



MOSAIC

Working Paper Series No. 1

Land-based climate change mitigation, land grabbing and conflict:
understanding intersections and linkages, exploring actions for change

Carol Hunsberger, Esteve Corbera, Saturnino M. Borras Jr., Romulo de la Rosa,
Vuthy Eang, Jennifer C. Franco, Roman Herre, Sai Sam Kham, Clara Park,
David Pred, Heng Sokheng, Max Spoor, Shwe Thein, Kyaw Thu, Ratha Thuon,
Chayan Vaddhanaphuti, Kevin Woods and Courtney Work

May 2015

Land-based climate change mitigation, land grabbing and conflict: understanding intersections and linkages, exploring actions for change

by Carol Hunsberger, Esteve Corbera, Saturnino M. Borrás Jr., Romulo de la Rosa, Vuthy Eang, Jennifer C. Franco, Roman Herre, Sai Sam Kham, Clara Park, David Pred, Heng Sokheng, Max Spoor, Shwe Thein, Kyaw Thu, Ratha Thuon, Chayan Vaddhanaphuti, Kevin Woods and Courtney Work

Published by:

MOSAIC Research Project: Climate change mitigation policies, land grabbing and conflict in fragile states: understanding intersections, exploring transformations in Myanmar and Cambodia

<http://www.iss.nl/mosaic>

International Institute of Social Studies

P.O. Box 29776, 2502 LT The Hague, The Netherlands

Tel: +31 70 426 0460 | Fax: +31 70 426 079

E-mail: borras@iss.nl | Website: www.iss.nl

RCSD Chiang Mai University

Faculty of Social Sciences, Chiang Mai University Chiang Mai 50200 THAILAND

Tel. 66-53-943595/6 | Fax. 66-53-893279

Email : rcsd@cmu.ac.th | Website : <http://rcsd.soc.cmu.ac.th>

Funded by the NWO and DFID through the CoCooN - Conflict and Cooperation in the Management of Climate Change - Integrated Project.



Abstract

Recent research highlights the potential for climate change mitigation projects and large-scale land deals to produce conflicts over land and resources. However, this literature generally views climate change policies and land grabbing as separate processes, and focuses on discrete areas where displacement or contested claims occur. We argue that additional research strategies are needed to understand the social and ecological spill-over effects that take place within larger areas where land-based climate change projects (e.g. biofuel production, forest conservation, or hydroelectric projects) and large land-based investments (e.g. plantations or mines) are found. We propose adopting a landscape perspective to study intersections and complex interactions within and across social, ecological and institutional domains. By co-producing knowledge with local actors, building capacity with civil society groups, and informing advocacy that targets policy processes at multiple scales, we suggest that such research could contribute to preventing, resolving or transforming conflicts – even in places where difficult political transitions are underway.

Keywords: Conflict, climate change mitigation, land grab, resource conflict, green grab, biofuel, REDD+

1 Introduction

The social outcomes of land-based climate change mitigation policies and large-scale land acquisitions have captured the attention of scholars, practitioners and civil society actors. Governments around the world have embraced biofuels as a low-carbon energy source, many setting targets for biofuel production or use as part of a climate change mitigation strategy (Bailis and Baka, 2011). However, critics protest that existing governance mechanisms do not adequately address issues associated with land rights, working conditions, and other social impacts (Creutzig et al., 2013; German and Schoneveld, 2012; German et al., 2011; La Via Campesina, 2009). Another important climate change intervention, Reducing Emissions from Deforestation and Forest Degradation (REDD+), has emerged as a policy framework under the United Nations Framework Convention on Climate Change (UNFCCC) to protect carbon stored in forests by assigning it a monetary value. However, many argue that REDD+'s projects and related policy programs have the potential to reinforce existing inequities and social exclusions (Mustalahti and Rakotonarivo, 2014; Corbera, 2012; Phelps et al., 2010). Meanwhile, new energy security interests and concerns for energy sources that can be justified as 'renewable' are driving an expansion of hydropower development as well (Mehta et al., 2012). Hydroelectric dams have long been the object of critique for their social and environmental impacts, including displacement of local people and increased pressure on agriculture due to changes in hydrology and water quality (Shoemaker et al., 2014). Finally, large-scale land acquisitions for the development of agricultural, forestry enterprises or for purely speculative purposes, popularly known as 'land grabs', have emerged as a focal point for research and activism (Cotula, 2013; White et al., 2012; Borras et al., 2011).

While each of these topics has generated very active research, debate and political action in recent years, we see two areas where this work can be pushed further. First, much research to date has investigated climate change policies and land grabbing separately. Work on green grabbing – “the appropriation of land and resources for environmental ends” (Fairhead et al., 2012: 237) – has made a significant contribution by describing how environmental protection strategies, including REDD+, can serve to motivate or justify large-scale land deals. Research on green grabs articulates a broad, market-based logic that links environmental motives to land deals and their often unjust outcomes for local people – and clears a path for future research that examines the interactions between land grabs undertaken for environmental and non-environmental objectives.

Second, existing work on the social impacts of climate change mitigation or land grabbing tends to focus on discrete areas, such as particular landholdings where dispossession or competing claims occur. Transnational connections have received much attention, for example where biofuel mandates in one country or region are believed to affect agricultural production in other regions (Pye and Bhattacharya, 2013; Franco et al., 2010). But with the important exception of growing work that explores the far-reaching effects of water grabbing across time and space (Mehta et al., 2012; Woodhouse, 2012), relatively little research so far has studied the cumulative and interactive effects of multiple projects within the same landscape or region.

This paper builds a case for research that addresses these gaps by explicitly considering interactions and expanding the boundaries of these complex problems to a landscape level.

Based on discussions between grassroots, NGO, academic and advocacy actors held in the context of developing an engaged research project, here we outline a framework for collaborative action research that can help in understanding the interplay between climate change mitigation initiatives and land grabs, and resulting patterns of conflict and cooperation. We also consider how such action research could influence trajectories of conflict and cooperation by building capacity for interventions that promote socially just conflict resolutions. The relevance of the framework is justified by the growing number of transnational collaborative programs that bring together researchers and civil society to analyze, confront and resolve environmental conflicts arising from competing positions on land-use and rapid transformations of rural systems in an era of persistent poverty and inequality (Conde, 2014; Urkidi and Walter, 2011; Martinez-Alier et al., 2010).

The paper proceeds as follows. First we review recent insights on climate change mitigation, land grabbing and conflict, drawing on examples from existing literature and particularly from countries in the global South undergoing political transitions. Next we outline the three pillars of a proposed research framework: a landscape perspective, co-production of knowledge, and a commitment to supporting action for change. We conclude by reflecting on the challenges, risks and potential contributions of such an approach.

2 Land-use climate change mitigation, land grabbing, conflict and cooperation

2.1 Land-based climate strategies: biofuels and REDD+

Climate change, as a biophysical phenomenon, emerged as a global political concern in the 1980s as a result of increasing scientific evidence about global warming and its potential consequences on social-ecological systems in the short and long term. Policy action was originally promoted under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) and it has over time spread to governments and sub-national organizations around the world. As of today, given the level of knowledge accumulated over the last two decades (IPCC, 2013), it has been generally accepted that climate change has profound justice implications associated with the fact that its impacts are and will be experienced differently within and across social groups, and across generations, as well as with the fact that dealing with the problem will require of cooperation and solidarity across nations and individuals (IPCC, 2014). People's behavior, knowledge – both scientific and experiential – their vulnerability and adaptive capacity conditions, institutional structures, and political and economic power influence how climate change risks and consequences are perceived, felt and acted upon (Ribot, 2014; Burnham et al., 2013; Roberts and Parks, 2007).

