Adding Insult to Injury: Climate Change and the Inequities of Climate Intervention
Special Issue Introduction

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Abstract

Climate change will injure vulnerable communities. In response, coordinated global action has emerged to mitigate climate change, to gauge and map climate-related risks, and to plan for adaptation; which in turn has opened new avenues of funding, power, knowledge and opportunity. The identification of climate risks, analysis and diffusion of 'impact' scenarios, incorporation of carbon into economic regimes, and interventions to enhance adaptive capacity will necessarily be experienced differently by different groups. As climate-related crises produce winners and losers, so may discourses and plans made to avert such crises. In the process both the bio-physical events and the social responses shape and reshape social stratification and the distribution of risk. They produce new inequalities and needs for new kinds of responses to guard against injustice. From the emergence of desalination water projects and contested water access, to relocation planning in the Arctic and the South Pacific due to sea-level rise, to increasingly centralized forest management; mitigation and adaptation responses and interventions create their own critical outcomes. This essay and the articles in this special issue examine some new opportunities and risks associated with climate-change discourses and interventions. This special issue shows that vulnerable communities may be at risk of material injury following climate change or climate change intervention; and, be further insulted and injured by lack of representation and recognition, and by misrecognition as simplified, stereotyped victims in local, national and international climate conversations. Using a mixture of theoretical insight and case study research, this collection of articles explores the injuries of climate change as it applies to both direct physical stress scenarios and exposure to adaptation and mitigation policies and planning, as well as the discursive insults of being discounted, stereotyped, or ignored.

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I assume that justice today requires both redistribution and recognition. And I propose to examine the relation between them. In part, this means figuring out how to conceptualize cultural recognition and social equality in forms that support rather than undermine one another.

Adding Insult to Injury, Nancy Fraser 2008:69

There are districts in which the position of the rural population is that of a man standing permanently up to his neck in water, so that even a ripple is sufficient to drown him.

R.H. Tawney. 1966. *Land and Labor in China.* Boston: Beacon Press. Quoted by James Scott. 1976. *The Moral Economy of the Peasant*. New Haven: Yale University Press.

Climate change is redistribution. It alters the timing and intensity of our rains and winds, the humidity in our soils, and the sea level around us. As redistribution, climate change is also a matter of justice – it is about who gains and who loses as change occurs and as interventions to moderate change unfold. Like climate change, climate-response measures and the discourses surrounding them have their own, even-less-understood, stratifying outcomes for vulnerable populations. The ecological conditions, distribution of assets, and systems of power that place certain communities at greater risk in the face of change can also place them at risk in the face of policy responses. Vulnerable communities may be at risk of material injury following climate change or climate change intervention; and, be further insulted and injured by their lack of recognition and by misrecognition as simplified, stereotyped victims in local, national and international climate conversations.

Bio-physical changes in the earth system enter a stratified social world (Saunders 1990), altering assets, meanings and security (Oliver-Smith 1996, Wisner et al. 2004, Ribot 2010). Facing changes, those closer to the threshold of disaster – living near subsistence with a minimum of assets – are most at risk. This essay and the articles that follow explore the stratifying effects of climate adaptation and mitigation interventions and related discourses. While climate change interventions and discourses may open

new opportunities for vulnerable communities to gain recognition and reduce risk; these essays show that communities vulnerable in the face of climate change can also be vulnerable when confronted with adaptation and mitigation intervention and discourses. Climate mitigation and adaptation interventions are necessary and inevitable; but without understanding their effects, we can inadvertently reproduce or deepen the damages they intend to redress (Barnett and O'Neill, 2010).

The articles in this volume illustrate how, in a stratified world, climate change, climate change interventions, and climate discourses can inadvertently generate risk – producing new injuries in the name of mitigation and adaptation. In Tanzania, a mitigation program related to Reducing Emissions from Deforestation and Forest Degradation (REDD) is undermining local livelihoods, justifying unwarranted evictions, recentralizing forest management control, and, in the process, is fomenting local resistance (Beymer-Farris and Bassett, this issue). In Bolivia and Peru, inequality and inequitable water policies interact with climate risk to further skew asset distribution and water access (McDowell, this issue; Lynch, this issue). In Alaska, rigid disaster response policies are undermining traditional rural Inupiat coping strategies, reducing the effectiveness of contemporary projects, while deepening alienation of the Inupiat (Marino, this issue). In Mexico, technocratic adaptation to water scarcity makes the local population dependent on precarious and expensive technologies while increasing atmospheric carbon (McEvoy and Wilder, this issue). Farbotko and Lazrus (this issue) show that climate-victim stereotypes in public representations of environmental refugees eclipse Tuvaluan narratives of change. Rebotier (this issue) shows how the inscription of vulnerability into specific urban spaces helps to make those spaces into arenas of risk.

