



Mapping REDD in the Asia-Pacific: Governance, marketisation and contention*

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abstract

This paper maps the sites of forest carbon market development in the Asia-Pacific region. Institutional architecture for the forest carbon market is fast developing amidst a chorus of claims that it is, or will be, a win-win-win apparatus for ecological, economic and social outcomes. However the various experiments in forest offset projects and inter-state agreements for REDD lurch forward in the midst of growing evidence of governance failure and corruption. The claimed victories and simultaneous crises of legitimacy faced by REDD initiatives in the Asia-Pacific exemplify the impacts and tensions behind carbon market extension into the world's forests. Points of contention over seminal state-led pilot initiatives as well as corporate REDD projects for the voluntary market in Indonesia and Papua New Guinea are considered as early signs of the trajectories of REDD marketisation. This review of REDD in the region opens up questions for future investigations into the shifting modes of authority that make this process possible.

Introduction

The carbon market is here. The market's expansion appears inevitable, and at the same time, highly uneven and contested. Prospects for market growth persist, albeit attenuated, since the impasse in the United Nations Framework Convention on Climate Change (UNFCCC) at Copenhagen 2009 and paltry outcomes in Cancún 2010 and Durban 2011.¹ The slow, cumbersome multilateral negotiations over climate change mitigation, particularly securing a post-Kyoto Protocol agreement, are an important

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1 In 2008, the global carbon market was estimated to be worth US\$126 billion, more than double the total market value in 2007, with a much smaller rise to US\$143 billion in 2009 (Capoor & Ambrosi, 2009; Kossoy & Ambrosi, 2010). Market growth stalled across 2010-2011 in the context of regulatory uncertainty with aggregate value at US\$142 billion over 2010 (Linacre, Kossoy & Ambrosi, 2011). The total value of the forest carbon market is US\$133 million and has more than doubled in volume riding the wave of enthusiasm for REDD offsets. It has expanded from 30.1 Mt CO₂-e exchanged in primary and secondary markets in 2009 to 74.7 Mt CO₂-e in 2010, largely from voluntary market transactions (Diaz, Hamilton & Johnson, 2011).

potential mandate for carbon market extension, as are domestic trading schemes. After three failed attempts, Australia has passed legislation for an emissions trading scheme starting July 2012. Other key OECD nations such as Japan, the United States and Canada are still debating the prospect of installing national carbon markets for climate change mitigation. There have been numerous efforts to anticipate these decisions and install the machinery for a new market in tradeable carbon rights. Outside the UNFCCC and national debates, three parallel processes are driving the market. These are located in UN agencies and the World Bank; proxy inter-state deal making; and the voluntary market initiatives undertaken by corporate and civil society actors. Market extension to include credits from forest carbon is being built on each of these interlocking fronts and has been gaining pace since 2005.

The unwieldy frontiers of this new market entail initiatives to develop so-called REDD carbon offsets. The acronym REDD refers to schemes aimed at Reducing Emissions from Deforestation and Forest Degradation in developing countries. Deforestation and forest degradation accounts for between 10-20% of atmospheric greenhouse gas (GHG) emissions (IPCC, 2007; Quéré et al., 2009; van der Werf et al., 2009), making these trends significant contributors to global climate change. In addition, forests are understood as important terrestrial 'sinks', or containers for carbon, approximately 650 billion tonnes of carbon worldwide (FAO, 2010b). REDD projects, hosted predominantly in low and middle income developing nations, are those which sequester carbon over time, by securing the continued existence of forest land scheduled for acts leading to deforestation and forest degradation such as logging, or changed land use. The projects are deemed to have a mitigating effect on future carbon emissions. Emissions reductions created through REDD projects are calculated as the difference between the project's activities and a counterfactual baseline i.e. the emissions estimated had the project not been undertaken.

Within multilateral negotiations most signs point toward the marketisation of REDD finance in some form. That is, tying all or part of REDD funding to the carbon market (Corbera, Estrada & Brown, 2010; Okereke & Dooley, 2010). Marketisation broadly refers to 'the assignment of prices to phenomena that were previously shielded from market exchange or for various reasons unpriced' (Castree, 2008: 142). In the case of REDD, marketisation entails the commodification of carbon stored in forested land which is at risk of being depleted. The purpose of carbon trading is to change the cost structure of production using a price signal.² This involves creating tradeable property rights to the carbon embedded in vegetation and perhaps soil in REDD project sites for sale on the carbon market. REDD is under the process of definitional expansion to 'REDD+' in multilateral negotiations. REDD+ activities include other forms of land use that are deemed to enhance existing carbon sinks such as changed agricultural practices

2 The epistemology behind emissions trading is environmental economics. The fundamental assumption in environmental economics is that ecological degradation and pollution is a consequence of market failure. That is, the social cost of depleting the world's forests we bear collectively is a 'market externality' not reflected in the price of goods bought and sold via the functions of competitive markets. In order to 'internalise' these costs, environmental economists suggest market-based regulatory measures be installed to redress problems such as climate change (e.g. emissions trading or pollution taxes). Emissions trading and taxation use the price signal to send information to producers and consumers.

(Campbell, 2009).³ Firms with obligations to reduce their emissions under an emissions trading scheme, or those wishing to engage in corporate social responsibility activities, may buy credits generated by REDD activities to compensate for continued emissions in their operations. In textbook terms, the right balance of supply and demand for REDD offsets in the carbon market will set a price that acts as an incentive for conservation and a disincentive for production that exploits forest reserves. This form of finance for climate change mitigation is underwritten as the most feasible course of action in the absence of adequate and consistent public funding into the future (O'Sullivan et al., 2010).

