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Linking climate change strategies and land conflicts in Cambodia: Evidence from the Greater Aural region

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ABSTRACT

This paper investigates how climate change strategies and resource conflicts are shaping each other in the Greater Aural region of western Cambodia. Agro-industrial projects linked to climate change goals are reshaping both social and ecological dynamics, by altering patterns of access to land and water resources as well as the nature of the resources themselves. Using a landscape perspective, we investigate these social and ecological changes occurring across space and time. Drawing on data from community researchers, field visits, interviews and secondary sources, we examine two kinds of connections between climate change responses and resource conflicts in the Greater Aural: 1) demand for biofuels as a driver of flex crop expansion; and 2) the construction of irrigation infrastructure as a climate change adaptation strategy. Findings include that some impacts of flex crop expansion and irrigation systems are local and immediate, for example when villagers lose land, plantation workers are not paid, and cassava processing pollutes local water supplies. Other impacts are transferred to different locations or deferred to the future, for example when changes in water quality and quantity affect those living downstream, or when soil degraded by cassava production becomes unproductive for future generations. We conclude that climate change strategies are now deeply entangled with resource conflicts in the Greater Aural region. Adopting a landscape perspective and working directly with community researchers opens new pathways for identifying not only site-specific, but also cumulative and shifting impacts of climate change strategies and their relationship to resource conflicts.

1. Introduction

Land use change and resource extraction to promote economic growth have been provoking social unrest in Cambodia since the Paris Peace accords of 1991 (CCHR, 2013; LICADHO, 2009; Tucker, 2015). Recently, concerns over climate change add a new layer of issues to contested forestry, agriculture and land use decisions in the country (Milne & Adams, 2012; Poffenberger, 2009). While the links between conflict and elite resource capture are well established worldwide (Hall, Hirsch, & Li, 2012; Peluso & Lund, 2011; White, Borras, Hall, Scoones, & Wolford, 2012), and security concerns linked to the impacts of climate change are receiving increasing attention (Barnett & Adger, 2007; Verhoeven, 2011), interest in a new set of relationships between conflict, economic development and *responses to climate change*[1] is still emerging. In this paper we examine resource conflicts in the Greater Aural region of Cambodia linked to two climate change strategies: biofuel production promoted as climate change mitigation, and irrigation projects promoted as climate change adaptation. We seek to understand how these initiatives may be involved in sparking or perpetuating conflicts, particularly by altering access to contested resources in landscapes already affected by land concessions for agro-industrial use. To capture these interactions we look beyond project-specific impacts to consider how the influences of climate change responses are felt locally and over a wider landscape; presently and over time.

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[1] We consider 'climate change responses' to be any actions taken to mitigate or adapt to climate change. In this study we focus on rural, land-based activities including the production of biofuel crops (a mitigation strategy) and the expansion of irrigation infrastructure to support agriculture under drier conditions (an adaptation strategy). Land management schemes aimed at storing carbon would also fit this category but are not considered here.

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A rich body of scholarship investigates links between climate change, insecurity and conflict (Devlin & Hendrix, 2014; Fetzek & Mazo, 2014; Homer-Dixon, 2010; Smith, 2011). A central question in this work – whether environmental change produces 'environmental conflicts' – is not the focus of our study. We question whether the land-based climate change responses cause conflict. The idea of environmental conflicts gained considerable traction; however, research portraying the biophysical effects of climate change as a direct security threat is critiqued for lack of verifiable results (Klomp & Bulte, 2013; Selby, 2014), for obscuring the influence of historical social and political processes (Verhoeven, 2011), and for advocating technological fixes (Käkönen et al., 2013). While environmental change can increase insecurity "by reducing access to, and the quality of, natural resources that are important to sustain livelihoods" (Barnett & Adger, 2007, p. 609), this relationship is widely recognized to be mediated by social factors including poverty, economic opportunities, social cohesion, and procedural justice (Barnett & Adger, 2007; Hartmann, 2014). This literature highlights the risks of being too deterministic about the relationship between environmental change and conflict, and emphasizes the importance of foregrounding social, political and historical processes.

Critical scholarship asks whether actions taken to address climate change create as many problems as they seek to avoid. For example, the rights violations and livelihood impacts associated with land grabs are increasingly connected with responses to climate change Montefrio & Dressler, 2016; Uson, 2017). Scholars working on 'green grabs' – land grabs conducted in the name of environmental goals (Dunlap & Fairhead, 2014; Fairhead, Leach, & Scoones, 2012; Holmes, 2014) – make important contributions in this regard, as do agrarian and Indigenous social movements working to promote climate justice (Claeys & Delgado Pugley, 2016). Meanwhile, parts of the climate change research and activist community are making similar connections. Social and equity issues remain under-reported in research on climate change mitigation and adaptation generally (Corbera, Calvet-Mir, Hughes, & Paterson, 2015; Ribot, 2014). Nonetheless, climate justice activists increasingly advocate against land grabbing and market-based measures that commodify stored carbon (Friends of the Earth International, 2015) and the livelihood impacts of biofuel production have come under particular scrutiny (Blaber-Wegg, Hodbod, & Tomei, 2015; German & Schoneveld, 2012; Hunsberger, Bolwig, Corbera, & Creutzig, 2014; Selfa et al., 2015).

