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Disaster risk creation in the Darjeeling Himalayas: Moving toward justice

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Abstract

The Darjeeling Himalayas is a rapidly urbanizing region in north-eastern India, increasingly exposed to natural hazards such as earthquakes, landslides, and changing patterns of precipitation due to climate change. This paper explores the complex roots of disaster risk creation in the region through the lens of disaster justice, asking: by what standards should we consider whether disaster risk is justly created or shared? And how might urban development professionals account for increasing vulnerabilities to natural hazards and climate change in their everyday work? To answer these questions, we develop a framework for disaster justice derived from the literature on procedural equity that considers the franchise, scope, and authenticity of development processes. We apply this framework in the Darjeeling Himalayas using the construction of multi-storied concrete buildings as our object of analysis and based on data collected from interviews, plans and policy documents, and participant observation. This case study shows that a standard framework of justice is a useful starting point for examining development processes and their contribution to disaster risk, but also illuminates how considerations of disaster justice are unique to particular places. By using such a framework, modified to fit particular contexts and circumstances, we believe that urban development professionals can establish a more transparent and informed way to evaluate the justice of their work.

Keywords

Disaster, justice, India, climate adaptation, environmental governance

Introduction

In the bucolic foothills of northeastern India, rapid urban development has sharply increased environmental risk (see Petley, 2016; Rumbach, 2016b).[1] In Kalimpong, a small city in the hills of West Bengal, everyday environmental conditions have declined. In the city center, roads are choked with polluting traffic. Families and businesses face severe water shortages during the winter months, made worse by antiquated infrastructure and endemic mismanagement by local authorities. Government engineers have cut highways deeper and deeper into the hillsides to accommodate the increasing numbers

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of cars, buses, and lorries from the plains, destabilizing the soil and triggering dozens of active landslides. Developers are building multi-storied concrete buildings (MCBs) at a blistering pace, heavy structures that put pressure on the fragile hillsides and that are at high risk from earthquakes. During the annual monsoon, risk increases precipitously. In 2015, heavy rainfall triggered landslides in 25 locations in Kalimpong and the surrounding area, killing at least 38 people and destroying houses, roads, and acres of farmland (Ali, 2015). Similar incidents over the past several decades have cost thousands of lives and dealt significant blows to infrastructure, the economy, and the natural and built environments (see Petley, 2016).

For the Darjeeling Himalayas, and for other urbanizing regions facing significant threats from environmental hazards, a fundamental question about disasters and development has to do with the justice of these threats.[2] Many accounts of environmental justice use the aftermath of specific disasters, with the benefit of hindsight and the inequalities of the risk landscape realized, as their primary source of evidence (e.g., Allen, 2007; Bullard and Wright, 2009; Erickson, 1978). In this article, we argue that it is equally important to examine the risk that accumulates in the built environment *before* disasters occur, to understand the justice of the urban development processes by which that risk is created and shared. As risk is being "written" into the physical fabric of cities through countless decisions by urban development professionals, how should we think about the justice of those events that have not yet happened?[3]

Robert Verchick (2012), among others, helps frame our inquiry by distinguishing between misfortune and injustice. While the negative consequences of a disaster might be described as misfortune to those who suffer them, when do they become an injustice? Verchick argues that the key distinction is agency: in political terms, who is accountable? In moral terms, who is blameworthy? In this article, we interrogate the question of agency in the production of disaster risk by asking two closely related questions. First, how do frameworks of justice frequently employed in critical analyses of planning and urban development perform when evaluating the creation disaster risk? Second, how can urban development professionals—those involved in the design, planning, and governance of the built environment of cities—seek disaster justice in their work?

The article proceeds in four parts. First, we briefly review an emerging discourse of disaster risk creation, which we believe better accounts for agency in the production and distribution of risk than many traditional framings. Next, we outline some nascent theorizations of disaster justice, drawn mostly from a climate change adaptation (CCA) literature that relies on environmental justice framings as its foundation. We then emphasize the importance of a procedural focus on rights, governance, and decision-making in moving toward disaster justice. Noting the dearth of a usable framework for assessing the quality of urban governance, we develop a framework of disaster justice derived from John Dryzek's writings on deliberative democracy. Third, we deploy and test this framework in the Darjeeling Himalayas, using the planning and development of MCBs as our object of analysis. Our case study demonstrates that a focus on procedural justice is useful for evaluating the justice of urban development processes that create risk and can be tailored to meet the needs of practitioners working within specific environmental, social, and political contexts. We conclude that our justice framing can allow urban development professionals to examine the relative justice of the urban development process and begin to incrementally expose and challenge some of the structural and political-economic constraints that shape their everyday work.

At the outset, it is important to describe the limits to our inquiry. First, we are interested in questions of justice as they relate to the environmental risk that accumulates in the built

environment over time—of the decisions and actions that add together to shape the landscape of disaster (or resilience) at the time and place of future disasters. This implies a great deal of uncertainty in our assumptions about environmental hazards that might arise in the face of a changing climate and a rapidly shifting development landscape. Second, we limit our analysis to the scale at which urban development professionals tend to work and with how their everyday decisions and actions impact the built environment. While inequity in disaster outcomes can be traced back to "root causes" that lie in societal-scale structural conditions like limited access to power, resources, economic systems, and political capital (e.g., Birkmann and Wisner, 2006; Chu et al., 2017; Oliver-Smith et al., 2016; Turner et al., 2003; Wisner et al., 2003), here we are more concerned with more proximate drivers of urban disaster risk associated with the development of the built environment. Third, although we acknowledge the obligations of urban development professionals to seek out and reduce risks already present in the built environment, as well as the important role these actors play in post-disaster recovery, here we focus explicitly on how risk is created and distributed in the urban development process itself.

Accounting for agency in urban disasters: Disaster justice and disaster risk creation

Over the past several decades, disaster research has expanded from a narrow focus on hazards and physical protection of human and material assets to broader questions of vulnerability and the complex roots of risk (Cutter et al., 2003; Mustafa, 1998; O'Keefe et al., 1976; Peet and Watts, 1996; Tierney, 2014). One of the most significant findings of this work is that marginalized people–those who lack access to basic economic, political, social, cultural, human, and natural resources–tend to suffer disproportionately during disasters and are slower to recover afterwards (Wisner, 2016; Wisner et al., 2012). Disaster risk reduction (DRR) has become a primary focus of international disaster policy and practice, with efforts geared toward reducing exposure, decreasing vulnerability, and improving the adaptive capacity of vulnerable households and communities. Indeed, the expected outcome of the 2015 Sendai Framework, the guiding international agreement on disasters, is a "substantial reduction of disaster risk" (The United Nations International Strategy for Disaster Reduction (UNISDR), 2015: 12). Alongside the discourse on DRR, scholars have also argued for a deeper focus on disaster risk *creation*, a conceptual framing that focuses attention more squarely on human agency in the production and distribution of risk. Lewis and Kelman (2012) describe disaster risk creation as processes and/or actions that "increase, or fail to decrease vulnerability" or that "actively or inertially stymie or constrain DRR efforts" (p. 3).[4] In the urban context, disaster risk creation encompasses a broad range of development processes, like the construction of buildings and infrastructure in hazardous areas, poorly built or managed infrastructure that contributes to "everyday" risk accumulation, and long-term and maladaptive actions that imperil our cities to future climate change, often with significant environmental justice implications (Adger et al., 2003; Bull-Kamanaga et al., 2003).