Mitigation and adaptation planners want their interventions to have significant positive effects. These outcomes could be achieved through an iterative process of observing and learning from the outcomes that current interventions are already generating as well as from understanding local perceptions of those interventions. The articles in this issue illustrate that to avoid malmitigations (Beymer-Ferris and Bassett, this issue) and maladaptations (McEvoy and Wilder, this issue) analysts and intervening agencies must develop adaptation strategies that address the causes of vulnerability and respond to local needs and aspirations, while accounting for the multi-layered consequences of such efforts (McDowell, Beymer-Ferris and Bassett, this issue). These articles can help identify social protections to guide adaptation projects and policies by examining and explaining what these policies and projects do in practice. The objective is to understand grounded outcomes of climate actions, experiences of intervention, and the fallout from powerful climate discourses. Identifying insults and injuries, understanding their causes and effects, while helping to identify sound responses, are some of the potential roles of the social sciences in climate change research and response.

The Inter-governmental Panel on Climate Change (2009), the Stern Report (2006), and the National Science Foundation (NSF 2009, 1-2, 90) have all called for greater social science research on climate change. Social science research can help us to

analyze climate change science and related mitigation and adaptation enterprises as social processes. It can help us understand the production of climate change knowledge. It can interrogate the material consequences of projected climate futures in the present, the functions they serve for society, why people accept them or reject them, why people act on them or do not (Douglas 1994; Giddens 2009; Hulme 2009; Beck 2010). Social sciences can, and have, shed light on causes of risk or vulnerability (Kates 1971; Sen 1981; Chambers 1989; Wisner et al; 2004; Watts and Bohle 1993; Turner et al. 2003), and on the conflicting interpretations of causality itself (O'Brien et al. 2007). Included in these analyses is the sociology of responsibility and blame (Douglas 1983) and analyses of risk subjects, those affected by climate change actions (Wilkinson 2009). The social sciences also offer the opportunity to reflexively interrogate the concepts we use to frame global risks and responses to risks, to examine the success and failures of these frameworks, and to account for the material and discursive consequences of social action. While these social sciences are quite well developed, their application within climate change literature has been slow.

This special issue on climate-change interventions, mitigation policies, and discourses grew out of the inaugural meeting of the Initiative for Climate Adaptation Research and Understanding through the Social Sciences (ICARUS, see www.icarus.info) and was further developed at the 2nd International Conference on Climate, Sustainability and Development in Semi-arid Regions (ICID 2010, see http://icid18.org/). Perhaps not surprisingly, these gatherings of social scientists resulted, among other things, in a call to analyze climate change not only as a set of ecological conditions, but also as a set of socially mediated perspectives and political decisions that have material consequences. Responding to the IPCC, Stern and NSF calls for social science input into climate change sciences, ICARUS is dedicated to examining how the perception, understanding, and effects of climate change, are filtered through political, cultural, and social systems. Understanding these systems is essential to evaluating and successfully averting the negative consequences of climate change – including the full range of effects associated with climate-change interventions. ICID is part of a process dedicated to carrying these observations into dialogue with natural scientists and policy makers. Toward these ends, this collection analyzes climate change adaptation and mitigation interventions that have both intended and unintended effects on local wellbeing. The articles carry cautionary tales. They tell us how things can go awry while giving us valuable insights into how to set them right.

This article is organized into three sections. The first examines climate change interventions as they affect and are affected by social stratification. The second draws out contributions of the articles that make up this special issue. The final section is a brief concluding synthesis.

