

# Empowering Smart Cities Through Community Participation a Literature Review



Anika Kapoor and Ekta Singh

**Abstract** In the recent times, the concept of smart cities has gained momentum and has received considerable attention of urban planner, administrators, policymakers, etc., as a response to the complex problems associated with the unprecedented urbanization. However, citizen engagement or public participation is the key element in the smart-city concept to optimally reach the objectives. The intention of smart cities can only be met by making the communities smart and enabling the end-users and local people to involve in city governance. This article investigates the role of public participation in decision-making, transforming the same into a smart city in the real sense. The article also highlights the adaptable tools and techniques for effective public participation and limitations of this approach in the existing planning machinery in India. The paper facilitates a review of literature from varied research fields is accomplished to understand the role of community participation in smart-city context and to identify the different tools and techniques, empowering people to participate in city governance to make it smart.

**Keywords** Smart city · Smart community · Public participation · Local area planning

## 1 Introduction

Regardless of the discomforts, constraints, difficulty, and cost, particularly in intricate, heterogeneous and advanced twenty-first-century cities, smart cities as a concept, keep on drawing our attention as a relief. Smart cities in the absence of smart communities have failed to achieve the desired outcomes [21]. Uncontrolled urbanization with non-complimentary and inefficient urban infrastructure, a mismatch between demand and supply of resources and poor quality of life of the

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A. Kapoor (✉) · E. Singh  
Amity School of Architecture and Planning, Amity University, Noida, Uttar Pradesh, India  
e-mail: [esingh@amity.edu](mailto:esingh@amity.edu)

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people in the urban areas are few of the driving forces for planners to introduce the concept of community participation in the planning process as an approach to facilitate local urban governance, thereby ensuring “smartness” of the cities.

The Wealth Report, 2012 associates the urban smartness to economic wealth. It elucidates that the cities in the developing economies will be able to participate in the global economy by 2050 because they are strategizing toward intelligent communities [9]. Community participation in decision-making for urban planning is based on the postulate that those who are affected by the decision should be given the right to get involved in the decision-making process. Community participation in planning and decision-making is not a novel concept. It is an ideology that seeks a common consensus over an issue of concern and is in practice since ages in varied forms and scales. Therefore, the paper intends to review existing literature on the subject in varied disciplines to understand the role of community participation in urban governance that anticipates cities to be “Smart”. Paper, further strives to identify effective tools and techniques of involving people in the planning processes and highlight hurdles in adopting the public-participatory approach in urban governance.

## 2 Evolution of the Concept—Community Participation

Smart urban development is grounded on the concept of the smart city which is further reliant on the public or communities. The perceptions about public participation and its role in local urban governance, enabling the smart city, have been varied. Rousseau [20], a Genevan philosopher of the eighteenth century developed a political philosophy based on the concept of ideal community which influenced French revolution. He propounded the idea of the involvement of the common man in decision-making. He mentioned the concept of “General Will” which implies common good or public interest. He propagated that all citizens should participate for the general good; even if it is against their personal interests. But every time, the involvement seemed to be biased. His famous book “The Social Contract” quotes “*Man is born free and he is everywhere in chains*”. By this, he meant that even thoughts of the common man are influenced and imprisoned. According to him, participation has a psychological effect on the participants that ensures the continued relationships of individuals in the institutions and thus should be continued despite the hindrances. The word “Participation” became a part of the political vocabulary in the 1960s. Pateman [17] defined public participation as “a process where each individual member of the decision-making the body has equal power to determine the outcome of decision”. In lieu of the changing political, social and technological world, Nabatchi [16] defined community participation “as the processes by which public concerns, needs, and values are incorporated into decision-making”. This advocates that there is a drastic paradigm shift in the thought process in the last 5 decades where the role of common man has been redefined from a powerful entity in the decision-making process who has authority

to decide his fate to the sheer end user, whose aspirations and demands are not necessarily determined in the process of distribution of goods or services. It has been realized that public participation is bedevilled with definitional problems [19].

