

PLAN 500: Comparative Perspectives on Planning History and Futures
Participatory Planning Analysis

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Participatory Climate Planning in Bhopal, India

Introduction

Initiated in poor urban settlements of Bhopal, India, the Community-Based Climate Action Plan (C-CAP) is a project dedicated to enhancing climate resilience and the overall well-being of local communities. Integrated Design (INDÉ), in collaboration with Mahila Housing SEWA Trust (MHT) and support from SEEDS India, compiled the plan under the Humanitarian Innovation Fund-Elrha. The driving force behind this initiative is the urgent need to confront the escalating impacts of climate change, particularly in low-income urban areas that bear a disproportionate burden of environmental shifts.

The C-CAP emphasizes a grassroots strategy with active community involvement in analyzing and addressing the effects of climate change like heat stress and flooding. By amalgamating community knowledge with scientific and technical proficiency, the project aims to formulate adaptive solutions tailored to the distinct socio-spatial contexts of Nehru Colony, Indranagar, and Bagsewaniya—three diverse settlements in Bhopal with unique challenges.

Recognizing the limitations of community-based endeavors, the project emphasizes the necessity for technical support and comprehensive planning. Its objective is to empower communities, guiding them toward sustainable, community-centric planning that transcends short-term goals and delivers solutions that respect the distinct culture and material conditions of each specific neighbourhood. The two-pronged technical assistance approach involves raising community awareness and disseminating knowledge about climate change for an informed action plan and developing robust solutions based on scientific data. Ultimately, C-CAP aspires to integrate these local initiatives into broader city and national climate planning frameworks, elevating the visibility and formal acknowledgment of local adaptation efforts.

This analysis of the C-CAP unfolds in a structured approach, beginning with an exploration of its participatory framework and contextual foundation. It delves into the implications of a C-CAP, examining its environmental and socio-economic impacts, as well as where it fits within the broader classification of participatory planning. Using Archon Fung's Democracy Cube, the analysis dissects the decision-making processes, information flows, and power dynamics, providing insights into stakeholder influence and participation. Simultaneously, Sherry Arnstein's Ladder is applied to assess the degrees of citizen participation within C-CAP, elaborating the extent of citizen empowerment in climate action decisions. Beyond theoretical frameworks, the analysis distills practical lessons for planners from C-CAP's successes and challenges, which can be applied to many forms of planning beyond climate planning.

Context

Bhopal is the capital city of the Indian State of Madhya Pradesh and has a population of around 2.5 million people. In recent years, the number of cold days experienced in Bhopal annually has decreased, while the number of hot days have increased by 10 percent, and are projected to continue to rise by more than 35 percent in the future (Vasudha Foundation, 2022). In order to help particularly vulnerable communities better adapt to the changing climate, the C-CAP was developed in collaboration with the three communities of Nehru Colony, Bagsewaniya, and Indraganar. The plan proposes solutions at both neighborhood scale and city/settlement scale, and the creators further propose including the framework and methods in pre-existing municipal and regional climate plans, allowing them to address the unique issues faced in poor and often informal settlements.

Built on a collaborative planning model, the project engages four key stakeholders: affected communities, NGOs/Community-Based Organizations (CBOs), technical partners, and the government. Each stakeholder plays a crucial role in formulating solutions and institutionalizing them within the broader plan and governance structures. The specific mechanisms of public participation are multifaceted, including workshops and campaigns conducted not only during the C-CAP preparation but also after the fact to support implementation and adjust to emerging issues. The community-centric approach of the project prioritizes empowering communities to address immediate climate change impacts, concurrently enhancing their quality of life and fostering long-term resilience.