Stratification in the Context of Climate Action and Climate Discourse
Social stratification, the division of societies into different groups with different resources, interests and options, is a constant process. Societies are socially and geographically differentiated by class, castes, gender, profession, race, ethnicity, age,

and ability. These inequalities may be redressed, but the processes of stratification continue. Hence, equity is not an outcome achieved once and for all, but must be an ongoing process. These differences and the processes that create them are part of the broad political-economic and social system in which people live, produce and reproduce. They shape the unevenly distributed opportunities and vulnerabilities and the outcomes associated with climate trends, events, and interventions (Watts and Bohle, 1993; Wisner et al., 2004; Ribot, 1995; Oliver-Smith, 1996; Adger, 2001; Thomas and Twyman, 2005; Füssel and Klein 2006, Füssel 2007; Commission on Climate Change and Development, 2009).

Individual, household and community vulnerabilities are produced through inter-linked local, national, regional and global political-economic relations (Adger et al., 2006; also see Watts, 1983; Watts and Bohle, 1993; Ribot, 2010). Vulnerabilities to water scarcity in Peru, for example, are rooted in sectoral competition for water resources, *and* competition over the definition of water as a human right or a national commodity, which directly affects water allocation schemas upstream and down (Lynch, this issue). The unequal distribution of wealth and power at multiple scales in this case has reduced adaptive capacity to influence water allocation policy which has produced high vulnerability to crop loss for some communities (Füssel, 2010, Lynch, this issue), while increasing wealth and security for others facing the same climate change stress. Stratification not only affects people's capacities to directly absorb climate stresses, but also their adaptive powers to influence policies to minimize and contain climate-change related risks within local, national and global institutions.

Differentiated climate-related risk, produced through these multi-scale political-economic processes, presents an ethical challenge; those who contribute least to greenhouse gas emissions are often the most at risk in the face of change (Dow et al. 2006). These low emitters are also most likely to be affected by mitigation and adaptation programs. Policies like the Clean Development Mechanisms or Reduced Emissions from Deforestation and Forest Degradation act on the principle of industrialized countries (or those who can pay) offsetting their effluents by investing in the developing world. This lands the climate response projects in the poorest parts of the world. While these projects can bring benefits, they also come with built in risks. It is cheaper to mitigate climate change in the developing world because costs are lower – precisely because people are poorer (an argument made earlier by Summers 1991). Their very poverty, however, puts them at risk in the face of climate variability and change, and then again by exposing them to the side effects and injuries of adaptation and mitigation interventions – dams, windmills, restricted forest access. Their poverty also makes them least able to defend themselves from these kinds of projects. In the Rufiji delta in Tanzania, for example, long-term forest dwellers were relabeled as 'squatters' to justify expelling them from areas under consideration for conservation and carbon forestry (Beymer-Ferris and Bassett, this issue). Inequality begets discursive insult leveraging material injury.

In response to this challenge scholars have called for fairness in adaptation strategies and equitable distribution of climate change mitigation burdens (Arler 2001,

2004; Müller, 2001; Adger et al., 2006; Bronen, 2011). While it is clear how stratification affects exposure to risk, less understood is how the forces that generate vulnerability for these populations – processes of exploitation and resulting stratification and marginalization – are complemented by political processes that can exclude these same populations from shaping the political economy that enables or disables them (Ribot, 2010). As Adger, Paavola and Huq (2006, 2) propose, "vulnerable groups are likely to be at the sharp end of the policy responses to climate change," suggesting that inequitable policy responses create their own kind of violence. Brown and Erikson argue that adaptation to climate change may run counter to long-term solutions for poverty alleviation and human well-being (Brown and Erikson 2011). However, to date there has been little empirical research on how and where climate change interventions and discourses are shaping and being shaped by social stratification, inclusion and exclusions (exceptions are Barnett and O'Neill, 2010 Osborne 2011; Anderson and Zerriffi, 2011). Where are climate change debates opening new arenas for equitable participation and decreasing vulnerability; where are global discourses and interventions continuing hegemonic, technocratic or masculinist pathways of power and decision-making?

