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The Creation and Dissolution of Private Property in Forest Carbon: A Case Study from Papua New Guinea

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Abstract This paper shows how the prospect of a forest carbon market in Papua New Guinea added a new element of instability to national forest policy and property processes that were already moving in contradictory directions. In particular we examine attempts by foreign investors to forge voluntary carbon agreements with customary landowners after the Bali climate change conference of 2007, and the mobilization of state institutions to counter these 'private dealings'. We highlight the connection between the ways that these processes played out at both national and local scales, with a focus on the highly contentious Kamula Doso forest area in Western Province. We conclude with some observations on the way that the constitutional protection of customary land rights inhibits the formalization of marketable rights in forest resources, including forest carbon, and creates an inconclusive circularity in the operation of forest policy and property processes at different levels of social and political organization.

Keywords Papua New Guinea · Forest policy · Carbon trade · Property rights

Introduction

Papua New Guinea (PNG) has played an important role in the negotiation of proposals to compensate developing countries for the reduction of greenhouse gas emissions from deforestation and forest degradation (REDD). We first describe how the prospect of a market in forest carbon has disrupted existing forms of forest policy and forest property in PNG at both national and local scales. We then show how existing forms of forest policy and forest property at both scales have shaped the direction of both the forest carbon policy process and the nascent forest carbon economy in the period since 2005, when PNG and other members of the Coalition for Rainforest Nations presented a REDD agenda to the 13th Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC).

Claims to ownership, control or knowledge of forest carbon as a new commodity have been made within a policy process and a 'property process' that was already in a state of flux and uncertainty. As a result, the forest carbon policy process became an exercise in the denial of property rights, the suppression of market transactions, the exclusion of economic agents, and the sequestration of expert knowledge (Ribot and Peluso 2003; Sikor *et al.* 2010; Bumpus 2011). What first appeared as a contest between different social actors over the distribution of benefits from a new commodity was subsumed by a contest to determine the relationship between a new branch of forest policy and three existing branches that were already growing in different directions. If anything, the fiction of forest carbon has amplified contradictions already present in the larger policy and property domain, while the prospect of a forest carbon market has been kept at a distance.

We adopt a broader concept of 'forms of property' in order to emphasize the idea that property – in PNG's political context – is very much a social process or social drama (Cleaver 2007), just like public policy (Filer 1998), rather than dominated by the production and interpretation of rules and regulations that establish the rights of different actors. This does not mean that legislation and litigation are absent from either process but it does mean that they are fundamentally inconclusive because so many actors continue to act without regard for the rules of the game, and so many of

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their transactions appear to be based on discontinuities in power, authority or knowledge, and not on the distribution of rights (Bumpus and Liverman 2008; Sikor and Lund 2009). We agree with the conventional argument that any form of property is a set of social relationships, but we aim to show the extent to which this is a fuzzy, open-ended and unregulated set of relationships in the specific context of our discussion. In this context, political, social and economic transactions do not follow from the rights already held by different persons and acknowledged by others. Instead, it is more accurate to say that the identities and rights of different actors are emergent properties of transactions that commonly elude legal definition or conventional economic analysis (Rose 1994; Strathern 1999; Strang and Busse 2011).

Our investigation is focussed on one particular block of native forest and stock of forest carbon whose fate has yet to be determined - the Kamula Doso forest area in PNG's Western Province. This choice is based both on the fact that one of the authors (Wood) has detailed knowledge of the history of transactions and negotiations in this area; and on the fact that these transactions and negotiations have played a significant role in national forest policy and property processes. This area exhibits an extreme case of competition and conflict among actors with alternative claims to ownership, control or use of its forest resources, which is why these interactions have acquired their national significance. This is not necessarily typical of what has transpired in other parts of PNG, where the prospect of a forest carbon market has disrupted existing forms of forest policy and forest property.

This paper is based on observations made by the two authors in their capacity as social anthropologists who have been involved in dialogue with many other actors engaged in the forest policy and property processes at both national and local scales over the course of more than two decades. Filer has been involved in the national policy process since he became a founding member of the Steering Committee for the National Forestry and Conservation Action Program in 1990. Wood has been conducting fieldwork amongst the Kamula people since 1975. Our paths have occasionally crossed when forest policy issues in Western Province have become significant at a national level, and in the context of the forest carbon policy process when we were engaged as consultants to an Australian company, Carbon Planet, at the end of 2008: Filer to advise on the availability of institutional mechanisms for the distribution of landowner benefits from REDD projects in PNG, Wood to advise on the extent of local support for a REDD project in the Kamula Doso forest area. We both had cause to regret this engagement shortly afterwards, as voluntary carbon schemes came under attack from many other players in the forest carbon policy process, but while Filer's critics were members of a national and international policy network (Lang 2009a), Wood had to deal only with criticism from some of the local people with whom he had longstanding personal relationships. He has since regained their confidence and has been able to continue his ethnographic fieldwork with the community.