Since the concept of citizen participation has a long lineage [5], some more literature has been reviewed to understand past, assuming some insights may be helpful to create a participatory framework for future to fulfil the objectives of the smart cities. It was discovered that the first written record of direct citizen participation came from the Greek city-states and one of its earliest expressions was in the Ecclesia of Athens [19] and now in the recent years, public participation in planning has resurged and is changing its role as it is determined by definition of problems, nature of prevailing planning paradigm, kind of knowledge base, ideology and technical know-how. Lane [12] observed that new technologies and approaches of governance have emerged and there is no systematic examination of the link between urban planning epistemology and public participation. Though, the ideology of public participation is very much present in all the eras of planning but was never effective in practice. This fact was realized much earlier with the revival of the participatory approach in the 1960s. Arnstein [2] rightly quoted that “the idea of citizen participation is a little like eating spinach and no one is against it in principle because it is good for you”. She further elaborated that there is a contrast between a sheer void custom and belief of participation and having the effective participation which is required for meaningful development, especially in the era of smart cities.

### 3 Role of Community Participation

Another question in the mind of researcher could be that if public participation has been never effective in practice then why public participation in the decision-making process as a subject keeps on drawing the attention and interests masses. International Peacebuilding advisory Team [8] establishes the need for public participation as to sense the people’s priorities, to develop a sense of citizenship, build trust in the authority, for good governance and effective implementation. Moreover, Nabatchi [16] summarized goals of citizen participation in public administration are to inform the public, explore an issue, transform a conflict, obtain feedback, generate ideas, collect data, identify problems, build capacity, develop collaboration and to make decisions. The relevance of the participatory approach to planning has been established globally and its need has been realized. In the Second World Urban Forum in Barcelona, it was quoted that “It became clear that citizen participation and stakeholder consultation, as practiced by some of the UN-HABITAT programs, were positioning urban planning at the cutting edge of the modern notion of good governance”. In June 1992, the United Nations Conference on Environment and Development adopted *Agenda 21, the global action plan for sustainable development* [23]. Agenda 21, entitled “Local Authorities’ Activities in Support of Agenda 21” states that all the problems

addressed in the Agenda has its roots in local activities and can only be solved with the participation and cooperation of local authorities [1]. With the research, it is realized that community participation is a very deep-rooted concept, relevance and need of which is well established. As this approach has been practiced globally in various levels and scales, it is important to understand the ways to achieve it. The chronology of the research suggests that the definition of the concept has changed over the period of time and an approach that was useful at times is not always the best. One has to understand effective tools and techniques of involving people in the planning process and their evolution in the changing times to ensure validated inputs of the community in urban governance.

## 4 Effective Tools and Techniques

Literature has been reviewed to critically evaluate the different tools and techniques used in making public participation success in urban local governance. There is elaborate literature on the direct and indirect tool of participation. Indirect tools are nothing but an illusion to public participation and a make-belief. Selection of tools and techniques for participation depends upon the purpose of planning and intent of authorities to involve local people in the planning process. Krishnaswamy [11] stated that “Doing” participation effectively is more of an art than a technical skill that can be taught”. According to him, the selection of tools varies according to desired outcomes, community profile and the social-political context, project size, budget, timeline, and resources allocated and skills of the team. Tools are also determined by the stage of planning to start from outreach to stakeholders, rationalizing common issues and goals, to evaluation and decision-making.

Tools are effective only when institutions are effective. George and Balan [6] stated that Local government can identify working groups (comprising of local people and government officials) for converting the ideas of the local people in respective areas which helps them in project formulation. Another perspective of the role of institutions is elaborated by Lowndes et al. [13] while advocating that Consumerist method is the most adopted means of public consultation (complaints and suggestions). Nearly half of the authorities used a focus group approach and very few used consultative innovations. The use of technology to extend participation and consultation is limited. They also pointed out that public participation is evident in the large urban area as against small urban areas or rural areas because of lack of resources and funds. They also analysed that political parties are not a significant factor and hardly impact participation initiatives. As against this point, *Frank Friesecke (2011)* stated that citizens often feel inadequately embedded in political decision-making. It is necessary to modernize public participation through optimizing formal participation processes, strengthening informal participation processes and more direct democracy.