In practice, what disparate environments and environmental conditions, such as drought in Mexico (McEvoy, this issue), flooding in Tuvalu (Farbotko and Lazrus, this issue), and erosion in Alaska (Marino, this issue), have in common is the participation of local residents and communities in the global awareness of climate change and engagement with actions and organizations that have emerged from this awareness. Yet social scientists have, to date, been hesitant to frame climate change as a discursive construction likely because of the political pressure to address a 'tangible' climate change that favors bio-physicality over social construction. To call climate change a discursive construct is unnecessarily seen as muddying the public dichotomy between action and inaction, believers and deniers. Both the bio-physical and social approaches, however, are discourses. Acknowledging social construction of meaning does not lessen the physical phenomena that people perceive, fear, dismiss, or act upon (see Rebotier, this issue).

We believe anthropogenic climate change is occurring and causing bio-physical effects throughout the earth system. However, the emerging recognition of climate change, the identification of climate risks, analysis and diffusion of 'impact' scenarios, incorporation of carbon into economic regimes, and interventions to enhance adaptive capacity is at least as powerful a force in peoples' lives as are changing ecosystems, and these actions will necessarily be experienced through the lenses of a stratified society (Appadurai, 1996, Bankoff, 2002). If the international community is to promote justice through climate change intervention, climate change must be understood as both a disparate set of changing ecological conditions and as a set of outcomes filtered through social and political economic circumstances on the ground. Climatic changes take on meaning only as they are integrated into the discursive formations rooted in power relations, competing knowledge systems, and a contentious distribution of wealth and resources. These discourses form our understanding of the problems we face and of the options we have for change and improvement. They shape the analyses we apply to

climate change, to climate change risks, to potential biophysical trends and events, to associated outcomes and to what we call climate disasters. In short, material and discursive changes both have the capacity to insult and to injure real people.

Contributions in this Special Issue

The seven articles in this special issue focus on atmospheric carbon reduction (via Reduced Emissions from Deforestation and Forest Degradation—REDD) in Tanzania (Beymer-Farris and Bassett); responses to water shortages in Bolivia (McDowell), Mexico (McEvoy and Wilder), and Peru (Lynch); flooding risk in Alaska (Marino) and Tuvalu (Farbotko and Lazrus); and a theory-driven view of the urban inscription of climate related vulnerability in Latin America (Rebotier). While some of these cases focus primarily on the material conditions of climate intervention (Bolivia, Mexico, Peru, Alaska and Tanzania) and some lean toward a discursive analysis (Tuvalu and Latin America); they all illustrate the inseparability of material and discursive analysis.

The articles in this issue share a commitment to investigating the effects of interventions, of analysis, and of beliefs that climate change policies both reveal and create so as to identify the measures and discourses that reduce or deepen vulnerabilities. All of the articles tell stories. They recount what happened in a particular case so as to illustrate underlying dynamics of control, access and use of climate-related discourses, information and action. This is the case study method. It is a powerful method for getting at the complex, multi-causal (Watts and Bohle 1993) and multi-consequential (Agrawal and Chhatre 2010) relations between hazards and human wellbeing.

Betsy Beymer-Farris and Thomas Bassett's (this issue) article on the United Nations Reduced Emissions from Deforestation and forest Degradation (REDD+) program and carbon forestry efforts to make the Rufiji Delta mangrove forests of Tanzania "REDD ready" is among the first empirical studies to demonstrate some predicted centralizing tendencies associated with REDD+ (Phelps, Webb, and Agrawal 2010; Sikor et al. 2010; also see for other empirical REDD studies Osborne 2011; Anderson and Zerriffi, 2011). They describe centralized decision-making and environmental injustices against forest-dependent populations in preparation for carbon forestry. The article shows how specious environmental science and shallow historical analysis are used by national and international actors (i.e. World Wide Fund for Nature and the Tanzanian State) to blame local farmers for forest decline and to justify the urgent constraining of local agricultural practices and proposals to expel farmers from their land. The resulting centrally imposed plans to evict the Warufiji people from farming in mangrove areas provides an ominous example of how human rights can be subordinated to the needs of carbon forestry.

