Public Participation in The Making of Smart Cities in India: Case of Nagpur Smart City

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Table of content

Acknowledge 2
Abstract 3
List of Figures 4
1 Introduction 5
1.1 Context 5
1.2 Problem Statement 7
1.3 Research Objectives and Research Questions 8
1.4 Significance of the Research 9
2 Literature review 10
2.1 Smart cities 10
2.1.1 Introduction 10
2.1.2 Smart city definition 12
2.1.3 Views on smart cities 15
2.2 Public Participation 19
2.2.1 Introduction 19
2.2.2 Definition of Public participation 20
2.2.3 Inclusive public participation 23
2.3 Public Participation in making of Smart cities 26
2.4 Smart city public participation evaluation framework 36
3 Research Methodology 41
3.1 Research Design 41
3.2 Research Limitation 42
4 Case Study 43
4.1 Introduction 43
4.2 Background- Indian Smart city mission guidelines 43
4.3 Case of Nagpur Smart City 47
4.4 Public participation in Nagpur smart city 49
5 Analysis 54
5.1 Background analysis: Indian Smart city mission guideline and public participation 54
5.2 Nagpur smart city proposal 57
5.3 Nagpur smart city and public participation 58
5.4 Nagpur smart city public participation – on evaluation framework 66
6 Discussions 71
7 Conclusion 75
8 Recommendations 76
9 Bibliography 78

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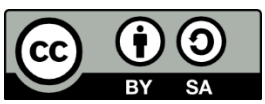


Abstract

The Indian smart city mission aims to transform one hundred selected cities into smart cities. The mission guidelines emphasize the importance of equal public participation and considering their aspirations while formulating the policies and implementing the projects under the smart city agenda at the local level. In this context, the research aims to understand public participation in making smart cities in India with the case of Nagpur smart city. Furthermore, developed a qualitative framework to analyze the state of public participation in Smart Cities in India. Although the city of Nagpur was selected because the smart city proposal and the public participation process while conceptualizing the smart city proposal is appreciated by GoI., it remains one of the least researched case studies. The research is qualitative and utilizes a literature review, semi-structured interview and a case study approach as research methods.

The main findings of the research indicate that public participation in Nagpur smart city was implemented by a top-down, controlled approach and prioritizes a one-way mode of communication. Nagpur smart city heavily relied on media and social media platforms to collect public consent for the smart city proposal to make the city smart; however, while doing so, it ignored the vulnerable factors of the society, prioritizing one-way digital communication. Moreover, the process of public participation prioritizes certain affluent classes of inhabitants, suppressing the voice of the marginalized in society. As a result, Nagpur city smart missed the opportunities to co-create and co-produce with the inhabitants. It missed a chance to get informed opinions from the inhabitant, which would have contributed to making an informed decision while formulating the smart city concept for Nagpur.

This research highlighted the need for a democratic, inclusive resident engagement mechanism and capacity development to participate effectively. The Nagpur smart city case demonstrates how, even in supposedly democratic and inclusive initiatives, 'assumed' unfitting voices are excluded and controlled in practice by the city governing authorities and policymakers who are supposed to act as guardians. Suppose the urban authorities fail to inculcate democratic values in urban development initiatives, which should be meant to manage urban areas better. Smart cities will probably continue to stand for neoliberal technocracy without democratic reform.

Key Words: *Public participation, smart city, inclusiveness, democracy, capacity building.*

List of Figures

Figure 1: Population and Levels of Urbanization of India and Other Countries in 2018 ……07

Figure 2: Growth comparison of top 5 Indian cities to that of middle-income countries (World Economic Forum, 2019) ……07

Figure 1: Role of Public in Smart Cities……...36

Figure 2:Spectrum of Public Participation……..……37

Figure 3: Evaluation framework for evaluating public participation in smart cities……..42

Figure 6: Illustrative list of smart city solution by GoI……...46

Figure 7: Central location of Nagpur……...49

Figure 8: Logo Nagpur Smart and 'Sustainable' City……50

Figure 9: Presentation slide Nagpur Smart city depicting vision……50

Figure 10: Door to door public survey form……54

Figure 4: Idea competition for Nagpur smart city on My Gov.in website……55

Figure 12: Popularization phase posts by NMC……63

Figure 5: Posts on Facebook referring to Barcelona and Amsterdam……64

Figure 14: Newspaper articles publish various newspapers……..65

Figure 6: Participant sensitizing sessions with CEO of Nagpur municipal corporation……...66

Figure 16: Area analysis map by NMC……..68

Figure 17: Nagpur smart city on Smart city public participation evaluation framework……72

1 Introduction

1.1 Context

The nature of our urban area is constantly changing. More than a decade ago, the urban population passed 50% of the total population worldwide, and it is predicted that around 68 per cent of the global population will live in cities by 2050, with Asia and Africa seeing 90 per cent of the urban growth (United Nations, 2018). It has become more important to consider how we urbanize than how fast we urbanize (Ayer, 2021). Given our cities complex needs and development patterns, inhabitants are the central character of the development process. Thus making "*public participation*" a buzzword for planners and policymakers worldwide (Swapan, 2016).

Meanwhile, in India, it has resurfaced in popular planning culture after introducing the Smart Cities Mission (SCM) in 2015 by Prime Minister Narendra Modi, one of the landmark initiatives of the Government India launched in 2015. The SCM is the first significant step toward the comprehensive implementation of the smart city concept in India (Gupta & Hall, 2017b).

The mission aims to transform one hundred selected cities into 'Smart Cities' that drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to 'Smart outcomes' (MoUD, 2015a). The SCM views a smart city as doing more with less, building upon existing infrastructural assets and resources, and proposing efficient resource initiatives. The mission has defined smartness in physical and non-physical assets such as water supply, waste management, energy sources and supply, safety, active public engagement, economy and employment, and education (MoUD, 2015a). The mission guidelines emphasize the importance of public participation and considering their aspirations while formulating the policies and implementing the projects under the smart city agenda at the local level.

India has been experiencing a dramatic surge in urbanization over the last several decades; it is amongst the many developing countries witnessing a rapid rural to urban shift (Gupta & Hall, 2017b). This change is reflected by the greater decadal growth of the urban versus rural population.

India is expected to house half its 1.38 billion population in the urban areas by 2040. It is estimated that the urban population will reach 814 million by 2050 (The World Bank, 2020). India's urban population is 11% of that of the world. This is still more than highly urbanized countries/regions like the United States, Japan, Western Europe, and South America (fig:1) (Prasad, 2019). It is also estimated that by 2030 the economies of several Indian cities will be compared to those of the middle-income countries today, thus paving the way for 70% of future employment expected to be generated in Indian cities, with emerging cities (population less than 1 million) driving consumption expenditure (The World Bank, 2020). With 70% of India's built environment for 2030 yet to take shape, its impending urban transformation also represents significant opportunities for domestic and international investments. India's metropolises and cities are functioning with unsustainable stress levels on infrastructure, resources, and public services. To achieve sustainable growth, these cities will have to become more livable and safer with clean air, adequate infrastructure, reliable utilities, and opportunities for learning and employment (Prasad, 2019).

S. No.	Country	Total population (in millions)	Urban* population (in millions)	Percentage urban
	1	2	3	4
1	World	7,632.81	4,219.81	55.28
	Advanced economies			
2	United States	326.77	268.78	82.26
3	Germany	82.29	63.62	77.31
4	Japan	127.19	116.52	91.61
5	United Kingdom	66.57	55.52	83.39
	Emerging market and developing economies			
6	China	1,415.05	837.02	59.15
7	India	1,354.05	**460.78**	34.03
	Continents/regions			
8	North America	363.84	298.99	82.17
9	South America	428.24	360.35	84.14
10	Western Europe	194.07	154.99	79.86

Figure 1: Population and Levels of Urbanization of India and Other Countries in 2018

Source: IMF, World Economic Outlook. July 2021. p.6 https://www.imf.org/en/Publications/WEO/Issues/2021/07/27/world-economic-outlook-update-july-2021

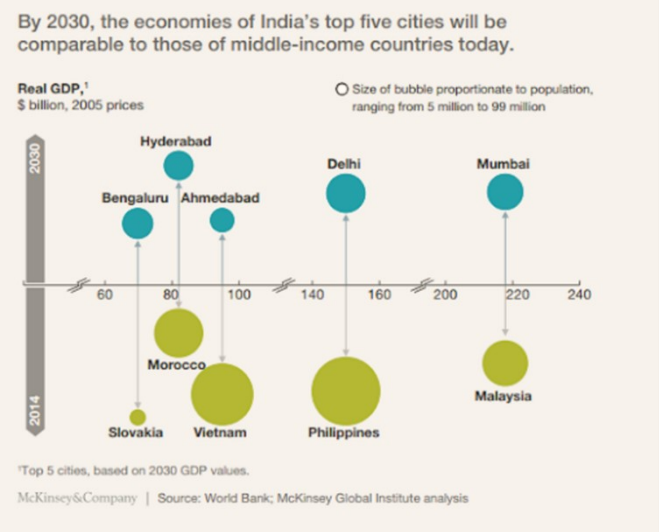


Figure 2: Growth comparison of top 5 Indian cities to that of middle-income countries (World Economic Forum, 2019)

Source: https://www.weforum.org/agenda/2019/01/india-urbanization-why-the-world-should-watch/

One way to tackle the challenges caused by rapid urbanization lies in sustainable inclusive development that priorities the quality of life for all, focusing especially on the needs of vulnerable urban groups for employment, housing, sanitation, healthcare, and education (World Bank, 2020). Most importantly, planning must incorporate long-term resource sensitivity and community involvement at every step while benchmarking smart and measurable outcomes for all stakeholders (Prasad, 2019). Thus, the Indian government

considers Smart cities a ‘mantra’ for tackling various urban issues accompanying its urbanization boom.

1.2 Problem Statement

By creating one hundred smart cities, India aspires to achieve a sustainable urban society, have a higher quality of living equivalent to the standards of European and American cities, and “seek to produce smart citizens” (Datta, 2019). Indian SCM emphasizes prioritizing and encouraging public participation in decision-making in developing each aspect of smart cities, thus making people-centred smart cities (MoUD, 2015). Also, at the same time, the SCM prioritizes highly technology-driven solutions that are seen as a ‘silver bullet’ and considered an ultimate panacea for all urban challenges (Buck & While, 2017).

However, critics argue that smart solutions fail to address the needs of the poor and marginalized residents, as not everyone in the city is well-equipped to understand and utilize these “smart solutions” (Das, 2020; Datta, 2015; Vanolo, 2016; Watson, 2015). By catering primarily to middle- and high-income groups, smart solutions can thus worsen social and economic inequalities (Das, 2020; Willis, 2019). Moreover, these technologies are often implemented irrespective of society’s context and specific needs (Willis, 2019). Given its technocratic nature and non-contextual development, smart city developments worldwide are criticized for being inherently exclusionary while extending neoliberal control by large multinational urban development corporations (Cardullo & Kitchin, 2019; Hollands, 2008a). The same can stand true in the context of Indian smart cities.

Although public participation can facilitate transparency, collaboration, community building and social learning in the development and implementation of urban development projects such as smart cities (Evans et al., 2019; Ferro et al., 2013). Numerous academic researchers observe that these public participation initiatives give stakeholders a ritualistic role of ‘have your say, with little real influence, especially given opaque public participation practices, wherein only the loudest, most influential voices listen (Yadav & Singh, 2012). Research has shown that participation can be governed by powerful interests rather than by the interests of the marginalized and poor (Das, 2020). In the context of India, it is not the first time the Indian Government has attempted a large-scale public participation project (Das, 2020) in Indian cities before and organized by government organizations, NGOs, and consultants (Patel et al., 2016). However, many of these participatory programs were biased and failed to include the middle and upper-middle classes (Coelho et al., 2013). Even when well-designed participatory mechanisms, it can be difficult to avoid marginalizing the least powerful in

participation (Holmes et al., 2019). Many Indian urban inhabitants are unwilling to communicate with those they perceive as inferior due to caste, religion, or social class (Mahadevia et al., 2014).

Similarly, several reputed independent organizations have said in their surveys that democracy is declining in India (BTI, 2022). The current political atmosphere in India contributes to the marginalization of the population (Freedom House, 2022). Suppose identified as non-allied to the visions designed by those at the top of the Governance ladder. Some cases of silencing and marginalization, such as the criminalization of the Government's critics (V-Dem, 2022), lay bare the authoritarian tendencies underpinning Indian democratic governance (Ghosh & Arora, 2022).

Given that India is moving forward in the new era of urban development with people-centric smart city development, it becomes more important to understand the making of these smart cities and how the concept of social inclusion and public participation are adopted and put into practice by the Government.

1.3 Research Objectives and Research Questions

In light of the above-mentioned problem statement, the research aims to understand the process of *'Public Participation in Indian Smart Cities. Firstly, the research aims to* analyse Smart City Mission guidelines by the Government of India and understand how it perceives smart cities and public participation considering people-centric smart cities. Secondly, it aims to investigate smart cities and public participation by analysing the smart city proposal of one of the major central Indian cities called 'Nagpur'. While investigating the context of Nagpur, the research aims to understand the role of inhabitants in making Nagpur's smart city proposal and how Nagpur defines the smart city for itself. Furthermore, the research seeks to critically investigate the public participation process put into practice in Nagpur while formulating the smart city proposal back in 2015. Lastly, it aims to evaluate where public participation stands on the smart city public participation evaluation framework developed based on the 'Spectrum of Public Participation' by 'The International Association for Public Participation (IAP2)'.

The research considered two hypotheses to examine the case of public participation in Nagpur smart cities.

Hypothesis 1: Although the Government of India has awarded Nagpur Smart city proposal among the top ten in the nation and has appreciated the city's efforts for conducting the best

public participation while making the smart city proposal. The process of public participation is dominated by top-down approach to public participation and lies at the bottom of the 'Spectrum of Public Participation' by IAP2.

Hypothesis 2: The public participation process undertaken to formulate a smart city proposal for Nagpur does not reflect the aspirations and needs of the vulnerable inhabitants of the city. Instead, it is haunted by neoliberal technocracy without any democratic reform.

To analyse the hypotheses mentioned above, the research aims to ask the following questions.

The research question is as follows:

1. What role does the city authority play in facilitating inclusive public participation in making a smart city proposal for Nagpur smart city?

2. What is the socio-economic status of the inhabitants who participated in Nagpur's smart city proposal formulation process?

3. Where does the public participation in the Nagpur smart city stand on the smart city public participation evaluation framework developed based on the 'Spectrum of Public Participation' by IAP2?

1.4 Significance of the Research

Scholars argue that the public plays a key role in smart cities by participating in governance and improving service delivery (Leleux & Webster, 2018; Meijer & Bolívar, 2016). However, there seems to be a lack of research and understanding of the role of the public in smart cities (Berntzen & Johannessen, 2016; Vanolo, 2016). This research attempts to understand the public's role in making smart cities, especially in Indian smart cities. Furthermore, there is already a large body of research on smart cities and ICT-driven approaches; however, very little research focuses on the people-centric perspective of smart cities. Therefore, this research attempts to provide a framework for analyzing public participation in smart cities and contribute to the current debate. Further contributing to the current debate around public participation as a bottom-up approach for sustainable urban development in the global south context.

There is a wide range of research on smart cities in the global North, but in the global south, it is barely starting up (Datta & Odendaal, 2019). Given that the global south has adopted smart cities quicker than the West, it is surprising that India, China, Korea, Saudi Arabia, and other nations are among the top "consumers" of the global smart city industry (Hollands, 2015). Therefore, this research will contribute to filling the gap in the knowledge of smart cities in the global south, especially in India.

Furthermore, although the Nagpur smart city proposal is awarded by the government and the public participation process while making the smart city proposal is appreciated, it remains one of the least researched case studies. Therefore, this research will add value to existing research on smart cities and public participation in India. Although there are one hundred cities in India in various development stages to become Smart cities, only metropolitans like Kolkata, Chennai, New Delhi, and Pune are researched to understand public involvement in the making of smart cities. Therefore, this research attempts to move from the earlier focus on metropolitan cities in the global south toward the much-neglected but dynamic context of small cities that are now the frontiers of global-scale urbanization.

2 Literature review

2.1 Smart cities

2.1.1 Introduction

Smart city initiatives have claimed to be a bridge in configuring new relationships between citizens and city governance. The rationale is that the urban challenges are seen as urgent and growing “problems” that require fixing. The city’s inhabitants being the most affected by these initiatives, should also play a key role in developing smart cities. (Lefebvere, 1968) in ‘Right to the City’ defines the inhabitant’s right by arguing that inhabitants should have the right to occupy and use space and that space should also be shaped according to the requirements of its inhabitants (Purcell, 2006). According to (Harvey, 2017), city dwellers have the right to fully engage in the production of urban space and the ‘right to manage the urbanization process and introduce new modes of urbanization’. It is not only the beneficiary of city administrations and the market’s management practices and civic paternalism (Lara et al., 2016). In other words, the right to the city is a moral claim based on fundamental justice principles (Glasmeier & Christopherson, 2015) and it is a direct challenge to urban capitalisms

and neoliberalism's inequities and injustices (Kitchin, 2015). Acknowledging the concept of the right to the city in perspective; thus, also defining 'Right to smart cities', several researchers have argued that the inhabitants must be able to identify priorities, strategies and goals for the smart city strategy and be considered actors at the center of the implementation and benefits of the smart city projects (Albino et al., 2015a; Cardullo & Kitchin, 2019; Das, 2020; Kitchin et al., 2019). Therefore, making it curtail to understand the role of inhabitants in making smart cities, understanding inhabitants 'right to the smart city' can act as a defining link in connecting the smart cities and the public participation of inhabitants in making smart cities.

The city's metabolism is often composed of the input of products followed by the output of garbage, with consistent negative externalities exacerbating social and economic issues (Albino et al., 2015b) and relies extremely on external resources and consumers (EEA, 2015). As a result, promoting sustainability has become a top priority for cities worldwide. The primary argument is that 'smarter ways' are needed to overcome ecological, demographical, economic, and geographical concerns (Hollands, 2015). We need better solutions to help us construct sustainable cities as the population grows and urbanization accelerates (Mangunson, 2018). Cities worldwide are looking for solutions that will allow for transit linkages, mixed land uses, and high-quality urban services with long-term economic benefits (Heddebaut & di Ciommo, 2018). Many of the innovative approaches to urban services are centered on leveraging technologies driven by Information communication and technology (ICT), on helping build what some refer to as "smart cities" (Albino et al., 2015b). Urban development led by application of ICT's has emerged as an important discourse concerning a city's future growth, efficiency, and prosperity (Hollands, 2015). Countries, states, and cities are developing "smart cities" (Lim et al., 2018). Here, "smart" refers to forward-looking attitudes, including awareness and independence (Alonso & Castro, 2016). As a concept, smart cities reflect a digital shift in urban development (Datta, 2018; Wiig & Wyly, 2016). The notion of being smart is being inculcated in the cities by redefining them as a place where various stakeholders use technology and data to make better decisions and improve their quality of life (ITU-T, 2014). Data can help city agencies respond more quickly to changing circumstances and prepare more effectively for the future. Better-informed businesses and individuals can make decisions that result in the city's resources being used more efficiently (Alldredge et al., 2016). With the goal of 'optimizing' cities through digital solutions provided by technology companies and supported by management consultants (Trencher, 2019).

