions to ensure equitable 150 lpcd water to 100% citizens on 24x7 basis along with best-in-class customer experience. Installation of Smart Metres and Water Auditing Systems are the main Smart Solutions for such issue.

Local Area Initiatives

Pune aspires to create a model neighbourhood of liveability and sustainability matching global standards in a selected local area (Aundh-Baner-Balewadi) by including all the 24 smart city features in a future ready manner (as the population is expected to increase 4 times by 2030).

Key Initiatives:

1. Improvement of Infrastructure as a future ready model
2. Creation of Social infrastructure as benchmark.
3. Enhancement of Liveability Quotient
4. Socially inclusive growth
5. Improvement in sustainability quotient
6. Leverage ICT Solutions and E-governance for the convenience of citizens

But any effort put in by the Government needs to be complimented by all the groups of the society for a healthy working framework. This idea of citizen engagement leading to participatory governance as a part of the smart city mission has been of interest.

International Journal of Research in “Future of Smart cities Project in India”

PMC has talked about participatory governance measures as a part of its smart city proposals saying that participative democracy would be encouraged and sustainable citizen engagement projects would be set up. PMC has declared that Pune has already made efforts into participatory budgeting and other contests. There is a need to further strengthen participatory governance in Pune by holding regular feedback sessions and discussions related to decision making processes (Pune Municipal Corporation, n.d.). It is in this context that the idea of “Maza Swapna, Maza Pune” came about and this research paper aims to collaborate the ideas, challenges regarding the framework of participatory governance.

Literature Review

Several journal articles, newspaper articles and reports of various Government bodies have been referred to for the purpose of literature review. This literature review attempts to compile different ideas relating to participatory governance, challenges associated with it, future improvements in the area and uses examples from around the world to put a few of these points across.

Participatory governance is a process which allows citizens to voice their opinion, demand for action from the authorities and vote. It tends to involve more participation from the citizens than the traditional democracy. Hence citizens have direct say in shaping and reshaping the policies unlike traditional democracies which give citizens very little opportunity to voice their opinion. Participatory democracy is not a replacement of representative democracy, rather it is only an enhancement to make representative democracy better. (Wampler & McNulty, S. L., 2011)

A functional democracy needs informed citizens and popular participation in policy making, if government and citizens work together then it leads to government becoming more effective, transparent and accountable. Government alone cannot solve problems of the society, citizens need to participate. Also civil society organisations will be more supportive of the government if involved in the process of decision making and thus leading to deepen the democracy.

The idea of citizen participation has developed from indirect participation through voting for representative democracies to a movement to increase transparency and accountability of institutions to engagement of citizens in decision making processes. The movement of “New Public Management” has helped in the evolution of participatory governance and established the fact that such a framework is necessary for the effective delivery of services (Aulich, 2009). Citizen engagement makes governance transparent and accountable. Citizen participation cannot be fully engaged by laws but government provides legal protection and encouragement to engage in citizen participation.

Although the authoritarian government was able to maintain economic growth, the lack of participation in development activities created room for NGO’s to play a role in social and economic activities. Some of the NGOs are involved with Government and helps in Governmental projects which otherwise wouldn’t have been possible for the Government to reach low levels of the society.

Now coming to the participatory budgeting which is a way to engage people in government and optimally manage the public money. Under this democratic process, various community groups or members can directly participate and can decide on how to spend of public budget. The citizens can debate on what needs to be done and can make efficient decision.

International Journal of Research in “Future of Smart cities Project in India”

Pune is one of the emerging IT and an Educational hub which should allow its citizen to join hands with government so that the decision made is efficient as well as the resources are effectively used, at least in such a city where a high proportion of population is youth. And for reasons as such, Pune has been undertaking participatory governance measures like participatory budgeting, forum discussions with experts, contests involving citizens and various surveys on a local scale.