The article shows how the decentralized forestry model in Tanzania held up by forestry authorities as a model for REDD+, does not achieve promised local representation in decision making. Beymer-Farris and Bassett argue that the historical exclusion of forest dependent communities must be addressed. Without doing so, the current plan for REDD+ interventions in the Rufiji Delta, due to its ethically unjust and

scientifically unjustified evictions, appears headed toward conflict, since the Warufiji have no intention of accepting eviction without resistance. These outcomes are not just an artifact of a poorly planned well-intentioned conservation program. Tanzanian Forestry officials condone the lack of negotiation and the use of force due to what they see as the urgency of the problem. International conservationists are also blinded by their own sense of urgency. In short, Beymer-Farris and Bassett highlight the agency of forest-reliant communities by showing how these actors intend to resist REDD+ policies to the extent that they undermine local livelihoods and are viewed as unjust. Climate action here again overrides local needs and aspirations. Efforts to make the Rufiji Delta "REDD ready" insults local people with policies that misread their history in order to expropriate lands they have used and maintained for generations.

Julia McDowell's (this issue) highland Bolivia case study explores coping in the face of water scarcity and temperature change. It shows how racism, poor access to public-sector institutions, markets and schools, prevent indigenous people from developing needed livelihood skills that could allow access to higher paying jobs; how official identity cards and land titles – difficult to obtain for the illiterate – shape access to loans; how culturally inadequate curricula in rural schools maintain illiteracy, deepening exclusion; how collapsing transport, drinking water, and irrigation infrastructure incurs additional expenses drawing down assets and delays market access until prices fall; how people are forced to sell livestock to survive hard times and wind up decreasing their ability to sustain subsequent shocks. In McDowell 's case insult is added to injury when the very stresses of land scarcity and racially differentiated access to markets, infrastructure and social services also makes the peasants of highland Bolivia vulnerable under a changing climate.

McDowell provides a theoretical basis for merging the study of vulnerability and adaptation via the concept of adaptive capacity. She argues that both vulnerability and adaptive capacity depend on assets. Like Sen (1981), she argues that skills and identities are part of asset formation, mobilization, and use. Using access theory (Ribot and Peluso 2003), she goes further by showing that the ability to benefit from assets – is also contingent on a broader set of means or mechanisms including technologies, landscape configurations, social capital, complementary resources, violence, or theft, and that "these mechanisms, including classic property [e.g. classic assets], can all be enhanced or impaired by climate and other physical and social stressors." In doing so she shows that access – the set of abilities to benefit from things – is critically important in enabling individuals to use their assets to take advantage of opportunities as it is to avoiding harm. Her model links an understanding of vulnerability and adaptive capacity inextricably to the structures and processes that enable and disable the obtaining, retention, use, exchange, and enjoyment of assets.

Jamie McEvoy and Margaret Wilder (this issue), like McDowell, also explore water scarcity responses. Their case study of water desalination as a solution to water shortages along the US-Mexico border shows how technological thinking leads to technological solutions that misdiagnose the causes of the problem (*à la* Watts 1983), deepen risk (*à la* Beck 1994) and produce overly optimistic planning processes (Douglas,

1994). The authors show how water-management decision making can produce water supply vulnerability by assuming a robust environment and entrusting engineers to design a path toward secure current and future water supply. Optimistic attitudes towards technological solutions could result in the dependence of the city of Puerto Peñasco, Sonora, on expensive and energy intensive technologies that many citizens may not be able to afford and that contribute carbon emissions to the climate-related problem that they are ostensibly 'adapting' to. The authors demonstrate the techno-think pathway through which climate risk augments climate risk and modernization undermines modernization.

McEvoy and Wilder's article raises the question of whether cures for a growing and technological society bound to produce new injuries (à la Beck 1994)? Is maladaptation (Barnett and O'Neill, 2010) or malmitigation the exception or the rule? Is the untenable eternal-growth logic of capitalism the culprit? Yes, but not the only one. McEvoy and Wilder show how politics of domination and a technological agenda can produce centrally managed supply-side water solutions, despite the international push towards decentralized and participatory forms of water governance that emphasize demand-side management. They demonstrate how the uncomfortable politics of competition between urban and rural water users, and unpopular conservation measures, also favor technological options. In this context, they show how capitalism's need for growth coupled with science's proclivity to 'side' effects (Beck 1994) has left us with a spiral of fixes upon fixes, injuries upon injuries.