Climate change mitigation strategies are thus inextricably linked with justice considerations: any attempt to reduce greenhouse gas emissions is likely to be endorsed by or experienced differently across social classes and groups and may thus lead to both procedural and distributive conflicts. We argue that this is likely to be the case for mitigation actions aimed at reducing land-use related emissions, which have steadily contributed to rising greenhouse gas emissions worldwide over the last 50 years (Le Quéré et al., 2013). Land-use mitigation approaches encompass a range of policy, technology and market-based approaches in the agricultural, livestock and forestry sectors. Such activities include, for example: policies supporting the cultivation of crops like corn, oil palm, sugar cane or soybeans that can be

used to produce biofuels, which have proliferated nationally and worldwide (Bailis and Baka, 2011); global forest carbon markets to incentivise reductions in deforestation, degradation or increases in forest carbon stocks (i.e. REDD+); and policy programs to support conservation agriculture to reduce emissions from soils and production cycles in cropping systems (Bustamante et al., 2014; Delgado et al., 2011). We focus on the first two examples in the remainder of this paper.

We suggest that biofuel, REDD+ and hydroelectric policies and actions may (re)allocate resources for energy production or carbon sequestration. In doing so they recast access to land and natural resources, potentially worsening conflicts – or resulting in cooperation and socially inclusive outcomes (Muradian et al., 2010). Most major sources of biofuels are ‘flex crops’ that can be used to make multiple end products (Borras et al., 2014). It can be difficult to trace whether the products of a particular farm were turned into biofuel, livestock feed, products for human consumption, or industrial products, since commodity chains are complex, production is aggregated along the chain, and the actors deciding if a given production becomes one end product or another often decide so on the basis of dynamic market information.

But because biofuel policies have greatly stimulated demand for plantation crops that can be turned into biofuels, the social impacts of crop-based biofuel production can be considered an extension of the impacts of growing these crops – which have already been well studied (Clancy, 2013; Creutzig et al., 2013). Expanded biofuel production has been linked to: respiratory health impacts on workers and nearby residents from the sugarcane industry (Prado et al., 2012; Arbex et al., 2007; Boopathy et al., 2002); water pollution from palm oil production (Obidzinski et al., 2012; Larsen et al.); loss of land to make way for jatropha plantations, with disproportionate impacts on women and migrant farmers (Schoneveld et al., 2011); and financial hardships or disincentives for small-scale farmers growing jatropha, oil palm and sugarcane (Ariza-Montobbio et al., 2010; McCarthy, 2010; Hall et al., 2009). In some cases increased conflicts have already been reported, both over land and water rights (Duvail et al., 2012; Obidzinski et al., 2012; McCarthy, 2010) and in cases where plantation workers became less available to help with communal labour (Schoneveld et al., 2011). Where resources that flow – such as air or water – are polluted by flex crop production and processing, it is easy to see the potential for conflicts over use and access rights to these vital resources to occur over a larger area.

National and international efforts to regulate biofuel production by establishing sustainability criteria and compelling producers to seek third-party certification do not yet seem to be making much difference in how biofuel crops are produced (Hunsberger and Ponte, 2014). New governance measures for biofuels do not appear to be succeeding where existing environmental and social laws were already failing (Larsen et al., 2014; Newberry, 2014; Schut et al., 2013). Furthermore, difficulties in traceability can compromise the legitimacy and effectiveness of certification schemes. This raises the possibility that governance strategies targeted at reducing the impacts of biofuel production are less likely to address social issues, including conflicts, than integrated strategies might be if they targeted more fundamental problems and worked to address crucial enforcement capacity constraints (Hunsberger et al., 2014).

The UNFCCC REDD+ framework, in turn, aims to promote the conservation and enhancement of forest carbon through a particular version of sustainable management of existing forests. It aims to redistribute money from countries in the global North to countries in the global South that have significant forest cover and hence stored carbon. It also supports those making efforts to extend such cover and improve sustainable forest management. REDD+ is translating into variegated policy and project-based forms on the ground. On the one hand, multilateral donors are supporting countries to develop country-based strategies to achieve the goals noted above. Governments can choose to promote programs of Payments for Ecosystem Services (PES), increase the number and size of protected areas, and/or provide more incentives to companies and rural communities for sustainable forest management, among other options (Angelsen et al., 2009). These are all initiatives that might or might not involve direct economic or in-kind compensation to communities and landowners, but which have potential to induce a recasting of land use and access relations and therefore induce conflict.

On the other hand, REDD+ is being realized through ad hoc pilot projects supported by donor countries, international finance institutions (e.g. the World Bank's Global Environment Facility, GEF), the United Nations and private actors, in parallel to the development of country strategies. REDD+ projects very often include afforestation, reforestation, and conservation activities, and involve contract-based and conditional payments to local communities. Some of these projects have already sold carbon offsets in existing voluntary carbon markets; others are aiming to do so if and when a global market for REDD+ offsets under the UNFCCC is formally established. A key challenge in REDD+ is to harmonize project and government-based approaches in order to avoid double counting and trading of carbon emission reductions. Additionally, pilot projects are struggling to fit the demands of carbon accounting and markets to local tenure and forest governance realities (Sunderlin et al., 2014; Murdiyarso et al., 2012).

Critics identify several risks in REDD+ design and implementation. These include that: REDD+ national strategies may disregard the views of rural communities, indigenous peoples and opposing actors, while failing to address the fundamental causes of deforestation and degradation; local and indigenous people could lose use and access rights to forest resources through new conservation and forest management schemes (Mahanty et al., 2012); REDD+ programs and projects could further entrench existing inequities if they do not explicitly prevent elite capture of benefits (Sikor et al., 2010); and assigning a price to forest carbon might reduce forests to a single commodity that can be bought and sold without regard to their myriad other values (Corbera, 2012).

REDD+ opens a complex governance space involving international, national and local institutions, each of which is likely to have layered interests that do not always coincide (Corbera and Schroeder, 2011). Because its rigorous planning and monitoring requirements require significant institutional capacity, some suggest that despite its stated focus on local participation, REDD+ may ultimately encourage centralization of forest governance rather than enhancing local control (Phelps et al., 2010). Combining these arguments, the encounter between competing interests at different scales playing out within a system that privileges top-down control has clear potential to produce grievances and conflicts at the local level – both between local users who are unevenly affected by changing forest

management and access rules, and between local actors and institutions operating at other scales.

2.2 Large-scale land deals: struggles over resource access and control

Research on the social impacts of land grabbing has shifted focus over time: initially much research focused on the outright displacement of affected people, while recently more attention has been given to the effects of changes in “effective control” over land and resources (Borras and Franco, 2012: 50). It is important to untangle changes in land ownership, use, access, and control from one another as they may or may not be linked. For example, changes in control over land can occur without changes in ownership, as is the case where small-scale producers become tied to contracts or debts that lock them into producing particular crops for particular buyers.

Focusing on access to and control over resources rather than on formal ownership or land use opens up the analysis to consider impacts of land deals that may at first seem indirect. For example, many times land changes hands but the proposed project is not implemented, or it proceeds on only a small pilot plot instead of the full area acquired – a situation sometimes referred to as a “virtual” land grab (McCarthy et al., 2012; Smalley and Corbera, 2012). But even if a project does not proceed, it can still restrict the resource access of other land users, pushing them into other areas (Cotula, 2013). Another example of land deals affecting resource access beyond their own boundaries involves heavy water use to meet irrigation or industrial demands, which reduces the supply available to users of downstream surface water or shared aquifers (Woodhouse, 2012). In the framework presented in Section 3, we pursue this line of thinking and seek to integrate the idea of water grabs with the broader potential ‘spillover’ effects of REDD+ and biofuel production.

Land grabbing can be linked to climate change mitigation policies in at least four ways: (i) large-scale land deals regularly involve biofuel feedstocks, or at least such formal claims by state and non-state actors even if they are not seriously planning to produce biofuel; (ii) REDD+ can result in ‘green grabbing’ – ‘land grabbing for environmental ends’ – where local communities are dispossessed (Fairhead et al., 2012); (iii) prior experiences with land deals perceived as ‘grabs’ may create suspicion that REDD+ or planned biofuel projects will follow the same pattern, with private actors or governments gaining increased control over local resource use and associated governance, making it harder for these initiatives to proceed without inducing conflict or to proceed in locally beneficial ways (Ghazoul et al., 2010); and (iv) REDD+ areas may be subject to overlapping claims, including large-scale land deals, suggesting that in particular cases, ‘land grabbing’ for agriculture or speculative purposes may in fact compete with REDD+ focused initiatives. These different kinds of links between land deals and climate change mitigation have not yet been captured in a coherent framework such as the one we propose here.