2.1.2 Smart city definition

There are numerous definitions of smart cities. By substituting different adjectives for ‘smart’, such as ‘intelligent’ or ‘digital,’ a variety of conceptual alternatives might be generated. The term ‘smart city’ is a vague idea applied in various ways (Albino et al., 2015). There is no one-size-fits-all description or blueprint for framing a smart city (O’Grady & O’Hare, 2012). The term stems from the 1990s “smart development” movement, which promoted community-driven solutions to urban problems (Nam & Pardo, 2011). The term “smart city” was coined recently to describe recent breakthroughs in information and communication technologies (ICTs) and their integration into urban areas, particularly in the delivery of public services (Albino et al., 2015b).

A smart city is perceived as one in which new data sources and analytical processes are utilized to automate and influence public service and policy delivery, resulting in improved performance, lower costs, and longer-term sustainability (Przeybilovicz et al., 2022). The technology-driven approach is dominant, and a smart city is characterized as a high-tech metropolis that links people, information, and services (Mora, 2020). Kitchin et al. (2019) describe that the smart city appeared from concepts such as ‘wired cities’ and ‘cyber cities’ in the late 1990s to ‘computable cities’ and ‘networked cities.’ For example, wired cities refer to laying down cable and connectivity (Dutton, 1987). Digital cities imply virtual reconstructions of cities, and knowledge-based cities often focus on the relationship between universities and academic knowledge and their links to the business world (Hollands, 2008b). These concepts may not only depend on ICT infrastructure (Hollands, 2015). The term ‘smart city’ is commonly interchanged with terms like ‘digital’ or ‘intelligent’, and the notion is defined in various ways (Kourtit & Nijkamp, 2012; Moura & de Abreu e Silva, 2021). In the early 2000s, (Hall et al., 2000) proposed a definition of the smart city as a city that monitors and integrates the conditions of all its critical infrastructures, such as roads, bridges, tunnels, rails, subways, airports, seaports, communications, water, power, and even major buildings, to optimize resources better, plan preventive maintenance activities, and monitor security aspects while maximizing services to its residences. “Smart cities,” according to (Giffinger, 2007), are cities that perform well in various areas, including government, people, mobility (technology), economics, environment, and lifestyle. They also include the actions of knowledgeable and self-sufficient inhabitants. The three main components of this complex interaction, which encompasses various parties (Meijer & Bolívar, 2016) and behaviors, are technological, institutional (governmental), and human elements (Nam & Pardo, 2011). Nam and Pardo (2011) looked at the many definitions of the term “smart” in the context of smart cities. According to them, smartness is a more user-

friendly concept in marketing than the more elitist term “intelligent,” which is often confined to fast thinking and attentive to input (Nam & Pardo, 2011).

In a corporate article for IBM, Harrison et al. (2010) defined a “smart city” as an “instrumented, networked, and intelligent metropolis”. The capability of recording and integrating live real-world data through sensors, meters, appliances, personal gadgets, and other comparable sensors is referred to as “instrumented”, “instrumented” refers to incorporating this data into a computing platform that allows information to be shared throughout city agencies. Here ‘intelligent’ refers to complicated analytics, modelling, optimization, and visualization services (Harrison, 2014). For corporations like IBM, Cisco Systems, and Siemens AG, the technology component is critical to their ideas of smart cities (Hall et al., 2000). However, some researchers argue that the corporate-designed cities such as Songdo (Korea), Masdar City (UAE), and PlanIT Valley (Portugal), according to (Greenfield, 2013), abandon genuine knowledge about how cities work and depict ‘empty’ environments that neglect the significance of complexity, unanticipated situations, and mixed uses of urban areas. Although, several authors have demonstrated through their research that technology may be utilized to empower its inhabitants in cities by adapting technologies to their needs rather than their lives to technological demands (Kitchin, 2015; Vanolo, 2016).

In their attempt to present a holistic definition, (Caragliu et al., 2011) propose that the smart city needs investments in human and social capital with modern ICT infrastructure, propelling sustainable economic development and improving quality of life with sustainable resource use through a participatory approach, and propelling sustainable economic development and improving quality of life with sustainable resource use through a participatory approach. Similarly,(Kitchin, 2015) defines smart cities as “cities that can be monitored, managed, and regulated in real-time using ICT infrastructure and ubiquitous computing to enable efficient control of urban utilities and services, enforcement of public safety and security, and effective response to economic and environmental shocks” from an urban management perspective. The use of technology to solve concerns linked to the quality of life, as well as the dominance of ICT, which grew out of the concept of the information city, are common threads running through these many definitions of a smart city (Praharaj & Han, 2019).The phrase “smart city” is frequently used in urban planning as an ideological dimension, according to which becoming smarter involves strategic directions (Sureshchandra & Bhavsar, 2016).

Governments and public agencies use the term “smart” to describe policies and initiatives to achieve sustainable development, economic growth, improved quality of life, and happiness

(Ballas, 2013). Various national governments have differently defined concepts of smart cities. European commission defines smart cities as cities where traditional networks and services are made more efficient with digital solutions for their inhabitants and business (European Commission, 2014). International Telecommunication Union in 2014 defined smart cities as innovative city that uses Information and Communication Technologies (ICT) and other means to improve quality of life, the efficiency of urban operation and services, and competitiveness while ensuring that it meets the needs of present and future generations concerning economic, social, and environmental aspects (ITU-T, 2014). The World Bank defines smart cities as a city that cultivates a better relationship between city inhabitants and governments - leveraged by available technology. They rely on feedback from the public to help improve service delivery and create mechanisms to gather this information (The World Bank, 2015). The government of the UK defines smart cities as a place that incorporate a range of technologies (especially those that collect and use data) to address economic, social, and environmental challenges (Gov. UK, 2021). Nonphysical characteristics like the environment and governance and physical features like municipal infrastructure have lately been included in the smart city concept (Lee & Kin, 2018). UN-Habitat defines smart cities as the cities that use digital ICT-based and other innovative solutions to improve the efficiency of urban services and generate new economic opportunities delivering a better quality of life to the inhabitants in the cities sustainably (UN-Habitat, 2020).

The label “smart city” is a fuzzy concept used in ways that are not always consistent. There is neither a single template for framing a smart city nor a one-size-fits-all definition of it (O’Grady and O’Hare, 2012). Experts and institutions have different opinions on what smart cities are, what they should look like, or where they should be? (Albino et al., 2015b; Nam & Pardo, 2011; Simonofski et al., 2017). There is no collective agreement on the definition of smart cities because corporate agencies, governments, and implementation institutes have a corporate ethos and are frequent rivals in selling various products or services (Kitchin, 2015). Kitchin claims that a lack of comprehensive genealogy and one-size-fits-all examples are the key causes for the smart city agenda’s failure to make sense (Kitchin, 2015). A blanket framework can never be successful in a complex urban setting where each city has its issues and complexities. Therefore, it needs to give way to context-based and community-owned approaches that do not necessarily supply a universal formula for success (Ghosh, 2019). As a result, the phrase “smart city” is ambiguous and inconsistent (Albino et al., 2015).

In conclusion, based on the various definitions put forward by various researchers and organizations, one can conclude some common characteristics of smart cities. Smart cities as

a product of a bottom-up process that involves, integrates, and utilizes human capital to improve the efficiency of urban services and generate new economic opportunities, delivering a better quality of life to city inhabitants sustainably using digital-ICT-based and other innovative technologies.

2.1.3 Views on smart cities

This section caters to various debates and perspectives regarding smart cities as a concept. Understanding views on both sides of the coin can help us understand the concept holistically. The smart city, which consists of the use of networked infrastructures, ICT to improve economic and political efficiency and enable socio, cultural, and urban development" (Hollands, 2008), has been projected as a solution to problems related to rapid urbanization and a way to achieve sustainable development, despite several arguments offered by proponents and opponents (Datta, 2015). Advocates of smart cities have projected smart technologies as vehicles to elevate cities to a new level (Kummitha & Crutzen, 2017). The result is that national and city governments and agencies in the global north and global south have already advanced toward creating ICT-backed smart cities (Hollands, 2008b, 2015; Slavova, 2017). (Calzada & Cobo, 2015) compare smart cities to hyper-connected societies, in which information and communication technologies (ICTs) are seen as a critical infrastructural part of converting cities into smart cities. It is stated that government services can be offered to all its inhabitants via ICTs, ensuring that every potential benefit is included in service provision since technology helps lessen the burden of reaching out to individuals (Caragliu, Del Bo, & Nijkamp, 2011). Smart cities are "intelligent, efficient, accommodating, dependable, and secure, all while lowering global warming and incorporating autonomous system maintenance with a consumer emphasis that aims at energy use suited to individual requirements," according to supporters (Richter et al., 2015).

While it is true that technological advancements have stimulated knowledge and improved ways of developing, disseminating, and storing information, seeing it as an objective to achieve a more holistic social order reduces it to a simple ideological conviction (Datta, 2015). The critics have razed major objections, with some even challenging the smart city's underlying premise, functioning, and real contribution. Critics of smart cities argue that ICTs alone would not contribute to achieving the desired improvements in living standards, and there exists a need for enhancing human capital and other forms of skill development among the inhabitants (Neirotti et al., 2014). It is argued that an ICT-backed approach may give rise to issues such as panoptic surveillance, technocratic and corporate forms of governance, technological lock-ins, profiling and social categorization, anticipatory governance, control

creep, the hollowing out of state-provided services, widening inequalities and dispossession of land and livelihoods (Das, 2020; Greenfield, 2013; Kitchin, 2015)

These issues have profound consequences concerning the form and nature of city administration and public freedoms and reveal the concept of a smart city far from apolitical and non-ideological (Yang & Rajabifard, 2019). Realities observable in cities that self-identify as smart have fueled such criticism. For example, Masdar in Abu Dhabi, a well-known smart city, is described by (Cugurullo, 2018) as having "little space for the social components of sustainable development and the basic social dimension of the city." As a result, smart cities have succeeded in concealing rather than exposing answers to greater social justice and sustainability (Calzada, 2018). Critics argue that smart solutions do not address the needs of poor and marginalized inhabitants (Das, 2020; Datta, 2015; Vanolo, 2013; Watson, 2014). By catering primarily to middle and high-income groups, smart solutions can thus worsen social and economic inequalities (Das, 2020; Willis, 2019). The smart city concept has been criticized for how it: frames cities as systems rather than places; takes a technological solutionist approach; enacts technocratic forms of governance and reshapes governmentality; promotes corporatization and privatization of city services; prioritizes the values and investments of vested interests; reinforces inequalities; and generates several ethical concerns relating to surveillance, predictive profiling, and social media (Datta, 2015; Greenfield, 2013; Hollands, 2008; Kitchin, 2014; Vanolo, 2014).

The critical literature on the notion of smart cities argues that cities should address deep-rooted patterns of social inequality, economic disparity, education, employment, and exclusion, among other things (Shaw & Graham, 2017). (Basu, 2018a; Caragliu et al., 2011) have expressed similar concerns about whether smart cities are more inclusivity. Or do they worsen exclusion in the name of smart city development? (Kummitha, 2020). Willis (2019) counters this argument by suggesting paying more attention to initiatives using digital technology and data to help marginalized individuals meet their needs. It is suggested that such acknowledgement will allow marginalized persons to be included in the smart city (Willis, 2019).

Smart city aspirations are linked to investments in 'human capital' (Caragliu et al., 2011; Neirotti et al., 2014) and inputs from self-determined, autonomous, and knowledgeable inhabitants in a broader neoliberal environment (Lara et al., 2016). Smart urbanism, based on neoliberalism, positions inhabitants as consumers of marketized services (Cardullo & Kitchin, 2019). Inhabitants are given added tasks in smart cities, such as serving as sensing nodes that provide big data to control centres (Vanolo, 2016). The smart city is the technological interpretation of 'neoliberal-infused new urban visions', including 'sustainable cities', 'resilient

cities' and 'green cities (Kitchin, 2015). The notion is based on the neoliberal re-visioning of municipal managerialism, the rise of urban entrepreneurship in the 80s and 90s, and the terms "smart growth" and "new urbanism" (Hollands, 2008a; Kitchin, 2015). (March & Ribera-Fumaz, 2016) argue that the smart city is becoming a frontier for capital accumulation and circulation. Inhabitants' talents and ideas created at the grassroots are marginalized by smart imaginaries (Calzada, 2018). The diffusion of new local governance models based upon privatization and public-private partnerships, the exposure of municipalities to global competition, and the mobilization of an entrepreneurial ethos and discourse are among the most important traits of this neo-liberalization" process" (Brenner & Theodore, 2002)

Holland accuses smart cities of torchbearers of the neo-liberal agenda. In his defense, he argues that smart cities are increasing calls for technological solutions, even when something vastly different is needed (Hollands, 2015). He further stresses that business-led development of smart cities leads to a "corporate vision of "smartness" (Hollands, 2015) and the priority's economic logic over political and social issues. The technologies used for achieving transition are typically envisioned by corporate firms that push them ubiquitously into cities. Such corporate visioning has received sharp criticism in the literature (Kummitha & Crutzen, 2017; Datta, 2015). Here, profit-seeking drives urban development risks: "like businesses, cities also have to be resilient and generate revenues" (Acuto & Rayner, 2016). Thus, the impact of the smart city is often expressed in monetary terms: "A smarter' country is worth up to 10 points in GDP annually" (ABB, 2012). (Kummitha & Crutzen, 2017; Mora, 2020) highlight the case of India, where despite India's national government initially offering about EUR 6.5 million to each smart city under its plan to create and promote 100 smart cities, the overall aim is to attract private firms to invest and help city-level governments withdraw from urban development. As a result, there is criticism in the literature that the corporate-driven technology visioning of smart cities fails to meet the growing needs of cities. The major issue with the corporate-driven approach is that corporate firms, driven by their profit motives, approach cities to sell the same technologies they developed for different cities; this neglect of local realities raise questions about technological affordances (Kitchin, 2014).

Scholars argue that "smartness" should shift from technology to people (Capdevila & Zarlenga, 2015; Vanolo, 2016). Rather than seeing cities as "sets of behaviors and transactions that can be managed using existing sciences and technology" (Schindler & Marvin, 2018), "people-centered" smart city designs aim to tap into people's "collective intelligence" and diverse knowledge (Gabrys, 2014; Saunders & Baeck, 2015; Trencher, 2018). Cities must create smart city programs, decide how to use, expand their ICT infrastructure, and best monetize their assets using these assistance and technical alternatives. The ultimate purpose of

developing a smart city is to improve inhabitants' quality of life. Thus, coordinating these activities with them is a major difficulty. Smart cities have failed to meet their goals far too frequently because smart city agendas failed to include their inhabitants in formulating the agenda, or the impact on their everyday lives was not addressed (Dameri & Sabroux, 2014).

There is a wide range of research on smart cities in the global north, but in the global south, it is barely starting up (Datta & Odendaal, 2019). This is surprising, given that the global south has adopted smart cities quicker than the West, with India, China, Korea, Saudi Arabia, and other nations among the top "consumers" of the global smart city industry (Woetzel & Kuznetsova, 2018). More crucially, while smart cities aim to use digital technologies to revolutionize cities' social, economic, and political existence, urban planning theory has largely ignored this "digital turn" and the "role of its inhabitants" in the global south. This is a significant gap which this paper seeks to address using the case of India's national 100 smart cities program (Datta, 2018). The processes by which smart cities are designed, built and accepted are now widely acknowledged as diverse, contextual, and frequently conflicting. Scholarly work on smart cities, on the other hand, is dominated by a "one-size-fits-all" critique, in which broader theoretical arguments are understood to "reveal the discursive and material reality of really existing smart city developments" (Kitchin, 2015). According to (Luque-Ayala & Marvin, 2015), there is a need to investigate the contradictions of smart urbanization, its various manifestations in the global North and South, and the potential for more oppositional, contested forms of knowledge and subjectivity to emerge from these circumstances.

To summarize, smart cities typically ride on technological development and promise to improve the quality of life and bring economic development to the cities. In practice, most smart cities rely on the vendors' push for technological solutions rather than the others (Komninos, 2009; O'Grady & O'Hare, 2012). Most of the debates and ideas are formulated around the use of ICT. "Smart cities" are closely related to "smart buildings" and "smart devices", but neither cities, buildings, nor devices are smart in themselves. The whole concept relies on the smartness of the city administration, politicians, and inhabitants to use technology in "smart" ways (Berntzen & Johannessen, 2016) but still do not recognize its beneficiaries' capacity. An alternative public-centric perspective points to a city where inhabitants, workers and service consumers are protagonists who shape the city through continuous interactions and activity (Caragliu et al., 2011; Neirotti et al., 2014; Albino, Berardi, & Dangelico, 2015). However, the public is seen as a major player in both viewpoints, though to varying degrees of emphasis, and new ICTs are considered a critical transformative medium. The discussion over public engagement in smart city efforts, on the other hand, continues to be polarized.

On the one hand, there is a consensus that using ICTs improves public involvement, empowers its inhabitants, and eases city development (Deakin & Leydesdorff, 2013; Meijer & Bolívar, 2016; Mora, 2020). Smart' narratives,' on the other hand, are seen as part of a neoliberal agenda that reduces its inhabitants to mere consumers of advanced digital solutions (Cardullo & Kitchin, 2019; Greenfield, 2013; Hollands, 2015). This disagreement highlights the necessity for a comprehensive, scientifically based knowledge of public behavior. This divergence of opinion points to a need for a robust, empirically driven understanding of the nature of public engagement and how these roles unfold within different local contexts (Cardullo & Kitchin, 2019; Granier & Kudo, 2016).

2.2 Public Participation

The following section will shed some light on the concept of public participation. It will highlight some of the definitions, concepts, and workings of the public participation process. It will also emphasize what consists of the public and how the power structure works in the public participation initiatives.

2.2.1 Introduction

Top-down decision-making approach has shown its incompetence in most democracies, as public become more demanding and aware of their rights (Jurczak & Cent, 2011). The gap between public aspirations and government politics, which has led to various social movements and has demolished the trust in public institutions (Bishop & Davis, 2002). Over the last decade, participatory development has shifted from the margins to the mainstream. 'Participation' has become trendy in the continuous debate on the quality of life in modern society (OECD, 2001). Incorporated across the political and institutional spectrum, public participation can be a potent means to achieve key democratic values such as legitimacy, justice, and effectiveness in governance (Fung, 2015). The shift in participation discourses beyond beneficiary participation and the project's focus to embrace wider questions of citizenship and voice (Delli Carpini et al., 2004) parallel the focus in recent political science on the worldwide erosion of public trust in representative politics. Fung argues that carefully crafted participation can be an effective means to accomplish the values of good governance (Fung, 2015). A very definition of Democracy in governance decision making is appropriated as public participation (Irvin & Stansbury, 2004). It is a legal requirement for governmental decision-making in the countries of Global North as well as in many countries of the Global South. Pimbert and Wakefor argue that "Democracy without public deliberation and

participation is ultimately an empty and meaningless concept" (Pimbert and Wakeford, 2001). Those public who is often excluded from government's decision-making process and are only considered as elections voters, can act also as experts and information providers for their communities (Delli Carpini et al., 2004) therefore public participation in various forms has become a mantra for good governance, promoting accountability and transparency a key factor to effective public sector service delivery (OECD, 2001). As pointed out by several researchers and institutes public engagement not just makes inhabitants aware of the development but also improves

- Quality of decisions making
- Minimizing implementation cost and delay
- Consensus building
- Increase ease of implementation
- Avoiding worst-case confrontations and clashes between community and authorities
- Maintaining credibility and legitimacy
- Anticipating public concerns and attitudes- sensitizing authority's attitude
- Developing civil society and social capital – capacity building

Source: International Association for Public Participation (IAP2). Copyright © 2000
Given the underlined benefits and positive dimensions of public participation as a process to achieve a more holistic and sustainable decision and outcome, it becomes important to understand the concept holistically.

