Politicizing vulnerability and adaptation: on the need to democratize local responses to climate impacts in developing countries

Mikulewicz, Michael

Published in:
Climate and Development

DOI:
10.1080/17565529.2017.1304887

Publication date:
2018

Document Version
Publisher's PDF, also known as Version of record

Climate and Development, 2018
Vol. 10, No. 1, 18–34, https://doi.org/10.1080/17565529.2017.1304887

climate and development
Check for updates

REVIEW ARTICLE

Politicizing vulnerability and adaptation: on the need to democratize local responses to climate impacts in developing countries

Michael Mikulewicz*

School of Environment, Education and Development, University of Manchester, Manchester, UK

(*Received 17 October 2016; accepted 2 February 2017*)

Since entering the global agenda in the mid-1990s, adaptation to climate change has moved from being considered a largely technical and environmental issue to one rooted in more social and economic circumstances of vulnerable populations. However, research into adaptation has been scarce in terms of analysing power and the politics that in conjunction with socio-economic factors often determine how people in local communities in the Global South respond to climate change. In light of these considerations, the aim of this paper is to contribute to the wider effort to politicize adaptation to climate change research and, as a result, democratize adaptation policy and practice. It is argued that any kind of social vulnerability to climate change is, in essence, political. Once understood as a political process, adaptation should be studied critically by interrogating the local power structures and the resulting political inequalities that determine people's ability to benefit from programmes and projects that aim to facilitate local adaptation. This is necessary if such interventions are to avoid benefitting some while leaving others, and particularly the poor and marginalized, behind. Democratization is seen as a process that must occur (1) between communities and interventions, and (2) within local communities, themselves. The paper concludes with reflections on how democratizing adaptation could function in theory and practice.

Keywords: adaptation; climate change; vulnerability; power; democratization; politicization; community-based adaptation; CBA

Introduction

Since entering the global agenda in the mid-1990s, adaptation to climate change has moved from being considered a largely technical and environmental issue to one rooted in more social and economic circumstances of vulnerable populations (Mertz, Halsnæs, Olesen, & Rasmussen, 2009; Orlove, 2009; Pelling, 2011). Researchers and practitioners alike seem to be embracing the idea that exposure to biophysical climate impacts such as droughts, floods, or sea-level rise determined by geographical location alone is not the only factor affecting people's vulnerability in the face of climate change. Socio-economic factors such as poverty, health, education, living conditions, access to financial markets and technologies are also believed to play a crucial, if not decisive, role in how people respond to these natural forces (Adger, Huq, Brown, Conway, & Hulme, 2003; Ayers & Dodman, 2010; OECD, 2012; UNDESA, 2005). The realization that natural disasters are severe only to the extent that the affected populations are vulnerable to them is not new (Ribot, 1995; Ribot, Magalhães, & Panagides, 1996; Sen, 1981; Watts & Bohle, 1993; Wisner, 2004), and is slowly establishing itself within climate change adaptation literature. This is certainly welcome and will contribute to a more nuanced understanding of adaptation outcomes. Moreover, it has also allowed adaptation to permanently cross paths with sustainable and inclusive development, with which it is believed to have mutual objectives (Adger, Brooks, Bentham, Agnew, & Eriksen, 2004; Ayers & Dodman, 2010; Fankhauser & Schmidt-Traub, 2011; Mertz et al., 2009; Oppenheimer, 2013; Pokorny, de Jong, Godar, Pacheco, & Johnson, 2013; Ramirez-Villegas, Salazar, Jarvis, & Navarro-Racines, 2012; Rayner & Malone, 2001; Ribot, 2009; Schilling, Freier, Hertig, & Scheffran, 2012; Thomas & Twyman, 2005).

However, research into how adaptation works on the ground is still largely limited (Ford et al., 2015), and has been particularly scarce in terms of analysing power and the politics that often determine how people in local communities in the Global South respond to climate change.[1] Most existing research does not push analytical boundaries

*Email: michal.mikulewicz@manchester.ac.uk

beyond explicitly socio-economic – rather than political – contexts of the studied localities. Similarly, interventions tend to include institutional solutions based on the notions of collective action, community cohesion and interaction, as well as norms, rules, and trust (often described as social capital), or economic ones that stress the importance of technology and market access. While these measures may have the potential to contribute to increased "resilience" of the affected communities (see, Uphoff, 2000), research suggests that the way such processes operate is rarely egalitarian, and that their benefits are often distributed unequally (Chen, Wang, & Huang, 2014; Hiraldo, 2015; Jennings, 2011; Magrath, 2010; Marfo, 2015; Marino & Ribot, 2012; McCarthy, 2014; Oyono & Galuak, 2015; Taylor, 2014). A number of critical scholars have cautioned that interventions aimed at increasing local communities' adaptive capacity in developing contexts may lead to the emergence of winners and losers of adaptation, with the potential to exacerbate local inequalities and thus hinder inclusive development (Adger, 2006; Adger et al., 2003; Thomas & Twyman, 2005). Consequently, there have been consistent calls to politicize adaptation through a more systematic and focused incorporation of power into research and practice (Dodman & Mitlin, 2013; Eriksen, Nightingale, & Eakin, 2015; Marino & Ribot, 2012; Symons, 2014; Taylor, 2014). For these critical scholars, the exercise of power by actors across multiple scales is seen as a key determinant of unequal adaptation to climate impacts.

Building upon these considerations, the aim of this paper is to contribute to the wider effort to politicize adaptation to climate change research and, as a result, democratize adaptation policy and practice. It is argued that vulnerability, rather than being described using socio-economic indicators such as high poverty, low levels of education, or lacking or otherwise unstable access to land, needs to be analysed in terms of its origin (Ribot, 2014). Doing so reveals that vulnerability is, in essence, political. Conceptualizing vulnerability in terms of political power is necessary to supplement the current debates around adaptation to climate change in local communities, which do not place sufficient attention to local power inequalities. By addressing this gap in understanding local adaptive responses, it is hoped that a focus on the political nature of vulnerability in the face of climate change can help steer the direction of adaptation research and practice towards more equitable climate policies and outcomes in the future.

This paper is structured into four major parts. First, an overview of the existing approaches to adaptation interventions is discussed, which groups them according to two dimensions: the cause of the damage addressed (the hazards approach vs. the vulnerability approach) and the modality in which such interventions are implemented (top-down and bottom-up). The second part provides a brief critique of the current approaches and is based on the relative absence of power considerations both in hazards- and vulnerability-centred research and practice. In response to this critique, the third part argues that vulnerability to climate change impacts is a result of an explicitly political process. By doing so, it seeks to complement the currently dominant social vulnerability approach by discussing how power, understood as the ability to successfully influence the actions and subjectivities of others (Brennan & Israel, 2008) through both material and discursive strategies, can be used to explain the root causes of vulnerability and inform adaptation interventions in a way that, at the very least, they do not ignore or exacerbate the existing social inequalities at the local level. In the fourth part, democratization of adaptation is discussed, in which it is argued that interventions need to be democratized in such a way as to obtain two major outcomes. First, the relationship between the interventions and the communities should be reconsidered with more tangible power being delegated to communities. Second, equitable adaptation is considered possible only if the distribution of power in the process of adaptation decision-making and implementation is spread evenly among all community members. This last part of the paper concludes with a brief discussion on the practicalities of adopting a more political approach to adaptation, including potential methodologies for further empirical study.

Brief overview of approaches to adaptation interventions

Adaptation research has identified a range of approaches that practitioners have adopted to reduce the vulnerability of local communities to damage associated with climate change events. A review of adaptation literature has produced a typology that demonstrates where current adaptation research and practice both stand. It is possible to identify two dimensions in this regard. The first dimension of this typology concerns the source of damage that an intervention is aimed to address. Adaptation interventions have followed the hazards approach, the social vulnerability approach, or a combination of the two. This dimension is more theoretical, as interventions do not always explicitly indicate the cause of damage they seek to address. The second dimension, and a more practical one by nature, concerns the modality in which action is being taken, namely top-down, bottom-up, or autonomous. While the first two apply to cases where communities receive external adaptation assistance, autonomous strategies are those taken by community members independently of any outside intervention, and thus will not be discussed in greater detail here. As it will be explained below, both these dimensions (the cause of damage addressed and the modality in which it is done) are intrinsically related. For instance, research suggests that the hazards approach tends to favour top-down interventions,

while the social vulnerability approach recognizes the need for bottom-up adaptation strategies (Ayers & Forsyth, 2009; Bassett & Fogelman, 2013). In simple terms, the proposed typology is concerned with the source of damage that adaptation interventions address, as well as how they address it.

The hazards approach and the social vulnerability approach

Adaptation and vulnerability are two strictly interrelated concepts, and it can be argued that, broadly speaking, the objective of adaptation to climate change is to reduce vulnerability to climate change impacts. At the same time, vulnerability greatly affects how adaptation unfolds. Itself a somewhat misused term, vulnerability could be defined as the degree to which human populations and ecological systems can be affected by external processes caused by climate change (Adger, Agrawala, & Mirza, 2007). A widely accepted observation is that vulnerability is a function of exposure (the rate and degree of climate impacts), sensitivity (the degree to which a system can be affected by them), and adaptive capacity (the system's ability to adapt to these impacts) (Adger et al., 2003; Chishakwe, Murray, & Chambwera, 2012; Williamson, Hesseln, & Johnston, 2012). Analysing vulnerability as a conjuncture of these three variables allows to bring out the differences between the biophysical (hazards-centred) and social approaches.

Using the definition of the above, it can be argued that the hazards school places emphasis on the *exposure* of a local community to such natural processes as droughts, floods, hurricanes, sea-level rise, and other climate hazards. This approach separates the social and natural worlds ontologically and consequently considers them independent of each other (Schlosberg, 2012; Taylor, 2014; Weisser, Bollig, Doevenspeck, & Müller-Mahn, 2014). It is the interaction between these two discrete realms, and more specifically the forces of the latter acting on the former, that can result in negative outcomes for local people (Bassett & Fogelman, 2013; Shuhrke, 2013). In other words, the vulnerability of a community is expressed by the degree to which its geographic location and the related anticipated impacts of climate change can affect the pre-disaster equilibrium. Attention is placed here on the amount of damage that can be sustained by a local community rather than the factors that underpin the extent of that damage (Adger et al., 2004). In short, analysing vulnerability from this perspective translates into describing disasters as adverse weather events triggered by climate change to which humans must react in order to survive (Head, 2010).