Marketised REDD is conceived in three ways by economists and policymakers: as a financial incentive for forest conservation, a least-cost measure for climate change mitigation, and a source of alternative livelihood for forest communities (Stern, 2007; Eliasch, 2008). The claim here is win-win-win in ecological, economic and social terms. This understanding of REDD offsets reflects the near consensus assumption in climate politics – that decarbonisation, economic growth, and development can be reconciled (Bäckstrand & Lövbrand, 2006). However, this new round of commodification is not easily realised. Ongoing crises of legitimacy are persistent features of the market for forest offsets (Paterson, 2010). Notably issues of regulatory design, emissions measurement and verification have been hotly debated since REDD's first formulation (Streck et al., 2008). In addition to concerns over REDD offsets being 'hot air', there is significant contention over the prospect of flooding the carbon market with cheap credits, thus undermining mitigation efforts on an aggregate international level (Karsenty, 2008; Leach, 2008). Further, it is increasingly reported that indigenous peoples and forest communities may not see the financial benefits of REDD mechanisms, and seem set to lose their already precarious hold on land tenure and sovereignty (Griffiths, 2007; Dooley et al., 2008; Cotula & Mayers, 2009; Goodman & Roberts, 2009; Hall, 2010). Finally, these issues rest against the persistent conflict involved in demarcating responsibilities for climate mitigation and adaptation between developed and developing nations. The scientific, economic, ethical and legal vagaries of forest carbon offsets are numerous, manifesting differently across political, geographical and institutional locales. REDD developments in the Asia-Pacific⁴ region demonstrate some of the most controversial aspects of REDD inside and outside formal institutional channels.

This paper is a survey of the activities instigating marketised REDD in the Asia-Pacific region. It considers key victories and failures claimed by carbon market proponents and their antagonists respectively. I identify the modes of authority establishing REDD as a carbon offset, and the central points of contention over REDD's implementation. Processes of governance and legitimation are of interest here. Governance of human affairs is broadly understood as an ongoing process, inclusive of, and 'beyond' the actions of nation-states:

3 For simplicity's sake I refer to REDD, not REDD+.

4 Defined here as those nations lining the Pacific Ocean which are east of Myanmar and south of Japan.

Governance is the sum of many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest. (Commission on Global Governance, 1995: 2f)

Carbon markets as a form of climate governance includes the shaping of governing rules and norms via implementation of market activities by actors not vested with 'formal authority' (Rosenau, 2002; Okereke, Bulkeley & Schroeder, 2009). Importantly, contestation over the legitimacy of governing authorities is constantly in play in the process of carbon market creation (Paterson, 2010). The marketisation of REDD is reflective of an 'ongoing dynamic of legitimation and delegitimation as norms and institutions vie for legitimacy within the wider institutional contexts' (Bernstein, 2005: 162).

There is a heterarchy of institutions and actors involved in negotiating the governance of market-based REDD and its ongoing crises. The degree to which order and coherence can be construed in the array of institutional and political practices is an ongoing point of tension for governance scholars (Dingwerth & Pattberg, 2006). Rather than ask quantitative questions about the order or disorder in political and social processes, I begin by recognising ongoing fragmentation of REDD governance and its marketisation. The data presented here shows that this fragmentation plays out in the crises and failures of REDD. The term governance failure focuses on the process of decision-making and range of institutions involved in the (mis)-management of a problem (Jessop, 2000; Bakker et al., 2008). It is used here to think through the multiple and potentially conflicting forms of authority behind REDD marketisation. This paper considers the responses of REDD advocates to various conflicts which have emerged in sites of REDD implementation. REDD market failures must be understood by reference to the full configuration of actors and institutional architectures involved in the marketisation of REDD.

Social and political science analyses of REDD should establish the links between the hybrid and multi-scalar governance of REDD inclusive of its marketisation, and the impacts and outcomes of this dominant vision for REDD. The current scholarship on REDD spans a range of disciplines concerned with the viability of REDD as a means to mitigate greenhouse gas emissions. Scholars and practitioners have queried the technical aspects of REDD (Gaveau et al., 2009a; Gaveau et al., 2009b); outlined governance challenges in host developing nations (Phelps, Webb & Agrawal, 2010); critically appraised the role of international institutions (Dooley et al., 2008; Griffiths, 2008); as well as uncovered the implications of inter-state negotiations and various cultural and domestic influences in deciding the legal structure of REDD (White & Martin, 2002; Fry, 2008; Lyster, 2010b, 2010a). However, to date no account has been provided of the full arrangement of organisational forms working to extend the carbon market into forest offsets. Nor has there been attention to how these diverse forms of authority have dealt with the ongoing questions about REDD's viability. This is a large task given the range of intersecting programs, organisations and actors with an interest in REDD. By offering this map of the efforts to develop forest carbon offsets this article

seeks to open up questions for critical scholarship into carbon market extension into REDD credits.

The first section introduces the raft of intersecting organisational and regulatory forms promoting, and indeed installing market-based REDD in the Asia-Pacific. The second and third sections of this article discuss four case studies from Indonesia and Papua New Guinea. Data is taken from policy documents, annual reports, online media and public statements of key actors and organisations.

REDD frontiers

The Asia-Pacific region is host to 18.6% of the world's forest area, consisting of a variety of ecosystems including temperate and tropical forests, coastal mangroves, mountains and deserts (FAO, 2009: 12). These have immense importance for biodiversity conservation, forest and indigenous community livelihoods, and play numerous roles in eco-social stability such as being vital watersheds warding against soil erosion and increased flooding. The causes of deforestation and forest degradation are complex and interwoven, varying across and within geographic regions. Key proximate factors (immediate actions at a local level) causing deforestation and forest degradation have been grouped along the following lines: agricultural expansion, wood extraction and infrastructure extension (Geist & Lambin, 2002). These in turn are driven by underlying macroeconomic, institutional and policy trends, each with highly variable impacts (e.g. fluctuations in agriculture prices, but also external debt, foreign exchange rate policy and trade policies over sectors linked to deforestation) (*ibid.*; Kanninen et al., 2007).

Commercial logging has been the greatest proximate factor to tropical forest degradation in the Asia-Pacific (Dauvergne, 1998, 2001). The rate of deforestation in the Asia-Pacific nearly doubled across the 1980s. By the 1990s the volume of original forests in most nations became a fraction of their original state. Indonesia has the highest rate of deforestation in the world (FAO, 2010b). The majority of logging in Indonesia, and PNG is considered unsustainable and illegal (Shearman et al., 2008; Shearman et al., 2009; Lawson & MacFaul, 2010).