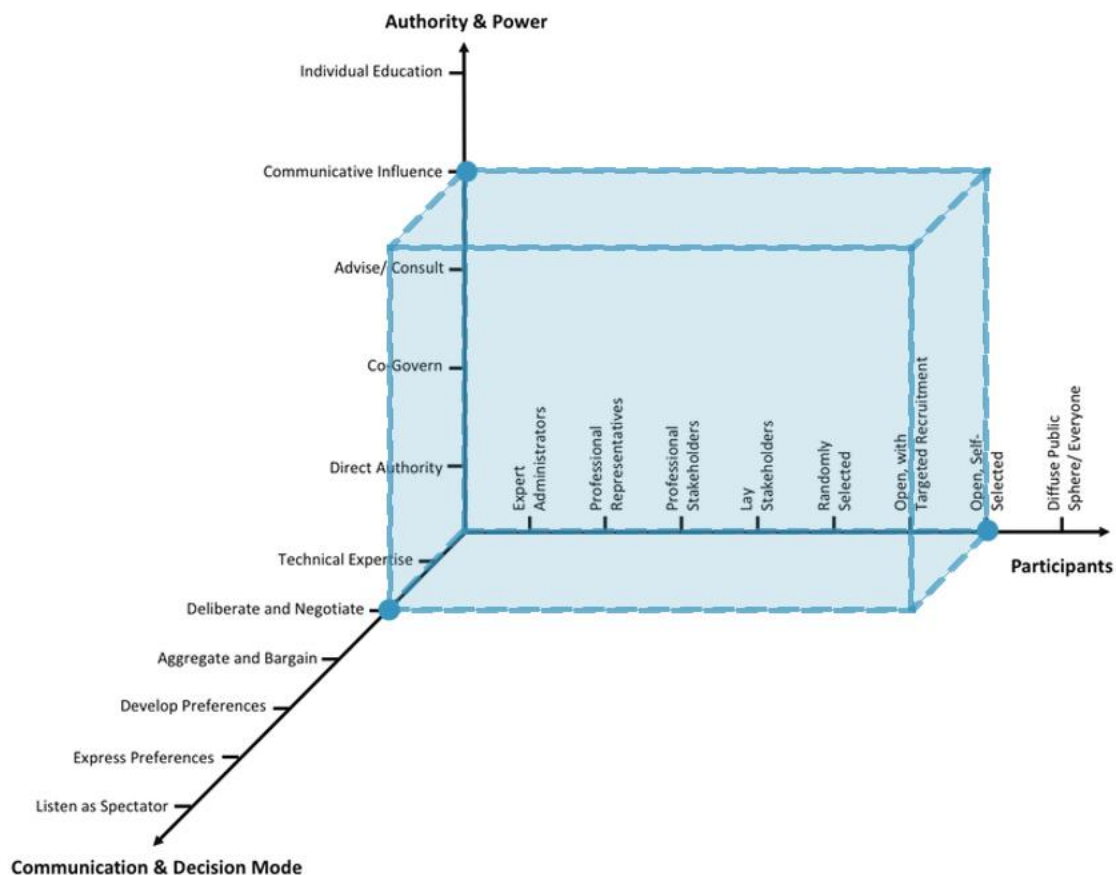
In preparing the C-CAP in Bhopal, there were five phases of participation processes. In the first phase, by organizing awareness sessions on climate change, the NGO brought the community together and reinforced the need to develop a climate action plan. At the same time, the technical partner examined the informal settlements through socio, economic, ecological, and spatial contexts; spatial maps were created that illustrated different key elements of the built fabric such as location of services and general topography. The third phase was to assess the vulnerability of urban poor communities, the assessment was done by the community as well as through scientific data. In the community-based assessment, people were prompted to share their experience with climate change and their knowledge about it. They discussed the impacts climate change has on their everyday lives and different ways that they could adapt to them. On the other hand, the technical partners assessed the communities' vulnerability to climate change by collecting climatic data and measuring the temperature in different settlements, and they found that all three focused communities had issues on overheating, water pollution, and pests. Nehru Colony was found to be unsanitary due to water logging, Bagsewaniya had a problem of waste mismanagement, and Indraganar had flooding risk caused by stormwater run-off.

This framework of comparing the everyday experiences of the community and scientific information helped approach the roots of the problems which could be addressed in the C-CAP. The fourth phase is to develop a resilience action plan, where strategies were proposed by the community with the collaboration with Mahila Housing SEWA Trust to ease different major issues raised in the previous phases; workshops

were organized for both the government and the community to discuss the issues, as well as the budget needed for the strategies. The final phase was the community-based preparation for the climate action plan, which included solutions designed for alleviating identified issues and suggested behavioral change within the community in order to improve the quality of life and mitigate climate change.