An emphasis on disaster risk creation helps to narrow the gap between the rhetoric of disaster resilience by international bodies and government plans and reports, and the actual decisions and actions made by urban development professionals in at-risk communities (Global Network of Civil Society Organisations for Disaster Reduction (GNOCSDR), 2009). Although recent efforts such as ICLEI's Resilient Cities program (2016) and the Rockefeller Foundation's 100 Resilient Cities campaign (2016) have attempted to spur local action to address climate and disaster risk, on-the-ground realities regularly fail to

live up to international policy discourses and doctrines (Lewis and Kelman, 2012). To achieve the goals set forth in high-level framing documents and calls for action, it is important that we examine development at a local level where decision-making has a direct and tangible impact on disaster risk. It is through this lens and for these reasons that we develop a process-oriented framework of justice that can be deployed to assess the everyday decisions by urban development professionals.

We focus on procedural justice over distributional justice for several reasons. First, as Douglass and Miller (2018) argue in the introduction to this special issue, justice-oriented inquiries tend to focus on one of three dimensions: risk and vulnerability distribution, distribution of equitable access to disaster resources, and decision-making procedures and processes. Much of the recent CCA literature argues that the first two distribution-focused dimensions are, in fact, a direct result of the dynamics of the third process-oriented dimension (Anguelovski et al., 2016). Second, assessments of just or fair distribution alone are often led, themselves, by decision-makers charged with determining whether and how such proposals are implemented (McConnell, 1995: 44). Put differently, decisions about who gets what, as well as the mechanisms of re-distribution, are very often left to historically powerful actors rather than the likely beneficiaries of such actions. Third, questions of fair distribution often center on everyday allocation itself and less on the more structural questions related to oppression, discrimination, and representation (Hollander and Németh, 2011). In focusing on outcomes over process, we can lose sight of the right of all individuals to have full and effective participation in decision-making, or to represent themselves as ''legitimate claimants to public consideration'' (Mitchell, 2003: 31–33).

In other words, while distributional justice frameworks are useful for understanding the injustices that are ''revealed'' after a disaster and for helping guide more just distribution of recovery resources, they do not allow us to engage as directly with the everyday processes of risk creation we see in many communities. Indeed, Ziervogel et al. (2017) claim that the goal of resilience planning should be to support risk management writ large, but that, fundamentally, ''it is not the pipes and roads of city infrastructure that need to be resilient . . . it is the rights and entitlements of urban citizens'' (p. 124). They categorize resilience interventions into two categories: so-called ''hard'' (physical projects such as roads, dams, pipes, and other built infrastructure) and ''soft'' (political projects such as institutional investments, coalition-building, and civil society empowerment). They note that the majority of interventions tend to focus on a layering of new projects onto existing institutions rather than rethinking the nature of urban governance and identifying the means for opening up decision-making protocols to non-expert groups. A process orientation, they continue,

> invites us to critically consider the ''what'' and ''for whom'' of resilience interventions, looking at the fair distribution of social and material advantages, the meaningful participation of participants in decision-making processes, and the acknowledgement of social, political, and cultural differences. (p. 129)

This reorientation positions DRR as a progressive agenda that seeks to redress past wrongs and lay vital institutional groundwork for future change.

This framing echoes discussions in the CCA literature—most notably from Anguelowski et al. (2016)—that consider climate injustice and uneven geographies of risk to be equally the result of acts of commission and acts of omission. The former includes instances when land use regulations or infrastructure investments unevenly disadvantage marginalized groups; the latter refers to the failure to include these marginalized communities in decision-making processes and/or creating plans that do not explicitly acknowledge historical disadvantages borne by certain communities. A focus on the latter—while not discounting the importance

of the former—is central to a new politics of resilience, one that provides ''opportunities for political voice, resistance, and the challenging of power structures'' (Shaw, 2012: 309–310).

Shi et al. (2016) argue that CCA planning that does not take seriously the nature of process exacerbates unequal levels of risk as it fails to adequately address: (1) the under-representation of the most marginalized/disadvantaged communities, (2) the lack of planning capacity in cities and towns that need it most (i.e., those that are most at risk), (3) the general lack of intergovernmental frameworks operating across jurisdictional boundaries, and (4) the common gap between physical planning and social planning (i.e., the inability to ''design for justice''). Others emphasize the political economy of governance, most notably how relations of power and privilege shape landscapes of risk and how community-based approaches to CCA, particularly in the Global South, must explicitly account for competing public and private sector interests and work across local and state scales (Archer et al., 2014; Sovacool et al., 2015). Chu et al. (2017) note the many short- and long-term benefits of inclusive decision-making processes that engage traditionally disenfranchised groups of stakeholders while simultaneously building strategic partnerships between key actors in order to institutionalize decision-making structures and enhance long-term program stability

If we are to address disaster risk creation in a meaningful, long-lasting way, then we need a measuring stick on which local actors can assess the quality of their decision-making processes. Yet few, if any, frameworks exist that are broad enough to encompass the myriad ways urban officials and activists think about justice yet simple, specifiable, and operationalizable enough to be tailored to individual contexts and circumstances by everyday urban development professionals. Such a model would allow reflective practitioners to candidly and critically interrogate local practices and challenge many of the key presuppositions nurtured by development agencies and officials situated outside these processes and practices (Tendler, 1997). Below, we attempt to develop such a framework using some standard tenets of deliberative democracy as its starting point.

Toward a procedural framework of disaster justice for urban development

In this section, we develop a framework for procedural justice that centers on the domain of decisions and actions (i.e., processes) that urban development professionals make or directly influence. As noted above, our framework recognizes that disaster justice is never achieved or not achieved; instead, our work as development professionals is to constantly ''move the dial'' toward more just processes and outcomes, to the recognition and reduction of oppression and to a fairer landscape of risk. This type of analysis can also help us establish where and when common barriers might arise that impede progress toward this ideal of disaster justice. Our ultimate job, although outside of the scope of this article, is to establish some clear methods of circumventing these barriers, from recognition of structural forces shaping inequitably experienced risk, to establishing deeper democratic processes, to dismantling institutions and ultimately redistributing the power to create and manage risk in the first place.