Barbara Lynch (this issue) provides a third article on water scarcity and the competing worldviews of regulation. She interrogates multi-scale water politics in Peru. Lynch explores the global perspectives that influence water allocation decision-making at the national level and the way in which both shape water politics in the Río Santa valley. As residents experience the triple threat of glacial retreat linked to climate change, increased water demand, and water pollution, decisions on what water is and how it should be treated are embedded in cultural worldviews about power, authority, and the market. Material and discursive inequalities shape insults and injuries to Peru's water-dependent marginalized upland poor. Lynch concludes that direct action has historically been the most successful method for promoting equitable water allocation to communities most 'at-risk.'

Elizabeth Marino (this issue) takes us to a part of the world where climate change is dramatically increasing flooding. Her article about environmental migration and climate adaptation planning and negotiation shows how climate change responses in Shishmaref, Alaska, have deepened local vulnerability as intervening agencies are unable to hear or respond to local needs and aspirations. This paper shows how social changes linked to a history of European colonial domination increase vulnerabilities while inhibiting adaptation to new ecological shifts. In Shishmaref, external decisions that promoted sedentarization undermined adaptive mobile livelihoods and coping strategies. The community was fixed in place – close to the water where it now faces increasing risk of flooding as sea level rises and its coast erodes.

This ethnographic case of adaptive environmental migration planning shows the disjuncture between internal workings of a distant bureaucracy and felt exclusions of affected populations. The people of Shishmaref are in a catch 22. Shishmaref's most-promising long-term adaptation strategy, despite its wrenching cultural costs, would be to relocate. Funds exist but are earmarked only for infrastructure to *maintain* the current situation in the current place. Expensive sea walls are rebuilt, while requested re-location remains out of reach. Marino finds that people in Shishmaref feel threatened by climate change, misunderstood, alienated, and mistrustful of government. Marginality begets marginality. Insult begets insult. Nonetheless, Shishmaref is part of a wider network of indigenous communities now attempting to be heard. Local residents are demonstrating that vulnerable communities are not passive victims, but are actively engaging the world and attempting to alter the status quo.

Carol Farbotko and Heather Lazrus (this issue) have a different focus on mobility. Like communities of Western Alaska, residents of Tuvalu are some of the most visible potential victims of climate change due to sea level rise. Turning the victim narrative on its head, Farbotko and Lazrus show how stories of global climate change attempt and fail to transform the people of Tuvalu into climate refugees. Unlike the common media bite, Tuvaluans neither view their islands as imminently disappearing nor their commuting as crisis. Indeed, they resent their travel practices being depicted as pathologic. While industrialized nations like to view their own mobility as freedom, they portray that of others as disaster. Rather than being seen as part of a healthy migrant economy and a global citizenry, Tuvaluans are being insultingly depicted as the flotsam of crisis from a place without a future. Worse yet, these images are generated to mobilize global action – to create fear of the hordes of third world people who will stream into the industrial world.

Labels can injure (Taylor, 1994). Language 'performs' on people and can perform violence (Butler, 1997). Speech acts (Searle 1969). This insulting language act, labeling as 'refugee', adds to the poverty Tuvaluans experience due to limited job access in foreign markets where they are relegated to second class citizens. More injurious yet, Farbotko and Lazrus find the Tuvaluan images of refugee and 'victim' are promoted from outside mostly for their value to environmental agencies and journalists who need a 'face' for climate change. Adding deprivation to insult and injury, images of a people without a future discourage international development agencies and businesses from investing in their nation.

Julien Rebotier (this issue) develops a risk analysis framework for understanding the iterative biophysical and social production of risk. Social science researchers since the 1970s have cautioned us against hazard-centric approaches to disaster. Rebotier takes this idea further, looking at how discourses themselves, the naming of a place, a community, a geographical area of a city as 'risky' creates its own outcomes and can have the effect of a self-fulfilling prophecy. Integrating across material and discursive approaches, Rebotier views risk as a constant production of tangible circumstances and representations. Risk is a social construction in so far as the material circumstances or probabilities and potential consequences are differentially interpreted by those who

experience and interact with it. Interpretation is itself always stratified by the differentiated relation of individuals and groups to physical risks and to the discourses about it. In this sense, Rebotier shows how risk is also always political – its interpretations imply actions which serve different people with different social identities and means differently.

