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Local level climate justice? Adaptation finance and vulnerability reduction

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ABSTRACT

Climate change creates a double inequality through the inverse distribution of risk and responsibility. Developed states are responsible, but are forecast to confront only moderate adverse effects; least developed states are not culpable and yet experience significant threats to livelihoods, assets and security. Adaptation finance addresses inequity by developed states facilitating/funding behaviour adjustments necessary for exposed communities to lessen climate risk. This article investigates the ground-level effectiveness of adaptation finance in climate vulnerable villages across Malawi, while controlling for disparities in vulnerability. Malawi and selected districts are both climate vulnerable and significant recipients of adaptation finance. This concludes a larger top–down multi-scalar analysis of climate justice, which applies the distribution and effectiveness of adaptation finance as a proxy. The study avails of participatory assessments to compare actions of villages receiving adaptation finance with those engaging in autonomous and informal adaptations. Adaptation finance villages: (a) address more climate related risks; and (b) enhance agency, security and sustainably lessen climate vulnerability. Conversely, informal practice villages attend to a lower proportion of climate risks and often develop short-term strategies with less enduring vulnerability reduction. Vulnerable communities receiving adaptation finance do change behaviours to reduce climate risk and thus secure local level climate justice.

1. Introduction

Climate justice research identifies climate change as the source of a double inequality with an inverse distribution of risk and responsibility (Adger et al., 2006; Füssel, 2010; Roberts and Parks, 2007). The majority of least-developed states have accumulated less than 115 tonnes of carbon dioxide emissions per capita since 1960, relative to 1.6–2.7 k tonnes in many developed states (World Bank, 2013). Conversely, least-developed states experience disproportionate adverse consequences (Maplecroft, 2011; Busby et al., 2013a, 2013b). Marginal environments contend with climate variability and are prone to physical hazards, such as flooding (Lopez-Marrero, 2010; Mustafa, 1998), drought (Eriksen and Lind, 2009; Stringer et al., 2009) and storms (Fazlul and Nobuo, 2008). Exposure and sensitivity to physical events is driven by manifestations of poverty and underdevelopment (Wisner et al., 2004), whereby poor education, health infrastructure and governance structures magnify adverse consequences (Mearns and Norton, 2010).

Climate justice research is often located on the international scale, focusing on justice principles (Albin, 2001; Paterson, 2001), allocation criteria (Fermann, 1997; Baer et al., 2009), carbon markets (Caney, 2010; Page, 2012) and funding architectures (Grasso, 2010a, 2010b). A limited scholarship reaches below to observe subnational justice implications of domestic policy (Thomas and Twyman, 2005) and planning for adaptation (Huq and Khan, 2006; Paavola, 2006). International and subnational research is appropriate for questions of policy processes, framing and design, but these are not the scales where vulnerability is experienced. Rather, climate variability and change is encountered at the local level by communities and requires analysis and response at lower scales (Cash and Moser, 2000) through practices such as Community-Based Adaptation (Ayers and Forsyth, 2009; Ayers and Huq, 2013). Research needs to reach down further and assess climate risk reduction strategies of poor, marginalized and vulnerable communities as the primary and defining actors in climate justice analysis (Barrett, 2013). Further, adaptation finance provides a means to analyze how actions of developed states address climate inequity, through lessening impacts for local level actors (Paavola and Adger, 2006).

Yet recent justice and equity debates do not focus on vulnerable communities at the local level. For example, empirical research

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investigates the international distribution of the Adaptation Fund (Stadelmann et al., 2013) and the justice implications of specific climate policies (Beyer-Farris and Bassett, 2012; Mercer et al., 2012). This article is thus the final stage in a multi-scalar climate justice analysis, following adaptation finance from inter-state distribution to local level implementation, and focusing on select at risk communities in Africa. Two prior quantitative analyses investigate the international and subnational distribution of adaptation finance: the international stage tests whether the most climate vulnerable states are receiving a disproportionate share of funds (Barrett, 2013a); the subnational stage finds whether the most climate vulnerable districts in Malawi are receiving most intra-state allocations (Barrett, 2013b). These answer questions of whether policy is *putting the most vulnerable first* (Adger and Paavola, 2006, p. 604), allocating to the most vulnerable urban stakeholders (Ayers, 2009) and adhering to equity principles regarding financial assistance of the Convention (United Nations Framework Convention on Climate Change, 1992, 2010). This study improves understanding of adaptation finance once it reaches vulnerable communities and determines its effectiveness, offering a substantive justice approach based on just outcomes of funding efforts to accompany distributive and procedural aspects (Heywood, 2004, p. 176).