To begin, we draw on years of thinking from political theorists and accumulated knowledge from participatory and communicative planners. What follows is an attempt at fitting some of these established norms and best practices to the disaster planning and climate adaptation context. This proposed framework is broad, foundational, and acontextual, allowing local urban development professionals to adapt it to their particular situation. Most importantly, the inclusion of norms in this model aims to establish agency

among planners and local practitioners. While it is critical to seek systemic change, it is, we would argue, unethical to not attend to or aim to improve the everyday urban development processes that have immediate effects on individuals. This is in keeping with André Gorz's (1967) call for making "non-reformist reforms," or simple interventions that contain the seeds to foment systemic transformation.

Procedural justice as a deepening of democracy

Moving toward justice in the disaster context means, at its core, fighting for processes that are "deeply democratic" (Dryzek, 1996). Mark Warren (2001) defines democracy as "collective self-rule under conditions that provide relatively equal chances for citizens to influence collective judgments and decisions" (p. 60). John Parkinson (2012) provides a similar account, claiming that democracy is a "collective decision-making mechanism that helps us decide what to do, and to resolve disagreements over who gets what" (p. 25). Both of these deceptively simple definitions treat democracy as a mechanism, a set of processes and practices through which individuals decide what is right and what to do, both as individuals and as members of the collective (Warren, 2001).

In order to make democracy work for the least well off, we argue that just results are likely to emerge from democratic practices that are inclusive and political. In these contexts, participants engage in discussions with other participants from different walks of life with the goal of persuading others of the justice of their claims while being open to their own views transformed in the process. Such interactions do not necessarily guarantee just results, but when participants' interactions are based on accountability, reasonability, political equality, and non-domination, "the results of their discussion is likely to be the most wise and just" (Young, 2000: 30). Deeply democratic processes seek to expose structural inequalities, injustices, and other manifestations of uneven power relations while embracing conflict and contestation as fundamental to decision-making (Purcell, 2008). In this sense, democracy is less a one-size-fits-all model than an open-ended project, "an ongoing struggle rather than a quick march to a crystal palace" (Purcell, 2008: 84). Recognizing democracy as an ongoing project lets us focus on criteria against which to measure the advancement, or the deepening, of democratic aims and norms, regardless of the individual context under examination.

What exactly does a deep, advanced, or legitimate democratic decision-making process look like and how can it be measured? Iris Marion Young's (1990) argument that "[t]he normative legitimacy of a democratic decision depends on the degree to which those affected by it have been included in the decision-making processes and have had the opportunity to influence the outcomes" (p. 5–6) is a useful starting point. Deepening democracy in a way that promotes justice means making democratic processes more inclusive to marginalized groups and individuals and ensuring that their involvement in these processes is influential, or consequential, whether the goal is the public expression of discontent, increased responsiveness of decision-makers, or the actual redistribution of risk in a more equitable fashion. These two norms—inclusion and influence—are important initial criteria for measuring the depth of democratic processes. But they do not quite allow us to determine how different procedures can help deepen democracy. For that, we turn to John Dryzek's (1996) set of broad yet potentially more "operationalizable" criteria according to which democratic processes may be advanced: franchise, scope, and authenticity.

Franchise refers to the number of people actively involved in political action. It concerns the relative inclusiveness of any democratic process and could be measured by calculating the effective percentage of individuals allowed to participate in—and exercise

influence over—a collective decision, as well as the percentage of those allowed to participate that actually do.

Scope refers to the range of issues, the "domains of life," under democratic control (Dryzek, 2008: 472). Although in his original conception Dryzek (1996) intended this norm to refer to the extension of democracy into "areas of life traditionally considered private," we believe that increasing scope in the democratic context means expanding the range of issues—and not just domains—subject to democratic scrutiny. In sum, we might measure scope by the range of issues under public scrutiny and the diversity—rather than the sheer number—of participants and causes involved in a democratic process.

Authenticity concerns actual influence over the democratic process and refers to the degree to which collective control over decision-making is substantive, engaged, and informed (Dryzek, 1996). Authentic democratic processes are not symbolic or "tokenist" gestures (Arnstein, 1969; Purcell, 2008), but result in a fundamental redistribution of power to our least well off, our most marginalized citizens. It is under this category that norms of deliberation fall, responding to the many trenchant critiques of participatory decision-making processes from scholars such as Nancy Fraser (1992) and Seyla Benhabib (1996).

Seeking disaster justice through the everyday work of urban development professionals means deepening these democratic norms. In other words, positive movement on any of these criteria constitutes a deepening of democracy, although an increase in one criterion should not decrease another. We also recognize that there are very different starting points for each planning process, and these norms should therefore allow for appropriation, adaptation, and contextualization by local actors knowledgeable about cultural norms and expectations of development practice.

Focusing on franchise, scope, and authenticity can help urban development professionals understand where common barriers to procedural justice tend to arise in the planning and development process. A typical chokepoint in expanding franchise—that is, the amount of people involved in democratic procedures—might be a lack of transparency arising from top–down planning processes. Publics might not be informed of meetings, meetings might be planned at inconvenient times or places, or there may not be any community engagement required at all, as is the case in many non-Western contexts. In addition, the typical planning process involves a set of informational meetings, a process that might not be culturally appropriate for those from backgrounds different from the dominant culture.

Barriers to increasing scope—or the diversity of issues and participants under public scrutiny in a planning process—include placing issues such as trade agreements, infrastructure provision or even more standard economic growth incentives and policy proposals outside the purview of public discussion. Even though these issues fundamentally impact the daily lives of citizens, these are often seen as "expert-oriented" issues to be handled only by powerful officials with experience or influence in these areas. As mentioned above, most traditional forms of democratic process in the planning milieu do not require that all issues are under scrutiny or that all stakeholders are at the table. Indeed, Purcell (2008) argues that in the Western context, property owners are always considered "key stakeholders" in any development decision, but current and future residents or users often have to struggle just to have a seat at the negotiating table, even though they may have just as much or more at stake in project outcomes.