In addition, a key proximate cause of deforestation throughout the region is agricultural expansion for industrial and food crops, which in turn are related to increasing global demand for biodiesel, foodgrain and cash crops such as rubber, sugar cane and coffee (Wertz-Kanounnikoff & Kongphan-Apirak, 2008). Particularly in southeast Asia, establishment of large-scale pulpwood and oil-palm plantations to meet demand for pulp in China and crude palm oil in Europe have been underlying factors (Kanninen et al., 2007). Over the last three decades, the total area of land allocated to cultivate oil palm has increased more than threefold worldwide, reaching nearly 14 million hectares in 2007 (Sheil et al., 2009: 1). Most of this expansion has occurred in Indonesia (*ibid.*).

Finally, governance of the forestry industry, weak law enforcement, and land tenure are themselves considered to be bound up with drivers of deforestation (Eliasch, 2008). Unclear land tenure and land use rights underlie degradation, as forest-dependent

peoples often do not have autonomous power to manage land sustainably over the long term. In a survey of 25 of the world's most forested nations, 67% of forest resources in the nine Asia-Pacific nations included are currently state owned (China, Australia, Indonesia, India, Myanmar, Papua New Guinea, Japan, Thailand, and Cambodia) (RRI, 2009). Variation of tenure across the region is great. Government landownership ranges from 100% in Myanmar to 3% in PNG (White & Martin, 2002).

Indonesia and Papua New Guinea (PNG) are now currently host to the largest tracts of intact tropical forest, largely due the volume of original forests prior to intensive extraction. These remaining forests have emerged as new frontiers in a regime characterised by a frantic search for 'least cost' solutions to global climate change. The political and ecological importance of the Asia-Pacific region to the climate regime is widely recognised (ADB & RECOFTC, 2010; FAO, 2010a). Through measures to avoid deforestation and forest carbon stock enhancement, the region is estimated to have the potential to contribute approximately 40% of the total global REDD activities (ADB & RECOFTC, 2010). Economic analyses by the transnational consultancy firm McKinsey have built the economic case for REDD as an inexpensive program for climate mitigation, although not without criticism. Based on an opportunity cost analysis, the McKinsey Report (Naucler & Enkvist, 2009) estimated 2 gigatonnes (gt) of CO₂-e could be reduced globally from 'slash and burn' agriculture conversion at a cost of less than €2 per tCO₂-e (pp. 120f). Using the same cost-curve, the Indonesian National Climate Change Council estimated that stopping forest conversion to smallholder agriculture is the single largest opportunity for abatement at slightly more than 190 Mt CO₂-e, achievable at US\$1 per tCO₂-e (NCCC, 2010). These models have been questioned. Critical reports have highlighted the lack of accuracy in the modelling, including erroneous baseline assumptions, misrepresentation of the causes of deforestation, exclusion of transaction and implementation costs, governance challenges, and under-valuation of non-market activities such as subsistence farming (Dyer & Counsell, 2010; Greenpeace International, 2011). McKinsey has also been employed by the PNG government to plan REDD development.

A hive of activity in the region on a number of institutional fronts is underway in anticipation of the prospect of 'least cost' abatement through REDD offsets. The political processes behind REDD are moving at great pace, on multiple scales and through politically and ecologically diverse sites. Four key institutional and political drivers are shaping the marketisation of REDD: the UNFCCC process; bilateral partnerships; programs devised by inter-governmental organisations; and voluntary market projects undertaken by private entrepreneurs and NGOs. Table 1 represents these interlocking, and in many respects unwieldy fronts of REDD market formation. Each dimension is contingent upon, and informs the others in complex ways, rescaling and regearing the political economy of Asia-Pacific forests.

In one sense, the mandate for carbon market extension into REDD credits needs to come from above. Without a mandate through the UNFCCC, demand for the supply of offsets will drastically reduce. A fundamental normative plank upon which the carbon market has been built is the UNFCCC, and Kyoto Protocol, which is, among other things, a framework for inter-state emissions trading. The ongoing negotiation of a Post-Kyoto agreement is tenuous. Nevertheless, negotiations over the future structure for

REDD are a point of departure from the disarray of negotiations. Cooperative activity around a future UNFCCC-auspiced REDD framework is the one thing stakeholders in multilateral negotiations seem most willing to embark on together.⁵ The intent is to arrive at an international regulatory apparatus to install and govern REDD measures for emissions abatement. This process is slow moving. REDD negotiations stalled in Bangkok April 2011, and a comprehensive REDD agreement which includes design of the funding mechanism is not likely at the UNFCCC meeting in Durban.

Deep-seated disputes continue alongside the edifice of goodwill within official interstate negotiations. Themes in the deliberation concern the source, volume and vehicles for North to South REDD finance, technological support for monitoring, reporting and verification (MRV), safeguards to protect rights of local communities, future emissions reduction responsibilities for developing nations, definitions of what will count as sanctioned REDD activities and on what scale – national or subnational (Fry, 2008; Lyster, 2010b). These are seen as technical and political questions for state actors and the ever growing community of corporate and civil society agents invested in the prospects for market extension into REDD credits. Each question about the viability of REDD is vital for its economic, ecological, and social success as an addition to the carbon market.

Parallel to the UNFCCC bilateral partnerships channelling climate finance toward REDD pilot projects and capacity building are proliferating across the Asia-Pacific region. Key donors in the region are Norway, Japan and Germany (see Intergovernmental Taskforce REDD+ Partnership, 2010). Bilateral aid donations are the major source of climate finance dedicated to REDD activities in the region, outstripping World Bank and UN funds. The core activities from these funds are described as governance support and in some instances used to develop pilot REDD projects in partnership with local government agencies, NGOs and in some cases corporate partners (Australia and Germany have pilots underway already). Norway has emerged

5 Measures for avoided deforestation and forest degradation were not included in the 1992 UNFCCC document, the Kyoto Protocol in 1997 or the Marrakesh accords in 2001. In 2005, Costa Rica and PNG put in a submission on behalf of the Coalition for Rainforest Nations (CfRN) proposing that countries who succeeded in reducing rates of deforestation from baseline rates should be rewarded with financial incentives such as tradeable carbon credits (UNFCCC, 2005). This was a primary driver behind the renewed multilateral support for inclusion of REDD into the UNFCCC. The 2007 Bali Action Plan, negotiated in the order of creating a shared vision for the post-Kyoto agreement, proposed consideration of ‘policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries’ (UNFCCC, 2007). In the meantime, the Subsidiary Body for Scientific and Technological Advice (SBSTA) has been charged with drafting methodological guidelines. Proposals for REDD have been developed through the UNFCCC Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA). The AWG-LCA is the process of creating a new legal arrangement for international cooperation over climate change. The design and progression of REDD mechanisms in the AWG-LCA, is a ‘tripping point’ in the multilateral process. REDD is at the centre of a constellation of political barriers and bargaining chips that nations must eventually fit together in agreeing on the form and nature of mitigation strategies (Jinnah et al., 2009: 1). As a potentially large source of low-cost offsets REDD may play a role in coaxing the United States and reluctant Annex I nations into stronger emissions reduction targets in the parallel Ad Hoc Working Group on Further Commitments by Annex I Nations (AWG-KP) (*ibid.*).