“People believe to what they see and perceive”. Maps are critical to making planners, policymakers, and residents for collection of knowledge, the establishment of boundaries, administration of municipality services, and empowerment of

landowners. Maps are tools of planners that encourage public involvement. Warner [25] discussed that in developed cities and countries, technology is more widely available, affordable, and accessible, with a broader audience of citizens reachable through the Internet, smartphone applications and social media. In developing areas, participants in community-based research projects are often biased towards the educated, middle-class, and higher socio-economic status. Richard Kingston [10] also highlighted issues in adopting technology in public participation from people's perspective like IT Literacy, access to technology, GIS understanding, data copyright issues, and trust legitimacy. His analysis signified that though using technology in participatory planning is an efficient method but should not be replaced by traditional method rather should be used as complementary to the existing methods.

It is not only about how people will participate but also about how effective the participation is and what purpose it serves. Lowndes et al. [13] suggested that different participation approaches may be used to suit the needs of the area and type of organization. The review of the literature revealed that there are many tools and techniques but are ineffective in accomplishing the idea of public participation.

Many organization and agencies are working worldwide for establishing the legitimacy of public participation in the urban planning processes. *Global Report on Human Settlements 2009: Planning Sustainable cities* present global and regional trends in participatory urban planning and politics. The developed countries of Australia, Canada, the USA and Europe have introduced legislation for public participation and are providing technical and financial support for citizens to participate in public review processes. Many Latin American and Asian countries have realized the importance and need for participatory planning and have adopted a variety of measures to increase citizen participation and government accountability and responsiveness. Despite the vigorous efforts and numerous attempts, participatory approach to planning has failed to achieve its goals. The entire ideology is infected and diagnosis is difficult. Perceptions of experts and review of existing literature revealed the dilemma about non-acceptance of the approach in its full spirit.

## 5 Limitations of the Participatory Approach in Planning

Public Participation has been perceived differently since ages. There is a new dimension that combines participation with the local culture. Rezazade [18] stated that since public participation is a subjective phenomenon, it is critical to evolve an effective and adaptable philosophy to make participation a part of popular culture. Results of their analysis proved that economic and social factors have a large influence on citizen participation in urban development. Though, this judgment was made while evaluating the role of citizen participation in urban development in Nikshahar, Iran but it seems to be applicable on all the developing countries that are hesitant to involve people in the planning process.

Another limitation is associated with the perception of the local people. Lowndes et al. (2002) discovered from their research that people are more likely to relate to their and their community's immediate interests rather than the wider issues. People do not participate because of negative views about local authority, lack of awareness about opportunities to participate, lack of council response and social exclusion [13]. *Project Monitoring cell, the energy and research institute, India (2009)* found that the nomination process is biased and politically driven and citizens lack initiative in the development of their own area. In support, *Participatory Research in Asia, New Delhi (2010)* also advocated that literacy and confidence of the community to work along with are critical for participation and developed countries lack both.

This perception of people has been rightly built over a period of time. Zakaria and Ariga [28] stated that Bureaucrats and planners always dominate the planning process. Traditional leaders seem to have a very poor role in the participation process. Local people are only involved in the implementation stage. Role of citizens in the participation process is mostly seen as a receipt of a product. The government is taking advantage of people as a source of funds and cheap labour for projects that serve them without actually involving them in the decision-making. Lack of comprehensive and binding plans for the city leads to a lack of confidence in government agencies.

Participatory Planning seems to be a costly and time-consuming affair that discourages users. International Peace building advisory Team [8] highlighted resistances in the participatory approaches to public policy processes and governance. It stated that since these approaches are time and cost consuming, local people have no interest and they do not understand the issues. They are concerned about their daily needs only.

Another hurdle in the way effective public participation is the lack of a framework or model. Kayom et al. [26, 27] stated that public participation is meaningless, if very few urban community members were involved in physical planning due to lack of awareness that too only in the initial stage of the plan the formulation in the absence of the administrative hierarchy of government and formal strategies, policies, and guidelines for community participation. MacLaran et al. (2007) highlighted the limitations of Irish Urban Planning in facilitating community participation [14]. Lack of structure and resourcing of local authorities, conflicting interests within the area, advisory role of planners and not decision-making resulting in an inability to deliver promises to the community are few of the shortfalls of the system. While considering the case of Leipzig, Germany, Claude and Zamor [3], realized that there is no universal model that can be applied to all cities since each city has its own socio-economic, political and legal systems that provide a framework for workable solutions. Therefore, in the absence of a framework and model, it is difficult for authorities to implement public participation in urban governance. Despite resistance, India too realized the importance of public participation in decision-making for enhanced urban governance.