Assessment

Collaborative and community-based approaches to climate adaptation have implications for influencing wider system change while addressing the needs of the most vulnerable populations to climate change. Using a bottom-up and decentralized, democratic approach to planning, the example of C-PAP in informal-settlements in Bhopal offers a framework for addressing the social-political-economic complexities of climate adaptation that are misunderstood by top-down approaches involving experts

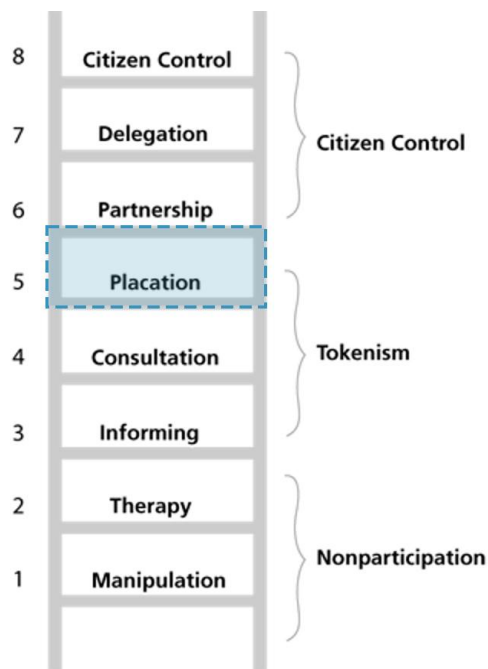


and government officials. By involving community members as key stakeholders in the planning process, solutions can be prioritized with the support of government and organizational bodies to ensure initiatives have longer term impact and function. In Bhopal, these efforts included community mobilization, settlement profiling, vulnerability assessment, plan preparation and community based 'Resilience Action Planning'. This

participation process stands out as an example of how integrating technical methods with community-based knowledge is useful in finding solutions that are appropriate to the needs of communities in order to inform wider city planning in the face of climate change.

This community-based, collaborative approach to climate adaptation planning touches on three key areas that have implications for strengthening participatory planning processes; increasing legitimacy, advancing justice and improving effectiveness (Fung, 2006). As Fung's theory suggests: "[l]egitimacy issues can arise from unintentional disconnections between officials and the broader public : initiatives aim to address these problems by creating participatory forums that are more inclusive and representative of participants and enhance communication". Secondly, "[j]ustice is increased by changing the authorized decision-makers, shifting decision-making from closed bodies to open forums for direct citizen engagement, often with structural incentives targeting the disadvantaged". Lastly, "[o]n the influence and authority dimension, these mechanisms shift substantial authority to participating citizens, which is essential for confidence and action. They involve citizens who deliberate about solving public problems and are empowered to act, marking a shift from traditional expert-based approaches to governance" (Fung, 2006). This plan is an example of how participatory planning can result in sub local policies and governance that is required to address the climate adaptation needs of urban poor communities across the global south. By shifting power to marginalized communities and supporting sustainable solutions, this approach can fill the gap that exists between climate planning and its relevance to communities most affected by climate change.

The C-CAP is an excellent example of a plan that harnesses public participation and focuses on the community's needs while building its capacity to deal with climate challenges. The following text classifies the participatory practices through the lens of



Arnstein's Ladder (1969)

Degrees of Citizen Participation

three established theoretical models: Arnstein's Ladder of Participation, Fung's Cube of Participation, and Andrea Cornwall's typologies of participation. According to Arnstein, public participation practices range from minimal (non-participation) to maximal (citizen power) involvement. Based on our evaluation, the C-CAP project falls within the category of 'Placation' given that citizens have some degree of influence in the plan but lack the authority and power to make the ultimate decisions. Their participatory approach actively involves communities in forming climate action plans but falls short of genuine citizen empowerment. Fung's Cube is a tool for assessing participatory processes by asking the following questions: Who participates? How is communication structured? Moreover, what is the level of authority and power of the participants? The C-CAP involves and engages diverse, open, self-selected stakeholders, including local

communities, NGOs, technical experts, and government bodies. The process is marked by a commitment to deliberative and collaborative decision-making, fostering open dialogue and merging diverse knowledge bases, both local and scientific. This participatory process results in Communicative Influence, where participants are actively engaged and have some influence on the final decisions and outcomes. Based on Andrea Cornwall's classification of participation typologies presented in her article "Unpacking Participation": Models, Meanings, and Practices," the C-CAP embodies "Interactive Participation" (Cornwall, 2008, pg 272). This category of participation emphasizes empowering participants to influence decisions and actions significantly. The C-CAP's methodology focuses on robust community engagement that goes beyond just consultation. It empowers community members to actively contribute to and shape the decision-making and planning process, echoing the principles of equitable and effective participatory planning.

