

# **Locating Authority in Urban Climate Adaptation: Processes and Consequences**

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## **Introduction**

Climate change is, and will continue to be, an important policy and planning concern for cities around the world. Even as action at the federal level stalls in many countries, cities are taking steps to reduce carbon emissions and adapt to the consequences of climate change. Given the variability of capacities and exposures in urban populations and existing development challenges in cities it is critical that the processes and outcomes of urban climate planning are just. However, previous research has shown that there are a range of mechanisms that inhibit the advancement of justice in cities. In this paper I examine four mechanisms – the political economy of poverty, thick injustice, technocratic governance, and institutional capacities – and the role they may play in urban climate planning. I then identify some of the critical gaps in our understanding and present opportunities for research moving forward.

The increasing importance of cities in climate governance has generated a substantial body of research examining how and why local action on climate change takes place. However, a recent review of the state of knowledge on cities and climate governance in the *Annual Review of Environment and Resources* found that existing research has not addressed the implications of urban climate governance for issues of social and environmental justice in cities (Bulkeley 2010). Understanding these implications is a critical issue for urban residents, decision makers, planners, and advocates and one which the urban politics community can contribute substantial insights. The paper's aim is to link the large body of literature on urban politics – and

particularly those related to social and environmental equity –to the features of urban climate governance in order to identify promising venues for research.

## **Cities and Climate Change**

Climate change can be defined as, “a significant change (such as a change having important economic, environmental and social effects) in the mean values of a meteorological element (in particular temperature or amount of precipitation) in the course of a certain period of time, where the means are taken over periods of the order of a decade or longer (National Snow and Ice Data Center 2012)”. The drivers of climate change are in part anthropogenic and include increased carbon dioxide levels from fossil fuel consumption, the release of atmospheric aerosols and ozone depletion, and shifts in the carbon cycle due to deforestation. Climate change policy and planning, therefore, is aimed at addressing the causes and consequences of long-term shifts in temperature and precipitation patterns – shifts that will significantly affect our economy, environment, and communities.

Cities are important players in climate change for several reasons. First, more than half of all people on the planet live in urban areas (UNDP 2010). The patterns and drivers underlying urban growth, and the ability of governments and public organizations to respond to this growth, vary greatly between and within cities (UNFPA 2011). Still, the dominance of cities as human habitat now means that cities are responsible for consuming nearly 70% of the world’s energy supplies (International Energy Agency 2008), making cities significant contributors of carbon dioxide emissions. Cities are also sites of climate impacts such as sea level rise, flooding events, and heat waves and heat islands. For example, in the city of Rio de Janeiro sea level rise is predicted to affect around 400,000 people (Young 2011).

Perhaps most importantly, cities are also the site of innovation and policy action for climate change (Bulkeley and Betsill 2003; Satterthwaite and Dodman 2009). Thousands of cities, around the world, are developing ways to mitigate and adapt to climate change such as incentivizing green buildings, funding energy efficient transportation, and reducing residents’ exposure to climate hazards. I refer to these efforts as urban climate planning, or the tools and processes cities use to manage their carbon emissions and adapt to the possible consequences of climate change.

A critical trend in urban climate planning is the increasing number of cities in developing and newly industrializing countries that are developing climate plans. For example, in the Mexico City pact, an agreement among mayors from 208 cities around the world to address climate change, nearly 95% of the cities represented are from developing and newly industrializing countries. For many of these cities – such as Dhaka, Delhi, Mexico City, and Cairo – climate change is likely to exacerbate existing developing challenges of poverty and environmental stress (Bicknell, Dodman, and Satterthwaite 2007). It is therefore critical that

urban climate governance generates local and equitably distributed benefits. However, our understanding of the consequences of urban climate governance for equity and justice is severely lacking (Bulkeley 2010). We can expect climate change planning to have implications for justice in cities because of the potential for adaptation efforts to change the built environment and land use patterns; alter decision making processes and access to services; shape economic and development planning; and affect the population's exposure to hazards. Whether these changes enhance justice or lead to further injustice will depend on the processes, framing, and strategies developed in the planning process.

