World Development 102 (2018) 183–194

Contents lists available at ScienceDirect

World Development

journal homepage: www.elsevier.com/locate/worlddev

Bamboo Beating Bandits: Conflict, Inequality, and Vulnerability in the Political Ecology of Climate Change Adaptation in Bangladesh

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ARTICLE INFO

Article history:
Accepted 8 October 2017

Key words:
political economy
disempowerment
dispossession
displacement
resilience
elite capture

SUMMARY

Bangladesh contributes little to global greenhouse gas emissions, yet it is one of the countries most vulnerable to climate change. Based on semi-structured research interviews as a conduit to a literature review, this paper shows how the processes of enclosure, exclusion, encroachment, and entrenchment impede the vitality of its climate change adaptation efforts. Enclosure refers to when adaptation projects transfer public assets into private hands or expand the roles of private actors into the public sphere. Exclusion refers to when adaptation projects limit access to resources or marginalize particular stakeholders in decision-making activities. Encroachment refers to when adaptation projects intrude on biodiversity areas or contribute to other forms of environmental degradation. Entrenchment refers to when adaptation projects aggravate the disempowerment of women and minorities, or worsen concentrations of wealth and income inequality within a community. In the case of Bangladeshi, climate change policies implemented under the country's National Adaptation Program of Action have enabled elites to capture land through public servants, the military, and even gangs carrying bamboo sticks. Exclusionary forms of adaptation planning exist at both the national and local scales. Climate protection measures have encroached upon village property, *char* (public) land, forests, farms, and other public commons. Most egregiously, community coping strategies for climate change have entrenched class and ethnic hierarchies ultimately trapping the poor, powerless, and displaced into a predatory patronage system that can aggravate human insecurity and intensify violent conflict. Planners and practitioners of adaptation need to become more cognizant of the potential for projects to harm others, or admit complicity in the processes of enclosure, exclusion, encroachment, and entrenchment, if they are ever to be eliminated.

1. Introduction

Climate change adaptation refers to altering infrastructure, institutions, or ecosystems to respond to the impacts of climate change. It has been recognized as necessary to the political and economic survival of least developed countries such as Bangladesh (Ali, 1996, 1999; Huq & Asaduzzaman, 2010). Because Bangladesh sits at the intersection of three major river basins, and features flat deltaic topography with low elevation, it is prone to a multitude of climate-related events such as floods, droughts, tropical cyclones and storm surges. Fifteen percent of its 162 million people live within one-meter elevation from high tide (Richard, 2007), and annual floods inundate between 20% and 70% of the country's landmass each year (Mirza, 2002). Bangladesh has high population density and rates of poverty. It is the seventh most populous country in the world, with a density greater than one thousand persons per square kilometer (Rawlani & Sovacool, 2011). Bangladesh also has extreme climate variability, naturally alternating between seasons of monsoon and winter drought, and the nation is dependent upon crop agriculture, which is highly sensitive to changes in climate (Ahmed, 2006).

However, based on a mix of original interviews and a literature review, this article documents the detrimental presence of enclosure, exclusion, encroachment, and entrenchment in Bangladeshi climate change adaptation efforts. Climate change policies have enabled rural and urban elites to capture land. Exclusionary forms of adaptation planning and implementation exist at national and local scales. Climate protection measures have led to encroachment

Abbreviations: BWDB, Bangladesh Water Development Board; CDS, Coastal Development Strategy; GBM, Ganges, Brahmaputra, Meghna river basins; GHG, greenhouse gas; MOEF, Ministry of Environment and Forests; NAPA, National Adaptation Program of Action; UNFCCC, United Nations Framework Convention on Climate Change.

https://doi.org/10.1016/j.worlddev.2017.10.014
0305-750X/

upon the public commons. Finally, community coping strategies for climate change have, at times, entrenched existing class and ethnic hierarchies that trap the poor, powerless, and displaced into a nefarious system of patronage that only accelerates human insecurity and perpetuates violent conflict.

In unveiling the so-called political ecology of climate adaptation in Bangladesh, the paper aims to make three contributions. First, it emphasizes the politics of adaptation in *practice*. It moves beyond vulnerability mapping to assess the effects of current adaptation efforts. Much policy research related to adaptation centers on providing credible estimates of adaptation costs, or conducting vulnerability assessments, or trying to guide future adaptation strategies at the sectoral or national level. Instead, this article investigates the empirical economic, political, ecological, and social effects of adaptation efforts. The paper shows how the political ecology of adaptation, namely the processes of enclosure, exclusion, encroachment, and entrenchment, can distort the goals and effects of adaptation projects. Adaptation projects can become a flashpoint for competing interests, generating their own sets of winners and losers—even when they might produce a net social gain (Sovacool & Linnér, 2015). Many of these conflicts involve those seeking to enclose agendas or exclude stakeholders from access (Eriksen, Nightingale, & Eakin, 2015). In some situations, adaptation projects encroach upon and subvert the intended goals of wildlife conservation, or entrench disparities in wealth and development. Therefore, the study shows that adaptation should be reconceived as a political, deliberative challenge involving the satisfaction of competing preferences, as well as a social dilemma pitting, at times, the climatic and development goals of improved resilience against the pressing needs of marginalized and vulnerable populations.