2.2.2 Definition of Public participation

What does 'Public Participation' really mean? Is it just the exchange of comments when the decisions are made, and only particular group of people have a chance to participate? or can agencies or authorities make decisions only when the public agrees with the agency's proposed action? Or is it just authorities informing inhabitants about the development in the neighborhood? Public participation involves power redistribution so that individuals have a choice to engage in the value chain of public services (Arnstein, 1969). Various academic scholars and agencies define public participation in various forms. (Nabatchi & Amsler, 2014), defines public participation as an umbrella term that describes the activities by which people's concerns, needs, interests, and values are incorporated into decisions and actions on public matters and issues (Nabatchi et al., 2015)

The first scientific research on public participation in public decision-making started in the late 1960s - a period marked by urban struggles and students' movements from which came the first demands for "participatory democracy" (Blondiaux & Fourniau, 2011). Arnstein (1969) formulated a Ladder of Public Participation and has tried to define public participation. Arnstein 1960's ladder for participation starts from ‘manipulation’ to ‘citizen control’, where each level corresponds with the extent to which inhabitants can determine the outcome of the process. Arnstein defines it as 'Public Participation is Citizen Power'; it is the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future. It is the strategy by which the have-nots join in determining how information is shared, goals and policies are set, tax resources are allocated, programs are operated, and benefits like contracts and patronage are parceled out. In short, it is how they can induce significant social reform which enables them to share in the benefits of the affluent society (Arnstein, 1969). However, it can take a "tokenism" form of being just a consultation directed by public administrations to allow public to hear and have a voice (Arnstein, 1969). Arnstein was aware of her ladder's non-universality and cautioned fellow planners about its inability to incorporate significant ‘roadblocks’ in achieving meaningful participation, such as paternalism and resistance of power holders and social, political, and psychological factors related to low-income communities (Arnstein, 1969). Andre (2006) defines public participation as a process in which ordinary people take part – whether on a voluntary or obligatory basis and whether acting alone or as part of a group – to influence a decision involving significant choices that will affect their community. (Creighton, 2005), defines public participation as to how public concerns, needs, and values are incorporated into governmental and corporate decision making. It is two-way communication and interaction, with the overall goal of better decisions supported by the public. (Fung, 2015) defines public participation as methods of communication by public in decision making and intended influence can be thought of as the independent variables that democratic architects manipulate to achieve more desirable outcomes. According to (Irvin & Stansbury, 2004), public participation in the decision-making process has many advantages like educational benefits for inhabitants and a better understanding of community expectations by administrators, political suasion, public empowerment and avoiding litigation costs.

The United Nations defines public participation as the involvement of public in a wide range of policymaking activities, including the determination of levels of service, budget priorities, and the acceptability of physical construction projects to orient government programs toward community needs, build public support, and encourage a sense of cohesiveness within neighborhoods (UN-DESA, 2008). Therefore, one can conclude participation is a process by

which the beneficiaries influence the direction and execution of a development program to enhance prosperity in terms of income, personal growth, self-reliance, or other values that they cherish.

Looking at these definitions the most common trends in public participation include at least these elements:

a. Public participation applies to administrative and policy decisions, not elected officials or judges, typically made by agencies.
b. Public participation - is not information providing process. It is a two-way interaction between the organization making the decision and the people and stakeholders who want to participate.
c. Public participation is a structured process that involves the public and agencies.
d. Public participation processes are held to impact the decisions that will affect the community directly or indirectly.

For the sake of this research, I will be referring to the definition defined by the international association for public participation (IAP2). It defines public participation by defining seven core values of public participation.

1. The public should have a say in decisions about actions that affect their lives.
2. Public participation includes the promise that the public's contribution will influence the decision.
3. The public participation process communicates the interests and meets the process needs of all participants.
4. The public participation process seeks out and facilitates the involvement of those potentially affected.
5. The public participation process involves participants in defining how they participate.
6. The public participation process provides participants with the information they need to participate in a meaningful way.
7. The public participation process communicates to participants how their input affected the decision (IAP2, 2000).

2.2.3 Inclusive public participation

Here the question remains. Why should someone participate? Who get to participate in the public participation process? What does public mean?

According to research, public engagement supports various levels of interaction between government and cities inhabitants, ranging from antagonistic to constructive (Nabatchi, 2012a, 2012b). Although many researchers and practitioners characterize public involvement as adversarial and conflict-provoking, it is disputed whether such procedures are intentionally antagonistic or yield adversarial outcomes because of process design (Stephens & Berner, 2011). People may take part in participation initiatives because they have volunteered to do so or because they have been invited, urged, or pressured. Participation may be motivated by collective experiences of repression or exclusion, by altruistic motives associated with seeking service improvements for others or the wish to develop skills and self-confidence (Fung, 2015). The reasons for participation may affect the perceived legitimacy of contributions. Different forms of participation create very different circumstances and opportunities for people to take part. The question of who participates cannot be answered purely based on personal motivation; it is also necessary to comprehend the power dynamics within every initiative. As a result, it is even more important to know who is the public? Policymakers frequently describe public involvement as implementing 'community values into local decision-making' (Abelson, 2006). However, terms like 'community' and 'public' are frequently imprecise (Coenwall, 2016). The terms 'public', 'community', and 'civil society' are frequently used to refer to a single, homogeneous group of individuals (Brandsen et al., 2018); public participation requires some representation or mandate-giving (Contandriopoulos, 2004).

The 'Public', as defined by planning researchers and practitioners, is a group of inhabitants who focus on engagement processes by governmental (Levenda et al., 2020). While conventional approaches acknowledge the existence of several groups that make up a public, the term 'the public' is frequently employed as empty rhetoric to mislead inhabitants that decisions are decided through public input and participation (Levenda et al., 2020). Academics question which brings together and defines a heterogeneous group of people and how these classifications become accepted (Bai et al., 2010; Barnes et al., 2003; Watson, 2013; Williamson & Ruming, 2020) Within both policy and scholarly debates, terminology like 'the public,' 'civil society,' and 'community' are frequently used interchangeably to refer to 'ordinary people' as a group distinct from officials and professionals (Glimmerveen et al., 2022). While policymakers frequently portray public participation as a helpful democratizing counterweight to decision makers (Harrison, 2014), research shows that critical voices within participatory

initiatives are frequently marginalized, risking public participation's potential as a countervailing power (Barnes et al., 2003). Public service organizations prefer to identify whom they deem ‘suitable’ participants and what they regard as the "correct" scope of their engagement through participation arranged by institutes- state or non-governmental (Coenwall, 2016; Glimmerveen et al., 2022). Moreover, inhabitants may also be unable or unwilling to participate, especially when doubtful about whether their participation makes a difference.

A few factors are the experience of corruption, unresponsive behavior of the authorities, biasedness, difficulties in getting the right compassions, or lack of multiple channels of feedback as not every public may be comfortable or available in the singular channel of participation (Abelson, 2006; Coenwall, 2016; Fung, 2015). As a result, participatory initiatives tend to attract ‘archetypally 'active' participants’ (Martin, 2008), characterized by a willingness to participate as partners rather than as critical challengers (Croft et al., 2016). Existing studies show that public participation initiatives often exclude inhabitants who take a more negative stance, which may not fit the agenda of the policymakers (McConnell & ’t Hart, 2019; Parvin, 2018). Often the organizational institutional authorities tend to exclude or include certain group of people based on the level of knowledge, capacity to participate, their social status or political reasons, even though the whole society or community might be motivated to contribute and participate (McConnell & ’t Hart, 2019). It is worth mentioning that it is also pointed out by some authors that sometime just willingness of the participants in is not enough one might select only those with a certain level of knowledge or experience of an issue. Moreover, more than one criterion might be applied, so that participants had not only to be interested but also knowledgeable to qualify for selection (Bharti et al., 2021). Although it does not mean that every decision should be left in the hands of the experts or the people who has certain knowledge in the issues.

(Creighton, 2005) points out the common argument many authorities present that the idea behind leaving things to the experts because they are better at determining what is best for society since the problem is complex, the public will be unable to solve it. As a result, the question is posed in most government organizations, "Why should the public be involved in technical decisions?" The public is not required to participate in technical choices, although agencies make numerous judgments that they feel are techniques but are not. Experts cannot make choices without putting a value on competing ideals that society considers good. Even if they involve a great deal of technical information, decisions about what level of health or safety risk is "acceptable," how much it is "reasonable" to pay to protect an environmental resource, or how costs should be distributed among various classes of people are not technical decisions. The information can always be provided, and the capacity is always

developed. These are moral or philosophical judgments (Creighton, 2005). Therefore, academic research scholars have cast doubt on the democratic intentions behind participatory efforts, highlighting organizational actors' deliberate co-optation of inhabitants instead of advancing their positions (Bharti et al., 2021)

Moreover, there are issues with the willingness to participate. (Hügel & Davies, 2020) cautions that community participation has not yet translated into a "revolution in practice". (Bobbio, 2019; Burton, 2009) points out that some may not be interested in participating in a particular debate, feeling that it is of no great consequence to their lives, while others may feel they know so little about an issue that their contribution to any public debate would be worthless. In developing countries, public motivations and participation in planning projects are significantly low (Bobbio, 2019). (Coenwall, 2016) claims that the meaning and implications of participation are poorly understood and agreed upon, to the extent that there is uncertainty even about the conditions that guarantee participation. (Mohammadi & Ahmad, 2010) proposes that a relationship between the general lack of interest and motivation to participate and that very few people are likely to possess specific skills required to engage in effective participation. In the resulting situation, the public seems to become increasingly dissatisfied with the process and output of planning which may lead to the rejection or declination in the participatory process (Watson, 2013). Academic researchers point out in many cities of global south participatory interventions are biased towards inviting the middle and upper-middle classes (Carvalho et al., 2013). They were blighted by elite capture (Chattopadhyay, 2015; Hoyt et al., 2005), under which the middle and upper middle classes consolidate their advantages in service delivery. These classes may also use their voice, empowered through participatory governance, to vilify the poor residing in informal settlements as threats to urban development (Chattopadhyay, 2015; Zérah, 2009). There were also cases where women and youth were not allowed or were forced to agree to certain decision by the male head of the family or powerful in the society (Datta, 2018). Hence, it is very important to understand the power structure to bring out the best from the public participation process.

To summarize one need to understand

1. The concept of "public" is "plural", and hence it is important to involve various factors and stakeholders who are going to be affected by the decision.
2. Public is sometimes uninformed of, indifferent to, or unwilling to engage in formal participatory planning events, and they rely on their own social and political networks in many circumstances.
3. Many individuals in developing nations, such as Bangladesh (Swapan, 2016), are often disempowered due to low socioeconomic situations. Low levels of public awareness

are exacerbated by poor communication channels, insufficient information distribution methods, and a lack of technical understanding. As a result, a person either rejects or ignores the idea of participating in community participation activities.

4. It is also understood that corruption in planning agencies and alienation of inhabitants in the planning process degrade the planning agency's reputation and destroy confidence.
5. The elites in the society who may have easy access to the decision making due to their social and political connection may not always act in favour of the entire community. They hence can manipulate the decision making and disturb the status quo.
6. Inhabitants who are strongly associated with community representatives, e.g., political/community leaders or elite organizations, typically see community leaders' engagement as adequate representation. Hence, they have felt no need to exercise their right to participate.

2.3 Public Participation in making of Smart cities

Lefebvre (1968) describes that the right to the city is far more than a right of individual access to the city's resources: it is a right to change ourselves by changing the city more after our heart's desire. It is, moreover, a collective rather than an individual right since changing the city inevitably depends upon the exercise of collective power over urbanization processes. The right to participation and appropriation are implied in the 'right to the city' (Lefebvere, 1996). (Harvey, 2017) argues that the freedom to make and remake ourselves and our cities is one of the most precious yet most neglected of our human rights. Therefore, we cannot separate 'the right to habitation' from the 'right to participation': The right of all city dwellers to fully enjoy urban life with all its services and advantages - the right to habitation - as well as taking direct part in the management of cities' (Giffinger, 2007). The similar applies to the smart cities, where inhabitants have right to understand the development of the city and it 'smart 'initiative (Kitchin, 2019)

Though, research by various authors such as (Kitchin, 2015; Luque-Ayala & Marvin, 2015; Rose & Willis, 2019) have critiqued the technologically deterministic language of smart cities, it tends to focus on ICT solutions that are applied top-down (Willis, 2019). Kitchin (2019), in their research on Dublin's smart city, found that inhabitants most often occupy non-participatory consumers. The inhabitants are framed within political discourses of stewardship, technocracy, paternalism, and the market rather than actively engaged participants where smart city initiatives are conceived regarding rights, social conscience, the public good, and

the urban commons. Inhabitants can browse, consume, and act; they must be guided, pushed, and controlled. If there is civic engagement, it takes the form of a player who offers feedback or recommendations rather than being a proposer, cocreator, decision-maker, or leader. This person is known as a participant, tester, or citizen, thus shadowing the inhabitant's right to the smart city (Cardullo & Kitchin, 2019; Kitchin, 2015; Kitchin et al., 2019).

At a time when voices are increasingly raised on how the techno-centric, top-down smart city vision is flawed and cannot deliver the civic or economic benefits promised, partly also because it is driven by large corporations not attuned to the "messy, disruptive way people use technology" (Arafah & Winarso, 2017). Revisiting the work of various authors redefining the inhabitant's 'right to the smart city' e.g.; (Cardullo & Kitchin, 2019; Leclercq & Rijshouwer, 2022a; Willis, 2019) drawn on the lines of Lefebvre's radical concept on the right to the city to achieve a new form of urban governance that moves beyond both capitalism and the state seems appropriate. It is important to understand how the public could participate in making a smart city and become part of the decision-making? Moreover, what role can the public play in making smart cities?

Smart cities have generated much buzz and have also got financial backing based on the notion that smart city projects create new linkages between public and urban administration mechanisms. Many smart city projects are justified by rhetoric that portrays urban concerns as urgent and growing "problems" that must be addressed. Given that many smart city plans have core goals of equity, inclusion, and transparency, in addition to sustainability and efficiency, it is important to consider how or why changes to public participation can be realized (Ghose & Johnson, 2020; Johnson et al., 2020). Researchers and institutions acknowledge that the public can play essential role in making of smart cities and argues that the notion of empowerment of public and "democratization" of innovation should be added to this definition of the smart cities (Hutchison & Mitchell, 2011; Zhang et al., 2014). (Simonofski et al., 2017); suggest that Cities must create smart city programs, decide how to use, and expand their ICT infrastructure, and best use their assets with this aid and the multiplicity of technical options; however, to do so, a key challenge in coordination with the inhabitants. Because the fundamental goal of a smart city is to improve inhabitant's quality of life and bring economic prosperity to its inhabitants- public engagement becomes an essential aspect of developing a smart city project. Inhabitants have the right to understand how and what data is generated about them. Public are placed in an age of big data and data-driven urbanism (Shaw & Graham, 2017). All within a framework that guarantees transparency concerning how these data are compiled into information and the uses to which they are put, and thus can challenge

reconfigure those uses (Shaw & Graham, 2017). Researchers has pointed out that the Smart cities have often did not achieve their goals and make a groundbreaking impact on the ground because inhabitants were not sufficiently included in their definition or the influence on their everyday lives was not recognized was denied their right over their own urban area development (Tadili & Fasly, 2019). Datta argues that the smart cities agendas rarely address the social differences in the society in an already complex setup of the cities (Datta, 2018).

Smart city initiatives, according to one side of the argument, allow individuals to take part in municipal government and management and become active participants in the implementation of sustainable urban solutions using ICTs (Caragliu et al., 2011; Castelnovo et al., 2016; Deakin & Leydesdorff, 2013). In this perspective, public is more than people; they are communities, inhabitants, and social groupings with specific interests and requirements within the city environment (Nam & Pardo, 2011). People and communities are city components that need responsive smart city efforts that balance the requirements of many stakeholders. According to smart city researchers, ICT-driven approaches to public engagement can reach a wide range of stakeholders and involve inhabitants and stakeholders in better decision-making (Vanolo, 2016). Cities can be thought of as local social information infrastructure that provides inhabitants with information about the 'actual' city. Smart technology and systems provide new modalities of citizenship in a model of civic engagement and involvement (Willis, 2019). There is a substantial discussion about whether these new digital forms of governance and engagement achieve the active level of participation they promise or are just as constrained in their approach as conventional governance models (Willis & Aurigi, 2017). It is suggested that ICT-mediated governance and policy-making processes are essential for disseminating smart city ideas to people while also ensuring transparency in decision-making and execution.

However, there is another perspective which contest the ideas and are skeptical of public empowerment narratives in smart city program, for instance (Greenfield, 2013; Hollands, 2015; Mora, 2020). These researchers emphasize the need to understand technology narratives as part of a neoliberal strategy to control the city's destiny and serve corporate interests (Hollands, 2015; Vanolo, 2016). In this way smart city technologies might contribute to social and spatial injustice (Leclercq & Rijshouwer, 2022b). The underline narrative is that the withdrawal of the state from certain aspects of public life, transferring tasks and responsibilities to private actors, including (organized) inhabitants, and the growing use of digital technology (including social media) are considered opportunities to explore alternative forms of public engagement democratic participation (Leclercq & Rijshouwer, 2022b). Cardullo & Kitchin argues that the one-way flow of information, the employment of individuals as data sensors, and

imposed behavioral and lifestyle modifications are all examples of restricted civic involvement in most smart city programs (Cardullo & Kitchin, 2019). (Hollands, 2015) criticized the smart city approach based solely on the use of ICT, arguing that smart cities should begin with the people and human capital of the city: “Progressive smart cities must seriously start with people and the human capital side of the equation, rather than blindly believing that IT can automatically transform and improve cities”. Cities with a more educated population grow more quickly (Shapiro, 2005).

Other similar critics argues that by in large digital initiatives fail to address bigger issues such as a lack of technological skills, limited economic prospects, and existing democratic divides (Mossberger et al., 2003). It favors those who fit within that specific zone while eliminating those who are unable or unwilling to conform. There is limited room for anyone on the periphery of the smart city to oppose or even engage with the existing smart city. The communities concerned frequently lack the circumstances, access, and awareness of the relevance of technology for individual and collective empowerment: they lack agency (Melgaço & Willis, 2017). Cities today have evolved from being built for inhabitants to being built with inhabitants (Berntzen & Johannessen, 2016). The emphasis has shifted away from technology diffusion and toward business and economic goals. Public play a passive role in focusing on people, governance, and policy, whereas public contribute to the city as co-creators and contributors (Cohen, 2015). Initiatives like E-governance, hackathons, living labs, fab labs and maker spaces, smart urban labs, public dashboard, gamification, open datasets, and crowdsourcing and other digital modes of participation have been recommended as critical to making the smart city more people-centric and public-driven (Leleux & Webster, 2018).