as the largest donor for REDD development, with a US\$1 billion commitment via the Norway-Indonesia REDD+ Partnership announced in March 2010 at the Oslo Climate Forests Conference. There are approximately 79 REDD projects being undertaken by a variety of project developers in the Asia-Pacific, 35 of which are funded in total or partially by development aid. Twenty of the aid funded projects are hosted in Indonesia, with an additional 18 from projects developed by corporate actors and NGOs alone. Total commitments from bilateral donors to Indonesia are between US\$2 billion and US\$2.7 billion (Wood, 2010). The next largest host of REDD projects is PNG which has ten projects all for the voluntary market. Four of these have been pledged a small amount of funding from Australia.

Key intergovernmental programs in operation are the World Bank Forest Carbon Partnership Facility (FCPC) and UN-REDD Programme. These IGOs are also secretariats for a multilateral state partnership to build consensus over REDD outside the UNFCCC. The REDD+ Partnership was established in April 2010 at the Oslo Forest Climate Conference. The Partnership is a political alliance of 71 nations seeking to implement REDD via an 'interim platform' for REDD pilot activities and leveraging finance. REDD market extension through intergovernmental organisations (IGO) such as the World Bank and UN are prompting a new round of state reform in developing nations. The activities of these IGOs are facilitating a variety of new agencies and legislative changes to make way for REDD in host nations. Nations enlisted in REDD programmes appear to be in the process of re-centralising forestry governance under federal government authority, regearing governance toward monetizing forest carbon (Phelps, Webb & Agrawal, 2010).

At the frayed edges of state and inter-state institutions, carbon market entrepreneurs have long been installing market infrastructure, embarking on projects of self-regulation and developing offset projects for the voluntary carbon market. On the back of state commitments to REDD established from 2005, a tide of voluntary forest offset projects has emerged in the region. Table 1 lists the number of projects submitted for verification to certification agencies. Behind these initiatives are corporate and civil society project developers.⁶ Many of these companies are Australian in origin, including firms involved in ongoing controversy about their activities (e.g. Carbon Conservation, Carbon Planet, Rainforest Management Alliance, and Shift2Neutral). What is most striking in these cases is the claimed connection to UNFCCC and national REDD programs project developers use to frame their activities. These links and contestation over these projects in Indonesia and PNG are discussed below.

An introduction to the frontiers of REDD market formation has been given here. REDD developments are typical for the increasing fragmentation of climate governance (Bäckstrand, 2008; Biermann et al., 2009). In the configuration of these initiatives, there is a self-organised steering of multiple agencies operationally autonomous from one another, yet structurally interdependent (Jessop, 1998). Carbon market installation as a result is being established in an unruly fashion. This has dampened the hopes for

6 Data was taken from national government, World Bank and UN agency websites. Information regarding voluntary market REDD projects underway was derived from voluntary standard registries detailing the progress of projects applying for verification.

globally integrated markets. Top-down carbon market design and implementation is considered by Christian Flaschland and colleagues to be the benchmark for ecologically effective and 'least cost' outcomes (Flaschland et al., 2010). They consider bottom-up initiatives to be plagued by limitations in environmental effectiveness and legitimacy. However, the political process behind REDD marketisation illustrates that this is a near impossibility. In considering the prospects for market integration, it seems that at best the future of the market will entail cooperative fragmentation and at worst, markets will be siloed in disjointed schemes (Flaschland et al., 2010). Rather than asking questions about the likelihood of coordination here, I wish to explore the disordering logics of the carbon market. It seems that the instabilities, contingencies and uncertainties in market extension into REDD credits are the means through which the market is 'governed' (Pellizzoni, 2011). Rather than buckle under the weight of barriers to market extension into REDD, entrepreneurial initiatives continue to thrive in the indeterminate context of creating a viable market in forest carbon. The picture of REDD developments in the Asia-Pacific is uneven, manifesting differently across various sites and institutional forms. To gauge the impacts and points of contention over these developments on the ground, I discuss four case studies below.

Forest carbon in Indonesia: Contestation and shifting modes of authority

In this section I explore the role of differing agents in the process of market extension into REDD credits with reference to the seminal REDD pilots hosted in Indonesia. This is done through a discussion of two REDD pilots: the Kalimantan Forests and Climate Project (KFCP) and Ulu Masen REDD Demonstration project. The case studies illustrate dynamics at play within and between the various frontiers of REDD marketisation. Further, this analysis shows the role of bilateral partnerships and private actors in promoting REDD schemes, and explores the ways in which contestation over these schemes has contributed to problems in the negotiation of market governance and viable implementation.

As part of the Australian International Forest Carbon Initiative (IFCI) funds have been used for demonstration activities in preparation for participation in international carbon markets. The IFCI is a pledge of AU\$273 million to Indonesia and PNG. Though it is a small amount of money compared to some larger European donors, the Australian program is of political significance in the process of pursuing marketised REDD. The IFCI is explicitly intended to anticipate the marketisation of the pending UN framework on REDD. A REDD pilot project in Indonesia is being developed to validate a market-based approach to financing (DCC, 2008b). The submission by Australia and Indonesia to the UNFCCC states:

[The KFCP] trials innovative, market-oriented approaches to REDD financing and REDD implementation measures. Australia and Indonesia will provide lessons learned from the KFCP into the UNFCCC negotiations on REDD. (UNFCCC, 2008)