The remedial actions prescribed by approaches that conceptualize risks in terms of natural hazards have in consequence been focused on limiting the exposure of vulnerable populations to adverse weather events. Bassett and Fogelman (2013) refer here to "purposeful adjustments" undertaken by society to increase its absorptive capacity (or the capacity to absorb external shocks), while Pelling (2011) classifies this kind of adaptation simply as "resilience." Examples include the introduction of new seed varieties as an adaptive measure against droughts, constructing walls to protect coastal communities from sea-level rise, or building levies and resettling people in anticipation of more frequent and intense flood events. The said populations' socio-economic context or capacity to respond to the risk are not considered significant factors in decreasing their own vulnerability.

Since the Intergovernmental Panel on Climate Change Fourth Assessment Report of 2007, adaptation research and practice have accorded increasing attention to social vulnerability, which concerns the social and economic determinants of the risks of undergoing climatic stress (Adger et al., 2004). This has come from the realization that climate-related risks are a product of "social amplification more than the nature of the hazard itself" (Mertz et al., 2009; Pelling, 2011, p. 16). In addition to addressing exposure to droughts, floods, or sea-level rise, a more critical political economy approach has emerged that points to the socio-economic realities of vulnerable populations as factors conducive to successful climate change adaptation. Rather than exposure to climate hazards, efforts to reduce social vulnerability stress the importance of decreasing the *sensitivity* and strengthening the *adaptive capacity* of local communities, the other two variables in the function that describes vulnerability (Adger et al., 2004; Park, Howden, & Crimp, 2012).

Due to the high diversity of adaptation challenges, adaptive capacity is very context-specific, and no single formula for building it exists (Sovacool, 2011). Authors cite a plethora of different characteristics, stressing the role of infrastructural, institutional, community, social, political, demographic, economic, educational, health, technological, and cognitive factors in influencing the capacity of communities to adapt to adverse climate effects (for recent contributions, see, Adger et al., 2007; Bowen, Cochrane, & Fankhauser, 2012; Chishakwe et al., 2012; Esham & Garforth, 2013; Lata & Nunn, 2012; Leal Filho, 2011; McNamara, 2013; Pelling, 2011; Picketts et al., 2012; Pulhin, Lasco, Pulhin, Ramos, & Peras, 2010; Rawlani & Sovacool, 2011; Sovacool, D'Agostino, Meenawat, & Rawlani, 2012; Wolf, Adger, Lorenzoni, Abrahamson, & Raine, 2010). What all these recommendations have in common is the recognition that vulnerability in society exists independently from the biophysical forces to which it may be subjected, and that limits to adaptation are in fact cultural, social, and political by nature (Adger et al., 2004; Pelling, 2011).

Arguably, one of the most significant contributions of social vulnerability research is the recognition that due to

the social, economic, cultural, and political stratifications operating on the ground, adaptation to climate change has the potential to leave some people behind while others manage to steer their livelihoods towards a more "climate-proof" future (Gentle & Maraseni, 2012). Critical scholars studying what has come to be known as climate justice have cautioned that individual and collective actions taken locally in response to climate change are likely to produce "winners and losers" of adaptation (Adger, 2001, 2003, 2006; Adger et al., 2004; Thomas & Twyman, 2005). In other words, local distributions of power and material assets are likely to be rearranged not only by droughts, floods, and sea-level rise, but also more indirectly by the *way* in which people respond to these occurrences.

Importantly, it is argued that the most vulnerable people in developing countries, such as the poor and the marginalized, will be hit hardest due to their limited resource base and chronic social exclusion (Shrestha, 2013). As a result, such inequitable climate change adaptation could potentially exacerbate socio-economic inequalities at the national, sub-national, and community levels, constituting a serious obstacle to broadly understood inclusive development, itself. That adaptation policy and practice may benefit the privileged while leaving the marginalized behind due to socio-economic stratification has become one of the main concerns of critical adaptation scholarship (Adger, 2003; Adger et al., 2003, 2004; Adger, Brown, & Tompkins, 2005; Neumann, 2005; Ribot, 2009; Taylor, 2014; Thomas & Twyman, 2005).

Top-down and bottom-up approaches

While the first dimension of adaptation interventions concerns the nature of vulnerability that is being addressed, the second dimension expresses the modality in which these interventions are implemented. Here, one can distinguish between top-down and bottom-up approaches to local adaptation efforts.

Top-down (or planned) adaptation comprises a range of external interventions that have the aim of protecting the livelihoods of local people and facilitating the ways in which they respond to climate change. It is argued that facilitating adaptation, particularly in developing countries, has become a necessity due to the sheer scope of current and anticipated climate impacts and their low adaptive capacity (Adger, 2003). According to this argument, current local knowledge and practices will not be able to compensate for the severity of climate impacts that are in store for many vulnerable people, and that developing countries require financial and technological assistance from the outside to prepare for adverse climate effects.

Importantly, it has been observed that top-down adaptation is strongly informed by the hazards approach. Indeed, the framing of adaptation as a necessity to adjust to the natural hazard of climate change is conducive to putting forth solutions that involve corrective, top-down, technical, and carefully managed measures as answers to local adaptation challenges (Bryant, 1997; Shuhrke, 2013; Tschakert & Machado, 2012). Grounded in the confidence in science, technology, and rationality, this kind of techno-managerial adaptation promotes "disaster preparedness" through standardized governance and planning systems (Brown, 2011, p. 28; Chishakwe et al., 2012; Symons, 2014; Tanner & Allouche, 2011). Consequently, this approach often relies on the construction of artificial, human-built infrastructure (such as coastal protection) and other sizeable technological solutions, as well as low-resolution modelling, and government interventions through various laws and programmes (Ayers & Forsyth, 2009; Chishakwe et al., 2012; Sovacool, 2011). It requires significant financial assets as the bulk of funds are consumed by infrastructural development (Sovacool, 2011). It largely ignores the social and political drivers of vulnerability and focuses on populations' exposure to climate effects.

That said, top-down adaptation measures focusing on social vulnerability also exist, and can include social support programmes concerned with literacy, public and environmental health, as well as material redistribution (United Nations, 2011). It can also be argued that interventions that advocate for increased physical and social access of local communities to markets in order to foster income-generating economic activities, despite widely presenting themselves as participatory or bottom-up, are essentially top-down by nature (Moore, 2004; Taylor, 2014).

On the other hand, the majority of bottom-up (or participatory) approaches to adaptation intervention tend to focus on social vulnerability rather than climate impacts as natural hazards, and draw from the tradition of institutionalism, which advocates for the creation of institutions capable of generating collective action at the community level (Cundill & Fabricius, 2010; Menzel & Buchecker, 2013). It must be underscored at this point that these participatory approaches should not be equated with democratization efforts. Interventions based on local institutions do not generally engage with issues of power and democracy, despite being founded on the principle of involving local people in the design, implementation and, less frequently, monitoring of adaptation or development interventions.

Rather, bottom-up approaches of this kind tend to stress the importance of *community* as the social mobilization instrument that is required for the successful management of community resources (Delanty, 2010). That is because the ability of local communities to make decisions and act on them collectively is viewed by many bottom-up adaptation interventions as one of the most important factors for increasing adaptive capacity (Adger, 2003; Adger et al., 2004; Allen, 2006; Rudd, 2000). The

importance of collective action stems from the fact that managing natural resources together spreads the costs and benefits of access to these resources across the wider community, reducing the risk of conflict and bettering the livelihoods of those involved (Ostrom, 1990). In particular, scholars of the sociological and institutional persuasion seek to analyse why and how individuals and social groups engage in collective action and what the intrinsic dynamics of the process are.

Community-based adaptation

In the specific context of adaptation to climate change, the most widely cited bottom-up approach to facilitating local responses to climate risks is "community-based adaptation" (CBA) (Ayers & Forsyth, 2009; Dodman & Mitlin, 2013; Faulkner, Ayers, & Huq, 2015; McNamara, 2013; Parashar, Sharma, & Shaw, 2011; Simane & Zaitchik, 2014). CBA has been described as a response to the mixed success record of the top-down approach delineated above, which failed to integrate adaptation and development in ways that address the social complexity and diversity of adaptation contexts (Chishakwe et al., 2012; Faulkner et al., 2015). CBA does not advocate for specific solutions to adaptation challenges on the ground. Rather, it hopes to co-produce these solutions with the beneficiaries themselves.

Precisely because of its commitment to include local people in the decision-making and implementation processes, CBA rests on the cohesion of local communities and stresses the importance of the livelihoods of the people who compose them (Sovacool, D'Agostino, Rawlani, & Meenawat, 2012). As a largely institutional approach, CBA-based interventions are often dependent on their ability to create efficient and inclusive local-level institutions (Andersson & Gabrielsson, 2012; Rudd, 2000; Shatkin, 2007). CBA utilizes participatory methods to benefit from unique local knowledge and strategies in designing adaptation measures; it is supposed to be not just community-based but also community-driven (Chishakwe et al., 2012; Pelling, 2011). As a result, the communities affected by climate change are thought to become empowered and act as decision-makers, implementers, and monitors of their own adaptation (Allen, 2006; McNamara, 2013; OECD, 2012; Picketts et al., 2012; Sovacool, 2011). Consequently, CBA has a higher legitimacy potential as it takes into consideration the values, feelings, traditions, and emotions that the top-down approach fails to include in local-level decision-making (Pelling, 2011).

The typology of adaptation approaches presented above is an attempt to systematically analyse the current efforts aimed at "preparing" local communities in the Global South to climate change. What needs to be underlined here is that the different types of adaptation described above are not discrete or mutually exclusive. Different interventions may – and more often than not do – contain elements rooted in both social and exposure-based understandings of the causes of vulnerability and, furthermore, can mobilize both top-down and bottom-up strategies. For example, adaptation projects financed under the United National Framework Convention on Climate Change (UNFCCC) funding mechanisms tend to include elements aimed at building stronger national and local institutions, constructing climate-resilient infrastructure, and fostering CBA initiatives on the ground (Sovacool et al., 2012; UNDP, 2014). Table 1 lists examples of interventions arranged according to the two adaptation dimensions delineated above. Autonomous strategies are provided only for reference, as they are expected to take place independently from or in the absence of adaptation interventions.