Even though smart city governments and corporations are increasingly using participatory and people-centric rhetoric, researchers and activists do not believe that this has resulted in a fundamental shift in the neoliberal and surveillance nature of their projects or that this contributes to more equal and just cities (Cardullo & Kitchin, 2019; Leclercq & Rijshouwer, 2022b; Shelton & Lodato, 2019). Recent scholarship on smart cities has argued that it is a techno-utopian fantasy (Datta, 2015; Watson, 2014). A mode of governmentality (Kitchin, 2015; Vanolo, 2013) is driven by corporate interests, and it has become a smokescreen for implementing a range of cost containment measures and supporting the shift to pro-innovation public expenditures in Western contexts” (Pollio, 2016). According to Kitchin (2015), Smart cities bring together two problematic neoliberal urban ideals. First, the use of ICT will drive economic growth and urban prosperity; second, ICT may make urban governance more efficient, manageable, transparent, and therefore equitable. In response to these critiques, the

developers, promoters and deployers of smart city technologies and initiatives have sought to reposition them as being people or community centric. For example, in their marketing material, companies such as IBM and Cisco have declared that their solutions are now ‘‘citizen focused’’ (Kitchin,2019). Similarly, cities have used the terms "people-centric" or "citizen engaged" to describe their smart city efforts and programs. Kitchin (2015) argues that such a re-formulation seems to be a re-branding effort intended to silence critics or win them over while maintaining the core goals of capital accumulation and technocratic control. Such formulations frequently call for "public inclusion" or look for the "missing inhabitants," but the underlying neoliberal ethos and manner of governmentality are unaffected (Hill, 2013)

In this regard, (Engelbert et al., 2019) uses the term 'tokenism,' Arnstein (1969) to describe a situation in which inhabitants are pawns of top-down urban development and policymaking, and their participation in design process is not accompanied by any form of actual (decision-making) power or influence, when allowed to participate (Rijshouwer et al., 2022). Ghosh & Arora (2021); found no evidence that smart city projects are anchored in “civil, social, and political rights and the common good” and hence do not contribute to public active and constructive involvement in city-making in their research of smart city initiatives in new town Kolkata (India)- going against the concept if right to the city. As a result, normative approach “to rethink smart people” and smart inhabitants,’ as well as to reimagine the concept of smart cities to genuinely become 'people-centric,' (Ghosh & Arora, 2021; De Waal et al., 2017; Kitchin, 2019; Kitchin et al., 2019).

Smart city officials and technology companies argue that these data-driven policies and technologies are being developed to allow inhabitants to participate in city-making processes, potentially improving the democratic component of urban development and governance, as opposed to the traditional method of engagement, in which only small groups of people are reached and consulted and can, in many cases, do little more than provide feedback to city governments (Bria et al., 2017; Glasmeier & Christopherson, 2015; Mora, 2020). However, open data and open governance efforts alone, according to empirical research, are insufficient to welcome and promote people's democratic involvement, and they do not always lead to public empowerment and their intrinsic claim on their right to participate in urban projects (Anastasiu, 2019). At the same time access to technology and digital involvement is limited to a specific demographic, gender, or socioeconomic status especially in developing countries, Covid-19 pandemic has exposed the digital divide (UN-Habitat, 2021). According to the researchers, relying only on digital media for participation and service delivery has limited access to information and involvement for particular people, such as the urban poor, migrants, and women (Datta, 2019). This does not empower inhabitants but creates inequity in society

(Gosh & Arora, 2021; Watson, 2019). Powerful interests, rather than the interests of the disadvantaged and underprivileged, often dictate participation (Das, 2020). Institutionally enforced ‘participation’ seems to provide space for tech-savvy entrepreneurs to participate and do not seem to provide ‘ordinary’ people with an opportunity to voice and address their real and pressing needs and concerns (Engelbert et al., 2019).

In this regard, public engagement in digital matters is prone to power imbalances, lack of openness, inclusivity, transparency, and agency characteristic of governmental processes (Harvey, 2017). Watson (2015) states that smart cities destroy and neglect the current planning system and any chance of public engagement in the case of developing countries incorporating smart cities into their agendas. She points out that many developing nations have top-down, highly undemocratic urban planning systems where participation is merely for namesake. The increased urgency to adapt to smart cities has created a new rationale for limiting public participation (Watson, 2015). Rather than just perpetuating existing divides, the smart city can reinforce social inequalities, since informal or marginal populations often have limited access to existing technical and urban infrastructures (Wills, 2019). These arguments doubt the validity of participatory planning, particularly when it comes to marginalized communities taking part in smart city decision-making.

(Rijshouwer et al., 2022) argues that, despite increasingly people-centered approaches to smart city-making - they do not necessarily contribute to people’s ‘Right to the Smart City’. In this regard investigate how inhabitant’s rights in the smart cities can be enhanced, it is necessary to work towards a balance between all public agencies in developing smart cities which caters to its inhabitants through participatory procedures that require addressing power concerns (Blue et al., 2019; Corsini et al., 2018). It is argued that public participation process in the smart cities should be analyzed through context specific grounded examples. It will give a holistic idea as no city can have the same nature and pace of development especially when it comes to adapting to the smart city narrative and making public part of the decision making (Berntzen & Johannessen, 2016; Tadili & Fasly, 2019).

According to studies, inhabitants and government co-support or co-production is critical to the success of smart city efforts (Castelnovo et al., 2016). All participants in the co-production process should have clearly defined roles in the completion of shared duties (Lim et al., 2018). The roles of the government (as decision-maker and investor) and the private sector (as technological enabler) are obvious in this process. Inhabitants so far, have been viewed as passive beneficiaries, complainers, and roadblocks in the corporate race for smart cities (Greenfield, 2012; Hollands, 2015). Public is most often non-participatory, consumer or

tokenistic and are framed within political discourses of stewardship, technocracy, paternalism, and the market, rather than being active, engaged participants where smart city initiatives are conceived in terms of rights, social conscience, the public good, and the urban commons (Kitchin et al., 2019). Scholars argue that public may play an important role in smart cities by participating in governance and improving service delivery (Leleux & Webster, 2018; Meijer & Bolívar, 2016). However, there seems to be a lack of research and understanding of the role of inhabitants in the smart cities; a theorized understanding of the roles of public in smart city initiatives is lacking and would highlight the diverse ways in which public act and are engaged with ICTs (Przeybilovicz et al., 2022)

According to Castelnovo (2016), the central role of the inhabitants in smart cities can be attributed to three reasons:

1. Inhabitants are a possible source of cities – e.g., complexities / diversity / urbanization.
2. They are beneficiaries of the values which smart cities can deliver.
3. They are major participants and responsible (partly, if with power distribution) for developing smart cities.

Similarly, (Cowley et al., 2018), identify four characteristics defining what role public can play in smart cities, which denote how public is positioned within smart cities:

1. Public as service user - in which public is framed as the consumers of services.
2. Entrepreneurial - in which public is actively enrolled on co-creating and innovating.
3. Political- in which public take an active role in decision-making and deliberation.
4. Civic- in which public take part in grassroots community activities that are not directly oriented toward market activity.

(Cardullo & Kitchin, 2019), in their research on Dublin smart cities identified as many as sixteen possible roles public can play in the making of smart cites right from traditionally assumed patient, learner, user, product and data-points to Leader, Member and decision makers.

However, the researchers noted that many smart city agendas perceive public as service user or consumers. Das (2019), while studying Indian smart cities, indicates that while the city administration and companies attending the smart city making events often talked of producing a people-centric smart city, in practice, inhabitants themselves were excluded from the

policymaking. It is viewed as an outcome of current definition of smart cities which stresses technology's function while disregarding human's crucial participation and focusing insufficient emphasis on human issues (Lim et al., 2018). Therefore, one can conclude that most characteristics defining the role of public is highly influenced by the current definition and narrative of the smart city. This may be due to technology's immense capabilities and effectiveness in making daily life easier (Barns et al., 2017). This tendency, however, should only endure a few years; an overreliance on technology could lead to new social issues and a digital divide (Sanders, 2016). As a result, the efforts that have been undertaken run the risk of becoming technologically driven, government-led solutions that can only address operational issues. At the same time, inhabitant's obligations will be dominated by ICT initiatives or minimized by technology-led enterprises under the banner of "smart cities" (Hollands, 2008; Vanolo, 2016). In the long run, this situation will indirectly cultivate dependent and ignorant inhabitants (Lim et al., 2018).

In conclusion, there is need to include inhabitants in smart city policymaking and identify the role of inhabitants as a contributor and co-creator. One should not overlook the fact that there are numerous issues linked with this, such as public inability to have a holistic view and strategic thinking required to offer value, and so on (Correia et al., 2021). The vision of a people-centric smart city in which collaboration is at the heart of city-making depends not only on people's rights and opportunities to engage in city-making but on the willingness and ability of actors involved as well (Anastasiu, 2019), i.e., for public institutions and private organizations to be willing and able to allow for a public sphere that is inclusive to a variety of public and whereby participation parity and social equality are valued as essential for inclusive and democratic city-making (Grossi & Pianezzi, 2017).

Based on the threads of the research mentioned above, one can pin down the five roles public can play in the making of smart cites.

1. Consumers or data providers: This is the most assumed primary role of the public in making smart cities, as mentioned in the above literature. Here the general assumption is that the authority provides the general information, and inhabitants will receive it as a one-way form of information flow.

2. Feedback provider: The inhabitants of the smart cities can also provide feedback on various issues or initiatives carried out under the umbrella of smart cities. Here the general goal might be to obtain public feedback on analysis, alternatives, and decisions.

3. Participants: This might involve the public being a part of the consultation process, and the issues are being understood and considered in the decision-making process of smart city initiatives.

4. Co-Creator: Moving beyond the traditional approach of urban planners making centralized decisions (top-down approach) in the smart city context, a new model of smart city planning can be a way forward, involving a bottom-up approach. That involves a partnership with the public and other stakeholders in each aspect of the decision, including developing alternatives and identifying the preferred solution for the smart city.

5. Decision makers: The public has an ultimate say in implementing the final product or initiatives developed and co-created during public involvement. This means the placement of decision-making in the hands of the public.

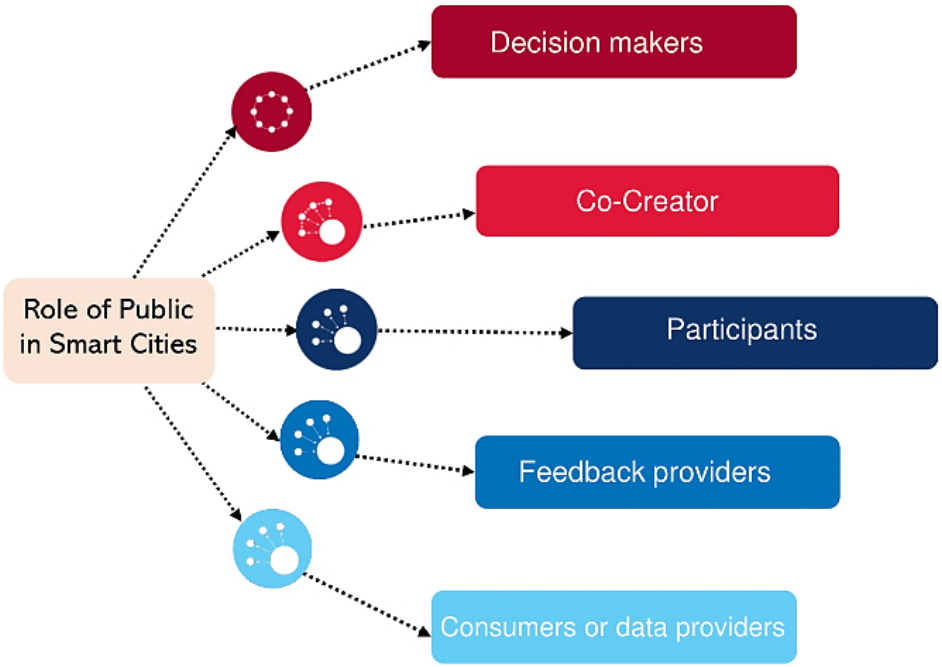


Figure 7: Role of Public in Smart Cities

Source: Author

Even though these characteristics give us some idea about the role public can play in smart cities and help us define the public's Right to the smart city (Kitchin et al., 2019; Leclercq & Rijshouwer, 2022). The ideal outcome truly favouring public can only be justifiable if the ideal conditions for effective public participation can be met. (Creighton, 2005) proposes the following conditions favourable for effective public participation:

1. Empowered public: Public have the skills, knowledge, and attitudes to participate, including the ability to organise themselves. This holds especially true in the case of cities of the global south (Watson, 2015).
2. Effectively mechanisms and regulations that enable participation and social accountability.
3. Commitment - political leadership and civil service and inhabitants: i.e., willingness to incorporate public needs and suggestions in the policy.
4. Genuine identification of stakeholders: irrespective of class, background, gender, or particularly marginalised and vulnerable groups.
5. Well-designed process: Clear objectives and sufficient allocation of resources (financial and human), and all stakeholders understand the process.
6. Transparency in the process: the publication of understandable and useable information.
7. Trust between government and inhabitants.

A conceptual framework, combination of public participation analytical framework and smart city public engagement parameters can help to understand the status of public participation in smart cities.

2.4 Smart city public participation evaluation framework

While many studies of Public Participation have applied Arnstein's (1969) ladder of participation to public engagement (Basu, 2018b; Berntzen & Johannessen, 2016; Cardullo & Kitchin, 2019), the IAP2 Spectrum of Public Participation (IAP2 Spectrum) developed by the International Association for Public Participation (2018) also provides a useful analytical framework (Fig.4) for understanding levels of public engagement and their possible impact.

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

Figure 8:Spectrum of Public Participation (IAP2, 2007)

Taking the lead from IAP2 (Fig.4), framework for evaluating public participation. The five-point continuum in the International Association for Public Participation (IAP2, 2017) Spectrum of Public Participation is often used to understand shared decision making in participatory planning processes. (Fig.4) presents the spectrum of public participation developed by IAP2. It includes information about the communication modes, goals, and promises made to the public along the continuum. It ranges from the level of information, which involves the one way of the communication process, to the level of empowering, where public has the final decision-making authority. At the far right of the Spectrum, 'Empower' puts decision making in the hands of the public, which is more in line with deliberative democratic ideals and has been resisted by elected governments at all levels (Kamenova & Goodman, 2020). The Spectrum has been acknowledged as an international standard (Hasler et al., 2017); at the municipal level, especially in contexts where technology is being adopted (Kamenova & Goodman, 2020).

Therefore, the IAP2 Spectrum provides an appropriate framework to interpret the depth of engagement the Indian smart cities have gone through.

First on the Spectrum is ***inform***; it is processes that inform the public or "give the public balanced and objective information to aid them in comprehending the problem, alternatives, possibilities, and solutions" (IAP2, 2007). **One-way communication** is used in the procedures, and there is almost no shared decision-making power. Web sites, mailings, bill stuffers, reports, Newspaper advertisements, public information boards, social media campaign and fact sheets, for example, all provide information - Inform sessions etc. (IAP2, 2017; Nabatchi, 2012a).

In the second position lies ***consult***; it is consulting with the public or "get public comment on analyses, options, and choices" (IAP2, 2007). "Listen to and appreciate concerns and objectives and offer feedback on how public input affected the outcome," the consultation process promises (IAP2, 2007). This method can be used in **one-way or two-way communication**, and it provides little, if any, shared decision authority. Some examples are formal public hearings, public comment mechanisms, public town-hall meetings, and focus group discussions, feedback forms, survey, suggestion box, social media, vision competition etc.

Processes ***involve*** the public or "working directly with the public throughout the process to ensure that public concerns and aspirations are continuously acknowledged and considered" are at the third level (IAP2, 2007). Although a deliberative communication method is occasionally used, these approaches need two-way communication. Involvement methods guarantee that "public concerns and desires are immediately represented in the alternatives created" (IAP2, 2007); as a result, they have an inherent amount of shared decision power, which can range from minimal to moderate. Participation techniques include deliberative polling or voting (Davies & Gangadharan, 2009), National Issues Forums, Community workshop, design workshops, stakeholder forum, mapping, community forum etc. (Public et al., 2019).

Next follows ***collaborate*** or “partner with the public in each element of the decision, including the formulation of alternatives and the identification of the preferable option", are at the fourth level (IAP2, 2017). Deliberative communication is likely to be employed in these procedures, while two-way communication may be used in some circumstances. The procedures offer to include public "input and recommendations" "to the utmost degree practicable" (IAP2, 2007); consequently, they feature a moderate to a high level of shared decision power. Meetings at the community level, public juries, and collective planning activities are frequently designed to collaborate, deliberative polling, community-status update, working group, vision- monitoring,

capacity building etc. Public advisory panels may be set up as collaborative procedures (IAP2, 2017).

Finally, on the fifth level of the Spectrum lies ***empower***; it is the processes that empower the public or "put final decision-making in the hands of the people" (IAP2, 2007). Deliberative communication is most used in empowerment programs. They enjoy the highest amount of shared decision-making authority since the government promises to carry out the public's decisions. Participatory budgeting, particularly when done in the style of Porto Alegre, Brazil, is an example of an empowering method (Goldsmith & Vainer, 2001). Empowerment methods might also include other mechanisms that ensure delegated decision authority, e.g., citizen Jury, public monitoring & evaluation-workshop and implementation feedback etc.

One can conclude that first level 'Inform' is purely one way communication while 'Empower' is at the end of the spectrum and strives to give maximum power to the community affected by the issue and delivers deliberative communication.

Generally, in the context of smart cities, a combination of the digital and physical form of public engagement is seen as a mechanism to overcome the constraints of physical attendance, digital divide, and economic and geographic constraints (Kaluarachchi, 2022). However, the stress is laid on digital mode of delivery as it is presumed that these initiatives will provide broad accessibility of participatory practices for a diverse range of city inhabitants (Johnson et at.,2020). In many cases, this type of initiative threatens to move the government relationship away from traditional methods of engagement toward transactional approaches, where purpose-built digital processes can stand as an intermediary between public empowerment to tokenism (Arnstein, 1969; Fung, 2006; Cardullo & Kitchin, 2019). This especially stands true in the global south cities, where accessibility to digital modes of participation is a long way (Ghosh, 2019).

The following evalotary framework (Fig.5) combines the IAP2's public participation spectrum and the public's role in the smart city formulation. It is divided into five parts; the first column enlists the form and level of public participation, starting from 'empower', which is the highest level of participation and gives full autonomy to the lowest being 'inform', which is at the lowest level of public participation.

The second column describes the role the public can play in the making of smart cities. As already mentioned in the literature review, smart city inhabitants play a crucial part in making smart cities. Therefore, it makes it apt to analyze the public participation process in smart cities wrt. —the spectrum of public participation.