Table 1. Frontiers of forest carbon market formation

	Multilateral negotiations	Bilateral partnerships	IGO-led capacity building	Host state regulatory initiatives	Voluntary market
Sites	UNFCCC SBSTA AWG-LCA AWG-KP Copenhagen Accord High Level Advisory Group on Climate Change Financing (AGF) UN Permanent Forum for Indigenous Peoples	International Forest Carbon Partnership (Australia 2007) Indonesia-Australia Forest Carbon Partnership (2008) PNG-Australia Forest Carbon Partnership (2008) International Climate Initiative (Germany 2007) Norway-Indonesia REDD+ Partnership (2010) Hatoyama Initiative (Japan 2009) Climate Change Loan Program (France)	Biocarbon Fund (2004) Global Environment Facility Sustainable Forest Management and REDD+ Program (2007) World Bank Forest Carbon Partnership Facility (2008) World Bank Forest Investment Program (2008) UN-REDD Programme (2008) Asia Development Bank Carbon Fund (2008) World Bank Partnership for Market Readiness and World Bank Carbon Fund (2010) Interim REDD+ Partnership (2010)	Indonesian National Carbon Accounting System and Indonesian REDD+ Task Force (2010) PNG Office of Climate Change and Environmental Sustainability (OCCES) Cambodia Technical Working Group on Forestry & Environment (TWG F&E) Philippines Climate Change Commission Lao PDR REDD+ Office and REDD+ Taskforce Cabinet Committee on Climate Change National REDD+ Network and REDD+ Working Group National Advisory Committee on Climate Change	18 projects in Indonesia 6 projects in PNG 5 in Cambodia 5 in Philippines 2 in Lao 3 in Malaysia 1 in Vietnam 1 in Vanuatu
Actors	States, experts, civil society	Federal and provincial state agencies, research institutions, NGOs and corporate partners	IGOs and state agencies, NGOs	Federal and provincial state agencies	Corporate and civil society organisations, provincial governments
Core Activities	Negotiating an unanimous international agreement for a UNFCCC auspiced REDD framework	Pilot REDD+ projects convened by officials from host and donor states with civil society and corporate partners. Often planned for sale on voluntary market first.	Trustees for institutional capacity building grants and future payments for REDD+ VEMs generated (funding from ODA and additional climate finance)	Install new national and provincial governance architectures for REDD+	Projects developed for sale in the voluntary carbon market (some claimed to be developed as pilot projects for future UNFCCC REDD framework)
Political agency	Parallel forums for post-Kyoto agreement, long-term cooperative action and REDD methodologies	Grants for institutional capacity building (funding from ODA and additional climate finance)	Institutional learning: coordination and verification of REDD readiness programmes	Forestry departments in making commitments to governance reform	Design and implementation of new standards, verification before sale
	Top-down mandate for market extension	Kick start for forest offsets	Global managers of forest carbon	Laissez faire eco-development	Bottom-up market entrepreneurs

The KFCP Partnership (AU\$47 million) is jointly administered by the AusAID and the Australian Department of Climate Change and Energy Efficiency (DCCEE), with a range of private and public partners involved in implementation.⁷ The World Bank acts as a financial intermediary for a small amount of funding with \$8.7 million to provide 'performance based payments to beneficiaries' (World Bank, 2010). Across 2009-2012, project development is planned to enable access to the voluntary carbon market (phase III) before integration into the anticipated Post-Kyoto compliance regime under the UNFCCC (DCC, 2008a).

The KFCP aims to avoid deforestation, reforest and re-flood approximately 100 000 hectares of degraded peat swamp forest in Central Kalimantan. The site for the KFCP is a small section of the former Mega Rice Project which aimed to convert one million hectares of peat swamp forest to rice paddies in 1996-1998. It was a failed attempt by President Suharto to realise self-sufficiency in rice production for Indonesia with significant ecological consequences such as increased forest fires. Approximately 9,000 people live on the project site, most of whom are Ngaju Dayak in 12-15 villages along the Kapuas River who use the land for food crop and rubber cultivation, harvesting timber, non-timber forest products, and fishing (Australia Indonesia Partnership, 2009). The logic of the project as expressed by AusAID officer Neil Scotland is typical of representations of REDD:

What we hope to achieve is a win-win situation where we achieve emissions reduction targets but also improve local livelihoods through support for improved farming practices and the potential to generate incentive payments through REDD. (interviewed by Allard, 2009)

The likelihood of these outcomes occurring has been put into question. The Aliansi Rakyat Pengelola Gambut (ARPAG) and Yayasan Petak Danum Kalimantan Tengah (YPD) have worked in partnership with the national environment organisation Wahana Lingkungan Hidup Indonesia (WALHI) and Friends of the Earth Australia to contest the project since 2009. In 2009 the groups released statements and a report criticising the project as a means for the Australian government to establish marketised REDD, and as a potential threat to livelihoods and rights of local people to access natural resources (ARPAG, 2009; Goodman & Roberts, 2009; Mann & Surya, 2009).

The debate over this project entered a new phase in November 2010 when YPD and WALHI activists visited Australia to build a campaign against the project with Friends of the Earth Australia. The tour consisted of public meetings and lobbying, where the groups aired criticisms of the KFCP and its implementation to parliamentarians, policymakers and NGO staff involved in the project (Dehm, 2010). Since then, YPD has sent an open letter to the Australian officials convening the KFCP (YPD, 2011). They claim that the project threatens community access to resources for livelihood; that through collaboration with the national government, the project exacerbates ongoing

7 Palangkaraya University, Wetlands International, Borneo Orangutan Survival Foundation (BOS), CARE, and World Wildlife Fund for Nature (WWF). When the project was first announced by the Howard government in 2007 BHP Billiton was a founding partner (AusAID, 2007). The company's affiliation is no longer clear.

tensions with the Indonesian government over land tenure and the rights of the Dayak people; that the free and informed prior consent has not been secured by NGOs involved; finally, they point out that the climate mitigation outcomes of this project are questionable. Other NGO researchers have reported that palm oil firms have been illegally clearing land in Central Kalimantan in a nearby moratorium zone established under the Norway-Indonesia REDD+ Partnership (EIA/Telapak, 2011). This highlights the persistence of illegal deforestation in Indonesia, and the potential for local and national carbon leakage. In response to the YPD letter AusAID stressed that extensive community consultation has been undertaken as part of the KFCP to incorporate community views into the design and implementation of the project. They further stress that the Australian government 'will not receive any tradable carbon credits from the project' (Australian Embassy Jakarta, 2011).