A critique of the hazards and social vulnerability approaches in research and practice

Top-down adaptation has faced consistent criticism from adaptation scholars (Ayers & Forsyth, 2009; Figueiredo & Perkins, 2013; Parashar et al., 2011; Tschakert & Machado, 2012). It is argued that the imposition of what are essentially top-down solutions under a process that is described by donors and intervention implementers as explicitly democratic or participatory has little to do with meaningful participation, not to mention democracy (Kenis & Lievens, 2014; Swyngedouw, 2010). It has been argued that the technocratic bias of this approach can undermine local adaptation by ignoring community capacity and the reasons for its decline (Fu et al., 2012; McNamara, 2013; Pelling, 2011). Moreover, the excessive reliance of the top-down approach on cost-benefit analysis is of little use in the context of adaptation, as the goal of adaptation projects is to prevent losses from happening, which by definition makes these potential costs hard to quantify (Pelling, 2011). In general, adaptation research focused on social vulnerability has provided an ample critique on the limitations of interventions concerned chiefly with biophysical climate factors and their impacts on local communities.

Yet, institutional and participatory approaches to adaptation such as CBA are not without challenges and have also attracted criticism. It is argued that, while theoretically attractive, inducing and maintaining "reflective community engagement" in practice is an arduous and time-intensive project (McNamara, 2013, p. 399). Moreover, because participatory approaches such as CBA are relatively cheaper, they may tend to substitute, rather than complement, more capital-intensive adaptation strategies such as infrastructure or technological development that in many cases may be necessary for successful adaptation to take off (Chiveralls, 2012; Dodman & Mitlin, 2013). By doing so, community-based approaches may have the unintended

Table 1. Examples of adaptation interventions according to the cause of damage and modality of intervention.

		Cause of damage		
		Natural	Social	
		Natural hazard	Socio-economic factors	Political inequality
Modality of intervention	Top-down interventions	• Resilient infrastructure (sea walls, early warning systems, etc.) • Resettlement	• National development and adaptation policies • Social support programmes	• Democratization through representative and accountable institutions
	Bottom-up interventions	• CBA and other bottom-up approaches (highly contextual)		• Democratization of community governance
	Autonomous strategies	• Permanent migration • Community-built climate-proof infrastructure	• Seasonal migration • Alternative income-generating activities	• ResistanceConflict

Note: Conceptualizing vulnerability as having roots in political inequality should complement the dominant socio-economic approach.

consequence of devolving the responsibility for adaptation onto the poor themselves (McCarthy, 2014).

However, a critique that arguably carries the most serious consequences for local communities is that participatory approaches that rely too much on internal social dynamics within heterogeneous communities can reinforce their underlying power structures and result in the reproduction of intra-community patterns of exclusion, oppression, and vulnerability (Allen, 2006; McCarthy, 2014). The uncritical focus on institutions such as local associations and organizations, and their undisputed positive effect on collective action and adaptive capacity, rests on unrealistic assumptions about local communities' absolute power equality and their independence of the external political-economic forces (Mosse, 2006; Wilson, Acheson, & Johnson, 2013). As Chiveralls (2012, p. 138) argues with regard to adaptation approaches centred on fostering social capital, the rational choice framework that such initiatives rest upon "denies the inherent complexity and contingency of social life and the power struggles with which it is imbued." This is to say that local communities are not perfectly rational, competitive and self-sufficient markets, but rather highly differentiated and messy entities filled with relations of domination and exclusion (Wilson et al., 2013). In short, institutional theory is based on idealized assumptions of reality.

This may help explain why institutional strategies aimed at decreasing social vulnerability lack any rigorous considerations of power. This is a major gap, especially given the many voices lamenting the preponderance of apolitical approaches to adaptation (Bassett & Fogelman, 2013; Peet, Robbins, & Watts, 2011; Pelling, 2011; Shuhrke, 2013; Tanner & Allouche, 2011). While generously acknowledged, unequal power structures are often taken for granted and considered static, rather than constantly negotiated, perpetuated, and acted upon. They act as a "backdrop," a hurdle, to the community engineering of the kind described above that seeks to realign community life to produce mutually beneficial collective outcomes (Brennan & Israel, 2008, p. 89). Institutional strategies that place emphasis on self-governance, often in tandem with market forces, operate on the basis of the romantic understanding of communities that ignores internal power differentials and presents them as uniform, idyllic entities naturally engaging in collective action (Cohen, 1985; Evans, 2009; Young & Gert, 1986). Arguably, the questions of political power and political inequality in the context of adaptation to climate change have failed to solicit rigorous theoretical and empirical engagement within academia.

The inability of adaptation research and practice to systematically engage with power and inequality sets the stage for adaptation interventions that may work for some, but at the same time leave others, and presumably the poor and the most marginalized, behind. It thus contributes to the already mentioned process that produces winners and losers of adaptation (Adger, 2003; Adger et al., 2003, 2004, 2005; Neumann, 2005; Thomas & Twyman, 2005). Meanwhile, climate change impacts are real and are affecting people around the planet now (Swyngedouw, 2013a). While biophysical forces and socio-economic challenges on the ground are essential in studying these impacts, traditional approaches to adaptation should be supplemented by frameworks that bring to the fore the ways in which power affects adaptation choices and outcomes. It is the intellectual responsibility of academics and policy-makers to ensure that human responses to slowly intensifying climate impacts such as droughts, floods, and sea-level rise are as equitable and democratic as possible. Otherwise, unequal adaptation may serve as an occasion for increasing stratification of local communities, a process that may undermine inclusive development, let alone effective responses to climate change (McCarthy, 2014; Taylor, 2014). In light of these concerns, the next section will

attempt to delineate the theoretical foundations for analysing how power relations affect the adaptations of local communities to climate change.

Politicizing vulnerability and adaptation to climate impacts

Critical vulnerability scholars have proposed that while moving away from hazards-centred approaches to studying the impacts of climate change on local communities is a step in the right direction, simply describing the socio-economic attributes that are seen as causal factors of vulnerability (such as poverty) is insufficient and inadequate (Eriksen et al., 2015; Ribot, 2014; Sen, 1984). In analysing vulnerability to climate change, and by extension planning various interventions aimed to address it, one must ask about, following Ribot (2014), the root causes of vulnerability. Indeed, asking *why* vulnerability exists rather than merely demonstrating how it manifests itself is a key analytical shift that should occur not just in social climate science but any research concerned with social justice and inequality.

For example, land tenure is a valid determinant of vulnerability to climate change impacts, as secure access to land is seen as one of the key factors that increase people's adaptive capacity (Pulhin et al., 2010). A simple recognition of this fact, however, does not get us far. In this specific example, an interrogation is required into the *causes* of insecure land tenure if any intervention is to successfully decrease vulnerability (Ribot, 2014). Such interrogation involves questioning the power asymmetries that have led to and, more importantly, constantly reinforce the inequality in access to land, moving the inquiry into the realm of political economy and critical social theory. As such, it politicizes both vulnerability (in the sense that it traces its roots to explicitly political processes) and, by extension, adaptation to climate change (which it views as a political process taken in response to climate impacts). Shifting the focus away from poverty, lack of capacity, low levels of education and high unemployment rates – as important as these issues are – to questions of power and politics, and how these latter concepts shape vulnerability and the adaptive process itself, I argue, provides a more nuanced understanding of why some local people remain vulnerable to climate impacts while others manage to adapt. Thus, it is the political inequality of the studied places, rather than their well-researched socio-economic inequality, that is viewed as a key determinant of vulnerability. In short, local vulnerability and adaptation, rather than just social, are explicitly political by nature (Eriksen et al., 2015; Nightingale, 2015; Taylor, 2014).

Yet, Brennan and Israel (2008, p. 82) notice that "despite its central role in community, regional, and national life, the concept of power remains underdeveloped in the community theory literature." Indeed, power is certainly acknowledged as a factor in community-level decision-making, but is often mentioned in passing without conceptual rigour. More often than not, it is simply considered a condition that stems from the economic, social, or political position (Brennan & Israel, 2008). For the purposes of this discussion, I will follow Brennan and Israel's (2008, p. 82) definition of power as "the ability to act or influence the ability of others to either act or choose a path of inaction." I understand this definition in both material and discursive terms. Although the authors develop the concept further by distinguishing between different dimensions of power such as threat, authority, influence, manipulation, and force (Brennan & Israel, 2008), the following sections will combine the elements of these dimensions through the general use of the term *power*.

In order to facilitate the analysis of power and the resulting politics in the context of adaptation to climate change, a focus on the root causes of people's inability to participate in adaptation decisions and benefit from their outcomes moves the discussion on vulnerability and the resulting ability to adapt to climate change impacts into the realm of power and politics (Ribot, 2014). The goal here is to uncover how a complex web of power structures and relations shape and are shaped by adaptive actions. The need for this exercise is supported by findings of the limited empirical research concerned with political roots of vulnerability. For example, it has been suggested that local vulnerability to climate change impacts is not caused by the retreating glaciers *or* poverty, but rather by an unequal access to water governance (Lynch, 2012). In the Global North context, the issue was particularly visible by the post-disaster experience of politically marginalized minorities in New Orleans following Hurricane Katrina (Smith, 2006; Somers, 2008).

It is proposed that unequal relations of power in adaptation contexts can be analysed in a twofold way. The first question to be asked is how power functions at the intra-community level among community groups[2] or individual members. Second, since communities do not function independently of the larger political, economic, and social processes, the influence of external agents that facilitate adaptation through either top-down or bottom-up approaches must complement power analysis in the context of local communities.[3] The flows of both material and discursive power at these two levels are not always independent from each other. For instance, local elites can ally themselves with outside forces to change the shape of locally taken decisions to their own benefit (Brosius, Tsing, & Zerner, 1998; Mehta, 2000; Nuesiri, 2015).

Understanding intra-community inequalities

First, with regards to the intra-community level, it can be argued that power is most visibly exercised through the

process of decision-making within the community, and that power is crucial to the selection and implementation of the decisions taken. As Peters (1996) notes, participation in community life is a political process and involves contestation or conflict between different interests. In that sense, the amount of power (both discursive and material) that groups and individuals bear can be distilled down to their ability to influence community politics. The individuals or groups who possess superior power determine the structure and decisions of the community (Ishihara & Pascual, 2009), and conversely, the powerless are excluded from or otherwise side-lined in the process of making collective decisions. It is at this moment that the asymmetries of power become most visible (Eriksen et al., 2015; Ishihara & Pascual, 2009).

The reasons why certain members may be able to participate in community politics more than others are very diverse, and can be tied to social and economic attributes such as wealth, gender, caste, ethnicity, prestige, or occupation. Thus, power should be analysed with a focus on both its material and discursive dimensions. First, power can be drawn from more economic (or material) attributes such as wealth or occupation. If one understands vulnerability in relational terms (Taylor, 2013), it becomes clear that the low vulnerability of some people can come at the expense of the high vulnerability of others, and that the adaptations of the former may, both in terms of their perceptions and effects, constitute maladaptations for the latter. Taylor (2014) provides a wealth of examples on how adaptation is, indeed, a vehicle for capital accumulation for agrarian elites who exercise power through patron–client relations with other community members due to their superior wealth and material status, in general.