## 6 Participatory Planning in India

In India, the need for the participatory planning was realized after the 74th Constitutional amendment act, passed by the Indian Parliament in 1992. This act provided for autonomy to the Urban Local Bodies in urban India, through decentralization of the governance structure. This act designates Local bodies to be responsible for the planning, and implementation of local services. The 74th CAA requires the state governments to amend their municipal laws in order to empower ULBs “with such powers and authority as may be necessary to enable them to function as institutions of self-governance”. 74th CAA stressed on the formation of ward committees and area sabhas. This has been taken forward in Master Plan of Delhi 2021, where the concept of Local Area Plans (LAP) has been introduced [15]. The local areas are defined as smaller areas with unique and uniform character and concerns. According to the LAP guidelines, it is mandatory to involve stakeholders to ensure optimum utilization of the resources for the creation of required infrastructure while planning for these areas. LAP refers to the plan of a ward; it is a qualitative and quantitative tool of assessment of public participation and satisfaction in the planning process. LAP states the strategy for the effective planning and sustainable development of a local area. INDO-USAID FIRE (D) Project, 2005 prepared guidelines for LAP preparation for enhanced local participation in urban governance.

Besides, there are few non-statutory steps taken by the Indian Government to encourage public participation. JNNURM (2012) requires certain reforms to be undertaken by states/cities in community participation, with the objective of institutionalizing citizen participation as well as introducing the concept of the Area Sabha in urban areas [7]. The larger objective is to involve citizens in municipal functions, e.g. setting priorities, budgeting provisions, etc. Recently, Smart Cities Mission Strategy (2015) has been introduced which requires the involvement of smart people who actively participate in governance and reforms. Citizen involvement is much more than a ceremonial participation in governance. The participation of smart people has been enabled by the Special Purpose Vehicle (SPV) through increasing use of ICT, especially mobile-based tools [22]. The newspaper article, “*The problem with smart cities*”, *live Mint*, 14 October 2016 states that “Apart from criticism on the quality of proposals and public participation, there were indications of a few cities hesitant to submit their proposals”.

## 7 Discussion

Experts investigated factors that influence participatory planning and Claude and Zamor [3] realized that local spatial form in physical, economic, social, cultural and political dimensions of any city cannot be a result of globalization. There are many hidden factors that impact the development process. It is important to involve all those who will be affected by the decisions, to ensure fair and balanced urban

development. He stated that “all stakeholders’ values and concerns are legitimate and should be considered”. Therefore, the factors affecting public participation are yet to be explored fully to understand the flaws in effective participatory planning to ensure the success of the smart cities vision.

This search of the framework has led to many investigations and analysis all over the world and it gave birth to concepts like SWARM Intelligence [24] or collective intelligence which has now emerged as an established science which states that collective efforts and competition may lead to an effective Consensus decision-making. It was in the 1990s that the experts and think tanks globally realized the role of the public is critical in development with the adoption of the African Charter for popular participation in development and transformation at the “International Conference on Popular participation in the recovery and the development process in Africa”, Arusha, Tanzania. International Association for public participation was established in responding to rising global interest in public participation in 1990.

Roberts [19] correctly stated that “For the first half of the twentieth century, citizens relied on public officials and administrators to make decisions about public policy and its implementation. The latter part of the twentieth century saw a shift toward greater direct citizen involvement. This trend is expected to grow as democratic societies become more decentralized, interdependent, networked, linked by new information technologies, and challenged by “wicked problems”.

## 8 Conclusion

The existing literature interprets the relationship between different perceptions and established works and highlights the significant contributions in the related field. In the process of reviewing literature, gaps in the previous researches have been identified. Since efforts for Public participation have not been able to achieve its deliverables, the success of smart cities remains a question. There is the need for research to investigate many veiled issues in the contemporary planning process, to address the issues pertaining to participatory planning thereby, establishing participatory planning as a qualitative and quantitative tool for assessing public satisfaction and participation in the planning process, thereby empowering smart cities to achieve the desired deliverables.

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