The third column defines each participatory level's goal and what responsibilities each inhabitant bears on the public participation spectrum when making smart cities. For example, if the form and the level of participation lie at the level of 'inform', public roles are only confined to the 'consumers and data provider', the lowest level of public participation on the spectrum. However, there should be further clarification as to what the lowest or highest level of public participation means? That is when public participation goals come into the picture, which defines the parameters of the public participation process at each level. Here, for the level of 'inform,' the goal of public participation will be to provide the public with balanced and objective information to assist them in understanding the smart city concept, solutions, and initiatives; however, it does not guarantee any development of the capacity to participate actively- A nominal information process with no checks and balances.

Moving further to the fourth column, it defines the form of the involvement as in what manner the public can or should get involved in making smart cities. These are just broad parameters; the nature can vary as per city. These forms of involvement are derived from a secondary literature review on smart cities. The form of involvement becomes more direct and inclusive as one moves up the spectrum; for example, for the level of 'empower', the form of public involvement ideas and vision monitoring, initiative implementation monitoring, ownership creation, and product and policy negotiation.

The last column in the framework defines the nature of involvement in public participation initiatives for smart cities. Here ‘empower’ and ‘collaborate’ clearly lie in a bottom-up process where the public is being made part of the decision-making, thus generating a sense of inclusiveness, collectiveness, and autonomy, creating a sense of belonging and generating two-way communication. Here ‘involve’ is partly a bottom-up process as the final decision-making autonomy lies in the hands of authorities. Finally, in the lower half of the framework, initiatives are often top-down in conception, devised by city administrations or corporations. They are broadly underpinned by notions of stewardship and civic paternalism (Shelton & Clark, 2016), where the public is confined to the role of data consumers and providers.

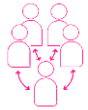
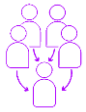
Smart city public participation evaluation framework					
Form and level of Public Participation		**Role of public in smart cities**	**Goal of public participation**	**Form of involvement**	**Nature of involvement**
Increased impact on decision making	 Empower	Decision makers	To place final decision-making for smart city inisiatives in the hands of the public - Implementation of the decision made by the public.	Ideas and Vision monitoring, initiative implementation monitoring, ownership creation, product and policy negotiation etc.	Inclusive, Bottom-up, Collective, Autonomy, Creating a sense of belonging and Two-way communication
	 Collaberate	Co-creators	To partner with the public in each aspect of decision making, including developing alternatives and identifying preferred solutions - maximum incorporation of advice and recommendations to the maximum extent possible.	Suggestion, feedback, capacity enhancement, incorporation of advice and feedback to the maximum end possible	
	 Involve	Participants	To work directly with the public throughout the process of making of smart cities to ensure that the public concerns and aspirations are consistently understood and considered - ensuring to reflect the aspirations and feedback in the decision-making.	Mapping, collection of suggestions, vision development etc	
	 Consult	Information providers	To obtain public feedback on analysis, alternatives and, or decisions made to implement smart city agendas - keeping the public in look about the development, however, no assurance for the influence of decisions based on the suggestions and feedback.	Feedback, survey, comments, browse, consume, reactions etc.	Top-down, Non-Democratic Paternalism, Stewardship, Biased Discriminatory Unjust One way communication
	 Inform	Consumer / Data provider	To provide the public with balanced and objective information to assist them in understanding the smart city concept, solutions and initiatives; however, it does not guarantee any development of the capacity to participate actively- A nominal information process with no checks and balances.	Steered, nudged, controlled, forced, manipulated etc.	

Figure 9: Smart city public participation evaluation framework

Source: Author

3 Research Methodology

This chapter describes the research techniques employed to conduct this research. The chapter aims to substantiate the methodological aim that focuses on understanding public participation in Indian smart cities with the case of Nagpur smart cities. The primary methodological approach chosen for this research is qualitative. An account of the specific data collection methods, case study, literature review, and semi-structured interviews; will then be provided to illustrate how the data is being gathered. A reflexive consideration of the limitations concerning the data collection and access to information is also provided. Lastly, the chapter will reflect on the result of the implementation of this research design to answer the research objectives.

3.1 Research Design

The methodological framework of this research is primarily qualitative in nature. It allows me to prove the hypothesis and answer the research questions. This method has been chosen because it allows an understanding of the public participation process in smart cities from the resident's perspective. Moreover, this method also allows for dealing with social concepts like power structure, inequality, and justice concerning public participation in smart cities. Additionally, qualitative research allows for a detailed exploration of a topic of interest in which a researcher collects information through literature review, case studies, and semi-structured interviews. The research methods employed are literature review, semi-structured interviews, and a case study approach.

Firstly, the literature review was done using secondary data such as scientific papers, journals, books, reports, newspaper articles, publicly available government documents, etc. It helped me to understand and collect data on the concept and various evolving definitions of smart cities and public participation. It also expanded my understanding by studying and analysing various critiques and debates. Finally, especially in the case of literature related to public participation, it allowed exploration of various evaluation frameworks, e.g., IAP2's Spectrum of Public participation, which ultimately led to the development of smart city public participation evaluation framework.

Secondly, the literature review in the document analysis allowed me to understand the smart cities in India, how the government defines smart cities, and public participation in smart cities. Furthermore, the documents allowed me to understand how the case city of Nagpur defines

the smart city and public participation in the smart city. It gives a detailed record of the public participation process undertaken while formulating the smart city proposal for Nagpur.

Eight semi-structured interviews were conducted to understand the process of Nagpur smart city proposal formulation. The interviewees include the ex-CEO of Nagpur Smart city- a special purpose vehicle, one town planning official, three local elected representatives who presented a public participation process from residents' perspective, and a representative from the citizen body. Additionally, an expert interview with a Ph.D. candidate from TU-Darmstadt, Germany, who is currently focusing her research on Nagpur Smart city, was also part of understanding the case of Nagpur smart city. The semi-structured interviews enabled different interviewees to express their experiences in detail and allowed me to capture a wide diversity of experiences and perceptions regarding Nagpur smart city and understand the both side of the stories. The interview also sheds light on the smart city proposal formulation, participation process, and the perception of public involvement in making the smart city proposal of Nagpur.

The case study approach was chosen as this helps to avoid overgeneralization. The case city chosen was Nagpur smart and 'sustainable' city. Nagpur is an ideal case study to understand public participation in Indian smart cities because the Government of India – SCM awarded Nagpur's smart city proposal (Proshun, 2019). Its proposal was ranked among the top in India (MoUD, 2017). The MoUD and city authorities claim to have conducted the best public participation based on the number of inhabitants involved in smart city proposals (NMC, 2016). However, it is also among the least researched smart cities. Most smart city research focuses on major metropolitan cities like New Delhi, Pune, Navi Mumbai, etc. (Datta, 2018). Therefore, make it an ideal case study for the research. Furthermore, the Covid-19 pandemic has posed a major challenge regarding onsite data collection and access to information. Therefore, the author chose to focus on the city of Nagpur as the city lies in the proximity of the author's native residence and can have easy access to data. The selection of Nagpur as a case study case also allows for a deeper understanding of the place-based dynamics, cities interpretation of the smart city, and the role of the public in smart city formulation, thus helping me to reframe the hypothesis and framework.

3.2 Research Limitation

Due to the ongoing Covid-19 pandemic and lack of funding, the researcher could not go to the field to collect data. However, it was overcome by online data collection through interviews and a series of available documents. Data collection was challenging as not all the smart city-related data is publicly available on government websites or social media platforms. At the

same time, access to government offices was challenging as the officials were not open to sharing the information and data regarding the participatory planning process during the making of Nagpur smart city. The information can be compensated by conducting a public survey and semi-structured interviews. However, due to time constraints, the research was only limited to the results of semi-structured interviews conducted during interviews with government and people's representatives.

4 Case Study

4.1 Introduction

The following chapter is divided into two parts. Firstly, a brief description of the Indian Smart city mission is laid down, which describes the perspective of the Indian Government and its vision of smart cities and public participation in making smart cities. Secondly, the chapter focuses on the case of Nagpur smart city- while doing so, it describes the smart city vision of the city. Furthermore, it gives a detailed account of the public participation process the Nagpur municipal corporation carried out while making the smart city proposal for Nagpur in 2015.

4.2 Background- Indian Smart city mission guidelines

India is among many developing countries witnessing a rapid rural to urban shift. This change is reflected by the greater decadal growth of the urban versus rural population. The urban population in India increased from around 27.8% (286 million) in 2001 to 31.2% (377 million) in 2011 (Chandramouli, 2011). Moreover, it is estimated to grow to 40% by 2030 and more than 50% by 2050. City population growth is accompanied by infrastructure management and service delivery challenges. The development of smart cities is one strategy being deployed to cope with these challenges (MoUD, 2015a) efficiently and effectively. India's Smart Cities Mission (SCM) is a national initiative (Gupta & Hall, 2017a). The government of India (GoI) launched the Smart Cities Mission (SCM) in 2015 to improve the governance and infrastructural deficiencies that Indian cities lacked (Anand et al., 2018). The SCM is the first significant step toward the comprehensive implementation of the smart city concept in India (Gupta & Hall, 2017a). Smart Cities Mission aims to promote cities that provide core infrastructure and give their citizens a decent quality of life, a clean and sustainable environment, and the application of 'Smart' solutions (GoI, 2015). The mission included 100 cities (fig; with the project completion deadline between 2019 and 2023. The mission clearly states that there is no one definition of a 'smart city' and implies infinite liberty for cities to self-

define their understanding of ‘smartness’ (Anand et al., 2018). However, it also states that some definitional boundaries are required to guide cities in the mission. In the imagination of any city dweller in India, the picture of a smart city contains a wish list of infrastructure and services. To provide for the aspirations and needs of the citizens, urban planners ideally aim at developing the entire urban eco-system, represented by the four pillars of institutional, physical, social, and economic infrastructure.

The (MoUD,2015) defines a smart city as “building and promoting cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment, and the application of “smart” solutions.” The SCM states that this can be a long-term goal, and cities can work towards developing such comprehensive infrastructure incrementally, adding on layers of ‘smartness’ (GoI, 2015). The SCM views a smart city as doing more with less, building upon existing infrastructural assets and resources, and proposing resource efficient initiatives. The mission has further defined smartness in terms of physical and non-physical assets such as water supply, waste management, energy sources and supply, safety, citizen participation, economy and employment, and education (MoUD, 2015).

Figure 6: Illustrative list of smart city solution by GoI.

Source: Indian smart city mission, 2015

SCM emphasis on technological solutions to develop the cities and generate economic growth. The focus is on sustainable and inclusive development, and the idea is to look at compact areas and create a replicable model that will act as a lighthouse for other aspiring cities. It is meant to set examples that can be replicated both within and outside the smart city, catalyzing the creation of similar smart cities in various regions and parts of the country (MoUD, 2015a). The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to smart outcomes (MoUD, 2015a). The Mission Guidelines view area-based development as select portions of the city that are enhanced as a more practical means of urban development and has encouraged cities to concentrate their finances on this methodology of urban renewal. The Guidelines state that the ‘focus is on

sustainable and inclusive development and the idea is to look at compact areas, create a replicable model which will act like a light house to other aspiring cities.' (MoUD, 2015).

The Smart Cities Mission necessitates that each city creates a Special purpose vehicle (SPV) under the Companies Act (2013), a limited company that will manage the implementation of the projects under the mission, directly answerable to the central ministry (MoUD, 2015a). According to the Mission guidelines, the majority holdings of the SPV must be retained by the government bodies, and private investors could hold the remains of up to 40% of shareholdings (MoUD, 2015). The Special purpose vehicle (SPV) will enable the public participation of smart people by increasing the use of ICT, especially mobile-based tools (MoUD, 2015a). Additionally, the SPV's role is to ensure that it is a credit-worthy business that can get market funding. In addition, the SPV can carry out projects via subsidiaries, joint ventures, public-private partnerships, contractual agreements, etc. In terms of funding, each city would get INR 500 crore from the central government. This is provided in 5 years and would need to be matched by the state government or the local urban body (ULB).

INR 1000 (123.6 million euros) will be additionally provided by SCM (MoUD, 2015). The central government has budgeted INR 48,000 crore (5940 million euros) for funding the smart city mission. The onus of raising funds at the state or local level has bolstered the need to create competitive cities that could raise funds for their development projects (MoUD, 2015a). These funds are channeled through a Special Purpose Vehicle (SPV) created in each city to manage the smart city projects. The 100 smart cities were selected Cities in the first round of the All-India City Challenge competition held in five rounds. More than half of the shortlisted cities are in the states of Uttar Pradesh (13), Tamil Nadu (12), and Maharashtra (10). A special purpose vehicle has been established in these cities to monitor the mission's progress at the city level (MoUD, 2015).

The mission emphasizes public participation in smart city decision-making and project development (MoUD, 2015a). It states that making a smart city requires the participation of "smart people"; who actively participate in governance and reforms. It states that the inhabitant's involvement is much more than a ceremonial participation in governance. It specifies that smart people involve themselves in the definition of the smart city, decisions on deploying innovative solutions, implementing reforms, and doing more with less oversight during implementing and designing post-project structures to make the smart city developments sustainable. Here the SPV will enable the participation of smart people by increasing the use of ICT, especially mobile-based tools, which means that people must be willing to adapt to and live in smart cities (MoUD, 2015a). It emphasizes that the proposal will

be public-driven from the beginning, achieved through citizen consultations, including active participation of groups of people, such as public welfare associations, Taxpayers Associations, Senior citizens and Slum Dwellers Associations. During consultations, inhabitants and stakeholders will identify issues, needs and priorities, and public-driven solutions (MoUD, 2015a). It also calls for engagement with vulnerable sections of society (disabled, children, elderly etc.), ward committees and area sabhas (neighbourhood councils), and important public welfare groups (associations, organizations, and institutions such as the local chamber of commerce) (MoUD, 2015a). The SCM document specifies categorically for cities to present the numbers of the inhabitant that they have involved in the process of public participation irrespective of the inhabitant's background, class, or how the participation took place. Asking: *"how much of social media, community, and mobile governance have been used during public consultation, while making smart city proposal?"* (MoUD, 2015a).

As mentioned in the introduction to narrow the scope of the study, this research focuses on the case of Nagpur Smart city.
If one must understand and analyze the public participation in Nagpur smart cities, the research can be conducted in two parts.

Part - I: Understand the formulation of the smart city proposal in making Nagpur a smart city and how public participation was conducted and information was used to develop the Nagpur smart city proposal.

Part - II: Understanding the implementation of smart city initiatives in Nagpur smart city and how public participation mechanism is utilized to implement smart city initiatives.

For the sake of this research, the formulation phase (Part I) of the smart city proposal in Nagpur smart city is being analyzed.

4.3 Case of Nagpur Smart City

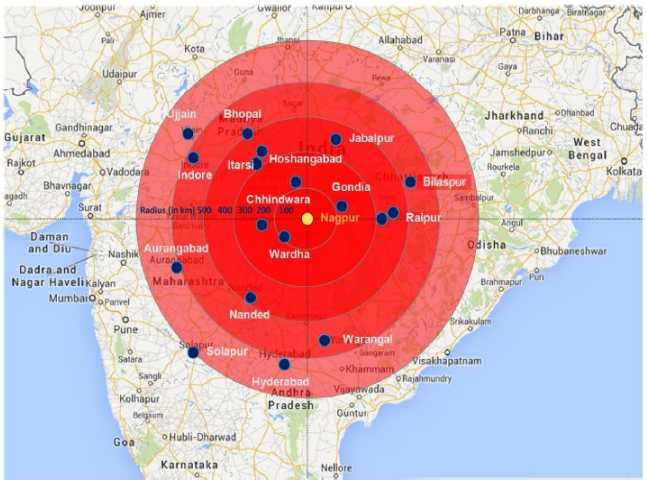


Figure 7: Central location of Nagpur

Source: https://www.mapsof.net/patna-in/location-map-of-nagpur

Nagpur, it is the 13th largest city in India with population around 2.5 million as of 2022 (NMC, 2022). There are over 859,000 inhabitants living in slums which makes up to 36% of the population (NMC, 2022). Average population density of the city is 108 persons per hectare (PPH). However, core area densities vary from 400-1000 PPH (NMC, 2022). It is the only major city in central India with a large economic center. Nagpur, an emerging metropolis of India, is the main center of commerce in the Vidarbha region of Maharashtra (MoUD, 2015c). It is the third largest city, and the winter capital of the Indian state of Maharashtra. The city is popular for its orange fruit produce and is fondly referred to as the '*Orange City'* of India. Nagpur, the country's geographical center, enjoys seamless road, rail, and air connectivity to major urban centers such as Delhi, Mumbai, Pune, Hyderabad, Bangalore, and Chennai (NMC, 2016). It aspires to become a key logistics hub of central India while taking advantage of its geographical location and robust connectivity profile. In parallel to this rapid growth, the city is also experiencing massive challenges in traffic management, increased population living in slums, emergence of unplanned living spaces, challenges in waste management (industrial and human waste) and extensive pollution of water bodies in the city (Asia House, 2016).

Since the early days, Nagpur has been able to hold a prominent position in the business and economy of Maharashtra State. It was chosen to be one of the 100 smart cities in September 2016 under the National smart city mission and was selected in the third round of smart city competition in 2016 conducted by the government of India 2015-16 (MoUD, 2015b).

Nagpur defines a smart city based on four major parameters, namely.

1. Smart Living (e.g., Polycentric growth, walkable neighborhoods, economic viability etc.)
2. Smart Mobility (e.g., Transit-oriented development, connected spaces and walking to work etc.)
3. Smart environment (e.g., Carbon neutral habitat, Swachh Nagpur, Urban green space etc.)
4. Smart Governance (e.g., citizen-centric collaborative decision-making platform, revival, and redefinition of the city as a service provision hub and economic centre).

Figure 8: Logo Nagpur Smart and 'Sustainable' City

The vision of the Nagpur smart city is "*To transform India's heart-Nagpur into the most liveable eco-friendly, edu*-city that electronically connects people with the government to co-create an inclusive ecosystem" (NMC, 2016).

Figure 9: Presentation slide Nagpur Smart city depicting vision_ United Nations Economic and Social Commission for Asia and the Pacific (2015)

Source: https://www..org/sites/default/files/Nagpur%20Smart%20City.pdf

Nagpur smart city vision has four key elements.

1. Eco-friendly – Nagpur will become a sustainable and carbon neutral city; existing polluted water bodies will be rejuvenated & urban greening projects will be encouraged; livability will be enhanced through universally accessible green spaces across the city; cleaner technologies such as LED street lighting, waste-to-energy, solar roof top water heating systems; rainwater harvesting system, sensors, satellite and camera technology will be encouraged.

2. Edu-city – Nagpur will leverage city's education institutions (VNIT, IIIT, IIM, Law University, Fire Research University), research institutes (NEERI, AIIMS), healthcare facilities to create an intelligent and responsive ecosystem.

3. Electronically connect – Nagpur will electronically connect all spheres of life with improved monitoring of utility operations, service delivery, transparent governance & convenient G2G / G2C services & improved administrative efficiency.