2.3 Conflict and cooperation in the midst of political transitions

Two factors affect the likelihood that conflict will increase due to the interplay of climate change policies and land deals: the convergence of competing understandings of, relationships to, and interests in the same land resources, and the pre-existing structural and institutional conditions of the specific locale. Most of the current 50 fragile states (World Bank,

2011) are agrarian societies and hotspots of land and water grabbing. But many societies where land grabbing is occurring, even in national contexts not considered to be 'fragile', exhibit an overall inability to tackle land-based conflict (Deininger et al., 2011; Collier and Hoeffler, 2005). Determining land rights in plural legal settings, which often also characterize these fragile states, is often tied to processes of state formation, such as during the development of post-socialist electoral regimes (Sikor and Lund, 2009). Plural legal settings can both exert constraints on and provide opportunities for addressing competing land rights claims and transforming land conflicts (Franco 2011). Perhaps especially in fragile states, a persistent irony emerges: the institutions and processes that could effectively prevent or transform resource conflicts are weak or absent in the places where they are most needed – a situation that is itself the outcome of past social and political conflict over land and water rights, and the strategic interactions and political choices of key actors.

Fragile states where large-scale land acquisitions are occurring are particularly vulnerable to increased conflict when they embrace land-based climate change mitigation activities. Resource-related conflicts can manifest at different scales and they can result in contrasting responses by interested and locally affected parties. They can be a symptom of resource scarcity, but also of resource abundance. Historically, countries with abundant 'point' resources, such as minerals, and 'diffuse' resources such as land or forests have suffered from armed conflicts of different nature in which the access to and control over resource revenue were at stake. Some conflicts have, for example, confronted state political factions and have resulted in coup d'états while others have been led by peasants rebelling against the state in order to re-regulate or exercise full control over land and other resources, among others (Le Billon, 2001).

In this paper we are concerned not only with violent conflict that both drives and emanates from new resource allocations due to climate change mitigation initiatives, especially biofuel, REDD+ and hydroelectric activities, but also with conflict that does not involve physical violence and instead is characterized by a symbolic resistance to perceived injustices by locally affected parties, which can in turn be manifested in unwillingness to participate in mitigation enterprises as farm workers or project actors (Mingorría et al., 2014). The latter may not be an exception in countries marked by authoritarian politics with an ongoing or recent history of armed conflict and civil repression, or in localities and regions where past experience leads peasants to reject state intervention and doubt the intentions of private companies (Kosoy et al., 2008).

Myanmar and Cambodia are two countries that illustrate the issues identified above. Since Myanmar's recent political transition, (trans)national land- and water-based investments have increased dramatically, brokered by the military-state hand in hand with Burmese 'crony companies' (Buchanan et al., 2013). This deluge of business deals comes as the country gradually emerges from one of the world's longest civil wars marred from decades of military-led land grabs. Large-scale land and water deals directly contribute to further political tension, resource conflicts and violence – for example, land grabs are the issue most frequently reported to the country's new National Human Rights Commission. As a result the national government has recognised land conflict as one of the country's paramount obstacles to peaceful development and created committees to address historical land conflicts. However, new land- and investment-related laws and policies designed to advance neoliberal goals have facilitated the advance of an unprecedented scale of land- and water-based land grabs.

Private agribusiness activities, including for biofuel production, have perhaps had the largest impact on local communities. The amount of land area covered by the current large-scale land deals or and grabs reached 5.2 million acres by 2013 – a 170 percent increase since the current government took office (Woods, 2015). Meanwhile, large-scale hydropower dams, despite the initial postponement of the Chinese-financed Myitsone Dam in Kachin State, are set to re-emerge, as evidenced by the recent sustainable hydropower conference in the country's capital co-organised by the World Bank's IFC (Vrieze, 2015). The majority of land- and water-based deals have targeted the resource-rich uplands along the country's periphery – the same areas that have been embroiled in over six decades of civil war ignited by contestations over ethnic self-determination, sovereignty and equitable sharing of resource rents (Buchanan et al., 2013). For example, the two areas of the country most targeted for agribusiness concessions are Tanintharyi Region (oil palm) and Kachin State (mainly rubber, sugarcane and cassava) – both having entrenched civil war and targeted ethnic violence that are still ongoing (Woods, 2015). Meanwhile, large-scale conservation by demarcation of protected areas is making a comeback in Myanmar, with major conservation organisations setting up offices and garnering budgets to increase the country's national parks and wildlife sanctuaries despite heavy criticism of the top-down conservation measures implemented in the 2000s (Noam, 2007). The two most heavily targeted areas of the country for protected area management are again Kachin State and Tanintharyi Region – the same ethnic conflict areas being targeted for agribusiness, mining and hydropower schemes. Locating private large-scale resource extraction, production and conservation concessions in ethnic conflict zones, some of which are still active war zones, has had significant territorial, political and securitization impacts (Woods, 2011).

Overlapping land claims for large-scale biofuel production, hydropower electricity generation and conservation occur in the country's north (Kachin State and north Shan State) along the border with China and in the southeast (Tanintharyi Region) along the border with Thailand - two countries that have played a significant role in the region's political economy of resource extraction and production. For example in Kachin State's Hukawng Valley, a few years after the world's largest tiger reserve was created, causing considerable land conflicts and allegations of human rights abuses (Noam, 2007), a Burmese private company was awarded the country's largest agribusiness concession to produce cassava and sugarcane for China's biofuel market, leading to further displacement and associated social conflicts and violence. In north Shan State, several hydropower projects have been built and are in the construction phase along China's border, one of which was the site of the first battle against the country's army and the Kachin armed group, triggering a return of war after nearly two decades of a ceasefire. In the same areas ethnic paramilitaries have received biofuel agribusiness concessions in village cultivation areas, leading to new rounds of land conflicts (Global Witness, 2015). In Tanintharyi Region in the opposite corner of the country, similar layers of land- and water-based conflicts are being compounded from various extraction, production and conservation regimes. Various media and NGO estimates place at almost 2 million acres of oil palm concessions have been allocated to mostly domestic companies, which were predominately located in areas secured through a major Burmese military offensive against a Karen armed group. Dams have been slated to provide electricity with what is expected to be Southeast Asia's newest and potentially largest deep sea port outside Dawei town. While Karen refugees in Thailand and IDPs residing in forest areas are considering their fates after nearly two decades of being pushed off their lands by the military, the world's conservation

industry has arrived in Tanintharyi with plans to create a range of new marine and forest protected areas, with partial funding from the World Bank's GEF.

As of 2012, the Cambodian state had reportedly granted economic land concessions (ELCs) on over 2 million ha of land, more than half the arable land in the country (Neef and Touch, 2012: 1); this in a country where three-quarters of people still rely on agriculture for a central part of their livelihoods (Deininger et al., 2011: 6). While ELC awards have officially stopped, data collected in the Prey Lang region nonetheless finds new enterprises carving plantations out of the forest. The Prey Lang landscape covers 520,000 ha (Ashwell et al., 2004) of lowland forest. It is the primary source of livelihood for over 200,000 indigenous people and home to 500,000 other people who also rely on the forest for a large part of their subsistence, it is an important location for international carbon capture projects, and it is also the site of numerous agro-business projects. These projects are primarily producing rubber and acacia, but research has uncovered at least one site where a "forest restoration" company was awarded over 340,000ha of "degraded forest" in two provinces. According to government officials, this is a climate change-oriented reforestation project. According to local residents, whose families were using over 400ha of this "company land", the company is cutting and processing lumber, and also planting trees. Conflicts are currently brewing over what the commune chief says is a misunderstanding: "The villagers did not understand about the law. When the company conducted impact assessment, their lands were full of trees because those were shifting cultivation plots that there was no legal recognition from the government" (Interview Feb 14, 2015). This example shows clearly the layered complexity of land-use in the Prey Lang region. Local residents have been using these forests for subsistence for generations, the government is attempting to use this region for 'climate-friendly' economic production, and the company is using this land to extract lumber with a 'replanting' clause. This case study does not show weak institutions; rather, it shows the selective use of land tenure institutions to accommodate economic intensification (Ehrentraut, 2011). The institutions that are weak in this scenario are those that go in the other direction: local residents do not know the legal channels or government institutions that can help them stake their claims. An action-research based model of co-producing knowledge can not only expose questionable profit-driven economic activities engendered under the banner of climate change mitigation, it can also help to equip communities with tools to negotiate space for themselves in the face of company encroachments, possibly avoiding protests and violent confrontations.