Second, the article seeks to refine a more systematic and holistic *conceptual framework* for assessing adaptation. Most work on the political economy or ecology aspects of adaptation have tended to focus on seven distinct themes. Some such as Sweeney, Dobson, Despota, and Zinnbauer (2011), Schreurs and Tiberghien (2007), and Michaelowa (2000) explore corruption in climate change adaptation projects and the politics of lobbying. The IPCC (2012) and Barnett and O'Neil (2010) analyze maladaptation, where adaptation projects unintentionally lower resilience or increase greenhouse gas (GHG) emissions. Ruhl (2012) studies the winners and losers of climate change (i.e., who gets longer growing seasons compared to who suffers drought). Füssel (2010) and Smith, Desai, Rogers, and Houghton (2013) analyze the "double inequity" between responsibility for climate change (large industrialized emitters) and vulnerability to it (small developing economies). Eriksen *et al.* (2011) assess sustainable and unsustainable adaptation, honing in on the consequences of adaptation policies and measures for other sustainable development goals, or the contested politics of adaptation in practice (Eriksen *et al.*, 2015). Wilbanks *et al.* (2003), Wilbanks (2005), Tol (2005), and Klein, Lisa, Schipper, and Dessai (2005) examine tradeoffs between mitigation (stopping emissions) and adaptation (coping with consequences). Adger, Benjaminsen, Brown, and Svarstad (2001) and Bankoff (2001) investigate climate change and adaptation as a discourse, what Taylor (2014: 3) calls an "array of discursive coordinates and institutional practices" that serves to homogenize perspectives and diminish the autonomy of outsiders. What is missing is a more synthetic conceptual approach that integrates these themes across multiple spatial dimensions (micro, meso, macro) as well as multiple social dimensions (politics, markets and the economy, the natural environment, and local practices and culture) and multiple themes (maladaptation, tradeoffs, vulnerability, discourse). Much previous research has only attempted to untangle these separate threads sporadically; here, a conceptual framework is presented that tries to integrate them.

Third, and lastly, the study seeks to *challenge modes of participation* in community-based adaptation schemes. Islam and Nursey-Bray (2017) write, for example, that communities need extended involvement in stakeholder consultations about adaptation, they necessitate a "greater voice." Rahman, Sadath, and Giessen (2016) write that community-based forest programs in Bangladesh are "becoming more important over time" and need to better empower lower level community actors. Although community participation offers a valid option to counter exclusion and the dominant interests of some stakeholders, this paper suggests that it can in some situations be detrimental to the efficacy of an adaptation project. In Bangladesh, some of the most pernicious sets of consequences do not arise from the forces of global capitalism or neoliberalism. While these landscape pressures do play their role, instead it is local actors—community leaders, criminals, state officials, businesspersons, political elites—who perpetuate classism, racism, elitism, and chronic poverty.

The disutility of local processes in community climate change adaptation efforts has been documented in other countries. For example, in Burkina Faso, livelihood diversification programs seeking to bolster resilience have instead fallen victim to predatory marketers who were able to buy livestock at low prices from distressed farmers only to resell them at great profit in other areas (Adger, Paavola, & Huq, 2006). The net effect has been to trap poor households in a vicious cycle of borrowing, pawning, and mortgaging of crops (Roncoli, Ingram, & Kirshen, 2001). In Kenya, some adaptation projects have strengthened the position and power of local herders who resorted to violence and extortion in their negotiations (Eriksen & Lind, 2009). In Ghana, some adaptation projects have been primarily directed at satisfying the desires of men at the expense of a greater workload for women (Carr, 2008). In Malawi, village leaders decided to implement particular measures—such as flood defenses—only for their own cassava gardens (Barrett, 2013). In Pakistan, some flood recovery efforts have only served to further marginalize rural, agrarian land holders. Recovery interventions became an "exercise in power" that enabled dominant social classes to "consolidate their position within the rural hierarchy," excluding poorer communities in the process (Taylor, 2014). The end result has been greater levels of debt among the poor as well as loss of control of land and access to water.

These examples all show how local political ecology elements can be just as influential as national or global forces in creating inequitable or unjust outcomes—a story that is even more amplified in Bangladesh. If it is true that some stakeholders actively seek to enclose, exclude, encroach, and entrench, or if their inclusion indirectly contributes to these processes, than their involvement serves to fragment and subvert the objectives of adaptation. This demands that we refocus the discussion about stakeholders and community involvement away from quantity (more in some cases may not be better), to quality, so that the qualitative goals and interests of stakeholders can be revealed. Greater "participation" may not always produce desirable results.

2. Case selection, research methods, and conceptual approach

Bangladesh was selected as a case study due to its extreme vulnerability to climate related impacts. Most of Bangladesh lies in the delta of three of the largest rivers in the world: the Ganges, the Brahmaputra, and the Meghna, or GBM, shown in Figure 1. These rivers have a combined peak discharge of 180,000 cubic meters per second during the flood season, the second highest in the world after the Amazon, and carry about two billion tons of sediment each year (Mirza, 2002). Bangladesh is at risk not only to flooding and tidal inundation on the coasts, but also advanced melting of the Indian and Nepali Himalayan glaciers. This effectively means