4. Inclusive – Nagpur will become an inclusive city through pro-actively addressing issues conflicting land-uses, providing equitable access to public spaces & infrastructure services & creating safe & walkable neighborhoods for children, women, senior citizens & pedestrians- via implementation of safe and smart design solutions and installation of safety features like security cameras and other digital mechanism.

4.4 Public participation in Nagpur smart city

Nagpur smart city characterizes public participation as a process for reaching out to the broad base of participants to define the smart city agenda. While doing so, it rolled out a massive smart city public engagement process using both online and offline modes, ensuring a wide reach (NMC, 2016). Based on SWOT analysis, self-assessment, city profile & public engagement process, the city council developed an approach of ***"Identify - Prioritize – Finalize"*** to identify city-wide smart city initiatives as well as focused area-based development (3.84 km2) strategies under Nagpur smart city agenda.

The city council employed various methods to collect and understand public aspirations and opinions about the smart city. The methods employed by the city council to formulate smart city proposals are:

1. City profiling
2. Public engagement and opinion
3. Engagement with elected representatives
4. Discussion with expert planners and sector experts
5. Discussion with suppliers and partners

The Nagpur municipal corporation (NMC) claims to have undergone a robust public engagement process. The Government of India smart city mission, assigned the Nagpur smart city corporation with CRISIL (Credit Rating Information Services of India Limited). It is an Indian analytical company providing ratings, research, and risk and policy advisory services and is a subsidiary of American company S&P Global. CRISIL was responsible for consulting and assisting Nagpur smart city corporation in formulating a smart city proposal. It was also responsible for carrying out smart city public participation and stakeholders in the formulation stage. NMC and CRISIL took the lead in preparing NMC's proposal for the national Smart City Challenge, using inputs from firms like PWC, IBM, Persistent Solutions, Trinity Solutions, Ernst and Young, and Airtel (NMC, 2016). Furthermore, the Centre for Sustainable Development, an NGO based in Nagpur, helped organize citizen engagement in Nagpur's smart city mission proposal.

The city authority rolled out a massive three-pronged strategy of **"Popularize - Co-Create – Crystallize"** was undertaken by the smart city authorities.

1. The First part focused on popularizing the Smart City program, generating curiosity, and creating a city-wide buzz and dialogue. This was done through media campaigns and a Smart City idea challenge.
2. The Second part was executed in two distinct formats. The first format focused on reaching out to every household in Nagpur to develop a Vision for making Nagpur a Smart City. This was done through a simple one-page layout that asks citizens to express their Vision for Nagpur. This is also supported through Strategic Stakeholder Consultations (SSC) in focus group discussions with eminent citizens, professionals, sector experts, business leaders, etc. Also, the young citizens were involved in an essay competition on "Nagpur of My Dreams." The second format was focused on reaching out to the citizens through open forums with the results of the vision development exercise to zero in on the pan-city initiatives that the city will take up.
3. The Third part focused on area-based interventions aimed at generating consent for area-based interventions and generating consent of people in the select area-based interventions.

A smart city Idea challenge was conceived and promoted; a dedicated web portal www.smartcitynagpur.com, was developed, and the citizens were encouraged to provide their ideas for making Nagpur a Smart City, it had 3513 visitors during 2015-16. The NMC undertook an aggressive promotion campaign to promote the smart city idea challenge. A massive social media campaign on Facebook and Twitter by posting and urging locals to

support the initiative by suggesting ideas for a smart city which received around 25,185 likes and 66,566 reactions. The idea challenge was also aggressively promoted through the FM Radio channels like 93.5 RED FM, 98.3 RADIO MIRCHI etc. The idea and essay competition attracted 1365 and 278 participants, respectively on the website (NMC & CRISIL, 2015).

A dedicated team and war room were set up for public outreach, promotions, and engagement. Digital media platforms other than Facebook and Twitter, e.g., email, WhatsApp, SMS, etc., were employed to create awareness and collect ideas, opinions & aspirations. Media platforms for visibility, branding & popularization- Both print (dailies) & electronic media (FM radio and television news) were leveraged to increase visibility through press conferences, media events, and radio & TV advertisements. Interviews of councilors, commissioners & other important stakeholders were flashed regularly. In-person direct engagement- Interactive sessions in colleges & institutes, seminars & summits, ward-level meetings of elected representatives & citizens; Women participation through women networks such as Tanishka, interactions by the Municipal Commissioner at various public forums; FGDs with panels of experts, eminent citizens of Nagpur, business representatives, urban planners, architects, engineers, solution providers, citizen-driven knowledge forums etc. was also employed to reach out to the inhabitants (NMC, 2016).

Similarly, various events were organized to collectively define the vision and spread awareness about the smart city. These events include 14 focus group discussions with 362 domain experts, zonal meetings with 511 Participants, 21 workshops with 2498 students and teachers, and four institutional workshops with 112 participants.

The NMC had organized a workshop which the mayor chaired, and all the elected representatives were invited to the workshop. The workshop's objective was to sensitize all the elected representatives concerning the Smart City program and seek their involvement. Approximately 80 elected representatives (of which almost 30% were women) of 151 elected members participated in the workshop and provided their views and ideas for preparing the Smart City Proposal. The NMC also requested the elected representatives to lead from the front in developing the Smart City vision and goals. To this end, each Zone Sabhapatis conducted Citizen Engagement programmer at each of the 10 Zones of the NMC and led workshops to invite suggestions and views concerning making Nagpur a Smart City.

A door-to-door public awareness campaign was launched to inform about the smart city concept and collect ideas about the vision and goals. The objectives were two-fold:

(a) Solicit Vision for Smart City Nagpur from each household.

(b) Understand neighbourhood level issues and challenges to making Nagpur a Smart City.

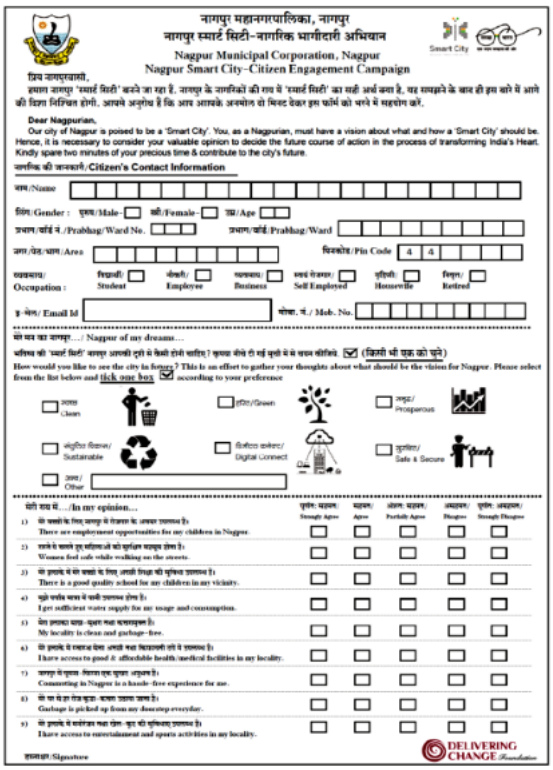

नागपुर महानगरपालिका, नागपुर
नागपुर स्मार्ट सिटी-नागरिक भागीदारी अभियान
Nagpur Municipal Corporation, Nagpur
Nagpur Smart City-Citizen Engagement Campaign
Dear Nagpurian,
Our city of Nagpur is poised to be a 'Smart City'. You, as a Nagpurian, must have a vision about what and how a 'Smart City' should be. Hence, it is necessary to consider your valuable opinion to decide the future course of action in the process of transforming India's Heart. Kindly spare two minutes of your precious time & contribute to the city's future.
Citizen's Contact Information
Nagpur of my dreams...
In my opinion...
DELIVERING CHANGE

Figure 10: Door to door public survey form

Source: Nagpur smart city challenge concept plan 2015

A survey form (refer fig:9) was also circulated to understand the aspiration of the inhabitants and key areas of improvement. This process was termed co-creation by Nagpur municipal corporation. Furthermore, public engagement and interaction along with domain experts, architects and urban planners, private service providers and media groups were organized in 20 different locations across the city to understand better the on-ground possibilities of the initiatives under smart city crystallizing, which is termed as the process of crystallization by Nagpur smart city. This campaign of reaching out to every household was kick-started on 10th October 2015. Various mediums have been pressed into action and 650,000 forms have been distributed of which over 300,000 filled up forms have been collected and data entry has been completed.

The mediums utilized for distributing these forms were:

(a) Over 2000 NMC officers from all 10 Zones of NMC have been asked to reach out to at least 250 households individually to distribute and collect the filled-up forms.

(b) Over 100 Navaratri Mandals were also provided with forms to distribute and solicit feedback.

(c) Forms were also placed on www.smartcitynagpur.com (website nonfunctional at the moment) website to solicit online feedback.

An orientation workshop was organized for all the 2000 NMC officials where the commissioner made a presentation on the objectives of the Smart City program as well as the objectives behind soliciting feedback from the entire citizenry. A similar program was also held for over

a 100 Navratri mandals wherein a prize was also announced for the Navratri Mandal that could help in getting the maximum feedback.

Online channels for engagement with inhabitants like Facebook live and YouTube video were utilized to inform citizens about smart city initiatives, e.g., five short video bites by Mayor, Deputy Mayor, party leader, standing committee chairman & municipal commissioner were broadcasted. Use of MyGov.in (fig: 13),

Figure 10: Idea competition for Nagpur smart city on My Gov.in website

Source: https://blog.mygov.in/nagpur-municipal-corporation-smart-city-idea-challenge/

In addition to reaching out to each household, particularly in the third phase the NMC has also organized various Strategic Stakeholder Consultation Workshops (SSCW). The objective of these SSCWs was to collect feedback and ideas for including Smart features in each sphere of NMC's operations and citizen experience of the city. The SSCW involved varied stakeholders across sectors, which could help provide inputs to Smart City proposals (MY Gov. in, 2016). The topics under these consultations included:

1. E-Governance & Digitalization
2. Waste Management & Sanitation and Environment
3. Healthcare
4. Water Supply
5. Safety, Security & Disaster Management
6. Transport & Mobility
7. Education
8. Energy / Power
9. Open and Green Spaces & Parks
10. Income, Economy & Employment
11. Housing
12. Tourism and Heritage

The Nagpur Smart City Council (NSCC), a citizen-driven knowledge forum that aims to help the NMC make Nagpur a smart city, was also engaged by the NMC. The NSCC features a list of industry professionals and more than 50 members from various backgrounds. The Commissioner, NMC, interacted with the NSCC members and encouraged them to participate

in the planned SSCWs and different NSCC specialists. In addition, the NMC held a consultation workshop with 12 Confederation of India Industry members (CII) who took part in the SSCWs. Additionally, the Association of Consulting Civil Engineers was invited to participate in a comprehensive discussion on various topics about making Nagpur a smart city. The workshop was held on 20th October 2015. A 10-member delegation from the Association held extensive discussions on various sectors and provided inputs on Smart City measures (NMC & CRISIL, 2015).

5 Analysis

This chapter analyses the results of the case study. Firstly, it gives a brief analytical overview of the Smart City mission guidelines, how it envisions a smart city and public participation. Secondly, it presents a detailed analysis of the Nagpur smart city case study. Finally, this chapter presents the status of public participation in making the Nagpur smart city proposal. The case study shows how the authorities involved the public in making a smart city proposal for Nagpur in 2015. It also gives an idea of how Nagpur city perceives and interprets state defined notion of smart cities. The qualitative data collected from the applied research methods, i.e., case study, literature review, and semi-structured interviews, is being analysed with the help of the developed evaluation framework for evaluating public participation in smart cities. In this context, the case of Nagpur provides empirical grounding for a conceptual understanding of public participation in smart cities and the role the public can play in making smart cities in India.

5.1 Background analysis: Indian Smart city mission guideline and public participation

The smart city mission by the government of India acknowledges that there is no universally accepted definition of a Smart City. It means different things to different people. The conceptualization of a Smart City, therefore, varies from city to city and country to country, depending on the level of development, willingness to change and reform, resources and aspirations of the city inhabitants. The smart city mission emphasizes that a Smart City would have a different connotation in India than in Europe. Even in India, there is no one way of defining a smart city. Although it also emphasizes that some definitive boundaries are needed, the SCM views a smart city as doing more with less, building upon existing infrastructural assets and resources, and proposing resource-efficient initiatives. The mission has further defined smartness in terms of physical and non-physical assets such as water supply, waste

management, energy sources and supply, safety, citizen participation, economy and employment, and education (MoUD, 2015).

However, the evidence from the smart city literature also emphasizes that technology plays a vital role in making the city smart. SCM directs its purpose toward economic growth and improves the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to smart outcomes; here, the highlight is the use of technology rather than harnessing human potential. It further reinforces the idea of technological solutions as a critical tool to success by emphasizing using technology to retain and collect data and improve infrastructure and services. Although it sounds very innovative approach toward development, the evidence in the field portrays another picture. It is often seen that prioritizing technological solutions over human capacity development creates an atmosphere of a neoliberal divided society where only a percentage of the population has access to the so-called smart technological solutions.

The smart city mission envisions cities as commodities that must be creatively created, manufactured, packaged, and marketed before being sold like any other product. They are no longer just seen as a living, working, educating, and entertaining places. Smart cities' inclusiveness, sustainability, and improved quality of life goals are commendable; however, they are problematic because they are not prioritized, providing few clues about the extent to which economic growth will take precedence over inclusivity and equitable distribution of the material resources produced through smart cities initiatives. The Smart Cities Mission gives the hint of leading towards exclusionary urbanization, where inhabitants are more likely to be displaced or evicted in the name of development. The main issues of urban poverty and unemployment, adequate housing, access to essential infrastructure and services, and a healthy environment will go unresolved.

The smart city mission emphasizes the active participation of "smart people" (MoUD, 2015). The mission seeks to produce the "smart city" and the "smart citizen". The mission seeks to apply digital technologies, from e-governance to smart utility networks, to produce ubiquitously networked cities (Datta, 2018). The smart city mission further argues that smart people involve themselves in the definition of the smart city, decisions on deploying smart solutions, implementing reforms, and doing more with less oversight during implementing and designing post-project structures to make the smart city developments sustainable. The mission emphasizes that smart cities will enable the participation of smart people by increasing the use of ICT, especially mobile-based tools, which means that people must be willing to adapt to and live in smart cities. However, Vanolo (2014) emphasizes how this results in exclusionary

patterns. As a result, the smart city agenda is not neutral; it sets behavioral expectations on inhabitants and actively discourages participation from the urban poor and other marginalized groups who, in principle, should benefit the most from such initiatives.

Although the Smart Cities Mission emphasizes ICT and e-governance for citizen engagement, there are limitations to how citizen engagement can be achieved due to various issues such as access to digital infrastructure, choice of participation tool, etc. First, literature shows that a key reason for lack of participation is poor communication and collaboration amongst various project stakeholders (Vaisampayana et al., 2020). Thus, the urban population outside the digital divide needs to be drawn into digital space to produce a "user base" for smart city services.

Second, these inhabitants, in order to become "smart citizens", needed to be shown how to perform as "smart citizens" in order to contribute to the "success" of the smart city. Technological advancement does not resolve the bigger issues of a lack of technical skills, inadequate economic possibilities, and existing democratic gaps (Mossberger et al., 2003). It excludes those who cannot or will not comply while favoring those who fit into that niche. There is not much room in the smart city for marginalized people to interact with or even question the present smart city. This is because the affected populations frequently lack the conditions, resources, and knowledge of the value of using technology to empower themselves, either as individuals or as a group: They lack agency (Melgaço & Willis, 2017).

It seems like the smart cities are a business model rather than an instrument to achieve broader social objectives such as social justice and social inclusion. As evidenced from the data above, the corporation-led smart cities mostly keep the public out of touch with smart-city activities and thus create more social division. The smart city concept can be viewed as an opportunity for political agents to draw rents from corporations and for the corporate to make profits from smart city initiatives, and in between, the inhabitants are the main losers. As discussed before, the SCM initiatives are top-down. It needs approval from the center and state. The central government has created and authorized SPV to bypass local government. The government-nominated CEO for SPV is not accountable to the inhabitants but the state and central government bureaucrats. The elected mayor and the representatives are not in the SCM project's driving seat. The central and state bureaucrats would be less likely to understand local inclusion issues and develop a sound inclusionary policy. They are too far to understand local issues as compared to local governments. In this scenario, the provision of public engagement in making smart cities, as stated in the SCM document, looks more like a formality than an obligation.

5.2 Nagpur smart city proposal

Nagpur's approach to the smart city revolves around four basic themes, namely 'Eco-friendly city', 'Edu-city', 'Electronic connectivity' and 'Inclusive city', which are further broken down into thirty-two specific goals. The basic takeaway from these themes and goals is that, although the city emphasizes people-centric cities, it also heavily embraces a technocratic approach toward making a smart city. The smart city proposal emphasizes utilizing smart technologies like facial recognition to enable security cameras for security and crime prevention, sensors, ICT driven environmental tools to monitor the environmental conditions in cities. All these initiatives are proposed to be carried out in collaboration with world-class technological firms and research organizations. However, these initiatives are often criticized for creating a surveillance state. In a rush to become "smart," there has been a question about whether city officials are thinking through the cybersecurity implications of embedding computers into vital urban functions. Issues related to how personal information is processed, handled, and shared are still not being given nearly enough attention. The data collected by these smart city ICT base initiatives, if not monitored and do not have controlled access, can be a lucrative opportunity for the tech companies to capitalize. As evident from the literature review, the argument given by the city of Nagpur sounds like many other supporters of the technological solutions for sustainable urbanization. When the municipal planning authorities asked about the heavy reliance on technology-driven solutions, the answer was like other smart cities worldwide.

"Rapid urbanization comes with challenges that need to be handled more smartly. Software companies provide a perfect solution for these challenges and make life easier. It also makes city sustainable by optimizing potential of city. So why not just implement them and make people's life easier and more comfortable - after all, that is a smart city. For example, what is the problem if security cameras record your video? If one has not done anything wrong, the person has nothing to worry about. In India, everyone approves of it."

Another responder, while asked about the understanding of the smart city and its relation to technology, responded,

"A smart city has to do with technology, sensor, and cameras to make our life easier. There are technologies out there that challenge the traditional ways of city development; nowadays,

it is very easy to select which (technological solutions) *suit our cities best and which will help us build a better future and go with it."*

These arguments and responses show a blind fate and unquestionable acceptance of using technology and the solutions available. These ideas result from the smart city agenda, which the government of India is embedding in its urban development vision for the cities. It also shows the lack of awareness of the smart city and the right to privacy – the person proclaimed that in India, *"everyone approves of surveillance is a sign of ignorance"*. While comparing the evidence from the smart city mission guideline and the Nagpur smart city proposal, it is clear that- the smart city perceived by the state and the NMC is similar, which in a way tries to sell technology and ICT-driven initiative. Therefore, it gives an overall impression that even though the national smart city guideline emphasizes that every city has a different approach to the smart city. Nagpur has already headed towards a more neoliberal approach to smart city making.