In terms of authenticity, traditional public hearings or community meetings common to planning practice present several barriers. First, the "meeting" privileges certain forms of speech; it provides cover for powerful actors to say they have consulted the public and move ahead with plans; it relies on achieving the common good, which means someone still wins and someone still loses, and the loser is often the least powerful; marginalized groups often

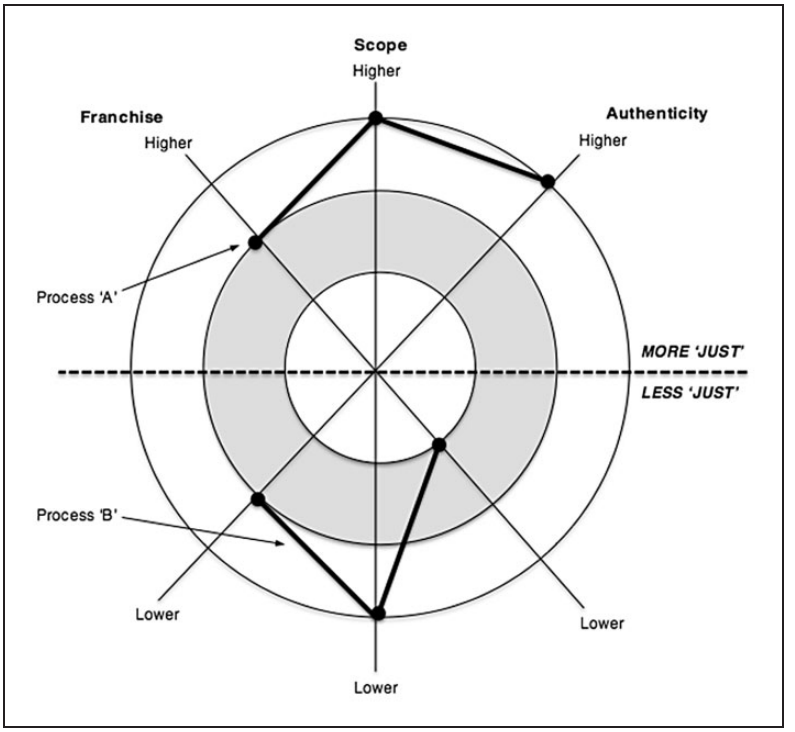

Figure 1. Conceptual diagram of disaster justice framework.

have a fear of retribution if their participation means criticizing the status quo; and in the majority of cases, the meeting never raises above a level of tokenism, never generates any citizen power (Arnstein, 1969). Critics of the traditional planning engagement model argue that its emphasis on certain forms of male, heteronormative, dispassionate of address, and reliance on attaining a ''common good,'' can in fact reinforce the status quo and allow the powerful to proceed with business as usual under the guise that some public deliberation has occurred (Laclau and Mouffe, 2001).

Figure 1 shows how these procedural factors might interact. This heuristic, which uses a similar format as Németh and Schmidt (2011), does not denote the specific distance from the center, as this is for local practitioners to decide. The diagram instead allows one to plot planning processes along several interacting axes and allows us to keep view of each axes instead of characterizing a project as just or equitable ''overall.'' The diagram also includes a plotting of two hypothetical processes, one ''more just'' than the other.

Putting disaster justice into context: Risky development in the Darjeeling Himalayas

Although this framework is a useful starting place for understanding the justice of urban development processes *generally*, it is designed to be specified and operationalized in a particular environmental and development context. In this section, we test our framework of justice through a detailed case study of the Darjeeling Himalayas, the northernmost region in the Indian state of West Bengal. Our case study centers on three small cities and

nearby peri-urban villages: Darjeeling, Kalimpong, and Kurseong.[5] Originally built as hill stations during the British Raj, today they are fast-growing cities with dynamic economies rooted in tourism, agriculture, and education (Kennedy, 1996; Pradhan, 2007). Our case study draws on data collected during six field visits to the region from 2013 to 2018. We focus on the procedural justice of planning and governance decisions surrounding the construction of multi-storied concrete buildings (MCBs), a growing part of the urban and peri-urban landscape that has substantial implications for disaster risk. We conducted 51 semi-structured and open-ended interviews with key informants knowledgeable about the urban development process, including: (1) local government representatives, like ward commissioners, panchayat officers, and town planners; (2) district and state government bureaucrats and elected officials; (3) architects, engineers, and developers; (4) civil society organizations working on issues of DRR and environmental justice; and (5) business owners.[6] The interviews varied in length from 30 to 120 minutes and were documented through detailed notes. Our interview guides were structured around the key themes of small city disaster risk proposed in Rumbach (2016b) but were sufficiently broad as to allow new insights to emerge. We coded our interview data in two cycles, first to deductively apply the top-level codes from our proposed framework of disaster justice and second to inductively develop sub-codes and identify emergent themes and concepts (Saldaña, 2013). In the course of our field visits, we also observed five policy workshops that centered on urban development and disaster risk management in the Darjeeling Himalayas region, and collected a limited number of official planning and urban development documents. We followed a similar coding procedure for these "naturally occurring empirical material[s]" as we did for our interview data (Peräkylä, 2005: 869).

(Un)natural hazards and climatic change in the Darjeeling Himalayas

With its steep mountain slopes and fast-flowing rivers, the Darjeeling Himalayas is exposed to a number of geologic and hydrologic hazards. During the monsoon season, heavy precipitation produces flash flooding and triggers landslides, rockfalls, and other soil hazards. Landslides, a natural feature of mountain ecosystems made worse by anthropogenic activities, routinely cost lives, disrupt infrastructure systems, and lead to significant property damage and land loss (Starkel and Basu, 2000). In 1968, for instance, nearly 1000 millimeters of rain fell on the region in just three days, which produced catastrophic flooding and over 20,000 landslides that killed thousands of people and destroyed homes, businesses, and infrastructure like roadways and bridges (Pal et al., 2016; Starkel, 1972).

Analyses of future climate change in the region indicate that heavy precipitation events are likely to become more common, even as total annual precipitation is expected to remain the same (Government of West Bengal, 2010; Sharma et al., 2009). The region's likely environmental future—periods of less rainfall punctuated by extreme precipitation events—will increase exposure to both flooding and geophysical hazards like landslides.

The region is also at high risk of earthquakes. According to the Geologic Survey of India, the Darjeeling Himalayas is entirely located in seismic zone IV, which has a history and propensity for large and damaging events. In 2011, a 6.9 magnitude earthquake with an epicenter in neighboring Sikkim killed 111 people and damaged or destroyed several thousand buildings (Rajendran et al., 2011). Seismologists believe that the region is likely overdue for a major earthquake of 8.0 magnitude or greater, with potentially catastrophic consequences (e.g., Bilham, 2004; Bilham and Ambraseys, 2005).

Figure 2. Multi-storied concrete buildings in Darjeeling, West Bengal.
Source: Praful Rao, Save the Hills.