In another example, near the Aural protected area in Kompong Speu province, two adjoining ELCs were awarded to the same company under different names, easily circumventing the government size limit of 10,000 ha. The following year another 4,700 ha inside a protected area were reclassified to accommodate the expansion of this plantation site. The concession grows sugar cane and has a sugar processing factory on site. "This ELC encroaches on more than 2,000 ha of farmland belonging to approximately 1,100 families in ten officially recognized, and five unrecognized villages" (Pred, 2013: 27). In addition to farmland, the concessions overlapped with thousands of hectares of grazing land, water resources and registered community forest that residents relied upon for collection of non-timber forest products during the lean months. These actions have ignited conflicts across a number of fields. Local residents are in conflict with the company over access to land for local livelihoods; conflict erupted between a major development funder and the plantation when human rights abuses were discovered and exposed through action research (Carteret, 2014), and conflicts between local residents and the bank occurred when reparations were

demanded from the funder of the sugar plantation (Baker and McKenzie, 2014). While the conflicts in this region have not yet been solved, through action research the many layers of interaction and multiple levels of conflict can be made visible through the co-production of knowledge between activists, grassroots communities, and academics attending to climate change mitigation events.

While land grabbing is underway in these countries, their governments have started to engage in land-based climate change mitigation initiatives. Cambodia has a national REDD+ Readiness–Preparation Proposal (R-PP) and several pilot projects (Ty et al., 2011), while Myanmar is developing its own R-PP but no pilot REDD+ projects yet exist (Sovacool, 2012). In parallel, crops that can be used to produce biofuels have gained ground in both countries. In most cases these can be understood as ‘flex crops’ with multiple, interchangeable uses, for example sugarcane (food, ethanol), oil palm (food, biodiesel, commercial/industrial uses), and cassava (food, feed, ethanol). With the emergence of relevant markets - or speculation of such - flex crops are on the rise in Myanmar and Cambodia, often linked to instances of land grabbing (Gregow et al., 2012; Woods, 2011).

These examples suggest that in particular places, REDD+ and land grabbing and activities undertaken in the name of mitigating climate change (including through large-scale hydropower projects justified as promoting “sustainable” energy security) are already overlapping and interacting with one another. How to respond to and address these emerging situations is not obvious and would be a challenge under any circumstances; but it is particularly challenging in institutional settings characterized by legal pluralism combined with persistent authoritarian politics, as highlighted above. Therefore, the next section proposes an analytical approach that can be potentially used for action research focused on the mechanisms and outcomes of these interacting processes. The framework is based on three pillars: a landscape perspective to elucidate relevant interactions between and within ecological and social systems; co-production of knowledge by researchers and non-academic partners, informed by human rights-based social justice considerations; and supporting action for change through multi-scale policy engagement that can contribute to minimizing or transforming resource conflicts.

3 A framework for collaborative action research

3.1 A landscape perspective

The interplay of climate change policies, land grabs and conflict can produce social and ecological spill-over effects and chain reactions, which in turn can ignite new or aggravate old sets of competing claims and conflicts over resources outside the original area. Two dimensions matter here: the social dynamics of conflict can move or spread through displacement of people and communities, while the nature of resources that are contested can also change due to ecological spill-overs (e.g. agricultural run-off, dams, concentration or displacement of activities such as hunting and fuelwood gathering). The problem with resource conflict is therefore not simply that it can erupt or escalate in a given place, but that it can move across physical and administrative boundaries, further complicating the challenge of managing conflict.

Focusing on the landscape scale can likely reveal patterns and cumulative impacts that remain invisible when smaller geographical areas are viewed separately. We hypothesize that theoretical understanding and appropriate public actions to manage conflict can be achieved more effectively by taking the landscape level as both the unit of analysis and a crucial unit of policy intervention. We recognize that the concept of a landscape can be vague; here we conceptualize it as a 'place' where physical and socio-cultural elements occur in localised, spatially specific combinations and where human actors dynamically interact. Thus a landscape is both ecologically and socially fluid and changeable, but also holds continuities (Zimmerer, 2006; Antrop, 2005). A landscape is thus a space larger than a farm but smaller than a region, in which physical, ecological and human dimensions co-exist as a product of socio-ecological and cultural co-evolution (Vacarro and Norman, 2008; Batterbury and Bebbington, 1999).

These considerations suggest, on the one hand, that the analytical boundaries of a landscape need to be defined not only according to ecological or political administrative units but through a combination of both and informed by the purpose of enquiry. On the other hand, they reveal that landscapes are heterogeneous; they include a mixture of land uses, resources and institutions at any given moment. Often they represent a 'patchwork' history of land governance and culture that has changed over time. A landscape mosaic can also be considered three-dimensionally: 'stacked' claims may be made on the same parcels of land, for example where surface and sub-surface rights are allocated separately, as is often the case where oil, gas or underground aquifers are concerned; or where complicated property relations mean that multiple people feel entitled to the same land (Roquas, 2002).

A landscape lens thus forces scholars and activists working on land-based climate mitigation activities to think holistically about how and why land and its associated ecological processes and systems (e.g. water courses, forests, pastures, mineral deposits) are altered by mitigation activities, and what are the relevant ecological and social feedbacks within and across the ecosystems, land-uses and socio-cultural domains of the landscape. The latter entails documenting and mapping how and why climate mitigation activities modify the layered informal and formal institutions that shape and inform the agency of different actors and individuals, both at present and historically.

Here, a human rights approach is crucial for highlighting the challenge of protecting and guaranteeing respect for democratic access and control of land where it exists, and promoting redistribution (or restitution) of such access and control where it is required (Franco et al., 2015b). This challenge corresponds to States' basic obligations to respect, protect and fulfill human rights, offering a powerful instrument towards securing democratic land control. While the 'human right to land' has not been internationally recognized yet, land is inextricably connected to the enjoyment of a series of human rights, such as the right to food, housing, work and the right/principle of self-determination, among others. Human rights – as expressed in international conventions or treaties – give political legitimacy to marginalized land claim-makers. In settings where national land laws fall short, rural working people can mobilize international human rights law and principles in their efforts to remedy the situation politically. This strategy can also offer a political "shield" against possible retribution from those opposed to land policy change in the direction of greater social justice.

3.2 Co-production of knowledge

Co-production of knowledge with affected communities is a core part of the research framework we propose. Our vision of co-production resonates with the three elements of Derickson and Routledge's "politics of resourcefulness" (2014: 1): i) that scholar-activists can devote academic resources at their disposal to advancing the goals of non-academic partners; ii) that research can pursue questions proposed by non-academic partners; and iii) that research should explore obstacles that hinder efforts for change. Further, we are guided by their approach to triangulating scholar-activism by iteratively reflecting on three things: "What are the current theoretical debates or intellectual questions? What publics and institutional projects are served by knowing? [and] What do non-academic collaborators want to know?" (Derickson and Routledge, 2014: 2).

The co-production of knowledge is beneficial to both sides of this research model; local NGOs and activists produce data that academics need and also need data produced by academics. For the academic researcher, grassroots connections keep present the messy process of lived experience that is crucial to avoid the pitfalls of uninformed recommendations and ahistorical analysis. Lived experience everywhere is entwined in regional, environmental, social, and historical tendrils often opaque to the outsider, but it is critical to informing policy and navigating justice. Academic knowledge-production is often, and rightly, critiqued for its inability to effect real-time transformations and to ameliorate violence within the processes studied. By connecting with grassroots activist partners, academic researchers can at once better contextualize the data gathered and can contribute to on-the-ground activist change, which of course influences the academic knowledge produced and the recommendations put forward.