The definition of the smart city in India appears contested; a lack of clarity in understanding of the concept has led to the interchangeable use of the term with several other progressive city-making phrases. In this context, when asked about the term 'Eco-friendly city', 'Edu-city', 'Electronic connectivity', and 'Inclusive city' the initiatives derived under these themes, the city planning authority could not clearly define what this term means in the actual implementation on the ground. The only answer I could get from the conversation was *"…. the planning is underway…"* and *"The projects are under pipeline since we are trying to digitize the system, and corona made things a little bit slow".* It gives the impression that the terms 'Eco-friendly city', 'Edu-city', 'Electronic connectivity' and 'Inclusive city' appear to have strong associations with the use of 'smart city' terminology. However, beneath the surface, this tag remains and is often used interchangeably with the term 'smart city.' to define the development model in smart cities. (Söderström et al., 2014) calls this phenomenon a 'contemporary language game' a game that is often played out on a purely opportunistic basis by local authorities to gain a competitive advantage, by technology vendors to capture a booming technology market or by politicians to gain popularity among the masses, as the term smart' is more attractive than other related phrases (Nam & Pardo, 2011).

5.3 Nagpur smart city and public participation

Looking at the statistics, the city of Nagpur seems to have conducted one of the best outreach programs with its inhabitants. The Government of India smart city mission, assigned the

Nagpur smart city corporation with CRISIL (Credit Rating Information Services of India Limited). It is an Indian analytical company providing ratings, research, and risk and policy advisory services and is a subsidiary of American company S&P Global. CRISIL was responsible for consulting and assisting Nagpur smart city corporation in formulating a smart city proposal. It was also responsible for carrying out smart city public participation and stakeholders in the formulation stage. NMC and CRISIL took the lead in preparing NMC's proposal for the national Smart City Challenge, using inputs from firms like PWC, IBM, Persistent Solutions, Trinity Solutions, Ernst and Young, and Airtel (NMC, 2015). Also, the Centre for Sustainable Development, an NGO based in Nagpur, helped organize citizen engagement in Nagpur's smart city mission proposal. Looking at the statistics, the city of Nagpur seems to have conducted one of the best outreach initiatives with its inhabitants. Naturally, the resident's expectations are in alignment with any country facing an infrastructure deficit (good public transport, reliable water supply, proper sanitation, etc.). However, the ground reality about the smart city public engagement portrays a different picture.

As evident from the analysis of the Smart City mission, guidelines, it highlights public participation as crucial to smart city proposal development: Public participation is stressed as essential to developing smart city proposals in the National Mission guidelines. It emphasizes that the proposal will be public-driven from the beginning, achieved through citizen consultations, including active participation of groups of people, such as people's welfare associations, taxpayers' associations, senior citizens and slum dwellers associations. During consultations, inhabitants and stakeholders will identify issues, needs and priorities, and public-driven solutions (SCM, 2015). It also calls for engagement with vulnerable sections of society (disabled, children, elderly etc.), ward committees and area sabhas (neighbourhood councils), and important public welfare groups (associations, organizations, and institutions such as the local chamber of commerce) (MoUD, 2015a).

The Nagpur municipal corporation highlights that it conducted a combination of smart city public participation activities. The city corporation based its public participation initiative on the three-stage public engagement agenda- "Popularize - Co-Create – Crystallize". Under these three-phase public engagement initiatives to formulate a vision and initiatives for the smart

city, a variety of public engagement methods were utilized. Under the "Popularize" phase, a social media campaign was launched on Facebook (fig. 11) and Twitter by posting and urging locals to support the initiative by suggesting ideas for a smart city which received around 25,185 likes and 66,566 reactions. The idea challenge was also aggressively promoted through the FM Radio channels like 93.5 RED FM, 98.3 RADIO MIRCHI etc. Furthermore, a newspaper agency, Sakal group, was hired to publish articles and advertisements regarding smart cities to generate curiosity amongst the city's inhabitants. The articles and opinions included professionals, eminent citizens, subject matter experts, business leaders, academicians, and other eminent citizens. In addition, a YouTube and Facebook live by the city mayor and the municipal commissioner was also part of the public engagement initiative. These initiatives effectively inform the public about smart city making; however, they give the impression that the efforts were maximized on a one-way flow of information. Moreover, although the posts were addressed to the common public, the efforts to educate and build up the capacity to effectively participate in the initiative were minimal, as pointed out by one respondent (NMC & CRISIL, 2015).

Figure 11: Popularization phase posts by NMC

The national smart city mission guidelines also call for engagement with the vulnerable; differences based on power asymmetries of class, caste, and gender are once again obscured. As mentioned earlier, the National Mission guidelines emphasize using digital technologies for citizen participation. It specifically asked the guidelines to the following question: *"how much of social media, community, and mobile governance have been used during public consultation, while making smart city proposal?" (MoUD, 2015).* Even for achieving the seemingly people-centred public participation in the formulation stage of the smart city proposal, the national government's smart city imaginary is centred on digital technologies. While restricting participation to those adepts with digital technologies, this technology-centred framing may be geared toward promoting the contracting of private firms to design and implement "tools for tailor-making stakeholder engagement" (Corsini et al.,

2019) . Thus, the Nagpur smart city proposal highlighted the 'quantity' of participants and emphasis on the number of participants irrespective of the area, locality and background.

It conveniently ignored that not everyone in the city has access to social media platforms like Facebook and Twitter. Furthermore, Nagpur municipal corporation urged the public on social media to post their opinion on www.smartcitynagpur.com. Although it received 3513 visitors during 2015-16, the use and access to the website is limited to those who can use and have some knowledge of it. One respondent replied to it as a "*half-hearted attempt to engage the public – since not everyone can use the website, the corporation and the consultant thoughts having the internet on the phone was enough for people to go and post their opinion on social media and website".* Upon asking who the people involved in writing the articles and opinions were, the CEO responded, "*most experts in the field had worked with the technology. These were the people we identified with the help of our consultant partners."* The Facebook and Twitter page of Nagpur smart city paints a different picture. Amongst all the social media posts, not even a single post describes the procedure to access the website. Very few visitors on the social media platform liked these posts, commented, or suggested any ideas for the smart city. The posts to promote smart city public engagement also miss basic descriptions of the image, the purpose of the specific post or the context; hence, one cannot understand what to make of it. The Nagpur municipal corporation also posted some smart city initiative images from foreign countries (Fig; 12), e.g., the Netherlands, Barcelona, and other European countries. However, it completely ignored the local context and culture, making it another attempt to copy a western idea out of context and manipulate public opinion.

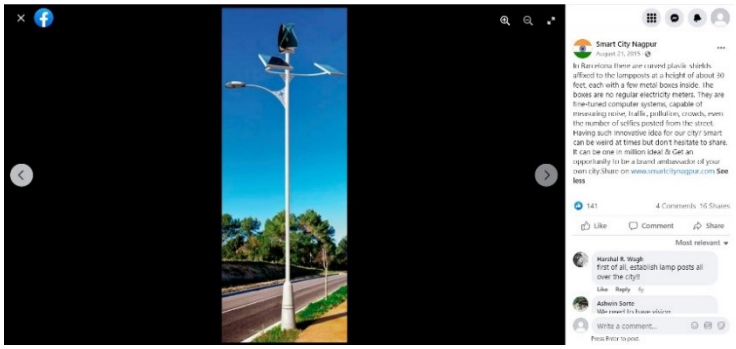


Figure 12: Posts on Facebook referring to Barcelona and Amsterdam

In-person, direct interactive sessions and public forums were conducted with the students, professionals, and eminent city citizens. Information about the smart city and what it means were passed with the help of PowerPoint presentations consisting of images, videos etc. Focus group discussion with panels of experts, eminent citizens of Nagpur, business representatives, urban planners, architects, engineers, solution providers, citizen-driven knowledge forums etc. was also employed to reach out to the inhabitants. The corporation believed that conducting smart city information interactive sessions with these groups of people would boost the public awareness of the smart city, and these were essentially termed "smart people" according to the municipal corporation-

"These are the people who are capable of understanding the technological perspective of the smart city- imagine these people, upon understanding, will also promote these initiatives within their society and their family members", responded the SPV's ex-CEO.

In terms of communication strategy at the popularize phase, there is a greater emphasis on the website, newspaper reports (fig; 14), use of variable message sign boards, etc., as a way of creating awareness regarding the possible smart city project initiatives. The component of interactive communication is missing. Although the NMC officials speak at public forums

Figure 14: Newspaper articles publish various newspapers

(conferences, symposiums, etc.), a dedicated interface for creating awareness or highlighting the benefits of initiatives appear to be missing.

After the ‘popularization’ phase, Nagpur municipal corporation organized ‘co-create’ in two phases to define a vision and spread awareness. The public engagement included 14 focused group discussions, 362 domain experts and 511 zonal meetings, 21 workshops with 2498 students and teachers and workshops with institutes. It also organizes workshops with local elected representatives to ‘sensitize’ them about smart cities. These initiatives were conducted to inform about the possible initiatives under the smart city and collect opinions about the directions. However, these discussions and initiatives represented only a fraction of society. Mostly made of experts, technicians, elites and students and teachers from colleges and universities. One interviewee mentioned*, “Smart city engagement events categorically targeted only people who can suit the narrative of the Nagpur municipal corporation and BJP government - the BJP people mostly attended the meeting with the elected representatives, and there was only ppt presentation by mayor and CEO - No chance was given to ask the questions.”*

Figure 13: Participant sensitizing sessions with CEO of Nagpur municipal corporation

Furthermore, a door-to-door public outreach was conducted highlighted a high number of public responses, especially during the offline outreach, i.e., 235,194 households (1.58 million persons or 40% of the population) in Phase 1, 10,000 HHs in Phase 2a & 11,193 HHs in Phase 2b (NMC, 2016). The respondents included – senior citizens, housewives, students, professionals including IT employees, children, non-resident property owners, entrepreneurs, developers, businessmen, city administrators, elected representatives, academicians, and other government institutions along with visitors to the city" (NMC, 2016). The survey also collected some basic information about the shared vision of smart cities. However, the process was more like a one-way flow of information, and few people seemed aware of the smart city formulation process. As one of the elected representatives responded:

“We were asked to fill in the forms for smart city vision, but the public did not understand why these forms were being filled, and many of the people from the ward were asking me if it was going to bring in any change.”

“Now that I think about it turned out to be another advertisement funda by the government with no real intention of change. So, we are still struggling [Basic amenities].”

The data from the semi-structured interviews suggest that the Nagpur smart city proposal included a particular class of people to collect the vision and aspiration information. An elected representative stated that –

“Nahi, no one came to ask our opinion or any information – There was information in the newspaper about the form filling up, but no one came. So, I think some areas like Laxmi Nagar, Mahal, civil line and Sitaburdi were consulted.”

“We were unaware of the collected survey forms until one of my colleagues informed me about it.”

The areas of the city mentioned in the above response are already where a substantial level of development has already taken plan over the decades, and the population demographics are at a higher level of economic prosperity compared to the other parts of the city. The categorization indicates that the city effort was focused on reaching out to middle-class and upper-middle citizens. This defeats the purpose of bringing the poor and vulnerable people on board since they are marginalized. One of the town planning committee members responded,

“The people in the slum are part of the city, but they lack knowledge of the city initiatives itself, and at the end of the day smart city is about technology coming to the city, so how can they contribute if they are not educated enough to understand?”

The statement shows a blindsided nature of the corporation towards the vulnerable people and shows a less or low interest in their involvement. A survey by a local NGO highlighted that the inhabitants had a very vague idea about the project and did not seem to understand the purpose of a smart city and its initiatives (TOI, 2018). The street vendors and some slum dwellers from the poor vicinity claimed to be completely left out during the planning phase. They were unaware of any feedback channel or redressal mechanism conducted by the city corporation. The forms were also available online to fill up; during the data collection process, I got to know that the online response was way less than expected. The planning officials agreed on the fact that the online version of the survey was not accessible.

The focus group conducted with the inhabitants of housing societies and gated communities showed no signs of social inclusion as the focus group were conducted in the same part where

the area is a bit more developed and the community member is a bit educated. The officials at NMC responded, "*We were looking for sensible solutions from the people who can understand the smart city and give some productive inputs, therefore conducting the focused group discussions in the housing societies and slightly better residential area was a better choice*". However, it has also been noted that the response to these focused group discussions was very low, as noted by NGO- Centre for Sustainable Development representative. Often the participants will not physically show up or would not be aware of the workshop. As pointed out in the literature review, it refers to the "non-participant" nature of the participants, simply due to lack of time, interest or feeling pressurized. A participant in the interview noted that a middle-class family consisted of elderly, male and female professionals, and kids, but only represented by the family's male. Women would only attend meetings if male family members could not do so or if the men thought they were an immature waste of time. The representative was typically middle class rather than a resident of a low-income community, which was another discovery. Some delegates gathered ideas from other inhabitants or wrote down their thoughts and validated them with other community members before the participation gatherings in the NMC's designated venue for the talks. Another respondent related how several eager, largely male retirees were individually invited to the focus groups by local government officials. They held them in high regard due to their outstanding professional careers. These powerful individuals were not the disadvantaged, marginalized population that the National Mission guidelines had stressed.

Recalling the nature of the meeting, the elected representative who was part of one of the focused group discussions mentioned that:

"The city officials will introduce themselves and the goal of the meeting and then we were shown some video clips of smart cities worldwide [presumably of American and European cities] *then we were asked to propose any ideas and opinions about making Nagpur a smart city."*

These predetermine goals, messages and readymade imagery creation based on the non-contextual examples can manipulate the people participating and deviate them from more concerning local issues and can be considered as a monolog.

In the third phase, the NMC organized various Strategic Stakeholder Consultation Workshops (SSCW). These were experts and professionals from various fields who suggested the ideas that could be implemented in the smart city of Nagpur. Additionally, NMC also formulated Nagpur smart city council (NSCC), a citizen-driven knowledge forum. However, the members in the forum are almost exclusively elites and upper-middle-class community representatives; the body lacks the concept of equal representation, raising the droughts about "who participates?". While enquiring the background of the members of the forum I got to know there were mainly IT experts, construction company business owners and local industry owners; therefore, lacks diversity of background and equal representation. While enquiring about the background of the members of the forum, I got to know there were mainly IT experts, construction company business owners and local industry owners; therefore, lack of diversity of background and equal representation also took the help of the local NGO to map the vulnerable and potential areas in the city to be retrofitted and developed under the smart city (refer to fig.14). However, the smart city solutions proposed for these poorly developed neighborhoods show a top-down approach and are diverse from reality. While discussing the mapping and solution development process with the NGO representative, the individual pointed out that there were no consultancy sessions conducted with the locals of these areas. When the [NGO] suggested some of the needs of the locals, the authority did not bother to recognize them. It went ahead with the predetermined solutions, e.g., providing solutions like e-bikes and smart vending machines for metro tickets, which was completely different to the ground needs of the medical clinic and more toilets and clean drains. The elected representative from the area also pointed out that these neighborhoods are also deemed illegal; therefore, the corporation may be neglecting them. The attitude of policy and decision makers points out the top-down single-sited approach of authorities and people in power and can influence the decision-making.

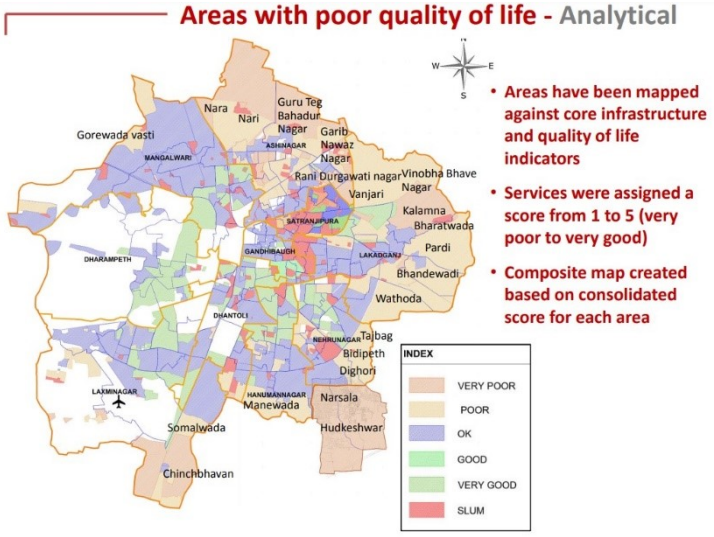


Figure 14: Area analysis map by NMC

5.4 Nagpur smart city public participation – on evaluation framework

Nagpur municipal corporation conducted public participation to formulate a smart city proposal using various methods and techniques. However, most methods employed in public

participation helped communicate one-way information to the inhabitants of Nagpur smart city rather than co-producing, collaborating, and empowering opportunities for the inhabitants of Nagpur smart city. It also displayed a biased attitude toward inhabitants from poor and vulnerable neighbourhoods.

The case study findings indicate that no efforts were made to enhance the capacity of the public or create a more inclusive environment to make public participation a real success. The face-to-face meetings included focus group discussions and workshops; however, the documents do not transparently describe the design of these meetings nor the outcomes. The quantity of participation seems to be the main focus of the public participation efforts, irrespective of the quality and outcome, which does not even mention in the Nagpur smart city proposal documents. NMC's emphasis on the digital mode of participation without recognizing the digital divide; led to the exclusion of people and the willingness to participate affected. With the lack of two-way communication and a bias of authorities toward poor and vulnerable communities of the city, the smart city-making efforts are doomed to suffer in the longer run. Participation is mainly reduced to elite, digitally savvy, and educated inhabitants without two-way communication between inhabitants and city officials. It is interesting to note that the NMC researched the best smart cities and initiatives around the world however to make the smart city more inclusive; however, they failed to adapt and learn from the case studied, which they appropriated as a successful model of smart city and public engagement for the smart city.

On the evaluation framework, these public participation methods and how they were conducted stand at a non-democratic, tow-down level, falling in the inform, consult, and involve but still a one-way communication. Furthermore, the nature of public participation in making a smart city confined the role of its inhabitants to the 'consumer or data provided,' 'feedback or information provider,' or just' participants' with few or no stake with very little or low chance to communicate and see their ideas being considered. The lack of democratic decision-making in the process of smart city formulation may deteriorate the resident's interest in the development of the cities. In the race to make "Smart cities" with "Smart citizens," the NMC missed the opportunity to enhance its chances of truly building an inclusive society.

The city authorities expressed dissatisfaction with the workshops' low levels of participation or representation during semi-structured interviews. They went on to say that this might be because of the locals' lack of interest in the seminars and a lack of awareness of them. An elected representative pointed out that though some inhabitants could attend the workshop, the already fixed vision of the NMC official left little space for contribution. A representative from NGO also pointed out that sometimes the people themselves were not interested in

becoming part of the workshop, citing the reason of "*How can I make the decision?"* or "*I cannot attend because of the job or some other commitment"* or "*Why have we elected Nagar Sevak? It is their job to see what is more appropriate for the city?".* Simply stating*, "What is the point of participation? If there will be no implementation?"* another respondent pointed out*, "I attended initial meetings of the smart city making in NMC as an elected representative. When asked, I mentioned the issues my ward is facing in terms of Garbage being not picked up, 'Nali'- drains being not cleaned and not cleaned for days, and other things related to road maintenance since it was raining. One of the officials suggested that these things are general and do not fall under 'smart' strategy…. referring to the presentation which was previously done based on other cities around the world and technology implemented; so, I thought there is no point in making suggestions".*

This behavioural expression is a form of 'non-participation.' As (Kitchin et al. 2017) point out, it occurs when inhabitants are nudged and steered towards specific sets of behaviour, practice, and conduct. In the case of Nagpur, this results from the exclusive representation of a particular class of people, lack of capacity-building exercise, and non-consideration of views of the inhabitants who participated. Resident's lack of participation in the development of the smart city was powered by solid technocratic stimulation, ideas of stewardship, and civic paternalism, where inhabitants are hardly a significant decision-making body; instead, they are just a figurative representative - data point provided with little or no stake in final decision making.