In more discursive terms, Eriksen et al. (2015) propose analysing the use of power in the context of adaptation by drawing from three concepts from social theory: authority, knowledge, and subjectivity. The approach goes beyond interrogating what kinds of decisions are made and by whom, and asks why certain individuals are able to promote their understandings and interests more effectively than others. Obviously, this process is not limited to how people respond to climate impacts. The contestation of different subjectivities by using authority to legitimise specific kinds of knowledge happens anytime groups of actors are subjected to change. The point to be made here is that adaptation, as a clearly political process, is embedded within the existing intra-community power relations rather than being detached from them. As such, it is likely to produce inequitable outcomes caused by the actions of those who are more powerful in establishing their particularistic agenda as the agenda of the entire community. For example, certain groups and individuals may draw power from traditional sources of authority, and this is the case of elders, village chiefs, or religious figures (Ribot, 2000; Vaughan & Tronvoll, 2003). As such, they can use this authority to influence the collective subjectivity of the community, which inevitably leads to the silencing of certain kinds of knowledge in favour of others (Foucault & Senellart, 2008; Ishihara & Pascual, 2009). Socially instituted cultural norms also play an important role, such as the predominant role of men in the decision-making process in many traditional rural communities, or patriarchy (Bandiaky, 2008; Edvardsson Björnberg & Hansson, 2013; Jusrut, 2015; Nightingale, 2015; Ribot, 2000). This power play must not be ignored by those wishing to understand how adaptation unfolds on the ground.

What follows from this kind of approach to adaptation is a change in the way academics and practitioners should conceptualize and relate to local communities in their work. Rather than understanding community in idyllic terms, where the local populace is economically self-sufficient and organized through local and consensual decision-making, community needs to be perceived as a form of social organization with power structures that often result in relations of domination and exclusion (Bridger & Luloff, 1999; Brosius et al., 1998; Kellert, Mehta, Ebbin, & Lichtenfeld, 2000; Taylor, 2014; Turner, 1999; Watts, 2004). In the practical sphere, a shift is required in the understanding of communities when formulating and implementing adaptation policies and projects.

Understanding the power differentials between local communities and interventions

Second, attention should be paid to outsiders' influence on the ability of local communities to adapt to climate change in an equitable manner (Poteete & Ribot, 2011). In this case, the role of external development and adaptation agents such as NGOs, national institutions, or international organizations, should be scrutinized in terms of how much power they bear relative to the recipients of their assistance. The modality of adaptation governance at the local level as it is promoted by external actors, and most prominently development agencies, can be described as intrinsically post-democratic (Swyngedouw, 2011; Wilson & Swyngedouw, 2014). The choice of adaptation solutions is a highly political issue, since what counts as an effective or desired adaptation strategy is highly contestable (Eriksen et al., 2015). Since many adaptation or vulnerability-centred interventions are based on techno-managerial expertise where climate science and classical economics are used to justify the proposed solutions, local communities' role in the process is reduced to that of mere recipients of help rather than partners in shaping their own adaptation. Power, in this case, manifests itself through the more or less visible imposition of a victim subjectivity on local people.

An example of how outside adaptation, however well-meaning, can effectively disempower rather than empower local communities, are many adaptation and mitigation

projects funded under the UNFCCC adaptation governance structure. While a participatory approach involving stakeholders is usually a condition for project approval and funding (UNFCCC, 2014), these initiatives have been accused of being irresponsive to local views, institutions, and circumstances (Chishakwe et al., 2012; Fortier, 2010; Hiraldo, 2015; Kashwan, 2014; Mandondo & Jusrut, 2015; Marfo, 2015; Nuesiri, 2015; Pulhin et al., 2010). Stakeholder participation is built into the design of all such projects, and participatory meetings with the affected communities do take place at various stages of preparation and implementation. However, at the same time, the scope of these meetings is defined from the outset, and issues that fall outside the pre-determined range of acceptable frames of decision-making are ignored (Adger, 2006; Fortier, 2010; Hughes, 2013). Participation in this case becomes a rhetoric of external agencies that fail to achieve real involvement of all community members (Peters, 1996). Instead, they rely on pre-designed solutions based on technical expertise and climate science. Because such projects tend to ignore the local power structures of the kind described above, they may end up benefitting certain groups or members, usually the most powerful, rather than the entire community (Bridger & Luloff, 1999; Ribot, 2000). In these cases, externally facilitated empowerment becomes a highly selective process that reinforces the existing power structures and contributes to growing inequality through the process of adaptation to climate change.

Towards democratizing adaptation

Critical scholars have theorized how to account for these considerations in studying and promoting adaptation to climate change at the local level. One fundamental question is whether the assumption that power stems from socio-economic status means that policies should – by extension – seek to alter the existing socio-economic foundations of local communities. Even if that were the policy goal, the potential for its realization remains highly dubious. Given the experience to date, it may be unreasonable to expect adaptation to climate change to become a force for levelling the social "playing field." Suggestions for aggressive policies of material – not to mention cultural – redistribution are likely to fall on deaf ears of governments and aid agencies. (A critically inclined observer concerned with power would most likely argue that this is due to their reluctance to share it!) Rather, in order to be applicable, research and policy must for now work with the existing socio-economic inequalities of the kinds mentioned earlier and ensure adaptation avoids exacerbating them further. As Taylor (2014, p. 160) pointedly notes: "Adaptation cannot ignore … [the] social relations within which biophysical forces are embedded – climate change cannot in any meaningful way become separated out from a redistribution of power within the agrarian environment."

In light of these considerations, the overarching consensus that seems to have been reached so far is that local adaptation governance must become democratized in a way that has not been done to date (Kenis & Mathijs, 2014; Marino & Ribot, 2012; McCarthy, 2014; Mehta, 2000; Peters, 1996; Ribot, 2000; Swyngedouw, 2011, 2013b). As Ribot (2014, p. 669) argues when theorizing vulnerability to climate impacts, "[d]emocracy must be integrated into any full analysis of causality." Importantly, democratization of the local decision-making process – both with regard to external and internal actors – does not negate the existence of socio-economic inequalities within local communities. It does not seek to actively engineer a community's internal structure to foster collective action, either. Rather, its goal as a process is to achieve a more equitable distribution of power within communities (Swyngedouw, 2013b). To that end, scholars speak of ensuring representation and rights (McCarthy, 2014; Przeworski, Stokes, & Manin, 1999) as well as institutional recognition (Faye, 2015; Ribot, Chhatre, & Lankina, 2008), promoting inclusiveness and accountability (United Nations, 2011), pursuing meaningful participation of all community members (Peters, 1996), and bringing out the adversarial nature of political deliberation in the decision-making process (Kamat, 2014; Mouffe, 2005; Swyngedouw, 2011).

More specifically, the democratization of adaptation governance should prioritize the predicament of the poor and marginalized, since those are the least likely to benefit from (and conversely, the most likely to be disadvantaged by) climate change *and* adaptation to climate change alike. In this context, increasing their political representation and supporting their authority in the political process become natural goals of adaptation research and practice (Marino & Ribot, 2012; Mehta, 2000). Affirmative measures aimed at including members of disadvantaged groups, such as women, are presented as potential strategies to help achieve that goal (Agarwal, 2010; Kashwan, 2014; Ruta, 2015).

Democratization of adaptation would then naturally aim at addressing the political roots of the vulnerability of a given local community. This is because interpreted this way, vulnerability stems from the unequal distribution of power either among different community groups or members, or between local communities and the initiatives aimed at increasing their adaptive capacity. Table 1 demonstrates how a more political reading of vulnerability could be integrated into the existing framework using both top-down and bottom-up approaches discussed earlier. The former concern efforts towards designing and implementing adaptation interventions in such a way as to shift the power balance within these initiatives towards their own beneficiaries. This would open up more space for democratic deliberation between adaptation projects or programmes and local communities, an issue that has been at the centre of attention of critical development and

adaptation scholars. It could help address the problem of interventions consistently ignoring the needs, values, and goals of local people.

In this context, what seems to be key is the concern over whether representation of communities in local institutions (either the existing ones or those created specifically for the purposes of the intervention) actually results in the representation of all community members. Creating and maintaining democratic institutions that aim to represent the interests of a community may be extremely challenging, just as it is problematic to speak of a collective community interest to begin with. Ribot (cited in Kashwan, 2014, p. 8) defines representation as a "correspondence between citizens' interests and the policies so that 'leaders are both responsive and accountable to the people'" (also see, Przeworski et al., 1999). However, as Kashwan (2014) notices, representation in this sense may not be sufficient as it requires a considerable amount of political agency that some individuals may, for the reasons delineated above, simply lack. Interventions based on institutional approaches to fostering adaptive capacity tend to ignore this nuance, and despite providing an opportunity to participate to all, they often end up furthering the interests and agendas of some.

A study on the National Adaptation Programmes of Action (NAPA) priority projects funded under UNFCCC funding mechanisms provides evidence on what such tokenistic representation means on the ground. The results have shown that 85% of the projects pay little to no attention to local institutions, limiting their effectiveness and legitimacy (Chishakwe et al., 2012). Other studies arrive at similar conclusions (Kenis & Lievens, 2014; Manuel-Navarrete, Pelling, & Redclift, 2011; Nuesiri, 2015; Ribot, 2000). Meanwhile, interventions that are chosen democratically by local communities have a proven record of being more widely adopted and sustainable compared to those imposed by external decision-makers (Loo, 2014; Reed et al., 2013; Uphoff, 2000). Additional research into how the interplay between intervention implementers and beneficiaries could be democratized on the ground is required. However, the point to be made here is that adaptation initiatives need to be designed and implemented with local communities as partners rather than beneficiaries. As Eriksen et al. (2015, p. 526) pointedly note, "[r]ather than enhancing participation of vulnerable groups in adaptation processes designed by powerful groups, there is a need for co-production of these processes by the vulnerable." Otherwise, their involvement in such efforts amounts to empty rhetoric that only gives illusions of power to the people who need it the most (Marfo, 2015; Mbeche, 2015; Nuesiri, 2015; Peters, 2000).