For the grassroots activist, there is obvious benefit from sharing the weight of their projects with academic researchers and bringing more people with diverse skill sets into the work of social transformation. Academic research can also add historical and cross-cultural perspectives to activist programs. These can facilitate connections across regions and scales and can facilitate the constant search for better problem-solving strategies. Academic partners can also help activist organizations stay informed of international policy frameworks to which they can tie their demands – policies that tend to be poorly communicated and rarely implemented at the grassroots. The most important components of academic research for the grassroots activist agenda are the peer-review process and access to data from diverse locations that can add weight to their claims. It becomes harder for banks, governments, international development organizations, and companies to discredit the data being gathered by NGOs and grassroots organizations when they work with academic partners.

The research approach outlined here can help build capacity to address, through strategic collective action, conflicts associated with climate change mitigation and land grabbing at the landscape level. Strategic collective action begins with localized understandings of justice, based on answers to the questions: Who ought to have what rights to which resources, for how long, and for what purposes? And, who ought to decide? Clearly, the knowledge and experiences of affected people provide the basis for answering these questions. Grassroots organizations that are already active in affected communities can play a central role in

designing and conducting such action research – and in turn, participating in collaborative research can assist local communities to enhance their ongoing efforts to address conflict.

3.3 Supporting action for change

Understanding landscape dynamics and co-producing knowledge is not enough to help transform conflict situations for the benefit of the poorest and least empowered social classes and groups in society. Engaged research that seeks to influence trajectories of conflict and cooperation should aim to politically mobilize affected parties in order to influence local, national and international governance processes.

For example, until now policymakers and implementers of REDD+ projects have struggled to find ways to involve all stakeholders, adapt to national and local contexts, and address equity issues (UNEP, 2012; Corbera and Schroeder, 2011). Governments including the EU and UK have likewise expressed concern over the social impacts of biofuels, including on land rights (Renewable Fuels Agency, 2010; EU, 2009). Alliances between academics, grassroots groups and international organizations have great potential to influence policy processes such as the development of Nationally Appropriate Mitigation Action plans. However, conflict likely cannot be addressed using climate change policy frameworks alone – or on a project-by-project basis. For this reason, a key question is how intersecting policies can be more effectively integrated or coordinated.

The issue of land grabbing and ensuing conflicts around the world compelled the United Nations through its Committee on Food Security to pass the Voluntary Guidelines on Land Tenure, Fisheries and Forestry in May 2012 – and it is currently deliberating another Guideline on ‘responsible agricultural investment’. Human rights institutions, including the Office of the UN Rapporteur for the Right to Food, are actively working on this issue. Land grabbing has also prompted policy initiatives by governments, bilateral and multilateral agencies, and the corporate sector. For example, the government of Cambodia passed a moratorium on land concessions partly in admission of widespread displacement. Myanmar is currently engaged in heated debate over national land policy reform amidst a massive new surge of land grabbing. In October 2014 the Myanmar government launched what it hoped to be an extremely short public consultation on a policy that threatens to further legalise land grabbing, ignite new land conflicts, and deepen ongoing land-based ethnic conflict (TNI, 2014). The policy had been drafted largely behind closed doors. Despite seriously unfavorable political conditions and time pressures, land rights activists at all levels and from across the country quickly mobilized to try to engage with the government. This effort has led in the short term to an unprecedented degree of public debate, which in turn has opened up new spaces for land rights activists to link land policy and land conflict concerns with wider calls for peace with democracy and social justice (Franco et al., 2015a). Under intense pressure, the government has been forced back away from the original plan to rush through its land policy agenda for now, although where this will lead remains to be seen. Land tenure policies may provide an opportunity to address potential conflicts in an integrated way – but much depends on the nature of the processes through which such policies are developed.

National and international policy processes crucially contribute to socially just and sustainable arrangements and should be analyzed to identify leverage points for influencing policy and practice. Opportunities exist to feed local input ‘up’ to international processes

(such as the UNFCCC safeguards) and national processes (such as the Voluntary Guidelines implementation plans), and vice versa: to call upon these international instruments to protect local rights. Drawing on Fox (2001), we hypothesize that ‘vertically integrated’ strategies targeting power at different levels are crucial to effect change and avoid simply displacing responsibility to another level. Building capacity and creating action plans to help affected communities engage with governance and accountability mechanisms across scales are important steps in moving from research to informed action.

We recognize that, especially in fragile states, political mobilization that raises concerns about land grabs, land-use climate mitigation policies and their outcomes can be difficult and may be suppressed by the state or other powerful actors. Competition over resource control, especially land, has dominated political change and regime transitions historically in these states, leading to fluid and uncertain outcomes for the rural poor. Currently national land policies (e.g. land reform, restitution, forest management) are critical components of the conflict transformation and national political transition processes of Cambodia and Myanmar. Research that engages with land issues and policies can help influence (inter)national policies with the aim of promoting socially just and ecologically sustainable outcomes.

4 Discussion

The framework described here rests on four assumptions. First, policies that reallocate resources fundamental to livelihoods and identities are never neutral. To promote just and sustainable outcomes, they must be responsive to people’s understandings of justice, inclusive in their formulation and implementation, and matched to the scale of the problematic. Second, customary conflict resolution mechanisms are more likely to succeed when disputes are ‘internal’ to the community and disputing parties have relatively equal power and status. Disputes that cut across institutional borders require additional conflict management processes, such as when compensation deals between companies and communities are facilitated by grassroots organizations with intimate knowledge of both local communities and political processes (Hodal, 2014). Third, conventional justice mechanisms are likely to resolve conflicts between unequal parties in ways that are unfavourable to subaltern groups. Such conflicts are the most indicative of a serious social problem. Fourth, questions about control over resources are more likely to be resolved in socially just ways when collective actors attempt to make states accountable using political strategies that can shift the balance of power in favour of marginalized rural citizens. This shift can be facilitated by building the capacity of marginalized citizens, their allies, and state actors themselves. These working hypotheses underpin our proposed action-research framework.

Investigating sensitive conflicts in settings of political transition involves challenges and risks. Protecting research participants from harm requires careful planning and monitoring. Power differences within affected communities based on ethnicity, class, gender and generation must be anticipated and considered at all stages. Grassroots partners can provide crucial insight into this planning, keeping in mind that they are also situated within local social relations. A second challenge, particularly for the goal of informing improved policies, is that government actors may not be open to receiving advice on how to more effectively manage land conflicts in the context of large-scale land investments and climate change projects. Navigating relationships with various authorities, particularly where there is an uneasy history between government and civil society actors, requires nuance and flexibility.

While the challenges are great, we believe that the kind of research framework we propose can make unique contributions. First, systematic research on the intersection between climate change mitigation, land grabbing and conflict can produce knowledge of policy relevance. This approach also has the potential to generate insights on how the political economy of 'flex crops' plays out in the context of both climate change mitigation and land grabbing, an area of active ongoing inquiry. Second, instead of treating climate change initiatives and land grabbing separately, the framework presented here treats them as intertwined – but not in a cynical way that automatically equates one with the other, for example presuming that REDD+ or biofuel projects always result in 'green grabbing'. This framework offers a new approach in understanding these two clusters of development issues, and accordingly may influence both policy and practice. Finally, working with grassroots networks who are at the forefront of public actions is likely to produce important autonomy-enhancing and capacity-building (Fox, 1993) outcomes for these actors focused on building institutional spaces for pro-reform state-society interactions around resource conflict transformation.

5 Conclusions

The intersection of climate change strategies and large-scale land deals can produce social and ecological spill-over effects and chain reactions that change both the social dynamics of conflict and the nature of the resources that are contested. While the existence of multiple, competing interests and power struggles across scales would complicate this scenario under any circumstances, in settings of legal pluralism where political transitions are underway there is an extra layer of challenge: the institutions that might be able to help avoid or resolve conflicts tend to be weak or absent. We have proposed a framework based on engaged research to better understand patterns of land and resource conflict, and that strategic action is needed to manage these conflicts and promote more just and sustainable outcomes.