Strengths and Weaknesses of the C-CAPs Participatory Approach

The C-CAP project has three notable strengths: It centers the community's knowledge and needs, it blends scientific and local knowledge, and it involves diverse stakeholders in the plan development process. From its inception, the plan ensures that the plan is deeply rooted in the needs and knowledge of local communities to foster a sense of ownership and responsibility among community members. The plan also integrates local knowledge with scientific and technical expertise to develop solutions culturally and contextually relevant while also having a scientific footing. For example, in their examination of Nehru Colony, the stakeholders were able to collectively design a network of green spaces that would improve air quality while connecting residents to important cultural and social institutions in the neighborhood, including the local mosque and a pre-existing community park (Integrated Design, 2022, p. 54-59). The involvement of a diverse range of stakeholders is another key strength. This diverse involvement encourages innovative problem-solving, increasing the plan's ability to meet the varied needs of different communities, enhancing its effectiveness.

However, the C-CAP also faces several weaknesses. A primary challenge is the difficulty of replicating this community-based model in other contexts. It would be very difficult to apply the same model across large areas and it would require a lot of time and resources. Furthermore, the goal of integrating the hyperlocal process with larger climate planning frameworks poses questions about the ability to replicate the results presented for the three sample settlements. Larger governments may lack the resources and familiarity to conduct such granular analyses, and the C-CAP gives no guidance for practical integration. Additionally, the plan relies financially on external support from NGOs, government bodies, and international organizations which can be a significant limitation, particularly if long-term plans were required to meet the community's needs. Another weakness is the limited direct impact these local initiatives have on global greenhouse gas emissions. While effective at the local level, broader systemic changes are often necessary to address the root causes of climate change. Lastly, resource constraints in urban poor areas can hinder the development and execution of comprehensive climate action plans, as communities may lack the necessary resources to implement and sustain large-scale initiatives.

Lessons for planners

In the outline of the project, the authors highlight the importance of public education in the plan. The first step in their process, titled “Community Mobilization,” involved multiple awareness sessions on climate change, both in terms of effects specific to the communities and more global perspectives. These were done for several stated reasons: to convince the community of the importance of preparing a C-CAP, to frame the issues they intended to examine within the context of climate change, and to ensure the community was clear about what types of solutions they should be seeking (Integrated Design, 2022, 14; 17). In other words, when the community members are able to gain an understanding about why their particular settlement has issues with water pollution, for example, they are better equipped to assess the situation, provide input to the technical partners, and help to tackle the issues themselves. Thus, the dissemination of public education and awareness forms a foundation for the planners to help elevate the project on the “Authority” and “Participants” axes of Fung’s Democracy Cube—allowing more people to participate and allowing them to speak more authoritatively on the issues.

This aspect is especially important in environmental planning, a subject that often rests on technical knowledge about global systems, which may be less accessible to lower-income communities as well as marginalized groups within those communities. As researchers David Dodman and Diana Mitlin point out, climate change not only disproportionately affects the lowest income and most socially and politically vulnerable groups in society, but these groups tend to have the least capacity to adapt to or mitigate climate change due to disproportionate access to education and resources (2011, 1. Introduction). Thus, the public education and awareness component has two primary effects. The first is instrumental: by synthesizing the technical, cosmopolitan knowledge of the climate experts and planners with the granular, experiential knowledge of the local residents, the authors attempt to create a plan that fully addresses the concerns of the locals with solutions that are tailored to the unique properties of each settlement, but which also account for wider climatic systems and phenomena.