The issue of democratizing the structure and functioning of development and adaptation interventions has a literature of its own. However, even an adaptation project or programme which creates a perfect power balance (however that balance is defined) between itself and the community will have little chance to succeed in reducing vulnerability in an equitable manner if it ignores the intra-community relations that affect different individuals' ability to participate in and benefit from the activities undertaken on the ground. As a result, a more bottom-up approach needs to complement the democratization of adaptation intervention itself, and should be based on assisting communities in creating spaces of political deliberation that are conducive to inclusive and equitable decision-making and distribution of benefits. Communities are, as was already noted above, wrought with uncounted inequalities for social, cultural, economic, or other reasons. They are not communal idylls awaiting resources from outside interveners that will transform them into climate-proof populations. On the contrary, they can be understood as theatres of inequality, conflict, patriarchy, and sometimes outright exploitation and oppression (Delanty, 2010; Peters, 1996). Just as in the case of local communities' relationship with outside actors where different kinds of knowledge and authority produce and reproduce specific subjectivities with regards to adaptation needs and solutions, a similar process happens at the community level, with the interests, views, and emotions of some individuals prevailing over those of others.

The question on how precisely an adaptation intervention could tackle this kind of inequality on the ground is perhaps one of the key problems that critical adaptation research has to address. And it is a formidably complicated one. On the one hand, ignoring local power differentials by looking the other way is almost inevitably going to benefit certain community individuals and groups (i.e. elites), with the concomitant exclusion of, and perhaps even at the expense of other, less powerful ones (Ruta, 2015). In this way, local inequalities and vulnerabilities would not only be ignored but also reinforced. An example would be failing to address the issue of gender differences in access to decision-making where women have been traditionally excluded from positions of power (Bandiaky, 2008; Nightingale, 2015). This would further exacerbate the impact of climate change on women, who are already being affected by it in a disproportionate manner (Edvardsson Björnberg & Hansson, 2013; Parikh, Upadhyay, & Singh, 2012; Ruta, 2015; Tschakert & Machado, 2012).

On the other hand, any attempts to alter cultural norms and traditions of the communities in question would invoke cultural-relativist and neo-colonial critiques arguing that altering the social and political make-up of communities in the Global South to suit an initiative most likely funded by Western donors bears resemblance to the workings of colonial overlords (Ribot, 2000). This, however, would be the case of communities unwilling to alter their internal power structures. It is plausible that others would welcome assistance in solving power inequality issues and democratizing their own decision-making mechanisms.

It must be remembered that while exclusively top-down approaches have meagre chances to successfully address local adaptation challenges, bottom-up ones with little or no external assistance (in the form of financial resources or knowledge, for example) also disempower local communities by depriving them of the opportunity to improve their adaptive capacity through the co-production of solutions with outside actors. Moreover, above and beyond providing communities with information on the predicted local climate impacts and the potential solutions – information many communities may simply lack – researchers could work with local communities that request assistance to theorize and identify the ways in which power relations may affect the selected adaptive strategies, and work together to address them. Thus, top-down approaches should not be rejected in their entirety, especially since democratization can itself be understood as a top-down measure introduced to create institutional instruments for bottom-up action at the local level.

However, these prescriptions are for now just that – goals to be achieved rather than strategies through which to achieve them. Democratization is a difficult task. In Peters' (1996) words, "participation is not a technique but an ideal," and the same can be said about democracy. Adaptation to climate change is highly contextual and depends on a multitude of local variables such as the socio-economic composition of the community and the resulting local power structure, its local traditions, norms, and customs, and its linkages to and situation relative to outside power centres such as development agencies, the market or the government. Adaptation policy will not be able to produce and rely on a one-size-fits-all solution because uncertainty and complexity are permanently inscribed into adaptation to climate change (Hilde, 2012). Democratization – as a goal both more ambitious and more appropriate than participation – is seen as the only process that has the potential to tackle these caveats and prevent adaptation from stratifying local communities further (Eriksen et al., 2015).

Practical considerations for adaptation democratization research and practice

In this context, the question to be asked here is on the role the already discussed CBA approach could play in democratizing governance. CBA certainly is a step in the right direction, as it aims to shift the power to shape adaptations from outside actors such as aid agencies and NGOs to the individuals whose livelihoods are at stake. One of the major benefits of CBA, as of other decentralized approaches to community development, is that the solutions are likely to be better tailored to local contexts than in the case of the often inadequate, top-down strategies crafted in distant institutional environments. However, if adaptations are to be decided and acted upon at the community level, it must be ensured that all members of the community are politically involved in an equal manner despite their diverse socio-economic circumstances. This is why CBA cannot be based exclusively on the institutional frameworks such as those proposed by Ostrom (1990), which are founded on social interactions, norms, rules, networks, trust (or social capital) and collective action. Such approaches simplify the complexity of community life and as such are insufficient to explain and facilitate a highly political process that adaptation to climate change is. The internal power structures within communities are crucial here and must become priority for CBA interventions that stress community participation.

On a more methodological level, experience from the field of development studies delivers several examples of how power relations could be uncovered and deconstructed on the ground. One of the most prominent ones is the approach elaborated by the Swedish International Development Agency (SIDA), in which power analysis entails the mapping of the informal political landscape as well as its rules and structures (Nash, Hudson, & Luttrell, 2006). Hydén (2006) provides a detailed account of how such an analysis could proceed, with data relying on interviews and document analysis or a survey of power perceptions within the given social context. Lynch (2012) speaks of an approach that analyses "bundles of power" that could help uncover unequal access to decision-making. Other methodologies for analysing power also exist, and are designed and implemented by development agencies and non-governmental organizations, marking a relatively recent turn in development towards more power-centred analyses (Dahl-Østergaard, Unsworth, Robinson, & Jensen, 2005; Mayers, 2005; Nash et al., 2006). In each of these cases, a focus on the local "patterns of difference" and the numerous and complex webs of divergent interests presents itself as an opportunity for designing adaptation interventions that are better attuned to local contexts and make sense of the power relations they find on the ground (Agrawal & Gibson, 1999).

Since the breadth of these contexts is truly formidable, researchers concerned with power analysis need to decide what kinds of data collection methods (qualitative vs. quantitative) and analytical frameworks are the most appropriate and potentially available. Power is a very "slippery concept" (Hydén, 2006, p. 219), and as with any social construct, its measurement or mapping is inherently problematic. However, the theoretical and methodological complexities described above should not dissuade critical scholars from actively engaging power and the political roots of vulnerability in their work. Precisely because adaptation to climate change is highly contextual, a wide body of empirical research is required to provide evidence on how adaptation decisions are being taken, who is represented, who benefits, and why. Adaptation is *always* embedded within the existing social relations that

inevitably involve various kinds of power negotiation, contestation and conflict, and any serious interrogation of adaptation cannot ignore these considerations. Unfortunately, this strand of research on adaptation to climate change is still in its infancy.

Conclusion

This paper attempted to contribute to the ongoing debate on the necessity to democratize adaptation to climate change. It has been argued that the current theoretical approaches to adaptation that rest on exposure to hazards and "apolitical" vulnerability lack sufficient attention to power as one of the key determinants of how communities respond to climate change. While the hazards approach is concerned with the exposure to adverse weather events such as droughts and floods, the mainstream social vulnerability approach foregrounds the socio-economic indicators that make people vulnerable to such impacts. As a result, the vast majority of adaptation interventions to-date, either top-down or bottom-up, have conceptualized vulnerability to climate change impacts as exposure to a natural hazard or a socio-economic issue by according insufficient attention to the political roots of vulnerability (or ignoring them, altogether). This is, arguably, a serious oversight. The effect has been policies and interventions that are circumscribed in their impacts to building climate-resilient infrastructure, promoting market-based solutions, or creating local institutions to foster mutually beneficial collective action.

This carries the risk of climate change research and practice being unable to understand why certain groups of people manage to steer their lives towards a "climate-proof" future while others are left behind. Adaptation to climate change is a highly political process that cannot be reduced to building seawalls or offering livelihood diversification, a common strategy to address social vulnerability (Brown, 2011; Owuor, Eriksen, & Mauta, 2005). Instead, one needs to take a step back and rather than addressing the various socio-economic manifestations of vulnerability (poverty, landlessness, etc.), what is necessary is an interrogation of the *origins* of vulnerability. Doing so will reveal that these origins are, in essence, political. An analysis of vulnerability and adaptation in political terms can help account for power relations affecting adaptation that the currently dominant approaches fail to address in an adequate manner. It advocates for developing adaptation research and interventions that are more aware of how communities end up being effectively disenfranchized in relation to the projects they participate in on the one hand, and how stratified these communities are internally, on the other.

In this context, critical social scientists concerned with adaptation have argued for the democratization of adaptation assistance, a stance with which the author of this paper is very sympathetic. Accounting for the political nature of vulnerability and adaptation to climate change requires attention to how power is exercised between local communities and outside actors, as well as within these communities – between their leaderships and members, men and women, young and old people, land owners and the landless, the abled and the disabled, long-term residents and recent arrivals, members of different ethnic groups, and so forth. It should be noted that while material power asymmetries may be the most visible, the discursive dimension of this inequality is of equivalent importance (Marino & Ribot, 2012). It contributes to the contested creation of subjectivities, knowledge, and authority (Eriksen et al., 2015), a silent yet highly political process foregrounds that interventions simply cannot afford to ignore if their ambition is to promote equitable adaptation to climate change for everyone, including those marginalized. Given this extremely complex political landscape within which adaptation to climate change is embedded, democratization is seen here as the basis for any intervention that aims to tackle the political nature of vulnerability and the process of adaptation itself.

Challenges remain with regard to how exactly this should be achieved, as local adaptation to climate change is a highly contextual process that depends on a range of variables unique to each community and, indeed, intervention (Dodman & Mitlin, 2013; Hilde, 2012; Pelling, 2011). In the specific context of adaptation to climate change, empirical research concerned with how and to what effects power works at the local level is still scarce. A concerted effort should be made to produce real-life evidence on how power affects responses to climate impacts in local communities, and on the kinds of measures that lead to more co-productive and equitable adaptation outcomes in developing countries.

Acknowledgements

I would like to thank the two anonymous reviewers whose insightful comments have greatly improved the arguments in this paper. I would also like to thank Saska Petrova and James Evans for their guidance in the process of article revision. This research has been possible thanks to the financial support by the University of Manchester through the President's Doctoral Scholar Award.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes

1. This relative absence of power in adaptation research mirrors a similar issue in development practice, which has traditionally refused to tackle the political dynamics affecting on-the-ground development activities (Hydén, 2006).
2. A caveat must be made in relation to the term "group," since just as in any community, group relations may serve as a

vehicle for their individual members' emancipation as well as exclusion and oppression.