### **What is “Just” Urban Climate Planning?**

Justice is a contested concept. John Rawls, a prominent political philosopher, saw justice as fairness, meaning that the terms of allocating benefits and burdens are such that a reasonable person would accept them and expect others to do the same. He reasoned that even if all people are given equal liberties and opportunities, differences in position and power will still arise. These social and economic inequalities are just, Rawls claims, only if they work to the greatest benefit of the least-advantaged members of society (Rawls 2001). In contrast, Nobel prize winner Amartya Sen is interested in finding ways to identify just outcomes – outcomes that, when compared to the status quo, enhance people's freedoms (Sen 2009). While Sen does not specify what these freedoms are, Martha Nussbaum proposes the following: life, bodily health, bodily integrity, senses imagination and thought, emotions, practical reason, affiliation, other species, play, control over one's environment (Nussbaum 2003; Nussbaum 2000).

Research on justice in cities reflects these broader views of justice. Susan Fainstein proposes that the presence of democracy, diversity, and equity make for a just city (Fainstein 2010). Julian Agyeman argues that equal protection and meaningful involvement of all people in decision making and implementation and the equitable distribution of benefits are the necessary components (Agyeman and Evans 2003).

While each perspective is unique, there is shared emphasis on the need for processes and decisions that benefit the disadvantaged. I therefore propose three metrics for identifying justice in urban climate planning: (1) representation of disadvantaged groups in planning, (2) priority setting and framing that recognize the needs of disadvantaged groups, and (3) benefits and their distribution that enhance the freedoms and capabilities of disadvantaged groups.

### **Why Would People Be Left Out?**

The paper draws on frameworks and theories from urban politics etc. to identify the processes, spaces, and mechanisms through which urban climate governance may have consequences for justice in the city. Despite our long-standing interest in justice, some people continue to be left out of decision making processes and outcomes; injustice continues. Research

has shown that there are a variety of mechanisms that contribute to injustice in cities. I have categorized these mechanisms as: the political economy of poverty, thick injustice, technocratic governance and institutional capacities. The following sections review each approach and the theoretical and practical lessons from existing research.

### *Political Economy of Poverty*

Not only do political-economic factors lead people into poverty, they also work to keep them there and exclude them from decision making processes. The poor often have few opportunities to participate in policy making processes and little influence on elections. For example, in Dhaka, Bangladesh the large election wards provide elected officials with little incentive to represent the interests of the poor (Banks, Roy, and Hulme 2011). There is no government agency, department or ministry with the responsibility, administrative programs, or funds to address the needs of the urban poor. In addition, policy efforts that do recognize urban poverty often have very different approaches and priorities and incomplete understandings of the problem. This line of research would argue that the inability of disadvantaged groups to participate in and influence the policy process and the inaction or uncoordinated action of governments to address their needs will combine to create an injustice in urban climate planning. Politics of democracy and citizenship.

### *Thick Injustice*

Thick injustice refers to injustice that is “deep, densely concentrated, and opaque (Hayward and Swanstrom 2010)”. Scholars argue that injustice in the distribution of burdens and benefits in cities is rooted in historical processes and policy legacies (Boone et al. 2009). Policies put in place decades ago may still affect the participation opportunities, engagement, and outcomes of decisions surrounding land use planning and public services. Economic restructuring and suburbanization can also lead to urban injustices by fostering a spatial mismatch between where people can live, where people can work, and their connections with decision making processes and outcomes (Morello-Frosch 2002). In this sense, whether or not the outcomes of urban climate planning are just may be determined by historical and structural features of cities that are difficult to see. Development of space and place, environmental justice in cities.