The latest development in contention over this project has centred on conflicting statements in June and July 2011 from 25 *mantir adat* (custom keepers) from the Kapuas District who first criticized the KFCP, and then issued a second statement declaring the previous one is not true (AMAN Kalteng, 2011; Lang, 2011). Like the YPD statement, first letter of the *mantir adat*, calls to halt project implementation until land resource access is guaranteed, and complex issues of land tenure are resolved. The circumstances of the changed position are unclear. This conflict highlights the ways in which REDD implementation risks adding confusion to the already complex situations of unresolved land tenure and customary rights (Galudra et al., 2010).

An equally contentious, but internationally revered REDD project in Indonesia is the Ulu Masen Project in Aceh Province north of Sumatra. It has been under development since 2007. The Ulu Masen Project was instigated by carbon trading company Carbon Conservation in partnership with Flora and Fauna International, Oxfam and the Sumatran governor Irwandi Yusuf. It is the first in a range of REDD projects developed for the voluntary market which have been embarked upon across Indonesia. The project seeks to reduce deforestation by 85 percent, avoiding 3.3 million tonnes CO₂-e/year over 30 years, and provide alternative livelihoods to loggers and communities in the region (CCBS, 2007). Value estimates for the project are US\$432 million over the 30 year period (Asian Green Governors Roundtable, 2009). Merrill Lynch (now Bank of America) pledged a US\$9 million investment into the project over four years, however the status of this finance is uncertain (Mattioli, 2008; Lang, 2010a).

Since submitting for validation through Climate, Community and Biodiversity Alliance Standards (CCBS), it was awarded silver rating, missing out of the gold standard due to inaccuracies in methodologies for evaluating deforestation rates and level of forest cover, and failure to demonstrate adequate means to alleviate risks and distribute benefits to communities (Smartwood, 2008). In its short history, criticisms of the project have come from many corners. Conservation scientists have brought into question the capacity of this project to halt pressures on oil palm plantations in Aceh and note that a large area in the project region is protected de facto due to inaccessible terrain (Gaveau et al., 2009b). Nearby, but outside of the project boundaries, new roads are under construction and oil palm companies are converting lowland forests into oil palm (*ibid.*). The scientists are also concerned with carbon leakage, criticising the project-level scale of REDD as opposed to a whole-of-landscape approach.

Like the KFCP, contention over consultation and complex issues of customary rights has occurred in the Ulu Masen Project. Community consultation has been shown as rushed and incomplete (Clarke, 2010; Gené & Aliadi, 2010). Legal analysis has revealed that new REDD regulation and the state's rights of control have subordinated the existing system of *adat* (custom) land tenure in Aceh (Dunlop, 2009). The Aceh Civil Society Forum for Sovereignty of the Mukim have since protested the project on the basis of it being an elite initiative with poor consultation, and that land tenure rights have not been resolved (McCulloch, 2009; Acehnese Civil Society Forum for the Sovereignty of Mukim, 2010). Among other concerns, WALHI (2009) has questioned the over-emphasis on monitoring, dispute and conflict resolution and the heavy-handed means of land surveillance. The project developer reported that the project site will be guarded by 1000 heavily-armed former Free Aceh rebels (ABC, 2008).

However, it seems with contention also comes aggrandizement. Dorjee Sun, CEO of the Australian company Carbon Conservation was lionised in the film *The Burning Season* (2009) directed by Kathy Henkel, and listed among Time Magazine's (2009) *Heroes of the Environment* that year. In these public displays, a responsabilisation of the market is evident. The story of Sun told in the film is one of hope and determination wherein his persistence in lobbying state officials and funders on either side of the Pacific is couched in highly moral terms, as is the benefits to a local farmer starring in the film. Moralisation of economic action accompanies the economisation of the political (and ecological) (Shamir, 2008). Again WALHI contested this film and their representation in it. Members of WALHI were included in the film but no mention of their opposition to REDD as a carbon offset or the risk to land rights of indigenous and forest dependent people was mentioned (WALHI, 2009). This controversy illustrates the ways in which representation is central to the legitimisation and contention over REDD.

In more political economic terms, the origins and continuation of these projects can also be understood in terms of the relationship between the voluntary and compliance carbon markets regulated by state and international bodies (e.g. the European Commission and the CDM Executive Board). Overall, the voluntary carbon market holds only a fraction (1%) of the value of the compliance market (Hamilton et al., 2010). The voluntary market runs parallel to the CDM and JI offset schemes which are attached to the UNFCCC Kyoto Protocol. It preceded compliance emissions trading schemes with beginnings as early as 1989 when the first offset deal was brokered by AES Corp invested in an agro-forestry project in Guatemala (Bayon, Hawn & Hamilton, 2007: 11). The voluntary market generates carbon credits through a range of project types including methane capture, renewable energy and soil sequestration. Forest carbon offsets are 24% of market transactions (Hamilton et al., 2010). Its regulatory structure is much less centralised, uniform and is dispersed across a range of private regulatory programs compared to governance of the CDM and JI markets (Bumpus & Liverman, 2008). Emissions abatement credits (Verified Emissions Reductions, VERs) produced from voluntary projects are sold directly to companies and individuals seeking to make their activities 'carbon neutral'.

At the same time, however, public authority is entwined in the voluntary offset market. Voluntary offset projects are testing grounds for REDD marketisation as seen through the plans to produce credits from the publically funded KFCP for sale on the voluntary

market before transitioning to the UN-compliance market project developers hope for. The voluntary market is also in many respects shaping the form of compliance markets. For instance, the UK, US and Australian federal governments have each developed carbon offsets standards citing voluntary market standards in their methodologies. Standards offered by CCBS, Social Carbon, Plan Vivo, VCS and American Carbon Registry Forest Carbon Project Standards are all likely to influence the development of legally binding standards for REDD offsets within the UNFCCC (Lyster, 2010b). Newly developed REDD+ Social and Environmental Standards by CCBS and Care International tabled for public review in July 2010 are central to the legitimisation of most REDD pilot projects that are under development through the KFCP project (CARE, 2010b, 2010a). Voluntary efforts at market regulation serve as mechanisms for extension into compliance carbon markets. These are quite explicitly a legitimisation exercise for market actors, particularly in the case of those with an interest in forest offsets (Aalders & Hamilton, 2009). Legitimation in other words is an accumulation strategy (Paterson, 2010).