3. What should be acknowledged here is the importance of power relations between local communities and outside actors and processes, such as the market, the state, NGOs, development agencies, and other communities, which arguably play a very important role in affecting their adaptive capacity. However, due to space limitations, this paper concerns the power relations within communities and between communities and their most immediate development partners. This framework can be easily expanded to account for larger-scale power flows in the future.

References

Adger, W. N. (2001). Scales of governance and environmental justice for adaptation and mitigation of climate change. *Journal of International Development*, *13*(7), 921–931. doi:10.1002/jid.833

Adger, W. N. (2003). Social capital, collective action, and adaptation to climate change. *Economic Geography*, *79*(4), 387–404. doi:10.1111/j.1944-8287.2003.tb00220.x

Adger, W. N. (Ed.). (2006). *Fairness in adaptation to climate change*. Cambridge, MA: MIT Press.

Adger, W. N., Agrawala, S., & Mirza, M. M. Q. (2007). Assessment of adaptation practices, options, constraints and capacity. In M. L. Parry, O. F. Canziani, J. P. Palitukof, P. J. van der Linden, & C. E. Hanson (Eds.), *Contribution of working group II to the fourth assessment report of the intergovernmental panel on climate change* (pp. 717–743). Cambridge: Cambridge University Press.

Adger, W. N., Brooks, N., Bentham, G., Agnew, M., & Eriksen, S. (2004). *New indicators of vulnerability and adaptive capacity* (Vol. 122). Norwich: Tyndall Centre for Climate Change Research. Retrieved from https://ipcc-wg2.gov/AR5-tools/author/njlite/data/7785.pdf

Adger, W. N., Brown, K., & Tompkins, E. L. (2005). The political economy of cross-scale networks in resource co-management. *Ecology and Society*, *10*(2), 9. Retrieved from http://www.ecologyandsociety.org/vol10/iss2/art9/

Adger, W. N., Huq, S., Brown, K., Conway, D., & Hulme, M. (2003). Adaptation to climate change in the developing world. *Progress in Development Studies*, *3*(3), 179–195. doi:10.1191/1464993403ps060oa

Agarwal, B. (2010). Does women's proportional strength affect their participation? Governing local forests in South Asia. *World Development*, *38*(1), 98–112. doi:10.1016/j.worlddev.2009.04.001

Agrawal, A., & Gibson, C. C. (1999). Enchantment and disenchantment: The role of community in natural resource conservation. *World Development*, *27*(4), 629–649. doi:10.1016/S0305-750X(98)00161-2

Allen, K. M. (2006). Community-based disaster preparedness and climate adaptation: Local capacity-building in the Philippines. *Disasters*, *30*(1), 81–101.

Andersson, E., & Gabrielsson, S. (2012). 'Because of poverty, we had to come together': Collective action for improved food security in rural Kenya and Uganda. *International Journal of Agricultural Sustainability*, *10*(3), 245–262. doi:10.1080/14735903.2012.666029

Ayers, J., & Dodman, D. (2010). Climate change adaptation and development I: The state of the debate. *Progress in Development Studies*, *10*(2), 161–168. doi:10.1177/146499340901000205

Ayers, J., & Forsyth, T. (2009). Community-based adaptation to climate change. *Environment: Science and Policy for Sustainable Development*, *51*(4), 22–31. doi:10.3200/ENV.51.4.22-31

Bandiaky, S. (2008). Gender inequality in Malidino biodiversity community-based reserve, Senegal: Political parties and the 'village approach'. *Conservation and Society*, *6*(1), 62–73.

Bassett, T. J., & Fogelman, C. (2013). Déjà vu or something new? The adaptation concept in the climate change literature. *Geoforum*, *48*, 42–53. doi:10.1016/j.geoforum.2013.04.010

Bowen, A., Cochrane, S., & Fankhauser, S. (2012). Climate change, adaptation and economic growth. *Climatic Change*, *113*(2), 95–106. doi:10.1007/s10584-011-0346-8

Brennan, M. A., & Israel, G. D. (2008). The power of community. *Community Development*, *39*(1), 82–98. doi:10.1080/15575330809489743

Bridger, J. C., & Luloff, A. E. (1999). Toward an interactional approach to sustainable community development. *Journal of Rural Studies*, *15*(4), 377–387.

Brosius, J. P., Tsing, A. L., & Zerner, C. (1998). Representing communities: Histories and politics of community-based natural resource management. *Society & Natural Resources*, *11*(2), 157–168. doi:10.1080/08941929809381069

Brown, K. (2011). Sustainable adaptation: An oxymoron? *Climate and Development*, *3*(1), 21–31. doi:10.3763/cdev.2010.0062

Bryant, R. L. (1997). *Third world political ecology*. London: Routledge.

Chen, H., Wang, J., & Huang, J. (2014). Policy support, social capital, and farmers' adaptation to drought in China. *Global Environmental Change*, *24*, 193–202. doi:10.1016/j.gloenvcha.2013.11.010

Chishakwe, N., Murray, L., & Chambwera, M. (2012). *Building climate change adaptation on community experiences: Lessons from community-based natural resource management in southern Africa*. London: International Institute for Environment and Development. Retrieved from http://pubs.iied.org/pdfs/10030IIED.pdf

Chiveralls, K. (2012). The weakest link?: Social capital in Australian regional development. In *Assessing social capital: Concept, policy and practice* (Vol. 129, pp. 129–145). Newcastle: Cambridge Scholars Publishing in association with GSE Research. Retrieved from http://www.ingentaconnect.com/content/cspub/asc/2012/00000001/00000001/art00009

Cohen, A. P. (1985). *The symbolic construction of community*. London: Ellis Horwood and Tavistock. Retrieved from http://public.eblib.com/choice/publicfullrecord.aspx?p=178361

Cundill, G., & Fabricius, C. (2010). Monitoring the governance dimension of natural resource co-management. *Ecology and Society*, *15*(1), 15. Retrieved from http://www.ecologyandsociety.org/vol15/iss1/art15/

Dahl-Østergaard, T., Unsworth, S., Robinson, M., & Jensen, R. I. (2005). *Lessons learned on the use of power and drivers of change analyses in development cooperation*. Paris: DAC Network on Governance.

Delanty, G. (2010). *Community* (2nd ed.). London: Routledge.

Dodman, D., & Mitlin, D. (2013). Challenges for community-based adaptation: Discovering the potential for transformation. *Journal of International Development*, *25*(5), 640–659. doi:10.1002/jid.1772

Edvardsson Björnberg, K., & Hansson, S. O. (2013). Gendering local climate adaptation. *Local Environment*, *18*(2), 217–232. doi:10.1080/13549839.2012.729571

Eriksen, S. H., Nightingale, A. J., & Eakin, H. (2015). Reframing adaptation: The political nature of climate change adaptation. *Global Environmental Change*, *35*, 523–533. doi:10.1016/j.gloenvcha.2015.09.014

Esham, M., & Garforth, C. (2013). Agricultural adaptation to climate change: Insights from a farming community in Sri Lanka. *Mitigation and Adaptation Strategies for Global Change*, *18*(5), 535–549. doi:10.1007/s11027-012-9374-6

Evans, S. (2009). *Community and ageing: Maintaining quality of life in housing with care settings*. Bristol: Policy Press of the University of Bristol. Retrieved from http://books.google.com/books?hl=en&lr=&id=qRkkCZPXSjsC&oi=fnd&pg=PR5&dq=%22perceived+to+be+prevalent+in+present-day+urban+living.+This+chapter%22+%22light+of+the+recent+emphasis+on+promoting+community+engagement+for%22+%22you+are+a+hermit+you+probably+feel+part+of+at+least+one+community%22+&ots=MRrz2I1uhl&sig=daBY1j8Xn9yiPXhcf77Hu3uZeMA

Fankhauser, S., & Schmidt-Traub, G. (2011). From adaptation to climate-resilient development: The costs of climate-proofing the millennium development goals in Africa. *Climate and Development*, *3*(2), 94–113. doi:10.1080/17565529.2011.582267

Faulkner, L., Ayers, J., & Huq, S. (2015). Meaningful measurement for community-based adaptation. *New Directions for Evaluation*, *2015*(147), 89–104. doi:10.1002/ev.20133

Faye, P. (2015). *From recognition to derecognition in Senegal's forests: Hemming in democratic representation via technical claims*. Dakar: CODESRIA.

Figueiredo, P., & Perkins, P. E. (2013). Women and water management in times of climate change: Participatory and inclusive processes. *Journal of Cleaner Production*, *60*, 188–194. doi:10.1016/j.jclepro.2012.02.025

Ford, J. D., Berrang-Ford, L., Bunce, A., McKay, C., Irwin, M., & Pearce, T. (2015). The status of climate change adaptation in Africa and Asia. *Regional Environmental Change*, *15*(5), 801–814. doi:10.1007/s10113-014-0648-2

Fortier, F. (2010). Taking a climate chance: A procedural critique of Vietnam's climate change strategy. *Asia Pacific Viewpoint*, *51*(3), 229–247. doi:10.1111/j.1467-8373.2010.01428.x

Foucault, M., & Senellart, M. (2008). *The birth of biopolitics: Lectures at the Collège de France, 1978–79*. Basingstoke: Palgrave Macmillan.

Fu, Y., Grumbine, R. E., Wilkes, A., Wang, Y., Xu, J.-C., & Yang, Y.-P. (2012). Climate change adaptation among Tibetan pastoralists: Challenges in enhancing local adaptation through policy support. *Environmental Management*, *50*(4), 607–621. doi:10.1007/s00267-012-9918-2

Gentle, P., & Maraseni, T. N. (2012). Climate change, poverty and livelihoods: Adaptation practices by rural mountain communities in Nepal. *Environmental Science & Policy*, *21*, 24–34. doi:10.1016/j.envsci.2012.03.007

Head, L. (2010). Cultural ecology: Adaptation – retrofitting a concept? *Progress in Human Geography*, *34*(2), 234–242. doi:10.1177/0309132509338978

Hilde, T. C. (2012). Uncertainty and the epistemic dimension of democratic deliberation in climate change adaptation. *Democratization*, *19*(5), 889–911. doi:10.1080/13510347.2012.709687

Hiraldo, R. (2015). *Calling for democracy?: Villagers experience of the production of class relations for ecotourism and carbon markets in Niombato, Senegal*. Dakar: CODESRIA.