The examples mentioned here feature multiple climate change mitigation initiatives and land deals within the same landscape that may overlap, compete or run in parallel. Such cases are thus relatively large (spatially) and complex (institutionally); they encompass policies, land classification, land claims, community social dynamics and mechanisms for settling disputes. Our framework proposes that: 1) adopting the landscape, rather than individual land concessions, as the unit of analysis can help to capture these dynamics; 2) co-producing knowledge with affected communities is essential to inform potential responses; and 3) coordinated responses targeting policies at multiple scales are most likely to be effective. Together, these strategies can contribute to better understanding the character of land and resource conflicts as well as to transforming them through processes sensitive to ideals of social and environmental justice.

References

- Angelsen, A., Brockhaus, M., Kanninen, M., Sills, E., Sunderlin, W.D., Wertz-Kanounnikoff, S., 2009. Realising REDD+: national strategy and policy options. CIFOR, Bogor, Indonesia.
- Antrop, M., 2005. Why landscapes of the past are important for the future. *Landscape and Urban Planning* 80 (1-2), 21-34.
- Arbex, M.A., Martins, L.C., De Oliveira, R.C., Pereira, L.A.A., Arbex, F.F., Cancado, J.E.D., Saldiva, P.H.N., Braga, A.L.F., 2007. Air pollution from biomass burning and asthma hospital admissions in a sugar cane plantation area in Brazil. *Journal of Epidemiology and Community Health* 61, 395–400.
- Ariza-Montobbio, P., Lele, S., Kallis, G., Martinez-Alier, J., 2010. The political ecology of *Jatropha* plantations for biodiesel in Tamil Nadu, India. *Journal of Peasant Studies* 37 (4), 875 - 897
- Ashwell, D.A., Miller, F.R., Dummer, I., 2004. Ecology, forest cover and quality. Cambodia Independent Forest Sector Review Part II, Chapter I.
- Bailis, R., Baka, J., 2011. Constructing Sustainable Biofuels: Governance of the Emerging Biofuel Economy. *Annals of the Association of American Geographers* 101 (4), 827-838.
- Baker, R., McKenzie, N., 2014. ANZ Says No to Evicted Cambodian Farmers, *Brisbane Times*, 19 August.
- Batterbury, S.P.J., Bebbington, A.J., 1999. Environmental histories, access to resources and landscape change: an introduction. *Land Degradation & Development* 10 (4), 279-288.
- Boopathy, R., Asrabadi, B.R., Ferguson, T.G., 2002. Sugar cane (*Saccharum officinarum* L) burning and asthma in Southeast Louisiana, USA. *Bulletin of environmental contamination and toxicology* 68, 173–179.
- Borras, S.M., Franco, J., 2012. Global land grabbing and trajectories of agrarian change: a preliminary analysis. *Journal of Agrarian Change* 12 (1), 34-59.
- Borras, S.M., Franco, J., Isakson, R., Levidow, L., Vervest, P., 2014. Towards understanding the politics of flex crops and commodities: implications for research and policy advocacy, in: Program, T.I.A.J. (Ed.), *Think Piece Series*. Transnational Institute, Amsterdam, p. 16.
- Borras, S.M., Jr., Hall, R., Scoones, I., White, B., Wolford, W., 2011. Towards a better understanding of global land grabbing: an editorial introduction. *Journal of Peasant Studies* 38 (2), 209-216.
- Buchanan, J., Kramer, T., Woods, K., 2013. *Developing Disparity: Regional investment in Burma's borderlands*. Transnational Institute (TNI), Amsterdam.
- Burnham, M., Radel, C., Ma, Z., Laudati, A., 2013. Extending a Geographic Lens Towards Climate Justice, Part 1: Climate Change Characterization and Impacts. *Geography Compass* 7 (3), 239-248.
- Bustamante, M., Robledo-Abad, C., Harper, R., Mbow, C., Ravindranat, N.H., Sperling, F., Haberl, H., Pinto, A.S., Smith, P., 2014. Co-benefits, trade-offs, barriers and policies for greenhouse gas mitigation in the agriculture, forestry and other land use (AFOLU) sector. *Global Change Biology* 20 (10), 3270-3290.
- Carteret, D.d., 2014. ANZ Royal and Sugar Firm Part Ways, *Business, Phnom Penh Post*, 7 July.
- Clancy, J., 2013. *Biofuels and rural poverty*. Routledge, Abingdon, UK.

- Collier, P., Hoeffler, A., 2005. Resource Rents, Governance, and Conflict. *Journal of Conflict Resolution* 49 (4), 625-633.
- Conde, M., 2014. Activism mobilising science. *Ecological Economics* 105, 67-77.
- Corbera, E., Schroeder, H., 2011. Governing and implementing REDD+. *Environmental Science and Policy* 14 (2), 89-99.
- Corbera, E., 2012. Problematizing REDD+ as an experiment in payments for ecosystem services. *Current Opinion in Environmental Sustainability* 4, 612–619.
- Cotula, L., 2013. *The great African land grab? Agricultural investments and the global food system*. Zed Books, London.
- Creutzig, F., Corbera, E., Bolwig, S., Hunsberger, C., 2013. Integrating place-specific livelihood and equity outcomes into global assessments of bioenergy deployment. *Environmental Research Letters* 8, 035047.
- Deininger, K., D. Byerlee, J. Lindsay, A. Norton, H. Selod, Stickler, M., 2011. *Rising global interest in farmland: can it yield sustainable and equitable benefits?* World Bank, Washington DC.
- Delgado, J.A., Groffman, P.M., Nearing, M.A., Goddard, T., Reicosky, D., Lal, R., Kitchen, N.R., Rice, C.W., Towery, D., Salon, P., 2011. Conservation practices to mitigate and adapt to climate change. *Journal of Soil and Water Conservation* 66 (4), 118A-129A.
- Derickson, K.D., Routledge, P., 2014. *Resourcing Scholar-Activism: Collaboration, Transformation, and the Production of Knowledge*. *The Professional Geographer*, null-null.
- Duvail, S., Médard, C., Hamerlynck, O., Nyingi, D.W., 2012. Land and water grabbing in an East African coastal wetland: The case of the Tana delta. *Water Alternatives* 5 (2), 322-343.
- Ehrentraut, S., 2011. Decentralization and the Promise of Indigenous Peoples' Empowerment: The Case of the World Bank in Cambodia. *The Pacific Review* 24 (1), 89-113.
- EU, 2009. Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, L 140/16. *Official Journal of the European Union*, Brussels.
- Fairhead, J., Leach, M., Scoones, I., 2012. Green Grabbing: a new appropriation of nature? *Journal of Peasant Studies* 39 (2), 237-261.
- Fox, J., 1993. *The Politics of Food in Mexico: State Power and Social Mobilization*. Cornell University Press, Ithaca.
- Fox, J., 2001. Vertically Integrated Policy Monitoring: A Tool for Civil Society Policy Advocacy. *Nonprofit and Voluntary Sector Quarterly* 30 (3), 616-627.
- Franco, J. 2011.** *Bound by Law: Filipino Rural Poor and the Search for Justice in a Plural -legal Landscape*. **Quezon City: Ateneo de Manila University Press.**
- Franco, J., Levidow, L., Fig, D., Goldfarb, L., Hönicke, M., Luisa Mendonça, M., 2010. Assumptions in the European Union biofuels policy: frictions with experiences in Germany, Brazil and Mozambique. *Journal of Peasant Studies* 37 (4), 661 - 698.
- Franco, J., Kramer, T., Alonso-Fradejas, A., Twomey, H., Vervest, P., 2015a. The challenge of democratic and inclusive land policy making in Myanmar: a response to the draft National Land Use Policy. *Transnational Institute*, Amsterdam.
- Franco, J., Suarez, S.M., Borrás, S., 2015b. *Democratic land control and human rights*. Unpublished manuscript.