Climate finance, and adaptation finance more specifically, has developed into one of the main outputs of international climate negotiations. Recent promises (Conference of the Parties 15 and 16) related to new and additional climate finance, balanced between adaptation and mitigation, and demarcated from existing funding flows (United Nations Framework Convention on Climate Change, 2009, 2010). Nevertheless, accounting is ambiguous without universal definitions to determine *new and additional* funds (Stadelmann et al., 2011) and complicated by inadequate transparency across donors (Ciplet et al., 2012; Stadelmann et al., 2012). Further, bilateral and multilateral donors are widely recognized as integrating adaptation measures into development assistance (Fankhauser and Burton, 2011). This study provides a solution by availing of information from key players in local level implementation. Adaptation finance interventions are categorized based on data provided by District Council Representatives on aims and objectives and evaluated in terms of effectiveness in climate risk reduction.

Adaptation finance effectiveness is understood relative to, and in terms of, informal actions. This study refers to adaptation finance villages as those in receipt of formalized adaptation interventions, and compares these with villages that receive no monies, but engage in autonomous adaptations and coping strategies. Informal adaptations are on-going processes of human adaptation, occurring independently of external assistance, ranging from small adjustments in daily routines to significant changes in circumstance through particular disaster events (Birkmann et al., 2010). Informal actions are shown to facilitate coping and adaptation to climate change (Nelson et al., 2007), but the focus here is to compare their effectiveness with formal and externally funded efforts to adapt. The following questions direct the analysis:

(1) Does adaptation finance address what climate vulnerable communities perceive as their climate risk?
(2) Does adaptation finance enable communities to attend to more climate risks than informal measures alone?
(3) Does adaptation finance secure greater agency, security and more sustainable vulnerability reduction than informal measures?

This article provides answers using data collected across 18 villages in southern and eastern Malawi. Malawi has a history of flooding, drought, land degradation, poverty and food insecurity (Devereux, 2007; Davies et al., 2010; Mijoni and Izadkhah, 2009; Phiri and Saka, 2008). Malawi is highly climate vulnerable and a significant recipient of adaptation finance transfers (Barrett, 2013a); likewise, within Malawi, Nsanje, Chikwawa and Salima districts are highly climate vulnerable and significant recipients of intra-state adaptation finance distribution (Barrett, 2013b); villages in these district are selected based on a matching technique that maximizes parity in socio-economic drivers of climate vulnerability. Finally, survey data is collected across villages using the participatory vulnerability assessment as an appropriate method for climate justice analysis.

Adaptation finance does improve adaptive actions relative to informal practices alone: (a) enabling villages to address a greater number of climate risks; and (b) enhancing agency and security of villagers, and sustainably lessening climate vulnerability. Informal practice villages adopt more short-term coping behaviours that often compromise future security and agency and show little enduring vulnerability reduction. Evidence of effectiveness suggests climate justice as a multi-scalar process is being done across select villages of Nsanje, Chikwawa and Salima districts.

Four sections as follows: Section 2 situates the study within the prior literature and develops a framework to analyze adaptation finance effectiveness; Section 3 outlines the village matching and data collection methodology; Section 4 presents the results of group discussions; Section 5 discusses implications of the research.

2. Assessing adaptation finance effectiveness

This section outlines the literatures used to construct a framework to study local level adaptation finance effectiveness. The effectiveness literature indicates the need for a framework to empirically assess local level adaptation interventions, due to research being hitherto international and national level. The framework is guided by the vulnerability literature, which has the conceptual tools to analyze community level climate risk as a justice issue.

2.1. Climate finance effectiveness, formal and informal adaptation

The climate finance effectiveness literature is primarily a policy-based discussion concerning how international and national funding architectures shape outcomes. Effectiveness is understood in terms of adherence to principles and characteristics, described as meeting societal needs (Calland and Reddy, 2013); ease of implementation, legitimacy, coherence, transparency (Bird et al., 2013); and climate returns (Chaum et al., 2012). For example, the Adaptation Fund (Canales Trujillo and Nakhooda, 2013), Amazon Fund (Forstater et al., 2013), and generic flows (Nakhooda, 2013) are evaluated for multi-scalar support, strengthening procedures, innovative design and national ownership. This leaves community level implementation largely absent. Local level assessments of adaptation finance provide insight into localities where vulnerability is experienced and offer the effectiveness literature a means to empirically evaluate the outcome of vulnerability reduction.

A growing literature documents funded adaptation and broadly separates formal/funded as planned longer-term adaptation and informal/unfunded actions more as on-going short-term coping strategies. For instance, Ayers and Forsyth (2009) investigate community level actions designed to protect assets and livelihoods in flood prone Bangladesh. Sovacool (2012) describe local adaptation intervention objectives across Asia. In Malawi, research shows strategies of Shire Valley farmers adapting to extreme weather conditions (Phiri and Saka, 2008), and efforts relating to the United Nations environmental conventions as facilitating the management of climate change, drought and desertification