Constructing risk: MCBs and urban development

In this context, MCBs are one of the key contributors to environmental risk. MCBs have proliferated in the Darjeeling Himalayas in recent decades, ranging in uses from personal residences to hotels, schools, and public buildings. Once confined to city centers on relatively stable ridgelines, MCBs have now spread down the hillsides and into villages on the urban fringe. In the words of one environmental activist, cities in the region have become ''concrete jungles'' where ''mammoth buildings have come up on dangerously steep slopes.'' The number of MCBs within core urban areas has also increased, to the point where cities like Darjeeling, Kalimpong, and Kurseong have hundreds of them, sometimes built within just feet of each other (Figure 2).

In a mountainous region with steep slopes and fragile soils, MCBs contribute to environmental risk in a number of ways. Compared to lighter-weight wood structures, the sheer weight of MCBs place puts substantial pressure on hillsides, increasing the likelihood of slope failure (Dai et al., 2002). Builders also ''cut'' into hillsides to create a stable foundation (or toehold) for MCBs, creating additional points for potential slope instability. The likelihood of slope failure and landslides increases substantially during the monsoon season, when the soil becomes saturated with rainfall (Godt et al., 2009). MCBs also contribute to soil saturation and water channel erosion downhill by producing runoff (Cascini et al., 2005). Runoff is particularly problematic in the Darjeeling Himalayas because of the lack of integrated drainage systems in urban areas; runoff from development flows over roadways, through poorly maintained open drains, and into natural drainage channels (locally called *jhoras*), which are rapidly eroding due to the additional flow of water,

furthering slope instability. One municipal engineer described the issues: "Our drainage issues is completely inadequate. Many of the [stormwater] pipes are the same from when the Britishers were here, but the population has increased five-fold." While soil saturation may be reduced around an MCB itself because of its impervious surfaces, the runoff it produces can increase the incidence of landslides and other soil hazards in peri-urban villages below. One village leader described the problem to us from a high-up vantage point in the city center: "every time you do something up here, it destroys something down there."

On their own, MCBs are at high risk of damage or collapse in an earthquake and, especially during monsoon season, earthquakes can also trigger slope failures and put buildings at further risk. The collapse of MCBs poses significant risk to their occupants, as the heavy materials can cause crushing injuries and make rescue difficult compared to lighter-weight structures (Coburn et al., 1992; Ramirez and Peek-Asa, 2005: 50). The debris from collapsed MCBs can then become its own hazard as it cascades down the slope.

Despite their contribution to disaster risk, MCBs are popular in the Darjeeling Himalayas, for a number of reasons. First, they are *multi-story*; compared to the traditional Assam-style architecture—lightweight buildings with stone foundations and *akra* (bamboo and mud) panel walls—concrete construction allows for larger and more complex building types. As one interviewee noted, "You can't build a three-story school, or a seven-story hotel, out of wood and mud." Multi-storied construction also allows for continued development without additional land. This is especially important in a city like Darjeeling that is hemmed in by protected lands (tea plantations and forests). The result is that the buildings are "sprawling upwards," which necessitates concrete and steel reinforcement. Interviewees also noted that concrete is a durable material that engineers and construction workers (many from less mountainous parts of India) are most familiar working with. And finally, concrete is widely seen as being more "modern" than the traditional architectural materials used in the hills, which reflects upward economic mobility and the tastes of the growing middle class. One architect/builder told us: "The people are impressed with concrete, they associate it with modern living... There is a sense of prosperity with concrete—to show you can afford it. Bamboo signifies poverty."

With such an inhospitable climate and topography, how have urban development professionals allowed MCBs to proliferate? Here, we draw on our interviews and analysis of local documents to describe the urban development process that has significantly increased environmental risk, organizing our discussion according to Dryzek's three criteria for deepening democratic processes. First, however, it is important to describe the unique political context for urban governance in the region. The Darjeeling Himalayas is the "*de facto* homeland" of the Gorkhas (Indian Nepalis), a marginalized ethnic minority that has long struggled to gain political autonomy from the state (Besky, 2014: 17–19). Since the early 20th-century, supporters of the "Ghorkaland" movement have called for the establishment of a separate ethno-linguistic state within India. In the mid-1980s, hundreds of protestors and activists died when they clashed with state police and military forces. In 1988, a tripartite agreement between the Government of India, West Bengal, and the Gorkha National Liberation Front (GNLF), the political party leading the protests, granted the region semi-autonomous administrative status within the state (Datta, 1991; Bagchi, 2012; Sarkar, 2012; Sarkar, 2014: 2). The agreement established the Darjeeling Gorkha Hill Council (DGHC) and legislation empowered it with selected administrative, financial, and executive functions. The DGHC was succeeded by the Gorkhaland Territorial Administration (GTA) in 2011, after demands for statehood were revived through party-led protests, mass rallies, and *bandhs* (general strikes) (Ghosh, 2009; Kolkata Gazette, 2012).

The Gorkhaland struggle has had far-reaching political and governance implications for the region. Politically, the establishment of the DGHC "effectively ended multiparty politics in the hills." Since 1988, the parties leading the Gorkhaland agitation became the dominant political force in the region (Besky, 2014: 145).[7] The GNLF enjoyed uninterrupted political rule from 1988 to 2007, when it was unseated by the Gorkha Janmukti Morcha (GJM), another local political party advocating for statehood. Whether the GNLF or the GJM, the question of Gorkhaland statehood has been the defining political issue in the region for over 30 years, during which time outside political parties have held little sway.

The semi-autonomy of the Darjeeling Himalayas is also important for urban and environmental governance there. The GTA's enabling legislation gives it broad administrative, financial, and executive authority over 59 departments and offices typically reserved for the state government, including irrigation, drainage, and embankments; floods and landslide protections; rural land allotment; municipal corporations and fire services; planning and development; transportation; and urban development and planning (GTA Act, 2011, Chapter 2, Article 26). Further, the legislation makes the GTA responsible for developing integrated development plans for the region as well as the power to regulate or interpret state regulations within the functional areas enumerated above (GTA Act, 2011, Chapter 2, Articles 28 and 30). And since 2005, there have been no local-level *panchayat* (village council) elections in the rural areas of the Darjeeling Himalayas; in lieu of elected village councils, district and subdivision level officials have taken on the roles and responsibilities of rural governance, including land-use planning, development planning, and the approval of building plans.