With the strong undertone of top-down and one-way communication, the analysis of the public participation methods implemented by the Nagpur city council to formulate the smart city proposal falls between the level of 'Inform' to 'Involve' in the smart city public participation evaluation framework (Refer: figure 15). The initiative such as - Information sessions and newspaper advertisements, Media campaigning on TV and radio channels, public information boards, and social media campaigning on Facebook, Twitter etc. or via Websites - www.MyGov.in & www.smartcitynagpur.com all falls under the one-way mode of communication as their platform was mainly used to disseminate the information to the inhabitants. Therefore, falls under the category of 'Inform.' This means the information provided will help the public understand the smart city concept, solutions and initiatives; however, it does not guarantee any development of the capacity to participate actively- A nominal information process with no checks and balances. Here the information provided could be steered, nudged, controlled, forced, manipulated etc.

Furthermore, The initiatives such as feedback forms and shared vision development surveys, suggestion boxes and signature campaigning, social media - image building, public hearings, vision competitions - via essay and paintings for youths, community information sessions, sensitization workshops with elected representatives and technical stakeholders (SSCW) and focus group discussion in the communities and neighborhoods. Indicates the two-way flow of information between the NMC and the inhabitants; however, the data shows that these initiatives target a specific audience. This also indicates that the initiatives were to obtain public feedback on analysis, alternatives and, or decisions made to implement smart city agendas - keeping the public in the loop about the development; however, there is no assurance for the influence of decisions based on the suggestions and feedback. Therefore, these initiatives also fall majorly under the one-way flow of information, and the outcome is dominated by the majority opinion provided by the specific set of individuals and community members. The Nagpur municipal corporation also conducted area mapping exercises and initiated a citizen-driven forum called Nagpur Smart City Council (NSCC). Although the mapping exercise involved participants from all parts of the community, the citizen forum included elites from the upper middle class and development entrepreneurs. It indicated the non-willingness of the NMC to involve the disadvantageous group of the population from the city in decision-making. The method falls under the category of 'Involve', which means working directly with the public throughout the making of smart cities to ensure that the public concerns and aspirations are consistently understood and considered - ensuring they reflect the aspirations and feedback in the decision-making, but with certain reservation on whom to involve.

Smart cities public participation evaluation framework						
Form and level of Public Participation		**Role of public in smart cities**	**Goal of public participation**	**Form of involvement**	**Nature of involvement**	**Case of Nagpur smart city**
Increased impact on decision making	 Empower	Decision makers	To place final decision-making for smart city inisiatives in the hands of the public - Implementation of the decision made by the public.	Ideas and Vision monitoring, initiative implementation monitoring, ownership creation, product and policy negotiation etc.	Inclusive, Bottom-up, Collective, Autonomy, Creating a sense of belonging and Two-way communication	
	 Collaberate	Co-creators	To partner with the public in each aspect of decision making, including developing alternatives and identifying preferred solutions - maximum incorporation of advice and recommendations to the maximum extent possible.	Suggestion, feedback, capacity enhancement, incorporation of advice and feedback to the maximum end possible		
	 Involve	Participants	To work directly with the public throughout the process of making of smart cities to ensure that the public concerns and aspirations are consistently understood and considered - ensuring to reflect the aspirations and feedback in the decision-making.	Mapping, collection of suggestions, vision development etc		• Area mapping • Nagpur Smart City Council (NSCC), a citizen-driven forum consisting of elites from the middle and upper middle class and development enthrupruners
	 Consult	Information providers	To obtain public feedback on analysis, alternatives and, or decisions made to implement smart city agendas - keeping the public in look about the development, however, no assurance for the influence of decisions based on the suggestions and feedback.	Feedback, survey, comments, browse, consume, reactions etc.	Top-down, Non-Democratic Paternalism, Stewardship, Biased Discriminatory Unjust One way communication	• Feedback forms and public vision development surveys • Suggestion boxes and signature campaigning • Social media - image building, public hearings, vision competitions - via essay and paintings for youths • Community information sessions • Sensitization workshop with elected representatives and technical stakeholders (SSCW) • Focus group discussion in the communities and neighbourhoods
	 Inform	Consumer / Data provider	To provide the public with balanced and objective information to assist them in understanding the smart city concept, solutions and initiatives; however, it does not guarantee any development of the capacity to participate actively- A nominal information process with no checks and balances.	Steered, nudged, controlled, forced, manipulated etc.		• Inform sessions and newspaper advertisements (Sakal Times), • Aggressive media campaigning on TV, radio channels like 93.5 RED FM, 98.3 Radio Mirch • Public information boards, • Social media campaigning -Facebook, Twitter, WhatsApp, Youtube video, • Websites - www.MyGov.in & www.smartcitynagpur.com • Open letters and emails to the residents by the mayor of the city

Figure 15: Nagpur smart city on Smart city public participation evaluation framework

Source: Author

6 Discussions

In the following chapter, I will answer the research questions using data analysis. I then summarize the key findings, interpretations, and implications before moving to the limitations of the research and brief recommendations at the end of the chapter.

The research aims to understand the process of 'Public Participation in Indian Smart Cities with the case of Nagpur smart city. To do so it aimed to understand how the national smart city mission envisions the smart cities and public participation. The research further aimed to investigate the role inhabitants in making Nagpur's smart city proposal and how Nagpur defined the smart city for itself and where doses the process of public participation stands on the on Smart city public participation evaluation framework, developed on the basis of 'Spectrum of Public Participation' by 'The International Association for Public Participation (IAP2)'.
The research questions which I undertook through this research are:

1. What role does the city authority play in facilitating inclusive public participation in making a smart city proposal for Nagpur smart city?
2. What is the socio-economic status of the inhabitants who participated in Nagpur's smart city proposal formulation process?
3. Where does the public participation in the Nagpur smart city stand on the smart city public participation evaluation framework developed based on the 'Spectrum of Public Participation' by IAP2?

According to the National Smart city mission, the idea of Smart cities relies on developing large-scale infrastructure and redevelopment projects and compensating the management system by implementing smart technology and digital infrastructure (Anand et al., 2018). The mission defines smart cities as flexible entities that can be redefined as per local requirements and vision (MoUD, 2015). However, the analysis shows that the SCM is asserting the formulation of smart cities with the help of international consultants and implementing ICT-driven technologies, leaving no scope for local innovation and ideas. At the local level notion of being smart is completely different from the state-defined parameters, which was also highlighted by other researchers in their research on SCM (Datta, 2021; Ghosh & Arora, 2022; Gupta & Hall, 2017).

The smart city mission emphasizes the public engagement and inclusion of the vulnerable in making smart cities. However, it fails to recognize the need for capacity development for the effective outcome of the public engagement process (Taraporevala, 2018). Furthermore, the smart city mission indicates that “smart people” must participate in making a smart city, thus perpetuating the idea that it expects city inhabitants to learn to mould according to the smart city agenda rather than building a context-specific custom-made approach. However, at the same time, the SCM fails to recognize the need to uplift every stakeholder on a similar level to participate and contribute equally. On the contrary, the SCM emphasizes the ICT-driven public participation approach (Das, 2020) and points out that the SCM somehow assumes that the inhabitants will figure out how to become “Smart People”. This shows the dual nature of the SCM.

Since the smart cities in India are the outcome of the national smart city mission guidelines, the Nagpur smart city is no exception. Analysis shows that it tends to take the lead from SCM’s ICT-driven approach to making Nagpur smart. NMC tries to sell the ICT-driven approach by sugar-coating them with terms like ‘‘Eco-friendly city,’’ ‘‘Edu-city,’’ ‘‘Electronic connectivity,’’ and ‘‘Inclusive city’’ as the synonym for development. However, the analysis indicates that the city authority does not have a concrete plan to bring it to bring the vision to reality. The results from the analysis indicate that the NMC is dwelling on the idea that somehow technology will take care of the vision the NMC set for itself under the smart city proposal. The city of Nagpur (based on the numbers presented in the proposal, awards, and recognition it got) claims to have conducted one of the best public engagements in India while making a smart city proposal. However, the data analysis from the research paints a different image.

The public participation initiatives and the process mostly lie at the bottom of the evaluator framework, confined to ‘*Inform*’, ‘*Consult*’ and ‘*Involve*’. The role of the inhabitants is mostly confined to being consumers or data providers, information providers, or participants with no real stake in the outcome. The analysis indicates that NMC has implemented a top-down, non-democratic approach toward public participation in making a smart city. The civil authority’s engagement efforts represented one-way information flow to its inhabitants. After analysing the data from the semi-structured interview, one can indicate that the NMC and the consultants derived a rigid strategy for the Nagpur smart city, which left very little scope for effective public engagement. Therefore, this resulted in one way, tow-down public participation process. This led to non-participation amongst some participants. (Kitchin & Cardullo,2019) indicates that ‘‘non-participation’’ occurs when citizens are nudged and steered towards specific sets of behaviour, practice, and conduct, which stand true in the case of Nagpur smart city.

Furthermore, since the national smart city mission predetermines the narrative around smart cities, the NMC has put in very little, if not extensive, effort to develop the capacity of the vulnerable in society. In some cases, the inhabitants of the lower middle-class underdeveloped areas were kept out of the engagement process, assumed unfit for giving valuable inputs that would fit the smart city approach. Similarly, the NMC invited only a certain group of people to represent the city's population in citizen representation groups, which shows the biased nature of the NMC. The analysis indicates that the NMC lacks foot-holding on the ground reality and posted a blind fate in technology. Therefore, the NMC's initiative to engage inhabitants digitally via Facebook, Twitter, and the www.smartcitynagpur.com website falls short since not everyone in the city has access to or knows how to use media platforms.

The authority's initiatives to engage inhabitants in public participation to make the smart city proposal is governed by:

1. Top-down conceptualization of public engagement, aligned with the technocratic and ICT-led solutions to make the city smart. Participatory design and practice frequently prioritize one-way digital communication.
2. The influence of the middle and upper classes as opposed to the poor, vulnerable, and marginalized.
3. A focus on the ‘‘quantity’’ of participation rather than the ‘‘quality’’ of participation
4. Missed opportunities to co-create and co-produce, further diminishing the possibility of challenging the predetermined smart city agenda.

The city authorities conveniently selected and served a specific community of inhabitants whose ideas align with technology-driven solutions for developing smart cities. Nagpur wants to capitalize on the urbanization boom and the booming economy to become a world-class city. However, while doing so, it is abandoning the democratic process. The suppression of the voice of the weak and the exclusion of lower-middle-class individuals resembles the state of Indian democracy. Public involvement projects have emphasized and favoured a particular class before; in fact, similar exclusionary tactics are becoming the standard throughout other participatory urban governance initiatives in Indian cities (Chattopadhyay, 2015; Williams et al., 2018). The initiative left little room for inhabitants to self-organize; therefore, the city is at the risk of actively building a technocratic version of the smart city. The public participation process in Nagpur has reinforced the idea that the inhabitants are just passive subjects, undermining their right to the city. This could have been avoided if the city authority had created an inclusive environment and promoted active two-way civil-public dialogue between the inhabitants and the authority. The analysis shows that Nagpur's smart city vision and public engagement goals are cities rooted in stewardship (Kitchin, 2015), captured by dominant

players in the society, a neoliberal conception of a development framework that ensures a singular technocratic narrative within a framework of state and corporate defined constraints that prioritize market-led solutions to urban issues.

This research has implied that the smart city and public participation remain a “Buzz Word”, which is no manifestation of a people-centric initiative, at least in the case of Nagpur smart city. The SCM and NMC envision a smart city from a purely technocratic perspective than a social need base initiative hogged by neoliberal agenda. As indicated in the literature review, the smart city paradigm remains dominated by ICT-driven technocratic solutions to the issues caused by rapid urbanization. In Nagpur smart city, the results of the semi-structured interviews indicated that the authorities had a blind fate to technology-led solutions. Hence the city missed the chance to develop a people-centric smart city strategy.

Furthermore, the city authority shows immense confidence in understanding the need of the inhabitants of the city on their own, showing a lack of respect for the inhabitants’ aspirations. The evaluator framework has demonstrated the level of public participation in the smart city of Nagpur, which lies at the bottom of the framework, indicating that the process was flawed. The research has also implied that the public participation evaluator framework developed for smart cities can also be utilized to evaluate the status of public participation in other Indian smart cities.

Lastly, I would like to list the research's limitations in this section. First, there were only eight semi-structured interviews were conducted with the elected representative, NMC officials, people's body representatives and NGO representatives. Here one must indicate that the three elected representatives I interviewed in the process share the views of some of the inhabitants. Among the eight representatives I interviewed, only one was a woman. Therefore, this research does not include a gendered perspective. It is a limitation. As indicated in the literature review, there is a wide research gap in the smart city research regarding the global south as a range of research is primarily focused on smart cities based in the global North. Therefore, I think this is a limitation when understanding the cities in India or the global south from a smart city perspective. Fourth, the thesis revealed many insights from the interviewee's perspective. The author was unable to conduct extensive interviews with inhabitants and other stakeholders due to time constraints; therefore, it is recommended that the inhabitants and other stakeholders be interviewed, thereby widening the perspective on an understanding of the public participation in Nagpur smart city. Finally, the lack of open access to data and the willingness of the authorities to share the information was a challenge and limitation of the research.

7 Conclusion

(Gold, 1984) writing about urban utopian thinking on the pages of Futures, stressed that planning for the city of the future must be based on real social needs. Unfortunately, the mainstream understandings of the smart city have a limited consideration of actual social needs and aspirations (Vanolo,2016). For example, the Smart City Mission by the Government of India prioritizes economic growth and wants to enhance the urban inhabitants' quality of life by building smart cities through technological interventions. However, although the mission emphasizes equal public participation, it fails to lay down the guideline about what equal participation would look like and instead emphasizes the involvement of the 'Smart People', which essentially means those who have some knowledge of the technology and digital space. It furthermore encourages smart cities to base their public participation on social media platforms like Twitter and Facebook, demanding an extensive record of likes on the smart city imageries shared on the social media platform. Smart city-related public participation activities on Twitter and Facebook thus bring specific kinds of smart people into being: people who often participate in smart events and people who learn about smart and anticipate a smart future (Rose & Wills, 2019).

Digital outreach and feedback thus result in two challenges. The first is digital literacy, as only those who can use certain technological and linguistic platforms will be able to engage in campaigns for public participation in smart cities (MyGov websites, city websites, Facebook, Twitter, apps etc.). This could distort the viewpoints expressed as representative of the entire city. The second difficulty is related to the number of replies from an individual since, in theory, one person may provide a limitless number of responses, making it harder to assess the level of engagement. This could have been avoided with a more rigorous process of submitting recommendations and opinions; however, the mission needed to create this nuanced interface.

On the same lines, the case study city Nagpur oriented itself on the state-defined narrative of a smart city, and the inhabitants played a passive role in making it. Consequently, the public participation process in making Nagpur a smart city confined itself to one-way communication between authorities and inhabitants, thus lying at the bottom of the smart city public participation evaluation framework derived from the IAP2 spectrum. The data do not justify the claims of the NMC that the proposal is a result of the bottom-up process of residents' involvement. In formulating the Nagpur smart city proposal, there is arguably little room for the inhabitants' voices because planners and technological experts claimed to know exactly what

residents truly desire and how to provide it, much like the approach assumed in the tradition of colonial and modernist utopian planning. Since there are no specific guidelines in the Indian smart city mission, there is ambiguity around what constitutes public participation in smart cities. For instance, social media "likes," "shares," and even "Twitter impressions" were deemed good reactions to the initiatives under consideration for the creation of smart cities. This approach to involving the public is quite troublesome since individuals may share the information posted on the city's Facebook and Twitter pages while criticizing it. The use of Twitter "impressions" as a measure of participation is also pretty unsettling because it does not ensure that the tweet has been viewed, much less that the person who does see it is from the target city or is the intended audience. It is intriguing to contact individuals using social media and modern technologies. However, social media is an empty way to interact with people if it is not properly utilized.

Furthermore, the selective representation of the participant's exercise shows the biasedness of the authority and shatters the equal participation claim. The authorities should have created a balance between digital and physical participation. Instead, it marginalized the vulnerable population of the city. One can conclude that the city authority failed to re-incorporate ordinary inhabitants' voices, including the poor ones, the inhabitants of the slums, and other technologically marginal or even subaltern subjects. The public participation process implemented in making a smart city proposal for Nagpur does not represent a justified nexus between inhabitants and urban technologies that is truly empowering and respectful of the aspirations of its inhabitants. Therefore, the city deprived itself of an opportunity to formulate a holistic development road map which could have been more inclusive and allowed addressing the issues and pressing needs of the inhabitants.

A rising body of international research demonstrates that impoverished and marginalized city inhabitants do not conform to "smart" ICT-driven, neoliberal development goals. This is particularly in unequal cities of the global south. The Nagpur smart city case demonstrates how, even in supposedly democratic and inclusive initiatives, 'assumed' unfitting voices are excluded and controlled in practice by the city governing authorities and policy makers who are supposed to act as guardians. Suppose the urban authorities fail to inculcate democratic values in urban development initiatives, which should be meant to manage urban areas better. Smart cities will probably continue to stand for neoliberal technocracy without democratic reform.

8 Recommendations

This chapter will indicate recommendations for the Nagpur smart city based on the conclusions. As indicated earlier, this research focused on smart city proposal formulation

for the city of Nagpur and how it conducted public participation in 2015. However, now that the project is in the implementation stage, there is still a scope to improvise on the context-specific urban development initiative by consulting and involving people in decision-making, thus prioritizing community empowerment and collaboration.

To do so:

1. The authorities must acknowledge that the public is a plural entity and, therefore, cannot be represented by a few—a more inclusive policy and platforms for public participation by providing hybrid modes, e.g., digital and in-person participation, can bridge the gap. Also, hosting a training, outreach or digital literacy programs and camps to bridge the digital divide gap can be a solution. Here local religious facilities, community halls, and parks can be utilized.

2. The research indicated an information gap regarding smart cities amongst inhabitants. Therefore, making sure that the authorities and the inhabitants are on the same level is more appropriate before diving into the specific solutions.

3. Transparency and open communication in implementing the public initiative is always a bigger issue in India; the same applies to the smart city. The city official's job is to convey the changes and initiatives to the inhabitants in advance with detailed information. This will build confidence and give inhabitants the decision of whether or not they want a certain initiative implemented in the city or the neighborhoods.

4. It is a fact that there is a digital divide and thus insecurity about the technology; therefore, making the public aware of the pros and cons of the technology which is being implemented can increase transparency and accountability. At the same time, explaining what will happen with the resident's data and the technology will allow inhabitants to evaluate and provide feedback critically.

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