Hughes, S. (2013). Justice in urban climate change adaptation: Criteria and application to Delhi. *Ecology and Society*, *18*(4). doi:10.5751/ES-05929-180448

Hydén, G. (2006). Beyond governance: Bringing power into policy analysis. *Forum for Development Studies*, *33*(2), 215–236. doi:10.1080/08039410.2006.9666348

Ishihara, H., & Pascual, U. (2009). Social capital in community level environmental governance: A critique. *Ecological Economics*, *68*(5), 1549–1562. doi:10.1016/j.ecolecon.2008.11.003

Jennings, T. L. (2011). Transcending the adaptation/mitigation climate change science policy debate: Unmasking assumptions about adaptation and resilience. *Weather, Climate, and Society*, *3*(4), 238–248. doi:10.1175/WCAS-D-11-00056.1

Jusrut, P. (2015). *The process of institutional choice and recognition for decentralized forest management in charcoal-producing zones of Tambacounda, Senegal*. Dakar: CODESRIA. Retrieved from https://portals.iucn.org/library/sites/library/files/documents/RFGI-WP-028.pdf

Kamat, S. (2014). The new development architecture and the post-political in the global south. In J. Wilson & E. Swyngedouw (Eds.), *The post-political and its discontents* (pp. 67–86). Edinburgh: Edinburgh University Press.

Kashwan, P. (2014). *Studying local representation: A critical review*. Dakar: CODESRIA.

Kellert, S., Mehta, J., Ebbin, S., & Lichtenfeld, L. (2000). Community natural resource management: Promise, rhetoric, and reality. *Society & Natural Resources*, *13*(8), 705–715. doi:10.1080/089419200750035575

Kenis, A., & Lievens, M. (2014). Searching for 'the political' in environmental politics. *Environmental Politics*, *23*(4), 531–548. doi:10.1080/09644016.2013.870067

Kenis, A., & Mathijs, E. (2014). Climate change and post-politics: Repoliticizing the present by imagining the future? *Geoforum*, *52*, 148–156. doi:10.1016/j.geoforum.2014.01.009

Lata, S., & Nunn, P. (2012). Misperceptions of climate-change risk as barriers to climate-change adaptation: A case study from the Rewa Delta, Fiji. *Climatic Change*, *110*(1–2), 169–186. doi:10.1007/s10584-011-0062-4

Leal Filho, W. (Ed.). (2011). *Experiences of climate change adaptation in Africa*. Berlin: Springer. Retrieved from http://link.springer.com/10.1007/978-3-642-22315-0

Loo, C. (2014). The role of community participation in climate change assessment and research. *Journal of Agricultural and Environmental Ethics*, *27*(1), 65–85. doi:10.1007/s10806-013-9452-0

Lynch, B. D. (2012). Vulnerabilities, competition and rights in a context of climate change toward equitable water governance in Peru's Rio Santa Valley. *Global Environmental Change*, *22*(2), 364–373. doi:10.1016/j.gloenvcha.2012.02.002

Magrath, J. (2010). The injustice of climate change: Voices from Africa. *Local Environment*, *15*(9–10), 891–901. doi:10.1080/13549839.2010.511642

Mandondo, A., & Jusrut, P. (2015). *Waiting for democratic representation in Africa's social forests*. Dakar: CODESRIA. Retrieved from https://portals.iucn.org/library/sites/library/files/documents/RFGI-WP-028.pdf

Manuel-Navarrete, D., Pelling, M., & Redclift, M. (2011). Critical adaptation to hurricanes in the Mexican Caribbean: Development visions, governance structures, and coping strategies. *Global Environmental Change*, *21*(1), 249–258. doi:10.1016/j.gloenvcha.2010.09.009

Marfo, E. (2015). *The illusion of democratic representation in the REDD readiness consultation process in Ghana*. Dakar: CODESRIA.
Marino, E., & Ribot, J. (2012). Special issue introduction: Adding insult to injury: Climate change and the inequities of climate intervention. *Global Environmental Change*, *22*(2), 323–328. doi:10.1016/j.gloenvcha.2012.03.001
Mayers, J. (2005). *Stakeholder power analysis*. London: IIED.
Mbeche, R. (2015). *REDD stakeholder consultation: Symbolic or substantive democratic representation in preparing Uganda for REDD+?* Dakar: CODESRIA. Retrieved from https://portals.iucn.org/library/sites/library/files/documents/RFGI-WP-028.pdf
McCarthy, J. F. (2014). Using community led development approaches to address vulnerability after disaster: Caught in a sad romance. *Global Environmental Change*, *27*, 144–155. doi:10.1016/j.gloenvcha.2014.05.004
McNamara, K. E. (2013). Taking stock of community-based climate-change adaptation projects in the Pacific. *Asia Pacific Viewpoint*, *54*(3), 398–405. doi:10.1111/apv.12033
Mehta, A. (2000). The micro-politics of participatory projects: An anatomy of change in two villages. In P. E. Peters (Ed.), *Development encounters: Sites of participation and knowledge* (pp. 15–28). Cambridge, MA: Harvard University Press.
Menzel, S., & Buchecker, M. (2013). Does participatory planning foster the transformation toward more adaptive social-ecological systems? *Ecology and Society*, *18*(1), 13. doi:10.5751/ES-05154-180113
Mertz, O., Halsnæs, K., Olesen, J. E., & Rasmussen, K. (2009). Adaptation to climate change in developing countries. *Environmental Management*, *43*(5), 743–752. doi:10.1007/s00267-008-9259-3
Moore, D. (2004). The second age of the Third World: From primitive accumulation to global public goods? *Third World Quarterly*, *25*(1), 87–109. doi:10.1080/0143659042000185354
Mosse, D. (2006). Collective action, common property, and social capital in South India: An anthropological commentary. *Economic Development and Cultural Change*, *54*(3), 695–724.
Mouffe, C. (2005). *On the political*. London: Routledge.
Nash, R., Hudson, A., & Luttrell, C. (2006). *Mapping political contexts: A toolkit for civil society organisations*. London: ODA.
Neumann, R. P. (2005). *Making political ecology*. London: Hodder Arnold; Distributed in the United States of America by Oxford University Press.
Nightingale, A. (2015). A socionature approach to adaptation: Political transition, intersectionality, and climate change programmes in Nepal. In T. H. Inderberg, S. H. Eriksen, K. L. O'Brien, & L. Sygna (Eds.), *Climate change adaptation and development: Transforming paradigms and practices* (pp. 219–234). Abingdon: Routledge, Taylor & Francis Group.
Nuesiri, E. O. (2015). *Representation in REDD: NGOs and chiefs privileged over elected local government in Cross River State, Nigeria*. Dakar: CODESRIA.
OECD. (2012). *Integrating climate change adaptation into development co-operation policy guidance*. Paris: OECD.
Oppenheimer, M. (2013). Climate change impacts: Accounting for the human response. *Climatic Change*, *117*(3), 439–449. doi:10.1007/s10584-012-0571-9
Orlove, B. (2009). The past, the present and some possible futures of adaptation. In W. N. Adger, I. Lorenzoni, & K. L. O'Brien (Eds.), *Adapting to climate change thresholds, values, governance* (pp. 131–163). Cambridge: Cambridge University Press. Retrieved from http://site.ebrary.com/id/10329726
Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge: Cambridge University Press.
Owuor, B., Eriksen, S., & Mauta, W. (2005). Adapting to climate change in a Dryland mountain environment in Kenya. *Mountain Research and Development*, *25*(4), 310–315. doi:10.1659/0276-4741(2005)025[0310:ATCCIA]2.0.CO;2
Oyono, P. R., & Galuak, D.-A. (2015). *Land governance, local authorities and unrepresentative representation in rural South Sudan: A preliminary exploration*. Dakar: CODESRIA. Retrieved from https://portals.iucn.org/library/sites/library/files/documents/RFGI-WP-028.pdf
Parashar, S., Sharma, A., & Shaw, R. (2011). Chapter 9 From action planning to community-based adaptation. In R. Shaw & A. Sharma (Eds.), *Climate and disaster resilience in cities* (pp. 163–182). Emerald Group. doi:10.1108/S2040-7262(2011)0000006015
Parikh, J., Upadhyay, D. K., & Singh, T. (2012). Gender perspectives on climate change & human security in India: An analysis of national missions on climate change. *Cadmus*, *1*(4), 180–186.
Park, S., Howden, M., & Crimp, S. (2012). Informing regional level policy development and actions for increased adaptive capacity in rural livelihoods. *Environmental Science & Policy*, *15*(1), 23–37. doi:10.1016/j.envsci.2011.09.004
Peet, R., Robbins, P., & Watts, M. (Eds.). (2011). *Global political ecology*. London: Routledge.
Pelling, M. (2011). *Adaptation to climate change*. New York: Routledge.
Peters, P. E. (1996). 'Who's local here?' The politics of participation in development. *Cultural Survival*, *20*(3). Retrieved from https://www.culturalsurvival.org/publications/cultural-survival-quarterly/whos-local-here-politics-participation-development
Peters, P. E. (2000). Encountering participation and knowledge in development sites. In P. E. Peters (Ed.), *Development encounters: Sites of participation and knowledge* (pp. 3–14). Cambridge, MA: Harvard University Press.
Picketts, I. M., Werner, A. T., Murdock, T. Q., Curry, J., Déry, S. J., & Dyer, D. (2012). Planning for climate change adaptation: Lessons learned from a community-based workshop. *Environmental Science & Policy*, *17*, 82–93. doi:10.1016/j.envsci.2011.12.011
Pokorny, B., de Jong, W., Godar, J., Pacheco, P., & Johnson, J. (2013). From large to small: Reorienting rural development policies in response to climate change, food security and poverty. *Forest Policy and Economics*, *36*, 52–59. doi:10.1016/j.forpol.2013.02.009
Poteete, A. R., & Ribot, J. C. (2011). Repertoires of domination: Decentralization as process in Botswana and Senegal. *World Development*, *39*(3), 439–449. doi:10.1016/j.worlddev.2010.09.013
Przeworski, A., Stokes, S. C., & Manin, B. (Eds.). (1999). *Democracy, accountability, and representation*. Cambridge: Cambridge University Press.
Pulhin, J. M., Lasco, R. D., Pulhin, F. B., Ramos, L., & Peras, R. J. J. (2010). Climate change adaptation and community forest management. In W. L. Waugh, Jr. (Ed.), *Community, environment and disaster risk management* (Chapter 11, Vol. 4, pp. 243–263). Bingley: Emerald Group. Retrieved from http://www.emeraldinsight.com/10.1108/S2040-7262(2010)0000004017

Ramirez-Villegas, J., Salazar, M., Jarvis, A., & Navarro-Racines, C. E. (2012). A way forward on adaptation to climate change in Colombian agriculture: Perspectives towards 2050. *Climatic Change*, *115*(3–4), 611–628. doi:10.1007/s10584-012-0500-y

Rawlani, A. K., & Sovacool, B. K. (2011). Building responsiveness to climate change through community based adaptation in Bangladesh. *Mitigation and Adaptation Strategies for Global Change*, *16*(8), 845–863. doi:10.1007/s11027-011-9298-6

Rayner, S., & Malone, E. L. (2001). Climate change, poverty, and intragenerational equity: The national level. *International Journal of Global Environmental Issues*, *1*(2), 175–202.