The case studies highlight a complex relationship between public and private authority in the implementation of REDD. It also exposes the different parts of civil society involved including professionalised NGOs working to develop projects, teams of researchers weighing in on debates over REDD policy, and project design and implementation, as well as social movement organisations pushing back against REDD marketisation.

Forest carbon in PNG: Confusion, consignments and signs of collapse

The disputes over REDD offset programs in PNG highlight similar, and some distinct issues in regard to the actors and institutions involved in marketisation. Stark instances of corruption have emerged through the reporting of journalists and civil society in the nation. Two projects subject to criticism are detailed here. These examples are discussed in terms of the explanations we might explore over the nature of REDD governance failure.

PNG was a founding member of the Coalition of Rainforest Nations (CRFN) formed in 2005 at the COP11 and has been actively involved in securing financial compensation for REDD programs in the UNFCCC. The nation is host to a number of REDD pilot projects, and set up an Office of Climate Change and Environmental Sustainability (OCCES) on the 15th May 2008 to anticipate REDD developments. However, due to controversy surrounding these projects, the PNG national government has distanced itself from projects initially pegged as official pilot models. A host of media reports have shown carbon trading entrepreneurs and local government officials have been fraudulently securing carbon rights to forest land.⁸ The April Salomei Sustainable Forest Management and Kamulo Doso projects have created confusion and contention

8 For voluminous information about REDD market developments in PNG, see Chris Lang's reporting at <http://www.redd-monitor.org/category/countries/papua-new-guinea/>, Illya Gridneff's reporting with AAP, and Natasha Loder's blog at <http://natashaloder.blogspot.com/>.

amongst communities involved. The PNG government has responded with patchy reproach of these activities and dismissed their status as official REDD pilots. As a result, the REDD agenda in PNG has shifted to project development for the voluntary carbon market.

Carbon trading firms have from the first moment operated in close quarters with PNG government officials, securing guarantees for project investments. For example, James Kond, the vice-president of PNG's ruling National Alliance (NA) party, allegedly liaised with Australian businessman Kirk Roberts and the firms Carbon Planet, Nupan and Forest Top over future projects. In April 2008 James Kond signed a Memorandum of Agreement with Forest Top, Roberts, and Nupan, assuring '10% of the net cash flow generated from carbon credit sales' (Gridneff, 2008). Documents obtained by AAP show the money came from Carbon Planet through the Hong Kong-based company Forest Top, that then paid a number of entities including Australian Roberts and his PNG company Nupan and Kond (Gridneff, 2009a). *The Economist* (2009) reported that as early as 3rd November 2008, the OCCES had pre-emptively issued up to 39 'credits' for 1 million tonnes of carbon, in anticipation of the pending UNFCCC REDD mechanism. Among these credits were agreements for the Kamula Doso REDD project developed by the Australian firm Carbon Planet and Nupan and the April Salomei Project developed by Rainforest Management Alliance (RMA) to be undertaken as official REDD pilot projects.

Controversy over the Kamula Doso project was brought to international attention in 2009. Kirk Roberts became known as a 'carbon cowboy' – a popular nickname for carbon trading dealers (Al Jazeera, 2009). Roberts has been accused of coercing local communities into signing contracts. One report about the project included a member of a local landholder group who claim he was forced to sign documents at gunpoint (SBS, 2009). The man in question, Abilie Wape, director of Tumu Timbers Limited, later retracted his statement saying the Australian news company had in fact bribed him to make these claims (PNG Post-Courier, 2010). Brian Thomson, SBS TV Senior Correspondent denied claims about bribing in the Post-Courier (Lang, 2010c). Nupan has submitted a project document for voluntary market accreditation of Kamula Doso. In the public commentary section of the CCBS website a petition signed by fifty ILG chairmen of the Kamula Doso states that landowners were not consulted and consent claimed is fraudulent. Emotions run high over the prospect of the project, the group declares: 'We do not wish to hand over our inalienable rights and future prosperity to rich white criminals who only wish to exploit [sic] what is rightfully ours' (Powe, 2010). Questions of coercion aside, the project development is occurring in spite of an ongoing court injunction preventing carbon trade project development as well as a land dispute in process over the Kamula Doso forest (Papua New Guinea EcoForestry Forum, 2009; Greenpeace, 2010).

The April Salomei Forest Management Project in the Hunstein Range is no less controversial. The project is being developed by Rainforest Management Alliance (formerly EarthSky). Theo Yasause director of OCCES endorsed EarthSky as potential

investors. Yasause also recognized a landowner company⁹ Hunstein Range Holdings Ltd. as representative to act on behalf of the landowners to negotiate the production of carbon credits in the April Salomei area despite the fact that Hunstein Range Holdings has been rejected by April-Salomei communities (Leggett & Lovell, 2012). Again, we see the exacerbation of existing conflict over land tenure in the process of producing property rights to forest carbon. Research interviews with communities of this area have shown that despite the advanced stage of the project, they have little to no understanding of the proposed REDD project, and the proposal for benefit sharing in the project proposal does not ensure equitable distribution of funds (*ibid.*). Matthew Leggett and Heather Lovell also highlight faults in the way traditional cultivation practices are accounted in the project design.

As a result of these controversies, the OCCES has shifted in position, consigning the problem to rogue carbon trade project developers. In June 2009, Theo Yasause was suspended, and an internal investigation was carried out. A corporate planning adviser was placed in the OCCES office for three months as part of the \$3 million pledged under the Australia-PNG Forest Carbon Partnership (Gridneff, 2009b). Both Nupan and RMA's submissions to CCBS for project verification have been rejected by the OCCES (Papua New Guinea Post Courier, 2010). The outcome for these projects is mixed. CCBS validation process of the Kamula Doso project is still underway. The April Salomei project has been validated by CCBS in May 2011 at gold level.