Author and year of publication	Objective of the study	Significance of the study	Research Methodology	Results	Limitations
Archon Fung; Erin Olin Wright (2001)	-The paper aims to talk about Empowered Deliberative Democracy (EDD) by giving a few case studies and discussing the theoretical basis of the model and its efficiency.	-The participatory budgeting model developed in Brazil's Port Alegre and village governance bodies in India's Kerala and West Bengal are ways to address inequality and lack of accountability, where devolution and participation worked as the instruments. -The principles, design property and objectives of EDD were discussed in detail.	-Secondary Research was conducted -Comments from Real Utopias V: Experiments in Empowered Deliberative Democracy conference, held in Madison were taken as inputs.	-Skill development needs to be taken up for proper planning and implementation for village level governance institutions to be technically effective. -The desired results from EDD depend on the balance of power between actors engaged in this institutional design.	
Brigitte M. Holzner and Joop de Wit (December 2003)	-The paper mainly aims at the decentralization of urban governance	-The paper talks about capacity building and gender inclusiveness for a decentralized local governance.	-Secondary Research was conducted	-With each passing year, we are witnessing an increase in Civic Participation.	-The gender segregation typically reflects the traditional
Author and year of publication	Objective of the study	Significance of the study	Research Methodology	Results	Limitations
	and increasing the participation of Women Municipal Councilors.	-It talks about the need for increase in female representation in ward committees		-Female Representation in: -Bombay Electric Supply and Transport (18%) -Education Committee (50%) -Public Health Committee (47%) -Women and Child Welfare Committee (100%)	division of household work and transposes family welfare tasks into family tasks. -Females lack representation in most of the fields

					in Indian Public Administration System.
Diego Navarra & Tony Cornford (31-12-2003)	-Objective is to understand the increasing importance of the e-governance as a priority activity for the good governance.	-Focus of the report is to explain the concept of different pathways of e-governance, trace the working of it and changes over time as well. -This helps in easing the processes of administration and also helps in coordinating amongst the different areas of public administration. - This can also be helpful in checking the government's progress and performance.	-Secondary Research was conducted.	-Usage of e-governance for increased scope in participation has an essential feature of provision of information for public access in order to increase transparency and be involved in decision-making processes. -Legitimate needs and progress-monitoring can also be a result of it. -Participatory Budgeting in Porto Alegre is an important example that puts forward the idea that e-governance or usage of ICT in governance will lead to social welfare. -In Brazil, the use of the Internet in participatory budgeting has	
Author and year of publication	Objective of the study	Significance of the study	Research Methodology	Results	Limitations
				allowed the distribution of the monitoring costs on the citizens of Porto Alegre. -In many other	

				places too, systems like electronic mandatory payments and online grievance systems have made citizens lives much more easier. -For the betterment of the result with regard to policy making and decision making ICT is given more importance	
William West (Dec 2005)	-The objective is to give overview and evaluation of administrative and political issues surrounding rule making.	-The research describes the process of participation, and answers questions like how does participation occurs, who participates etc.	-Secondary research was conducted	-The researcher concludes by laying down the importance of rulemaking.	
Steven Friedman (2006)	-The paper argues that though formal mechanisms of participatory governance are important, they lean more in favour of people who have the capability to organize and do not consider the view of the poor and marginalized community	-The researcher traces the two main reasons of implementation of participatory governance -an idea that civil society organizations will be more supportive of the government if involved in the process of decision making and secondly, to deepen democracy. -The paper suggests that participatory governance should be perceived as a	-Secondary research was conducted	-There exists a difference between grassroots opinions of people and the social policies being implemented -Individual citizens will better be able to participate if the Government makes themselves easily accessible which requires a new orientation. -One of the measures to broaden participation could	-The contribution of civil society to participatory governance was not talked about.

Author and year of publication	Objective of the study	Significance of the study	Research Methodology	Results	Limitations
				be an open-minded dialogue initiation between the Government and the grass root organizations	

International Journal of Research in “Future of Smart cities Project in India”

Much research has pointed out to the idea that participatory governance is not a replacement but rather an enhancement to representative democracy. It is quite an idea in developing countries where it is taking proper shape in the recent years. The citizens are demanding transparency and accountability, one of the main pre-requisites for participatory governance. The Government too is taking measures to encourage citizen engagement in decision making to mitigate what has come to be known as “Democracy deficit” due to the lack of trust that citizens are associating with Government officials. (Aulich, 2009)

Equal efforts from all the section of the society- the citizens who engage in participatory governance, the civil society organisations that help in facilitating participatory governance and the Government which usually initiates measures for citizen engagement are necessary for a successful framework of participatory governance. Balance of power amongst all the actors in a framework of participatory governance is of utmost importance for effective results(Fung & Wright, 2001)

The poor and marginalised sections of the society also have to be given equal opportunity in voicing their opinions. Some researchers are of the opinion that participatory governance favours only the sections of society who have the ability to organise (Work & Friedman, S., 2006). Because the opinions of those who are involved in reaping the benefits of social security programs are not considered to the full extent, there often exists a difference in the actual needs of the beneficiaries and the programs that the Government undertakes to solve an issue.