### *Technocratic Governance*

Technical information can often be a dominant source of information in environmental policy decisions. Scholars argue that this dominance marginalizes groups that are not using, familiar with, or encompassed by this information (Jasanoff 2005). Particular epistemologies can become institutionalized such that the way information is produced and used results in decisions that do not account for aims or processes that lie outside the dominant way of thinking. For example, Eden and Tunstall (2006) found that ecological restoration projects that do not account for the needs and motivations of the community are unsuccessful and controversial. Even the

way we analyze policies can lead us to different conclusions about the equity of their distribution of costs and benefits (Hajer and Wagenaar 2003). Climate policy and planning can easily fall into this trap. Large scale climate models and aggregate statistics are often used to develop temperature and precipitation scenarios; emissions accounting is also highly technical work. Some scholars would argue that an over-reliance on western-style science in urban climate planning will lead to unjust planning outcomes.

### *Institutional Capacities*

Research has shown that local governments often lack the administrative, financial, or technical capacity to be successful. Cities in low and middle income countries may be particularly lacking in the qualities of good governance: decentralization and autonomy, transparency and accountability, and responsiveness and flexibility (Dodman and Satterthwaite 2008). In some cases a single local government may actually lack the authority it needs to reach its climate goals due to complex institutional networks and jurisdictions, such as the case of Mexico City (Lankao 2007). Cities may also lack the necessary financial resources due to an inability to generate and collect tax revenue or have limited control over their financial resources if they are in a highly centralized country. Further, decision makers and bureaucrats may lack the technical capacity and awareness to address the needs of the disadvantaged. From this perspective, cities may lack the institutional capability to address the needs of the disadvantaged even if the city – and its climate plan – desired to do so.

### **Gaps Remaining**

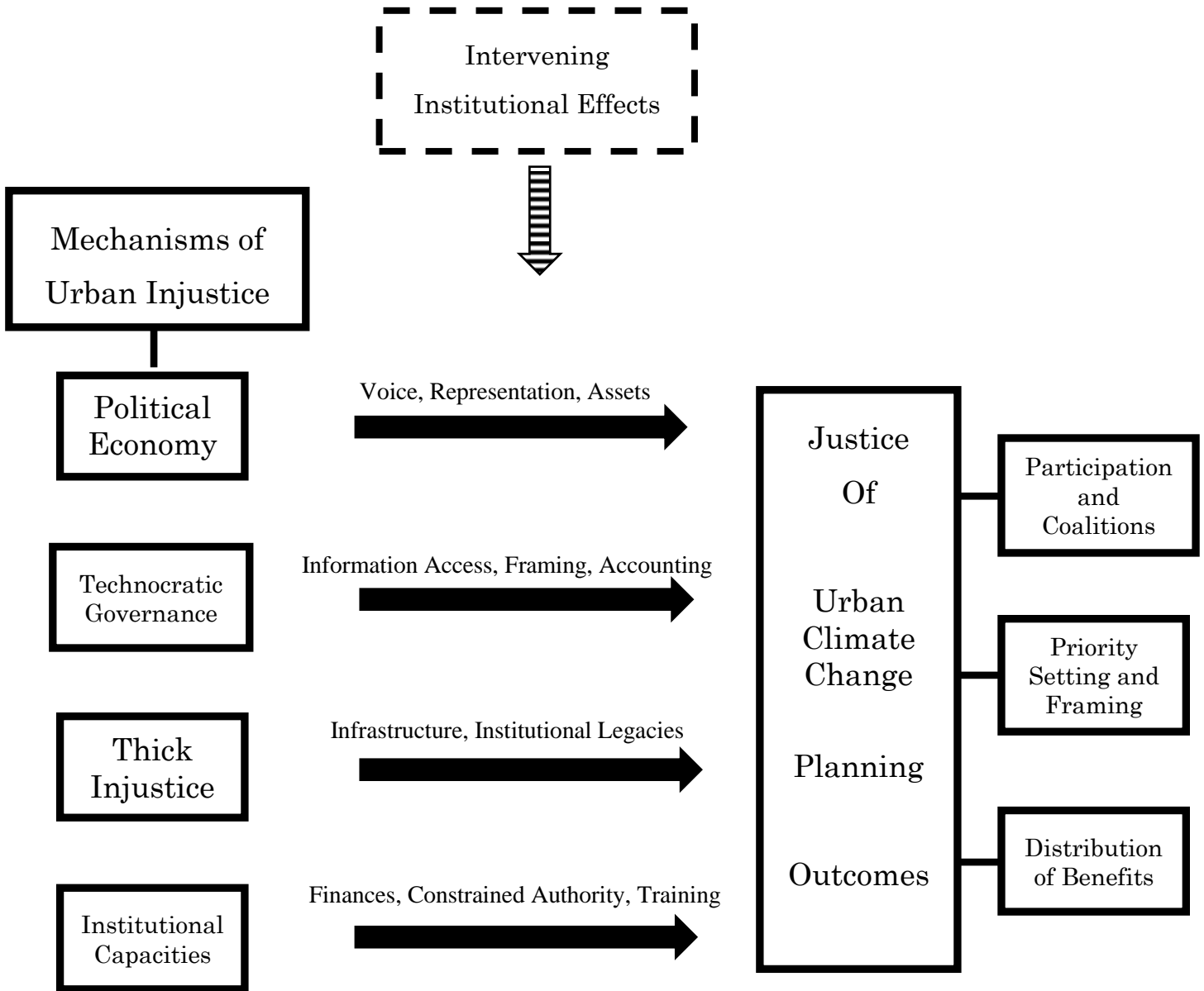
The discussion above presents an overview of the mechanisms that have the potential to inhibit the advancement of justice in urban climate planning. A remaining gap then, I argue, lies in understanding the conditions under which these different mechanisms of injustice are most likely to be influencing urban climate planning processes and outcomes. For example, in a given city can we determine whether institutional capacity or technocratic governance is contributing to the marginalization of communities in climate planning? Both? Or something new? If we look across a number of cities which factor(s) seem to be most important?