- German, L., Schoneveld, G.C., Pacheco, P., 2011. The Social and Environmental Impacts of Biofuel Feedstock Cultivation: Evidence from Multi-Site Research in the Forest Frontier. *Ecology and Society* 16 (3).
- German, L., Schoneveld, G.C., 2012. A review of social sustainability considerations among EU-approved voluntary schemes for biofuels, with implications for rural livelihoods. *Energy Policy* 51, 765-778.
- Ghazoul, J., Butler, R.A., Mateo-Vega, J., Pin Koh, L., 2010. REDD: a reckoning of environment and development implications. *Trends in Ecology and Evolution* 25, 396-402.
- Global Witness, 2015. *Guns, cronies and crops: How military, political and business cronies have conspired to grab land in Myanmar*. Global Witness, London.
- Gregow, K., Hemerle, K., Johansson, K., Nhampossa, D., Wolpher, M., 2012. *The Race for Land: Land grabbing, peasant agriculture and human rights*. Forum Syd forlag, Stockholm.
- Hall, J., Matos, S., Severino, L., Beltrao, N., 2009. Brazilian biofuels and social exclusion: established and concentrated ethanol versus emerging and dispersed biodiesel. *Journal of Cleaner Production* 17, S77-S85.
- Hodal, K., 2014. European Union agrees to Investigate Cambodian Sugar Industry, *The Guardian*, 10 December.
- Hunsberger, C., Bolwig, S., Corbera, E., Creutzig, F., 2014. Livelihood impacts of biofuel crop production: Implications for governance. *Geoforum* 54 (0), 248-260.
- Hunsberger, C., Ponte, S., 2014. 'Sustainable' biofuels in the global South. *Geoforum* 54 (0), 243-247.
- IPCC, 2013. Summary for Policymakers, in: Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, and, V.B., Midgley, P.M. (Eds.), *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- IPCC, 2014. Summary for policymakers, in: Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, White, L.L. (Eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability*.
- Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32.
- La Via Campesina, 2009. *Industrial agrofuels fuel hunger and poverty*, The Via Campesina Notebooks, Jakarta, p. 40.
- Larsen, R.K., Jiwon, N., Rompas, A., Jenito, J., Osbeck, M., Tarigan, A., Towards 'hybrid accountability' in EU biofuels policy? Community grievances and competing water claims in the Central Kalimantan oil palm sector. *Geoforum* (0).
- Larsen, R.K., Jiwon, N., Rompas, A., Jenito, J., Osbeck, M., Tarigan, A., 2014. Towards 'hybrid accountability' in EU biofuels policy? Community grievances and competing water claims in the Central Kalimantan oil palm sector. *Geoforum* 54 (0), 295-305.
- Le Billon, P., 2001. The political ecology of war: natural resources and armed conflicts. *Political Geography* 20 (5), 561-584.
- Le Quéré, C., Andres, R.J., Boden, T., Conway, T., Houghton, R.A., House, J.I., Marland, G., Peters, G.P., van der Werf, G.R., Ahlström, A., Andrew, R.M., Bopp, L., Canadell,

- J.G., Ciais, P., Doney, S.C., Enright, C., Friedlingstein, P., Huntingford, C., Jain, A.K., Jourdain, C., Kato, E., Keeling, R.F., Klein Goldewijk, K., Levis, S., Levy, P., Lomas, M., Poulter, B., Raupach, M.R., Schwinger, J., Sitch, S., Stocker, B.D., Viovy, N., Zaehle, S., Zeng, N., 2013. The global carbon budget 1959–2011. *Earth Syst. Sci. Data* 5 (1), 165-185.
- Mahanty, S., Milne, S., Dressler, W., Filer, C., 2012. The Social Life of Forest Carbon: Property and Politics in the Production of a New Commodity. *Human Ecology* 40 (5), 661-664.
- Martinez-Alier, J., Kallis, G., Veuthey, S., Walter, M., Temper, L., 2010. Social Metabolism, Ecological Distribution Conflicts, and Valuation Languages. *Ecological Economics* 70 (2), 153-158.
- McCarthy, J.F., 2010. Processes of inclusion and adverse incorporation: oil palm and agrarian change in Sumatra, Indonesia. *Journal of Peasant Studies* 37 (4), 821-850.
- McCarthy, J.F., Vel, J.A.C., Afiff, S., 2012. Trajectories of land acquisition and enclosure: development schemes, virtual land grabs, and green acquisitions in Indonesia's Outer Islands. *Journal of Peasant Studies* 39 (2), 521-549.
- Mehta, L., Veldwisch, G.J., Franco, J., 2012. Introduction to the special issue: Water grabbing? Focus on the (re)appropriation of finite water resources. *Water Alternatives* 5 (2), 193-207.
- Mingorría, S., Gamboa, G., Martín-López, B., Corbera, E., 2014. The oil palm boom: socio-economic implications for Q'eqchi' households in the Polochic valley, Guatemala. *Environment, Development and Sustainability*, 1-31.
- Muradian, R., Corbera, E., Pascual, U., Kosoy, N., May, P.H., 2010. Reconciling theory and practice: An alternative conceptual framework for understanding payments for environmental services. *Ecological Economics* 69 (6), 1202-1208.
- Murdiyarso, D., Brockhaus, M., Sunderlin, W.D., Verchot, L., 2012. Some lessons learned from the first generation of REDD+ activities. *Current Opinion in Environmental Sustainability* 4 (6), 678-685.
- Mustalahti, I., Rakotonarivo, O.S., 2014. REDD+ and Empowered Deliberative Democracy: Learning from Tanzania. *World Development* 59, 199–211.
- Neef, A., Touch, S., 2012. Land grabbing in Cambodia: Narratives, mechanisms, and impacts, Global Land Grabbing II conference, Cornell University.
- Newberry, D., 2014. Why are there cattle in the conservation area? Social barriers to biofuel governance in Brazil. *Geoforum* 54 (0), 306-314.
- Noam, Z., 2007. Eco-authoritarian conservation and ethnic conflict in Burma. *Policy Matters: Conservation and Human Rights* 15.
- Obidzinski, K., Andriani, R., Komarudin, H., Andrianto, A., 2012. Environmental and social impacts of oil palm plantations and their implications for biofuel production in Indonesia. *Ecology and Society* 17 (1).
- Phelps, J., Webb, E.L., Agrawal, A., 2010. Does REDD+ Threaten to Recentralize Forest Governance? *Science* 328, 312-313.
- Prado, G.F., Zanetta, D.M.T., Arbex, M.A., Braga, A.L., Pereira, L.A.A., de Marchi, M.R.R., de Melo Loureiro, A.P., Marcourakis, T., Sugauara, L.E., Gattás, G.J.F., Gonçalves, F.T., Salge, J.M., Terra-Filho, M., de Paula Santos, U., 2012. Burnt sugarcane harvesting: Particulate matter exposure and the effects on lung function, oxidative stress, and urinary 1-hydroxypyrene. *Science of the Total Environment* 437 (0), 200-208.