In this unique political context, urban governance is an opaque process. Like other parts of West Bengal and India, there are nominal rules and regulations that officially govern the location, height, and construction of MCBs in the Darjeeling Himalayas, a process that is meant to be transparent and allow for public understanding of the development process. Yet these "official" regulations are almost always ignored, resulting in a greater number and density of buildings than is allowed. One ex-politician with long experience in urban development in the district noted: "there are pretty exhaustive building regulations" but that, if they had been enforced, "60% of buildings would not have been built." Although developers must submit building plans and studies from architects and engineers, these plans are rarely challenged, even when they violate official regulations. "No building plan was ever rejected in the last municipal [government]. There is no town planning, no long-term thinking. You give them 10,000 bucks [rupees, for the permit fee] and that's it." The violation of "official" building regulations increases the number, height, and density of buildings. Local and state building codes restrict the number of floors allowed relative to their plot size, for example, but these rules are routinely broken during the initial construction period or later when additional floors are added—violations that are rarely corrected or punished. A local hotel owner in a fast-growing peri-urban village described the building process: "they [my neighbors] build the first floor and the second, and when they have some means, the third . . . and so on. The first two floors might be legal, but they keep adding."

There are practical and cultural reasons for the widespread violation of land-use and building regulations. Practically, several local officials and builders pointed to the lack of an appropriate mountain building code to guide local development, especially in villages where state and national regulations are in effect. One interviewee illustrated this point through a discussion of setbacks, or the distances between roadways and buildings. In the plains, requiring a setback provides many health and environmental benefits, but in the mountains, enforcing setback rules would make most development impossible, because

of need to co-locate roadways and buildings to conform to steep topography. The result, according to one local planner, is that the "whole code gets ignored." An elected official representing the hills added "If everyone followed the rules, the town would spread all the way down to the river ... that is not practical in a growing [mountain] city."

Economic development is another consideration driving extra-legal development. Over the past decade, the Darjeeling Himalayas have become a major tourism destination for domestic and international travelers, with over 700,000 visitors per year (Roy, 2015). The result has been a boom in tourism related construction. From an economic development standpoint, more and higher buildings, even if they violate bureaucratic rules, mean greater visitor potential and associated employment and tax revenue. One business owner noted that in the current development environment "Everyone is after the economics of this place ... people want to do [development] quick."

Compounding these complexities are the significant land constraints in the Darjeeling Himalayas. The extreme topography of the region means that developable land is at a premium, and as the population and economy of the region grows, the trend is toward subdivision of land and land speculation. As such, MCB plots have gotten smaller with many now in violation of minimum lot size requirements, and are being built on land that developers have historically avoided due to environmental risk, especially steep hillsides and near natural drainage channels (*jhoras*), all with little interference from local government.

Another key driver of rules violations is a widespread cultural belief that landowners are entitled to develop what they want and can afford. Several interviewees described an unwritten rule in the hills—"if it happens on your own land, no one should care." We asked the owner of a new, multi-storied concrete house on a steep village slope whether she had sought special permission, to which she responded: "No, it's my land—why should I seek permission?" Another homeowner who was adding multiple additional floors for a new hotel was more direct: "You people [disaster management professionals] say that we shouldn't construct here, but it is the only land we have! We don't have any other choice!" A village leader argued that the widespread violation of building norms is contagious: "We look the other way for various reasons ... then neighbors are seeing violations and saying, 'why can't I do it?'"

In the context of widespread, illicit construction of MCBs, the level of *franchise*—or the number of people actively involved in political decision-making—is low. According to numerous interviewees, many of these buildings are developed as a result of deals struck by real-estate developers and local party officials. In other words, the development process here is more transactional, with franchise for MCB construction limited to select actors such as property owners, their architect and engineer, the construction firm, and local government officials who approve the building plans—all to the exclusion of others who may have a direct stake in the resultant risk such buildings create. The latter often include nearby property owners whose land or buildings might be impacted; downhill neighbors whose land, property, or local infrastructure might be affected by "uphill" construction and increased runoff; and the broader public who has a critical stake in the safety of their community and built environment. Without robust public engagement processes, it is difficult to know if the proliferation of MCBs and the risk they introduce into the urban landscape is consistent with the broader democratic public's vision for their cities and communities.

The *scope* of urban development, or the range of issues under democratic control, is similarly limited. In the Darjeeling Himalayas, development is not guided by long-range visions, even though such plans are required and are routinely updated. Darjeeling, the largest city in the region, does have a master plan, but it was created without any

meaningful public involvement and is only inconsistently referred to when making decisions about MCBs. Similarly, the Kalimpong master plan, which was updated in 2015, will have "little to no bearing" on development in the city, according to one interviewee familiar with its prospects for implementation. Outside of these cities, development plans have not been routinely updated. A state urban development official spoke critically of planning in the region: "There are no local development plans in action. The plans that are there . . . they don't mean anything."

Without long-range plans, and without a process for the broader public to meaningfully articulate a vision for their cities and communities, the scope of urban development with regard to MCBs is limited. As noted earlier, "planning" in the region is conducted in a piecemeal, per-household, and per-plot basis, to the detriment of those potentially impacted by future disaster events. One non-governmental organization (NGO) officer lamented:

> You can't view development of buildings in isolation . . . more buildings means more impervious surfaces, which means more runoff. More buildings means more water draining into poor infrastructure. More buildings means more capacity for tourists, which increases the number of vehicles on the road. All of these effect landslides.

Limiting the scope of development decisions under democratic control also means putting faith in local government officials and individual property owners to champion the collective goals and principles of disaster risk management, and to incorporate environmental risk into their everyday decision-making. Our interviewees questioned whether such capacity exists at the local level, as many urban development professionals and residents lack the skills or knowledge to make these determinations. In addition, getting local bureaucrats trained on these issues is nearly impossible, and "discussions about disasters like landslides are mostly a monologue," argued one NGO representative, pointing out that the expert scientists who know about landslide and earthquake hazards are generally not attuned to the local political context. The result is that the ruling party and their local-level bureaucrats see disasters as "a minor problem compared to the need for development through real-estate."

A number of interviewees also emphasized that the scope for regional planning, coordination between municipalities and their nearby villages, remains limited. The absence of regional coordination means that local-level planning, especially at the site scale, does not take into consideration the broader (and often downhill) environmental externalities that are the product of development. Yet again, there is theoretically a mechanism for regional planning, the district development plan. As one district level official explained: "Ideally, the urban local body and panchayat plans would combine at the district level, so that higher level plans would use the best information from local [sic] level." In reality, however, the district planning commission "does not even have a meeting once in a year . . . it does not happen."

One last dynamic that limits scope in the Darjeeling Himalayas is a reluctance on the part of individuals and organizations to raise concerns about MCBs in the public sphere or question the decisions or actions of the ruling party. In the past, GTA officials have accused critics of the local government of being anti-Gorkhaland, a strategy that has helped quiet public discontent on a range of issues, from corruption to environmental degradation and poor service delivery. One business owner described the GTA as an "autocratic system" that "does not suffer dissent." Another wearily explained: "anytime we say anything [critical] their only response is Gorkhaland! Gorkhaland! I too am for Gorkhaland, but what about the roads? What about the cost of water?!"