These trends show that scholars and activists are increasingly articulating the overlap between climate change responses, land rights, and questions of justice. We seek to extend this work in two ways. Empirically, we investigate local perspectives on whether and how specific climate change response strategies affect conflicts on the ground. Conceptually, we draw on Baird and Barney's (2017) efforts to capture cumulative and 'cascading' interactions between overlapping land- and water-based projects and local livelihoods by adopting the landscape as our unit of analysis. Using this approach, we investigate aggregate, shifting and delayed impacts of climate change initiatives as they interact with existing economic concessions and past conflicts – and reflect on the merits and challenges of this strategy. Further, we explore the role of elite cooperation across multiple projects as well as cooperation between grassroots activist communities. Our cases suggest that these varied forms of cooperation can have the simultaneous effect of entrenching conflicts (by widening power differences) and strengthening local people's ability to negotiate compensation (by drawing on knowledge, skills and alliances formed during past conflicts).

Cambodia provides a good setting to explore these dynamics because of its history of resource conflicts, its high concentration of large-scale land deals, and its recent experience with climate change initiatives. We focus on two processes occurring in the Greater Aural region: flex crop expansion linked to demand for low-carbon biofuels; and irrigation infrastructure expansion as a climate change adaptation strategy. Drawing on data from community researchers, field visits, interviews and secondary sources, we examine how each of these climate-related processes is entangled with social and environmental roots of conflict. We hope that insights from this work can ultimately inform efforts to manage or avoid conflicts through actions that respect local interpretations of justice.

The paper proceeds as follows. The next sections introduce our key terms, the study area and methods used. We then present empirical data on climate change responses in the Greater Aural, focusing on two flex crops and two irrigation projects. Finally, we reflect on the findings and their implications for research and practice.

2. Defining our terms: conflict, cooperation and landscape

2.1. Conflict and cooperation

In much research on climate change and conflict, conflict refers to violent confrontation – typically between armed groups, and sometimes meeting additional criteria such as involving at least one government, having a particular duration or inflicting a minimum number of casualties (Scheffran, Brzoska, Kominek, Link, & Schilling, 2012). While some of the conflicts we refer to in the Greater Aural involve the Royal Cambodian Armed Forces, we also include non-violent protests at the local level, refusal to participate in climate change interventions (Mingorría, Gamboa, Martín-López, & Corbera, 2014), and the violence to persons and landscapes that forest conversion entails Peluso & Watts, 2001). We recognize that conflict can stem from competing values over resource access and use as well as from structural injustices (Montefrio, 2013). The conflicts we encounter in the Greater Aural involve the loss of homes, farmlands, and forest resources, soil degradation, water pollution, and changes in water access. These factors have combined to produce conflicts across the region since the first attempts to convert it for plantation agriculture in 2001.

Resources are deeply tied to conflict and elite power in Cambodia (Milne, 2015). Logging revenues helped prolong war in the country by funding insurgents near the Thai border in the 1980s and supporting remnants of the Khmer Rouge into the 1990s (Le Billon, 2012). Once the conflict stopped, legal forms of resource extraction began, especially focused on Cambodia's abundant and profitable forests (World Bank & FAO, 1996), which gave way to economic land concessions (ELCs) for agro-industrial use (Fig. 1). Over 2 million ha, more than half the country's arable land, were awarded as ELC, which sparked numerous protests and their sometimes-violent suppression (LICADHO, 2012; Neef, Touch, & Chiengthong, 2013). Each wave of resource use, from illegal timber extraction, to legal concessions for timber harvesting and agro-industrial use, to flex-crop plantations and irrigation schemes, has increased tension between local people and the Cambodian government and elites.

Our discussion of conflict also considers how cooperation – between companies, government bodies, and donors who are enacting climate strategies, and between community members and allies who are defending local rights – interacts with resource conflicts. Particular forms of cooperation have increased between the government and emerging national elites, as well as international financiers and development institutions (see also Knuth, 2015; Rocheleau, 2015; Wolford, Borras, Hall, Scoones, & White, 2013). This is not the kind of cooperation that donors envision when they call for "conflict sensitive" responses to climate change

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