For this clamour and confusion Roberts blames the 'byzantine world of environmental politics in PNG' (Cubby & Wilkinson, 2009). He is most certainly right. However the failures are multiple and compounded. They are attributable to a confluence of institutional failures alongside confusions apparent in public discourse. PNG has been a participant in both the World Bank FCPF and UN-REDD Programme in order to secure funds for REDD activities. In May 2008 PNG's R-PIN¹⁰ to the FCPF was approved despite an independent review concluding there was insufficient consultation with community groups. The subsequent FCPF R-PIN review raised issues relating to community consultation both in the R-PIN composition and in the REDD governance framework proposed (FCPF, 2008). The status of the UN-REDD Programme in PNG was unclear for some time, only recently re-engaged. PNG submitted a National Programme Document (NPD) in October 2010. World Resources Institute (WRI) analysis of the NPD assessed it as providing little or no information about how

9 Incorporated Land Groups are formed under the Government of PNG's Business Groups Incorporation Act and Land Groups Incorporation Act 1974. These laws give legal status to indigenous landowning groups to manage the acquisition, use and disposal of customary land and to conduct internal affairs and settle disputes in accordance with custom (Power, 2008). An additional piece of legislation should have accompanied these Acts but was not presented to Parliament at the time. This legislation would have allowed customary groups to register their land and hold group title (*ibid.*).

10 To secure funding, potential REDD nations must first submit a Readiness Plan Idea Note (R-PIN) outlining the causes of deforestation and forest degradation and plans to address these via REDD projects, followed by a Readiness Preparation Proposals (R-PPs) to secure grant funding (up to US \$3.6 million). An R-PP is a plan of preparation activities necessary to implement REDD+ schemes. These documents are often written by, or in consultation with pro-market ENGOs and consultants whose principle clients are forestry companies (Dooley et al., 2008).

consultation with forest communities and civil society will be undertaken, no mention of a dispute mechanism installed, efforts to combat corruption or independent monitoring of REDD projects schemes (Goers et al., 2010). The UN-REDD agency has recognised these problems.

Where countries are corrupt the potential for REDD corruption is dangerous. [In Papua New Guinea], people have tried to take advantage of the market in an unacceptable way and carbon cowboys are trying to get the benefits. We can expect more of this as REDD develops. (Tiina Vahanen, a senior officer at UN-REDD Programme, interviewed by Vidal, 2009)

Nonetheless, a revised NPD was approved by the UN-REDD policy board in April 2011 and opens up US\$6.4 million in funding to the Office of Climate Change and Development (formerly OCCES).

What sense might we make of this mixed picture? The UN-REDD commentary goes some way to explain the failures of REDD in PNG. The Somare government certainly played a role in undermining the efforts toward regulation and thereby REDD legitimisation. This has in fact come out in the state's approach to international negotiations. On the 27 May 2010, at the Oslo Climate and Forest Conference, the former PNG Prime Minister Michael Somare announced plans to further develop REDD in PNG as a model for other prospective nations, but was dismissive of the IGO programs. 'The World Bank and the United Nations tangle us in endless process and conditionality's. Therefore, the "Interim REDD+ Mechanism" must break from the past and deliver both finance and results!' (Somare, 2010). Somare made further claims to these impediments and conditionalities in Cancún (Gridneff, 2010c).

The roles of different actors and institutions in constituting and re-negotiating REDD governance in moments of crisis are difficult variables to locate. On the one hand, we might put the vagaries of REDD down to resource capacity and poor governance in PNG (Greenpeace, 2010). However, the developmental pace and priorities of marketised schemes for REDD is also at the heart of the problem. Other REDD analysts have noted the ways in which the gold rush mentality and rolling, experimental nature of REDD projects is driven by the pursuit of profit over development and human rights (e.g. Clarke, 2010; Melick, 2010). Neither a macro, nor strictly local view of REDD failure in PNG will suffice. I discuss this significant analytic task in the concluding remarks below.

Conclusion

To recap, this article has mapped REDD initiatives in the Asia-Pacific demonstrating the ways in which they serve as sites of carbon market extension. I have proposed that the picture of REDD is one of incoherence, not a lucid program of action, nor an integrated institutional architecture. Importantly, marketisation in the form of emissions trading does not mean blanket and unfettered market expansion – a triumph of capital over state (Engels, 2006). It is evident that it is a multifarious project spanning a range of sites and institutional forms. Each frontier of marketisation seeks to legitimise and socialise carbon market architectures, albeit with mixed results. The socialisation of marketised REDD is an unruly process punctuated by ongoing contention. Rather than

one cogent front, extension of the carbon market into Asia-Pacific forests is developed through a heterogeneous range of actors and strategies to legitimate REDD offsets. They in turn attract different forms of resistance as demonstrated through examples in Indonesia and PNG. Thus the negotiation of REDD's form, extent and structure must be understood in terms of the interplay between the full range of actors propagating, resisting, and/or reforming it.

The entanglement of state, corporate and civil society actors is in fact making the REDD market possible. This of course is a truism for political scientists dedicated to analysing carbon market formation. Much ground has already been made in detailing the relationships between private and public authority in climate governance (Bernstein & Cashore, 2007; Andonova, 2010; Bernstein et al., 2010; Stripple & Lövbrand, 2010). Less understood are the ways in which hybrid modes of authority serve to socialise and legitimise carbon market extension in the face of so many problems, across and between numerous fronts. The cases discussed here indicate the impossibility of the promised win-win-win outcomes for REDD offsets. Amidst the clamour and confusion of REDD development, the assembly of market initiatives continues to build. How is this possible?

There is much more work to do in uncovering and theorising the ways in which these web-like networks of actors invested in REDD's success, deal flexibly with resistance to the market and clear governance failure in some instances. This mapping exercise indicates that the vast network of actors and institutions participating in REDD's marketisation are ultimately serving the resilience of this idea. In the words of Francesco Martone, Forest Peoples Programme campaigner 'advocacy on REDD+ is akin to confronting a hydra, the mythological animal with a big body and many heads. Once you manage to cut one head two, then more heads grow up' (Martone, 2010: 8). From this, there are questions pending for critical scholars: how might we account for the role of these actors and institutions in propelling marketised REDD? What is the relationship between these different forms of authority in this process? How might a view of the hybrid nature of REDD initiatives illuminate the flaws in REDD offsetting and its social, ecological and economic impacts on local and indigenous communities? In turn, what forms of political agency have been realised for social movement collectives seeking to break the logic of REDD marketisation? This map of the frontiers of carbon market extension into REDD may assist in developing answers to these questions.

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