The second effect is to help flatten power imbalances present in society and that often shape planning processes. Dodman and Mitlin point to the need for climate interventions from resourceful organizations like governments and NGOs due to expensive infrastructure gaps that cannot be unaddressed independently (1. Introduction), but also identify the “imposition of top-down ideas and practices” as a major culprit for the failures of mid-20th Century development activities that aimed to improve the lives of impoverished people, especially in the Global South” (2. Participatory Development and CBA). The tension between these two ideas is the fact that the organizations providing the capital and expertise view themselves as the authority on the outcomes of the planning process, which tends to ignore the specific concerns of locals, as well as their rights—as Dodman and Mitlin assert, “citizens have the right to make decisions for themselves” (2. Participatory Development and CBA). Provisioning education on the topic being examined is one method of resolving this tension, since, while the communities are still dependent on the finances of other

stakeholders, they are more likely to have the knowledge to evaluate the solutions being proposed and provide meaningful input. In turn, this gives them greater authority over the outcomes of the planning process through their participation.

While environmental planning is especially technical, a public education component can be useful in all types of contemporary participatory planning, and, at present, is often missing. For a small-scale example, Gavin Hermanson, a transportation planner in New Westminster, Canada identifies an issue with public engagement processes in the development and implementation of active transportation plans and infrastructure. In his view, the City of New Westminster does have a substantial amount of public participation in such plans, incorporating workshops, surveys, and other forms of engagement into the standard procedures (personal communication, 2023). During the development of a major transportation plan, these procedures yielded positive results, as the engagement with the public was properly framed as an attempt to develop a plan that considered long-term objectives, was City-wide, and, most importantly, provided all the necessary information to make informed decisions regarding active transportation. However, Hermanson notes that when it came to implementing the plan and constructing associated infrastructure such as cycling lanes, participation through public hearings tended to impede progress. Hermanson attributes this to the fact that in these public hearings, in which community members were invited to freely share their opinions, were no longer considering the various long-term and City-wide benefits of the infrastructure outlined in the technical literature, but were instead only considering the immediate effects on their immediate environment, many of which were detrimental. In this case, the differences in information provided to the participants was the defining factor in whether the planners and public were able to collectively make progress towards the planning objectives.

Not only do information gaps potentially yield worse results, they also make planning processes more exclusive. Because lower-income communities tend to have less access to education, they are marginalized in their ability to meaningfully participate. In an examination of various applications of Indigenous knowledge, Arun Agrawal notes the perception of traditional forms of knowledge as inferior to Western forms resulted in dismissals of Indigenous peoples input from planning processes, to their detriment (1995, p. 413). However, Agrawal does not only advocate for the legitimacy of traditional knowledge, but for a synthesis between the two types that can incorporate hyperlocal understandings and larger-scale, technical understandings (p. 414). Similarly to the case of the Bhopal C-CAP, the examples favoured by Agrawal involve the dissemination of relevant information to local residents, which successfully allowed them to apply their traditional knowledge to solve larger issues.

Therefore, public education not only results in better plans, but ensures that people can participate as substantially as possible. Including this component into participatory planning processes is important for ensuring that the concerns of all residents, and particularly low-income or otherwise vulnerable groups, are accounted for in the final product, granting them a degree of authority over the plans.

Considering other aspects in a larger picture, two significant points that can be drawn are 'inclusion' and 'granularity' in the plan. Participatory planning is based on the foundational idea of inclusion of every sector and community leading to a communal growth of the concerned region. Therefore, a plan in general is considered to be

all-embracing and neutral to every sector of the population. A master plan at a municipal or metropolitan scale tends to examine the development of the greater region to implement similar approaches to neighboring municipalities while doing so lacks the consideration of city-specific issues. These interventions can create or exacerbate social inequalities and further segmentation of the society. The results of such have been seen to make a substantial impact. Averaging out the marginalized section in consideration of a magnified outlook generates an imbalance in the development. By masking issues in the concept of a general view, it exclusively stimulates growth in the favor of a certain fragment of the population. It is no accident that the marginal section resides in the less developed locality of a city. Action like these feeds into the improvement of already enhanced regions rather than the growth-deprived sectors resulting in the constant widening of the social and developmental gap.

The Bhopal project commences with setting the context of the urban poor concerning the city. Subsequently, highlights segmentation within the city and the extent of vulnerability owing to this segmentation. The context assists in comprehending inequities caused by the exclusion of the urban poor in the planning process. Developmental tools vary with geographical location. No two areas, regions, or cities are identical in terms of diversity, socioeconomic background, and above all vulnerability. Hence, for the creation of better urban systems, it is crucial to follow a comprehensive manner of planning that alludes to all the sections of society and their expectations within the city.