Finally, to what degree are urban development processes around MCBs *authentic*? That is, to what degree is collective control over decision-making substantive, engaged,

and informed? As described above, collective control over urban development decision-making is extremely limited. A plurality of citizens indirectly engage with the development process by selecting the political party that controls the local government and the GTA, but do not substantively participate (individually or collectively) in long-range planning or in day-to-day decisions about the construction of MCBs. In the context of the Gorkhaland movement, and the lack of any meaningful multi-party politics in the hills, the public's control over urban development decisions through the voting booth is substantially weakened relative to other cities and regions.

Access to, and sharing of, information is also a key challenge to the authenticity of the urban development process in the Darjeeling Himalayas. A municipal planner bemoaned the absence of available information that would help the public to understand environmental risk: "what lacks in this place is surveys, data, and basic information." She added "local people here don't work in higher offices, and so the hills are not well understood in state plans." The state hazard mitigation plan, for instance, has only a brief section on landslide hazards, with no site-specific data or policy priorities (State of West Bengal, 2016). An environmental NGO leader similarly lamented that central government institutions do produce information that could help inform safer development practices—like landslide zonation maps—but that such products are not available to NGOs or the public. Most communities in the region do not have mapping resources or rely on outdated maps generated during the British colonial period. Parcel-level data on environmental factors such as slope, soil type, or vegetative cover are not available, or are only available to government officials. Climate models, which estimate the long-term changes to environmental conditions that have a bearing on disasters and risk, have not been downscaled to the region in sufficient detail to inform planning. Under such conditions, it is challenging for urban development professionals or the broader public to understand the risk of any particular MCB construction or to assess the cumulative risk of the thousands of such buildings that now exist in the region's urban areas.

Perhaps most challenging to the authenticity of engagement is the widespread corruption associated with the politics of the Darjeeling Himalayas. Observers of the GTA, and the DGHC before it, have long accused the ruling political parties of enriching themselves at the expense of communities, by diverting development funds and establishing illicit relationships with real-estate developers and construction contractors (e.g., Ganguly-Scrase and Scrase, 2015; Ghosh, 2009). Nearly every non-governmental interviewee highlighted corruption as a key barrier to effective risk governance in the region, especially as it relates to MCBs. "From top-to-bottom, project funds [including disaster mitigation funds] are wasted on corruption," one village leader said. Examples of corruption noted by our interviewees ranged from petty bribes to hasten the permitting process to the large-scale misuse of infrastructure monies intended to manage stormwater runoff. Several interviewees described how high-ranking party officials have direct financial stakes in development projects. One engineer told us that "to understand the building situation, you need to understand the political situation ... the party (GJM) has [financial] interests in everything, including construction and contracts." They also pointed out that many local-level urban development officials *also* own private firms working for clients who they are also meant to regulate, a conflict-laden arrangement ripe for abuse. Other local officials "make so little money [that] to make them work, people have to bribe them." Corruption in the urban development process, coupled with widespread deviation from "official" regulations and plans, means that the development process remains largely opaque to outside observers, limiting public information and preventing interested citizens from engaging authentically in the decision-making process.

Discussion: Moving toward disaster justice in the Darjeeling Himalayas

We began this article with the question: By what standards should we consider whether disaster risk is justly created and shared? The framework described above, which considers the procedural justice of urban development and its effects on disaster risk across three criteria (franchise, scope, and authenticity), is an initial step toward operationalizing disaster justice at a practitioner level. Our in-depth case study shows that a standard framework of justice is a useful starting point for practitioners to examine development processes and their contribution to disaster risk. Within the unique political, economic, and geographical context of the Darjeeling Himalayas, the creation and distribution of disaster risk through the construction of MCBs are manifestly unjust. With a near universal breaking of building rules and norms and an atomized planning and development process that limits the number of people involved in decision-making, the franchise of urban development decisions is severely limited. Likewise, scope of urban development is constrained by the near absence of useful plans, at a city or regional level, despite the tools available to local government actors. Collective decision-making processes that do exist—like the election of representatives and public understanding of disaster risk—lack authentic engagement from those most affected by these decisions and are constricted by a lack of environmental information about the region and the deep corruption endemic to most development and construction practices in the region.

How can urban development professionals working in the region overcome the barriers to disaster justice we have identified? That is, how can they "move the dial" toward disaster justice?

In terms of franchise, several interviewees suggested that while a particular construction might violate the "official" building rules of the region, urban development professionals could still expand franchise by involving nearby property owners in discussions of slope stability, drainage plans, and other design details that have a bearing on risk (Table 1). Framing such discussions around the themes of life safety and resilience would be key, they suggested, because it would appeal to shared community values like the desire to manage the effects of natural hazards independently from the state or center.

Interviewees mentioned several ways that urban development decisions could increase in scope, including requiring all such decisions to respond to municipal and district-level development plans that contextualize natural hazards and coordinate development decisions across different communities and governmental departments. Several interviewees pointed to the 73rd and 74th amendments to the Indian constitution—which decentralize authority to rural and urban local government bodies, respectively—as a mechanism for greater civil society engagement in issues of disaster risk (Rumbach, 2016a). They are a "glimmer of hope," one NGO leader optimistically observed. "It is not that government can't do anything. They can. They can do great things."

Our interviewees pointed to several practical ways to increase the authenticity of development processes. With regard to environmental data, several argued for more widespread sharing of government data with NGOs and the broader public: "If they [landslide susceptibility maps] are not being used by the local government, they should be made available to the public for decision making in local building practices." Greater authenticity might also mean educating the general public about environmental hazards and safe building techniques. "People in the hills need to understand landslides, not just geologists and scientists and government people," contended a village official. "If we are ignorant, we can't help ourselves." Training architects and builders in alternative construction techniques is also critical. In the words of a local architect: "Concrete is the

Table 1. Summary of framework criteria and case study evidence.