Rebotier also shows that once risk is identified and interpreted that it is performative and instrumental. The identification of risk, the words we use to describe it, and its inscription in place, imply actions and interventions with consequences for the control and use of spaces. He observes "territories are spaces in which meanings are inscribed, and in addition to the physical transformation of territories that risk may imply, risk is itself one of the meanings inscribed within these spaces, shaping the relationships as well as the actions carried out by their occupants, including those who govern." In this sense, Rebotier's 'territorialization-of-risk framework' requires us to take a holistic view that bridges the gap between material fact and representations – placing both in the political space of risk assessment. Here, through its performative nature, insult is injury – deepening material marginality through its perlocutionary effects (Butler, 1997).

Conclusions and Recommendations

Interventions and discourses surrounding climate change are producing additional stressors on vulnerable communities. These are the insults and injuries of intervention. A technological vision in Mexico leads to a precarious high-tech solution to a water management problem (McEvoy and Wilder). The labeling of vulnerable spaces in urban Latin America deepens the vulnerability of identified populations, and analytics of risk that fail to incorporate subjectivities depoliticize risk and in the process further marginalize those least able to cope with these risks (Rebotier). Climate change narratives produced to scare complacent Northerners into action casts Tuvaluan Islanders into victim roles that damage their sense of self and limit their opportunities (Farbotko and Lazrus). In Alaska institutional gaps and inflexible disaster response protocols prevent marginalized indigenous peoples from stepping out of the path of harm (Marino). In the name of urgent climate mitigation in the Rufiji Delta, Tanzania, getting the delta "REDD ready" redefines socio-nature relations to serve carbon markets, producing ahistorical specious science that justify new forms of exclusion (Beymer-Farris and Bassett).

Transformative remedies to social problems are those "aimed at correcting inequitable outcomes precisely by restructuring the underlying generative framework" (Fraser, 2008:28). Analyzing the material and discursive generative structures shows us the root causes of vulnerability and can enable successful adjustments. Supporting the authority of vulnerable populations and increasing their political representation in climate action decisions can add a layer of social protection. But, the insults and injuries experienced by vulnerable populations subject to climate action are not easily avoided. We see that change always generates new risk and, as McEvoy and Wilder (this issue)

suggest, these 'side effects' need to be analyzed in the steps toward any climate action solution.

Climate adaptation and mitigation often fall short of promoting environmental justice – in the form of rights, recourse and representation – that might make these interventions more locally relevant, equitable and therefore sustainable. Modest social goals are still far from being inscribed in the requirements for climate responses or in its practice (Ribot 2011; Rutt forthcoming). Social protections are debated but resisted at every step adding extra complexity and costs on climate action programs. As Beymer-Farris and Bassett (this issue) show, that lack of social protections can threaten the entire climate action endeavor. Similarly, in Alaska (Marino this issue), mid-level bureaucrats and policy makers are interested in including the participation of indigenous and rural communities in policy-making arenas, but interest does not necessarily translate into funding, organization, and mandates for inclusion. The articles in this special issue indicate that intervention is not simple, nor will it always be 'win-win'. Researchers must understand the conditions under which climate change interventions are both created *and* implemented to ensure that the goals of burden sharing, fairness in adaptation, representation in decision making, and the promotion of social justice and wellbeing remain priorities at all scales of climate change negotiations.

There are urgent reasons for global climate change intervention and action, namely, to avert wide-scale crises associated with unmitigated warming. For vulnerable populations, however, crises (climate driven or otherwise) are occurring now, are often unmitigated, multi-causal, and in some cases are deepening because of additional climate change related stressors. Many of the same factors that make people defenseless in the face of climate variability and change, however, also reduce their ability to defend themselves in the face of problematic climate interventions – poverty, landlessness, lack of local and national representation, and marginalization within global systems of power and international climate dialogues and discourse. While intervention is necessary, specific social protections are needed to accompany global policies and their translation into local projects. Multiple causes of local stress must be understood and local populations must be democratically represented (not merely channeled into or voiced within 'participatory' program processes) in the conception, design, implementation, monitoring and evaluation of programs. Multi-causal understanding can help us to see that the social damages we are all concerned with solving are not only artifacts of climate change, but are also artifacts of entrenched asymmetrical systems of power and resource access.

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