Different components of urban climate planning may engage different mechanisms of injustice. For example, in mitigation planning the political-economic conditions may prevent disadvantaged groups from benefiting while in adaptation planning institutional capacities have a greater influence on the outcomes. Similarly, we may expect to observe differences in the operation of the mechanisms of injustice in different political and cultural contexts.

The institutional features and context within which urban climate planning takes place may mediate the relationship between the mechanisms of injustice and outcomes. Institutional features may provide different opportunities and incentives that allow particular mechanisms of

injustice to dominate decision making. For example, we could ask whether different mechanisms of injustice are at play in mandated versus city-led processes of urban climate planning. Institutional theory would suggest that locally-driven processes or processes with greater local control will be more likely to produce local benefits. Is this the case in urban climate planning? Or are there internal institutional features of cities that allow thick injustices to be obscured or technical information to dominate? Figure one provides a conceptual representation of the relationship between urban justice and institutional form.

**Figure 1: Conceptual framework for understanding the intervening effects of the institutional context of urban climate planning on whether and how potential mechanisms of urban injustice are responsible for urban climate change planning outcomes**



In order to begin filling some of these gaps I am undertaking research in Delhi and Mexico City, focusing specifically on their plans to adapt their water systems. Both Delhi and Mexico City currently face water stress and uneven levels of access to potable water and sanitation services. Climate change is expected to aggravate these problems. As a result, both cities have developed adaptation strategies for their water supply systems. A major difference in the planning processes of the two cities is the fact that the national government in India requested Delhi's climate plan while Mexico City initiated the climate planning process itself and in fact was one of the first major urban areas to take action on climate change. Do these differences result in different outcomes and, if so, with what consequences for disadvantaged populations?

## **Moving Forward**

It is critical that we develop a greater understanding not only of whether urban climate planning is just but also why it is or is not. In this paper I have identified ways of measuring justice in urban climate planning processes and outcomes and four mechanisms through which injustice may occur. Understanding the conditions under which these mechanisms – or others – are inhibiting justice in urban climate planning is an important task, especially for cities in developing and newly industrializing countries. While we know that in many cases these cities have a poor track record of addressing the needs of the disadvantaged, their decision to take on the relatively new policy area of climate change is an opportunity for learning. Research can contribute to this learning by uncovering the mechanisms of injustice in urban climate planning, the obstacles and opportunities for greater justice in different contexts, and, more generally, the relationship between where and how climate planning occurs and the benefits that are experienced.

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