One of the strategies employed for achieving inclusive and granular participation in the Bhopal project is by collaborating with a local NGO (MHT- Mahila Housing Trust). Introduction/Assistance of an NGO that has a history of working *for* and *along with* the marginalized community develops a sense of reliability. Besides, the familiarity of the organization with the vicinity and the community ensured a smoother, higher and quality participation process. Such processes would entail the formulation of spaces compatible with the diverse population. Moreover, this encourages participation among these marginalized sections of society for establishing larger-level developmental goals. Correspondingly it promotes a plan that is dynamic, conducive, and predominantly participatory.

Conclusion

The C-CAP in Bhopal effectively faces the escalating climate challenges, demonstrating the potential for participatory planning to create resilient and sustainable solutions rooted in the needs and knowledge of local communities. Reflecting on the key aspects of the C-CAP, its implications, strengths, weaknesses, and lessons, a nuanced understanding emerges, shedding light on the complex exchange between community engagement, technical expertise, and the broader socio-political context.

The participatory framework of the C-CAP, characterized by collaboration among affected communities, NGOs, experts, and governments, differentiates from top-down approaches. The project's success lies in its ability to merge scientific data with local experiential knowledge, fostering a holistic understanding of climate change and enabling the formulation of context-sensitive, community-driven solutions. The five phases of participation processes, from community mobilization to the resilience action

plan, exemplify a meticulous approach that addresses not only immediate climate impacts but also broader socio-economic issues within informal settlements.

Bhopal's socio-economic landscape, with a population of 2.5 million people and a concerning rise in hot days, exemplifies the urgent need for innovative climate adaptation strategies. The C-CAP not only proposes solutions at the neighborhood and city/settlement scale but also strives to develop a method of replicating this planning process at a larger scale. The participatory model, involving diverse stakeholders and employing a combination of theoretical frameworks, showcases the project's commitment to enhancing legitimacy, advancing justice, and improving effectiveness in addressing climate adaptation needs.

Implications of the C-CAP extend beyond the immediate context of Bhopal, offering a model for wider system change. By prioritizing the most vulnerable populations and engaging them as key stakeholders, the project works to democratize climate planning. Fung's Democracy Cube and Arnstein's Ladder provide valuable lenses through which to evaluate the degrees of citizen participation, influence, and empowerment within the C-CAP. The plan embodies 'Participation as Empowerment,' aligning with the principles of equitable and effective participatory planning.

While the C-CAP demonstrates commendable strengths, such as community engagement, integration of diverse knowledge bases, and adaptability to different socio-spatial contexts, it also faces some challenges. Replicating the community-based model in diverse contexts demands substantial time and resources, and heavy reliance on external support poses a risk if not aligned with community needs. The limited direct impact on global greenhouse gas emissions emphasizes the need for broader systemic changes to address the root causes of climate change.

The lessons gleaned from the C-CAP offer valuable insights for planners. The emphasis on public education emerges as a cornerstone, enabling communities to meaningfully participate by bridging the gap between technical knowledge and local understanding. This education not only informs community members about climate change but also empowers them to evaluate proposed solutions and contribute meaningfully to the planning process, mitigating power imbalances inherent in top-down approaches. Furthermore, the C-CAP underscores the importance of inclusion and granularity in planning. Recognizing the diversity and vulnerability of different communities within a city, the project's collaboration with a local NGO facilitates more inclusive and granular participation. This approach ensures that planning processes consider the unique needs of each community, addressing social inequalities and promoting comprehensive urban development.

The Bhopal Community-Based Climate Action Plan serves as a testament to the transformative potential of participatory planning. It is a call to action for planners worldwide to embrace community engagement, prioritize inclusivity, and bridge knowledge gaps for effective climate adaptation. This participatory initiative serves as a valuable lesson for cities in the global south, particularly those in India, where the significance of public participation tends to be overlooked. As cities globally grapple with the impacts of climate change, the C-CAP provides a blueprint for resilient, community-driven solutions that pave the way towards a more sustainable and equitable future.

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