Reed, M. S., Podesta, G., Fazey, I., Geeson, N., Hessel, R., Hubacek, K., … Thomas, A. D. (2013). Combining analytical frameworks to assess livelihood vulnerability to climate change and analyse adaptation options. *Ecological Economics*, *94*, 66–77. doi:10.1016/j.ecolecon.2013.07.007

Ribot, J. C. (1995). The causal structure of vulnerability: Its application to climate impact analysis. *GeoJournal*, *35*(2), 119–122. doi:10.1007/BF00814058

Ribot, J. C. (2000). Decentralization, participation, and representation: Administrative apartheid in Sahelian forestry. In P. E. Peters (Ed.), *Development encounters: Sites of participation and knowledge* (pp. 29–60). Cambridge, MA: Harvard University Press.

Ribot, J. C. (2009). Vulnerability does not just fall from the sky: Toward multi-scale pro-poor climate policy. In R. Mearns & A. Norton (Eds.), *The social dimensions of climate change: Equity and vulnerability in a warming world* (pp. 47–74). Washington, DC: World Bank. Retrieved from http://elibrary.worldbank.org/doi/book/10.1596/978-0-8213-7887-8

Ribot, J. C. (2014). Cause and response: Vulnerability and climate in the anthropocene. *The Journal of Peasant Studies*, *41*(5), 667–705. doi:10.1080/03066150.2014.894911

Ribot, J. C., Chhatre, A., & Lankina, T. (2008). Introduction: Institutional choice and recognition in the formation and consolidation of local democracy. *Conservation and Society*, *6*(1), 1–11.

Ribot, J. C., Magalhães, A. R., & Panagides, S. S. (Eds.). (1996). *Climate variability, climate change, and social vulnerability in the semi-arid tropics*. Cambridge: Cambridge University Press.

Rudd, M. A. (2000). Live long and prosper: Collective action, social capital and social vision. *Ecological Economics*, *34*(1), 131–144.

Ruta, D. (2015). *Assuming women's representation in carbon forestry projects*. Dakar: CODESRIA. Retrieved from https://portals.iucn.org/library/sites/library/files/documents/RFGI-WP-028.pdf

Schilling, J., Freier, K. P., Hertig, E., & Scheffran, J. (2012). Climate change, vulnerability and adaptation in North Africa with focus on Morocco. *Agriculture, Ecosystems & Environment*, *156*, 12–26. doi:10.1016/j.agee.2012.04.021

Schlosberg, D. (2012). Climate justice and capabilities: A framework for adaptation policy. *Ethics & International Affairs*, *26*(4), 445–461.

Sen, A. (1981). *Poverty and famines: An essay on entitlement and deprivation*. Oxford: Clarendon Press; Oxford University Press.

Sen, A. (1984). *Resources, values and development*. Oxford: Basil Blackwell.

Shatkin, G. (2007). *Collective action and urban poverty alleviation: Community organizations and the struggle for shelter in Manila*. Aldershot: Ashgate.

Shrestha, M. K. (2013). Internal versus external social capital and the success of community initiatives: A case of self-organizing collaborative governance in Nepal. *Public Administration Review*, *73*(1), 154–164.

Shuhrke, J. (2013). Toward radical risk reduction and revolutionary adaptation: Climate disasters, agriculture, and capitalist modernity. *Human Geography*, *6*(3), 67–77.

Simane, B., & Zaitchik, B. (2014). The sustainability of community-based adaptation projects in the Blue Nile Highlands of Ethiopia. *Sustainability*, *6*(7), 4308–4325. doi:10.3390/su6074308

Smith, N. (2006). *There's no such thing as a natural disaster*. Retrieved from http://understandingkatrina.ssrc.org/Smith/

Somers, M. R. (2008). *Genealogies of citizenship: Markets, statelessness, and the right to have rights*. Cambridge: Cambridge University Press.

Sovacool, B. K. (2011). Hard and soft paths for climate change adaptation. *Climate Policy*, *11*(4), 1177–1183. doi:10.1080/14693062.2011.579315

Sovacool, B. K., D'Agostino, A. L., Meenawat, H., & Rawlani, A. (2012). Expert views of climate change adaptation in least developed Asia. *Journal of Environmental Management*, *97*, 78–88. doi:10.1016/j.jenvman.2011.11.005

Sovacool, B. K., D'Agostino, A. L., Rawlani, A., & Meenawat, H. (2012). Improving climate change adaptation in least developed Asia. *Environmental Science & Policy*, *21*, 112–125. doi:10.1016/j.envsci.2012.04.009

Swyngedouw, E. (2010). Apocalypse forever?: Post-political populism and the spectre of climate change. *Theory, Culture & Society*, *27*(2–3), 213–232. doi:10.1177/0263276409358728

Swyngedouw, E. (2011). Interrogating post-democratization: Reclaiming egalitarian political spaces. *Political Geography*, *30*(7), 370–380.

Swyngedouw, E. (2013a). Apocalypse now! Fear and doomsday pleasures. *Capitalism Nature Socialism*, *24*(1), 9–18. doi:10.1080/10455752.2012.759252

Swyngedouw, E. (2013b). The non-political politics of climate change. *ACME: An International Journal for Critical Geographies*, *12*(1), 1–8.

Symons, K. (2014). Anti-politics, apocalypse and adaptation in Kenya's national climate change response strategy. *Scottish Geographical Journal*, *130*(4), 266–278. doi:10.1080/14702541.2014.907442

Tanner, T., & Allouche, J. (2011). Towards a new political economy of climate change and development. *IDS Bulletin*, *42*(3), 1–14.

Taylor, M. (2013). Climate change, relational vulnerability and human security: Rethinking sustainable adaptation in agrarian environments. *Climate and Development*, *5*(4), 318–327. doi:10.1080/17565529.2013.830954

Taylor, M. (2014). *The political ecology of climate change adaptation: Livelihoods, agrarian change and the conflicts of development*. Abingdon: Routledge.

Thomas, D. S. G., & Twyman, C. (2005). Equity and justice in climate change adaptation amongst natural-resource-dependent societies. *Global Environmental Change*, *15*(2), 115–124. doi:10.1016/j.gloenvcha.2004.10.001

Tschakert, P., & Machado, M. (2012). Gender justice and rights in climate change adaptation: Opportunities and pitfalls. *Ethics and Social Welfare*, *6*(3), 275–289. doi:10.1080/17496535.2012.704929

Turner, M. D. (1999). Conflict, environmental change, and social institutions in Dryland Africa: Limitations of the community resource management approach. *Society & Natural Resources*, *12*(7), 643–657. doi:10.1080/089419299279362

UNDESA. (2005). *Adaptation to climate change in the context of sustainable development*. Presented at the Climate Change and Sustainable Development: A Workshop to Strengthen Research and Understanding, New Delhi.

UNDP. (2014). *Enhancing capacities of rural communities to pursue climate resilient livelihood options in the Sao Tome and Principe districts of Caué, Me-Zochi, Principe, Lemba, Cantagalo, and Lobata* (Project document, CMPLCL). UNDP.

UNFCCC. (2014). *Compendium on methods and tools to evaluate impacts of, and vulnerability and adaptation to, climate change*. Retrieved February 26, 2015, from http://unfccc.int/adaptation/nairobi_work_programme/knowledge_resources_and_publications/items/5376.php

United Nations. (2011). *The social dimensions of climate change* (Discussion draft).

Uphoff, N. (2000). Understanding social capital: Learning from the analysis and experience of participation. In P. Dasgupta & I. Serageldin (Eds.), *Social capital: A multifaceted perspective* (pp. 215–249). Washington, DC: World Bank.

Vaughan, S., & Tronvoll, K. (2003). *The culture of power in contemporary Ethiopian political life*. Stockholm: Swedish International Development Cooperation Agency. Retrieved from http://www.sida.se/globalassets/publications/import/pdf/en/the-culture-of-power-in-contemporary-ethiopian-political-life.pdf

Watts, M. J. (2004). Antinomies of community: Some thoughts on geography, resources and empire. *Transactions of the Institute of British Geographers*, *29*(2), 195–216.

Watts, M. J., & Bohle, H. G. (1993). The space of vulnerability: The causal structure of hunger and famine. *Progress in Human Geography*, *17*(1), 43–67.

Weisser, F., Bollig, M., Doevenspeck, M., & Müller-Mahn, D. (2014). Translating the 'adaptation to climate change' paradigm: The politics of a travelling idea in Africa. *The Geographical Journal*, *180*(2), 111–119. doi:10.1111/geoj.12037

Williamson, T., Hesseln, H., & Johnston, M. (2012). Adaptive capacity deficits and adaptive capacity of economic systems in climate change vulnerability assessment. *Forest Policy and Economics*, *15*, 160–166. doi:10.1016/j.forpol.2010.04.003

Wilson, J. A., Acheson, J. M., & Johnson, T. R. (2013). The cost of useful knowledge and collective action in three fisheries. *Ecological Economics*, *96*, 165–172. doi:10.1016/j.ecolecon.2013.09.012

Wilson, J., & Swyngedouw, E. (Eds.). (2014). *The post-political and its discontents: Spaces of depoliticisation, spectres of radical politics*. Edinburgh: Edinburgh University Press.

Wisner, B. (Ed.). (2004). *At risk: Natural hazards, people's vulnerability, and disasters* (2nd ed.). London: Routledge.

Wolf, J., Adger, W. N., Lorenzoni, I., Abrahamson, V., & Raine, R. (2010). Social capital, individual responses to heat waves and climate change adaptation: An empirical study of two UK cities. *Global Environmental Change*, *20*(1), 44–52. doi:10.1016/j.gloenvcha.2009.09.004

Young, I. M., & Gert, J. (1986). The ideal of community and the politics of difference. *Social Theory and Practice*, *12*(1), 1–26.