Criteria for democratic processes	Examples of limitations on MCB processes in the Darjeeling-Himalayas	Opportunities for urban development professionals seeking justice
Franchise is the number of people actively involved in a political action; the relative inclusiveness of the process	• Widespread violation of building rules and regulations, reducing public transparency • Small number of decision-makers involved in individual developments • Cultural belief in right to develop on owned property • Lack of public engagement in development decisions	• Involve nearby neighbors and experts in discussions of the safety of MCB construction • Appeal to independence of local households and communities; use a resilience framing
Scope is the range of issues under democratic control	• No long-range vision for development • Local plans are absent or ineffective • Lack of regional plans to coordinate development • Reluctance to criticize development decisions in public sphere	• Require development decisions to refer to municipal and district-level hazard mitigation plans • Use tools provided by 73rd and 74th amendment
Authenticity is the degree to which collective control over decision-making is substantive, engaged and informed	• Lack of basic information • Limited information sharing between state/central government and local people • Widespread corruption in building and development processes	• Encourage sharing of government data with local NGOs and development organizations • Public education on value of traditional materials for construction on steep slopes • Develop stability maps and enforce building regulations in high-risk zones • Leverage recent earthquakes to raise public awareness of risk

MCB: multi-storied concrete building.

only technology people know . . . it is the last material you want to use in a landslide prone area. But people have the perception that houses need to be strong, that lightweight structures are not strong.'' Several interviewees arguing for public knowledge production and dissemination pointed to the case of Gangtok, the capital of the state of Sikkim. Despite facing similar hazards and space constraints as cities in the Darjeeling hills, Gangtok has developed land stability maps and strictly regulates construction relative to risk.

Non-governmental interviewees were less optimistic about corruption. Several pointed out that corruption was not just a problem of government but also of the people. ''People can build anywhere, build anywhere, and everyone is making money'' observed one community leader. An NGO employee summarized the systemic nature of the issue: ''Corruption is not a political problem, it is a social problem. It is the people's fault too

because they don't do anything." One engineer disagreed, arguing that corruption in building practices was becoming less acceptable because of its impact on public safety. "The [2011 Sikkim and 2015 Nepal] earthquakes have made people more aware."

Conclusion

In this article, we propose a new framework for disaster justice that can be used by urban development professionals and scholars working in hazardous or environmentally sensitive areas. The framework builds on emerging theoretical contributions from the climate adaptation literature that emphasize procedural justice as a "measuring stick" for evaluating urban development processes. It translates abstract concepts of justice and equity into a straightforward tool that can be specified and operationalized within particular contexts and circumstances, and provides urban development professionals a more transparent and informed way to identify and evaluate their decisions and actions that create disaster risk. By shifting our attention away from past disasters and toward the democracy of urban development processes currently underway, our approach allows us to adopt and adapt long-standing knowledge and models generated by political theorists and planners. While we analyze a single, but significant, source of disaster risk in a single region in India, the framework is designed to be used in other cities and socio-political and environmental contexts and applied to other forms of urban development.

There are several limitations to our approach worth noting. First, we foreground on the procedural justice of decisions related to the built environment while downplaying other dimensions of development with significant bearing on disaster risk. For example, how urban development professionals treat natural resources is a critical dimension of disaster risk creation, one (among many) that goes largely unnoticed in this article. While we believe that the above framework can help us to understand the disaster justice implications of those decisions, this assertion requires greater scrutiny when the full range of development decisions are considered. Second, while our case study examines the broad-scale marginalization of voices in urban development processes and decision-making processes, it does not examine the finer-grain inequalities and socio-economic characteristics that are likely associated with patterns of exclusion, like income or immigration status. Third, our article centers on the increased risk associated with physical interventions in the built environment like MCBs, but we recognize that those objects can bring benefits and in fact reduce risk in other ways. A multi-storied hotel, for instance, may increase the incidence of landslide hazards, but also bring greater economic development, thus reducing socio-economic vulnerability. Any full consideration of disaster justice must take into account these complexities. Fourth, our framework for disaster justice relies heavily on democratic norms and processes, which may not be relevant in some political systems with different decision-making processes and mechanisms of accountability for public officials and decision-makers. Finally, we largely consider questions of justice in the built environment with regard to community members who are contemporary to those decisions. Yet the question of intergenerational justice remains: What obligations do urban development professionals have to future generations that may be affected by their current-day decisions, and how might those obligations be incorporated into their everyday work?

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Notes

1. In the multidisciplinary study of disasters and disaster risk management, researchers and practitioners distinguish between hazards and disasters. *Hazards* are events with the potential to harm people (e.g., loss of life, injury, and other health impacts) and the things they value (e.g., property, economic activity, environmental systems). Hazards can be natural, anthropogenic, or socio-natural in origin (UNISDR, 2017). To become a disaster, a hazard must come into contact with a *vulnerable* population or system. Vulnerability, broadly defined as the "potential for loss," is the conditions which increase the susceptibility of a community or system to the impacts of a hazard (Cutter, 1996, 529; UNISDR, 2015: 31). Vulnerability is associated with economic, social, political, and environmental factors and conditions—like poverty or political marginalization—and is mediated by individual and community capacities (Wisner, 2016). *Risk* is an estimate of potential future adverse effects when a vulnerable population or system is exposed to a hazard (Cardona et al., 2012: 69). In this paper, when we refer to "environmental risk" or "disaster risk," we mean the likelihood that future natural or socio-natural hazards (e.g., earthquakes and landslides) will have an adverse effect on the Darjeeling Himalayas. Actions that increase risk might have to do with increasing the hazard itself (e.g., increasing the likelihood of landslides through road-cutting), increasing vulnerability, or both.
2. The Darjeeling Himalayas (also known as the Darjeeling Hills or the Darjeeling Himalayan Hill Region) is comprised of the mountainous areas of the Darjeeling and Kalimpong districts, the northernmost districts in the state of West Bengal. The population of the region (defined the Darjeeling, Kalimpong, Kurseong, and Mirik subdivisions) was 875,703 in 2011, spread across numerous small cities and hundreds of towns and villages (Census of India, 2011). The population is predominantly Indian Gorkha (Nepali speaking Indians) and Lepcha, an ethnic group indigenous to the region.
3. In this article, we use the phrase "urban development professionals" as shorthand for the planners, elected officials, design professionals, policy-makers, and other local-level actors who make the rules and decisions that guide the development of the built environment over time. Who such actors are will vary from place-to-place and across different objects of development.
4. Lewis (2012) also describe the limitations of the international policy discourse on DRR as a contributor to disaster risk creation, such as the failure to acknowledge that some actors in societies have "less admirable motives," which can serve to exacerbate inequality and increase risk.
5. The municipal areas and nearby peri-urban or urban villages are administratively distinct, but in reality, they constitute a small urban agglomeration with interdependencies in their economies, environment, infrastructure, and land and housing markets.
6. Due to the sensitive nature of the subject matter, we have chosen to anonymize our interview data and obscure the specific professional positions of our subject matter experts, their gender, and the dates we conducted the interviews.
7. The Communist Party of India (Marxist) and other left-leaning parties were the dominant political coalition in West Bengal from 1977 to 2011. The All India Trinamool Congress won control of the state in 2011. Neither party has had electoral success in the hills, however (Jyoti and Giri, 2017).

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