- Pred, D., 2013. Bittersweet Harvest: A Human Rights Impact Assessment of the European Union's Everything But Arms Initiative in Cambodia. Equitable Cambodia, Phnom Penh.
- Pye, O., Bhattacharya, J., 2013. The palm oil controversy in Southeast Asia: A transnational perspective. Institute of Southeast Asian Studies, Singapore.
- Renewable Fuels Agency, 2010. About the RTFO. <http://www.renewablefuelsagency.gov.uk/aboutthertfo>
- Ribot, J., 2014. Cause and response: vulnerability and climate in the Anthropocene. *The Journal of Peasant Studies*, 1-39.
- Roberts, J.T., Parks, B.C., 2007. A Climate of Injustice. Global Inequality, North-South Politics, and Climate Policy, First Edition ed. MIT Press, Cambridge, Mass.
- Roquas, E., 2002. Stacked law: Land, property and conflict in Honduras. Rozenberg Publishers, Amsterdam.
- Schoneveld, G.C., German, L.A., Nutakor, E., 2011. Land-based Investments for Rural Development? A Grounded Analysis of the Local Impacts of Biofuel Feedstock Plantations in Ghana. *Ecology and Society* 16 (4).
- Schut, M., Leeuwis, C., van Paassen, A., 2013. Ex ante scale dynamics analysis in the policy debate on sustainable biofuels in Mozambique. *Ecology and Society* 18 (1), Article 20.
- Shoemaker, B., Baird, I.G., Manorum, K., 2014. Nam Theun 2: The World Bank's narrative of success falls apart. *World Rivers Review* December.
- Sikor, T., Lund, C., 2009. Access and Property: A Question of Power and Authority. *Development and Change* 40 (1), 1–22.
- Sikor, T., Stahl, J., Enters, T., Ribot, J.C., Singh, N., Sunderlin, W.D., Wollenberg, L., 2010. REDD-plus, forest people's rights and nested climate governance. *Global Environmental Change* 20 (3), 423-425.
- Smalley, R., Corbera, E., 2012. Large-scale land deals from the inside out: findings from Kenya's Tana Delta. *Journal of Peasant Studies* 39 (3-4), 1039-1075.
- Sovacool, B., 2012. Environmental Conservation Problems and Possible Solutions in Myanmar. *Contemporary Southeast Asia* 34 (2), 217-248.
- Sunderlin, W.D., Larson, A.M., Duchelle, A.E., Resosudarmo, I.A.P., Huynh, T.B., Awono, A., Dokken, T., 2014. How are REDD+ Proponents Addressing Tenure Problems? Evidence from Brazil, Cameroon, Tanzania, Indonesia, and Vietnam. *World Development* 55 (0), 37-52.
- TNI, 2014. Pro-business or pro-poor? Making sense of the recently unveiled draft National Land Use Policy [of Myanmar]. Transnational Institute, Amsterdam.
- Ty, S., Sasaki, N., Ahmad, A.H., Ahmad, Z.A., 2011. REDD Development in Cambodia — Potential Carbon Emission Reductions in a REDD Project. *Formath* 10, 1-23.
- UNEP, 2012. Fifth Global Environment Outlook (GEO-5) Report. Earthscan, London.
- Urkidi, L., Walter, M., 2011. Dimensions of environmental justice in anti-gold mining movements in Latin America. *Geoforum* 42 (6), 683-695.
- Vaccaro, I., Norman, K., 2008. Social Sciences and landscape analysis: Opportunities for the improvement of conservation policy design. *Journal of Environmental Management* 88 (2), 360-371.
- Vrieze, P., 2015. Optimism and concern mark Burma's first workshop on hydropower dams, The Irrawaddy, 23 January.

- White, B., Borras Jr, S.M., Hall, R., Scoones, I., Wolford, W., 2012. The new enclosures: critical perspectives on corporate land deals. *Journal of Peasant Studies* 39 (3-4), 619-647.
- Woodhouse, P., 2012. Foreign agricultural land acquisition and the visibility of water resource impacts in Sub-Saharan Africa. *Water Alternatives* 5 (2), 208-222.
- Woods, K., 2011. Ceasefire capitalism: military–private partnerships, resource concessions and military– state building in the Burma–China borderlands. *Journal of Peasant Studies* 38 (4), 747-770.
- Woods, K., 2015. Commercial Agriculture Expansion in Myanmar: Links to deforestation, conversion timber and land conflicts. *Forest Trends*, Washington, D.C.
- World Bank, 2011. *World Development Report 2011: Conflict, security and development*. World Bank, Washington DC.
- Zimmerer, K.S., 2006. Cultural ecology: at the interface with political ecology - the new geographies of environmental conservation and globalization. *Progress in Human Geography* 30 (1), 63-78.

Notes on the Authors

Carol Hunsberger is assistant professor of geography at Western University Canada.

Esteve Corbera a Senior Researcher at the Institute of Environmental Sciences and Technology (ICTA), Universitat Autònoma de Barcelona, and a Research Associate at the School of International Development, University of East Anglia.

Saturnino M. Borras Jr. is Professor of Agrarian Studies at the International Institute of Social Studies (ISS, The Netherlands, Adjunct Professor at China Agricultural University, and a Fellow of the Transnational Institute.

Romulo de la Rosa is a Programme Officer at ICCO Southeast Asia Regional Office. His work is mainly around conflict transformation and democratization.

Vuthy Eang is an Advocate for Land and Housing Rights and the Executive Director of Equitable Cambodia (EC), an NGO based in Phnom Penh that focuses on securing housing and land rights for the urban and rural poor, including most recently assisting the Boeung Kak Lake and Rubber affected communities in seeking restitution.

Jennifer C. Franco is coordinator of the Agrarian Justice Programme of the Transnational Institute (TNI), a member of TNI-Burma team, and Adjunct Professor at China Agricultural University in Beijing.

Roman Herre is a policy adviser for land, agriculture and rural development of the German section of the international human rights organization FIAN.

Sai Sam Kham is the Executive Director of the Metta Development Foundation in Myanmar.

Clara Park is a PhD candidate at the International Institute of Social Studies in The Hague and Gender Officer with the Regional Office for Asia and the Pacific of Food and Agriculture Organization of the United Nations (FAO).

David Pred has a degree in Master of Arts in Theory and Practice of Human Rights from University of Essex. Since 2011 he has been with Inclusive Development International (IDI) as Managing Associate.

Seng Sokheng is the Executive Director of the hosting organization for CPN, called Community Development for Peace and Sustainability (CPDS). He is a human rights defender and has been representative of the Community Peace-building Network (CPN) since 2003.

Max Spoor is Professor of Development Studies, and the Chair of the Research Programme Political Economy of Resources, Environment and Population (PER) at the International Institute of Social Studies (ISS), The Netherlands.

Shwe Thein has MSc. (Forestry) from Australian National University. He is currently leading the Land Core Group (LCG) in Myanmar as a chair. The LCG is promoting land use rights of smallholders including ethnic minority and women through program including evidence-based research, land rights and land laws awareness training, legal aid and policy change advocacy.

Kyaw Thu Aung is the Director of Paung Ku, a consortium initiative designed to innovate methods for supporting Myanmar civil society. Paung Ku's work focuses on poor and marginalized communities with an emphasis on improving the delivery of services, strengthening networking and organizing advocacy projects.

Thuon Ratha is the Senior Research Officer of Equitable Cambodia, which works to transform the national development model into one that respects, protects and progressively fulfills human rights. She holds a master's degree in Sustainability Science from the University of Tokyo and is currently a PhD candidate at the Institute of Social Studies (ISS), The Netherlands.

Chayan Vaddhanaphuti received his PhD in International Development Education with concentration in Anthropology from Stanford University. He is the Director of the Regional Center for Social Science and Sustainable Development and Center for Ethnic Studies and Development at the Faculty of Social Sciences, Chiang Mai University.

Kevin Woods is MOSAIC Research Fellow for Myanmar. Currently he is a doctoral candidate at University of California, Berkeley, USA, writing his Ph.D. thesis on the political and securitization implications of large-scale agribusiness concessions in (post-) war upland ethnic areas in northern Burma. He also works for the Transnational Institute (TNI) in Burma on the intersection of land, drugs and investment.

Courtney Work is MOSAIC Research Fellow for Cambodia. Courtney holds a PhD from Cornell University in Anthropology, Her research interests include the Anthropology of Religion, Development, and the Environment; the History of Southeast Asian political formations; Contemporary Political Economy; and the study of regional flows of people and power in Southeast Asia.

Mosaic Working Paper Series

This working paper series is part of a larger intellectual and political agenda of our consortium, trying to have a better understanding of the linkages between climate change mitigation policies, land grabbing and resource conflict – and how to effect change in favour of the oppressed. We aim to: (i) Understand the interplay between climate mitigation policies, land grabbing, and conflict or cooperation in Myanmar and Cambodia, and derive relevant insights from other countries. We adopt a landscape perspective that extends our analysis beyond single plots, and a human rights perspective on tenure rights that includes security on the land as well as decision-making control over its use and management; (ii) Contribute to grassroots and civil society partners' development interventions to promote socially just and inclusive mitigation strategies and land policies and practices. Strategies will include linking local and landscape-level initiatives with national and international governance processes, and (iii) Build capacity to address, through strategic collective action, conflicts associated with climate mitigation and land grabbing. Strategic collective action begins with localized understandings of justice, based on answers to the questions: Who ought to have what rights to which resources, for how long, and for what purposes? And, who ought to decide?

Peer reviewed papers from our research work will be published in this Series. However, we also invite submission from other researchers and activists who are not part of our project to consider submitting manuscripts to our working paper series. This will enrich the critical dialogue we want to pursue. Please contact any of the consortium members, or send email to Jun Borras at junborras5@gmail.com.