While talking about participatory governance, devolution of powers to local governments is a topic that it is very much linked to it. The concept of participatory governance evolved from the local governments. In this context, it is very important for state governments to pass on the power to local bodies since they are the grass root organizations and can easily target on the effectiveness of policy. But since, there are resources constraint that are imposed on the local governments, most researchers are of the opinion that outside help from civil society would be needed for participatory governance. (Asis, M. G., & Acuña-Alfaro, J.)(Aulich, 2009)

Government’s efforts in initiating participatory governance are very crucial. The first step that needs to be taken for this is to provide information to the citizens so that there exists a scope for participation. This calls for transparency of government mechanisms (Donaghy, 2011). One of the prominent methods of increasing transparency and accountability could be through usage of ICT.(Navarra & Cornford, T., 2003)A new orientation is also required from the Government wherein the Government officials undergo skill development

sessions and are able to participate in open-ended dialogue with the marginalised sections of the society to seek for their engagement in decision making (Fung & Wright, 2001) (Work & Friedman, S., 2006). Government's involvement with the civil society will also go a long way to help citizens engage in decision making processes.

Bhagidari system is a system recently introduced by the Delhi Government. It evokes Civic Participation through RWAs (Resident Welfare Associations) and MTAs (Market and Traders Association). It basically establishes a dialogue between the Stakeholder (Government) and the RWAs, MTAs and other Civic Agencies. There's no reason why it won't work in Pune. In fact, if implemented in Pune, it will make the dialogue between the Government Departments and the Civic Agencies in the city much easier. Regular workshops and open house sessions need to be conducted in the city so the government can come to consensus with the Civic Agencies regarding the issues to be addressed.

International Journal of Research in "Future of Smart cities Project in India"

Advantages and Disadvantages of Smart City 2022

Many cities around the world have already invested to make their cities 'smart.' The two-thirds of the world's largest cities have already switched to this upgrade and many other cities are considering upgrading their status as well. The increase in federal funding and the partnerships between the government and private sector technology companies will make it come true over the years. Let us see the advantages and disadvantages of smart cities to judge which is better for us and why.

Advantages of Smart City

There are several advantages of Smart City, and learning about these can help you to weigh the benefit and the disadvantages from it.

Better transportation services: A smart city has the potential to drastically improve the current level of transportation throughout a city. It will have better traffic management, the ability to track public transportations and serve its citizens better with constant information and low prices.

Safer Communication: A smart city will have the most technological advances and partnerships with the private sector will benefit society since there will be lesser criminal activity. The example of such technology is license plate recognition, connected crime centers, shooting detectors, better emergency services, and body cameras.

Efficient public services: Since there is a limited amount of natural resources left to meet the demand of the people, smart cities will have technologies and the necessary tools to cut down on our usage of natural resources and decrease waste of water, electricity, etc. without having to cut down on any factors.

Reduced environmental footprint: A smart city has thousands of energy-efficient buildings that can improve the air quality, use renewable energy sources, and decrease the dependence on non-renewable energy sources. These will help to decrease the ecological impact we have on the environment.

More digital equity: People must have access to high-speed internet services at affordable prices and devices. If they have access to public Wi-fi in local areas in the city, all residents will have equal opportunities.

Economic development opportunities: Investing in smart cities will lead to improving their regional and global competitiveness and attract new residents and improve business. Since the entire city will have access to an open data platform, information, etc. companies

will flourish. They can make informed decisions with the available technologies and lead to economic development.

Improvement of infrastructure: Old roads, buildings, highways, bridges require massive investments to maintain their state and increase their useful life. But, with the help of smart technologies, cities will have the ability to analytically predict and identify the areas that can cause infrastructure failures before it occurs.

Job opportunities: A smart city will have many businesses and job opportunities since the people will get equal access to basic resources such as transportation, internet connection, and job offers.

International Journal of Research in “Future of Smart cities Project in India”

Decrease of crime: Since the authorities can monitor the dealings of people closely with the help of technologies, there will be a reduced amount of crime. Besides, crime increases when there are fewer jobs and more unemployed people. However, if job opportunities increase, it will simultaneously lead to a decrease in crime.

Disadvantages of Smart City

Though Smart City has many advantages, there are some disadvantages. Knowing these can help one to understand the flip side of the coin. The disadvantages are as follows.

Limited privacy: Since the authorities or the government will have access to security cameras and intelligent systems connected through many different spaces, the citizens will have difficulty in maintaining their anonymity. Facial recognition and such things will drastically change the concept of privacy or personal space.

Social control: The people who can track and centralise the data they gather with security cameras will have greater power. It can be a government, a private agency, or other authorities. They will have the power to control a citizen's data and can easily manipulate public opinions.

Excess network trust: Since the citizen of these smart cities will rely almost entirely on electronics and networks, they will lose autonomy in their decision-making and could become incompetent. They would not be able to react appropriately in a scenario where these tools are not usable.

Difficulty in the pre-commerce stage: Though money will be available, the smart technologies will be still in their pre-commercial stages. These cities will lack the technology-related skills and capacity.

Pre-training is required: If the people of the city don't know about technology, then they will not be able to use it. Without training, they will find it irrelevant to their daily lives and will find it difficult to utilise it.

Conclusion

The smart cities concept has gained a lot of attention lately and it will most likely continue to do so in the future. Cities are publishing smart plans, related conferences are trending and more and more books are being written on the subject.

Smart technologies can provide solutions for cities by helping them save money, reduce carbon emissions and manage traffic flows. But the complexity of the agenda is hindering its progress. It involves a large number of stakeholders (local authorities, citizens, technology companies and academics) each having their own vision of what a smart city should be; most of the debate gets bogged down on trying to understand what 'smart' means rather than focusing on how it can help cities meet their goals. Moreover, since the market for smart technologies is relatively new, it needs new business models and ways of working which are yet to be developed and implemented.

At present, this market is getting substantial support from the UK Government. Cities, the private sector and communities are increasingly recognising that they need to work together in order to make the most of the smart agenda.

International Journal of Research in “Future of Smart cities Project in India”

Cities should find their own definition of what ‘smart’ means, mainly by:

Integrating smarter technologies with their economic development and public services plans and considering how technology or use of data might help them achieve existing objectives more effectively

Focusing on pragmatic approaches

Adopting a participatory approach to setting and delivering strategies and initiatives.

Cities can also start joining up efforts across departments, releasing more of their data, learning from international case studies on what works and what doesn’t, joining new networks, and collaborating with the private sector and other partners to test products and identify new business models to take projects forward.

References

1. Aulich, C. (2009). From Citizen Participation to Participatory Governance. *CJLG*, 0(2).
2. Baiocchi, G. (2003). Emergent public spheres: talking politics in participatory governance. *American Sociological Review*, 52-74.
3. Besley, T., Pande, R., & Rao, V. (2005). Participatory democracy in action: Survey evidence from South India. *Journal of the European Economic Association*, 3(2- 3), 648-657.
4. Bulkeley, H., Luque, A., McFarlane, C., & MacLeod, G. (2013). Enhancing Urban Autonomy.
5. Chakrabarty, B. (2013). PARTICIPATORY GOVERNANCE IN INDIA-THE FIELD EXPERIENCE. *ICSSR Journal of Abstracts and Reviews-Political Science*, 36(1).
6. Claude Saha, J. (2008). Reducing poverty in sub-Saharan Africa: the need for participatory governance. *Development in Practice*, 18(2), 267-272.
7. Coonrod, J. (2013). 2013 State of Participatory Democracy Report. *The Hunger Project* , 11-26.
8. De Asis, M. G., & Acuña-Alfaro, J. CIVIC PARTICIPATION IN LOCAL GOVERNANCE.
9. Donaghy, M. M. (2011). Do participatory governance institutions matter?: Municipal councils and social housing programs in Brazil. *Comparative Politics*, 44(1), 83-102.
10. Estrella, M., & Gaventa, J. (1998). *Who counts reality?: Participatory monitoring and evaluation: a literature review*. Brighton: Institute of Development Studies.
11. Friedman, S. (2006). *Participatory governance and citizen action in post-apartheid South Africa*. International Labour Organization (International Institute for Labour Studies).
12. Fung, A., & Wright, E. O. (2001). Deepening democracy: innovations in empowered participatory governance. *Politics and society*, 29(1), 5-42.
13. Holzner, B., & de Wit, J. (2003). Supporting decentralised urban governance: training women municipal councillors in Mumbai, India. *ISS Working Paper Series/General Series*, 386, 1-38.

14. Janwani. (2013). Participatory Governance in Pune & Berlin. *Janwani E-Journal* , 1-10.
15. Keruwala, N. (2016). *Participatory Budgeting in India: The Pune experiment*. OWSA. Retrieved 17 January 2016, from <http://southasia.oneworld.net/news/participatory-budgeting-in-india-the-pune-experiment#.VpuQLPI97IU>