In August 2009, Filer assembled a team of expert advisers to the PNG Department of Environment and Conservation when it assumed responsibility for national forest carbon policy in the lead-up to the 15th Conference of Parties to the UNFCCC. Subsequently he has allied himself with members of the national conservation policy community, formerly critical of his association with voluntary carbon schemes (Filer 2011), who oppose aspects of PNG's forest clearance policy. Wood and his local informants also have a manifest interest in forest clearance policy, even if they are not uniformly opposed to it, because the Western Province contains more than 40 % of the total land area that has recently been alienated through the application of this policy, and the Kamula Doso forest area accounts for nearly 40 % of this share. Some of the data presented here is derived from documentary sources, while some is derived from our own research and participant observation of transactions and negotiations.

Three Prior Branches of National Forest Policy

Recent efforts to establish a forest carbon policy as part of a national climate change policy in PNG have been complicated by the existence of three other branches of national forest policy, each of which has created different forms of forest property. At independence from Australia in 1975, about 97 % of the land area and 99 % of the area covered by native forests was under constitutionally recognized customary ownership. The different branches of forest policy can therefore be distinguished from each other by the manner in which the state has sought to regulate the behaviour of customary landowners and the extent to which these efforts have diminished the customary rights protected by the national constitution.

Forest Management Policy

The Forestry Act of 1991 was intended to realize the elusive goal of 'sustainable forest management' through the selective logging of native forests on a 35–40 year harvesting cycle (GPNG 1991). Responsibility for implementing the policy is vested in the PNG Forest Authority (PNGFA), which has exclusive power to determine who can harvest timber for sale as a commodity. The PNGFA can grant groups of customary landowners Timber Authorities to harvest on a small scale on their own land. However, for large-scale selective logging operations the PNGFA first acquires timber rights from the landowners by means of a Forest

Management Agreement (FMA) and then allocates timber harvesting rights to a logging company by means of a Timber Permit. About 4.5 million hectares of forested land (almost 10 % of total land area) is currently covered by such agreements, but less than half has so far been allocated to logging concessions.

Section "Three Prior Branches of National Forest Policy" of the Forestry Act defines timber rights as 'the rights to fell, cut, remove and dispose of growing or dead trees, whether standing or fallen, and any part of such trees, and any other vegetable growth, and the right to plant, grow and manage trees and to carry out regeneration and reforestation work'. While timber harvesting rights are allocated to the logging company, broader forest management rights are retained by the PNGFA for the duration of the FMA, normally 50 years. An FMA is between the state and the executives of land groups set up to represent the interests of local landowners under the terms of the Land Groups Incorporation Act 1974. Forestry officials are responsible for ensuring that land group executives reflect the wishes of at least 75 % of adult landowners affected when they sign an FMA, which must include a specification of the benefits customary landowners receive in exchange for their timber rights. The main benefit is the royalty that the PNGFA collects on each log that is harvested and sold. This is normally paid to the land group executives who represent the block of land from which the log has been harvested, and they are meant to distribute it amongst the other members of their group in accordance with local custom.

The powers and responsibilities now vested in the PNGFA were the result of a process of policy reform that was initiated by a commission of inquiry into the previous policy regime, and was substantially funded by the World Bank and other international agencies under PNG's National Forestry and Conservation Action Program (NFCAP). Under the previous regime, the state purchased timber rights from 'clan agents' and could allocate timber harvesting rights to landowner companies. Furthermore, the Minister for Forests could authorize landowner company directors to acquire timber rights directly from local landowners and transfer the timber harvesting rights to logging companies without any oversight on the part of government officials. In both cases, it was found that landowner company directors commonly became the paid agents or clients of the logging companies who were meant to be their contractors, while ordinary landowners had no knowledge of the agreements and rarely got any significant share of the proceeds (Barnett 1992).

The new policy regime was designed to protect ordinary landowners from such practices, and government officials were made responsible for their suppression. However, while landowner companies were legally deprived of the power to deal in timber rights over customary land, their directors retained some roles in the policy and property process. That is partly because agreements made under the old regime were 'saved' under the new Forestry Act, and forest areas covered by these agreements continued to account for the bulk of PNG's commercial log harvest for many years after the new Act had come into effect. But it was also because landowner company directors were able to assert partial control over the process of land group incorporation that was meant to guarantee a greater measure of informed consent to the process of resource acquisition and allocation under the new policy regime (Simpson 1997; Bell 2009; Lattas 2011; Filer 2012).

Forest Conservation Policy

The NFCAP was supposed to involve a reform of forest conservation and forest management policy, but there was no corresponding change to the laws by which the state authorized the protection of customary land, notably the Fauna (Protection and Control) Act of 1966. The Act enables groups of customary landowners to ask the Department of Environment and Conservation to declare the existence of a Wildlife Management Area in which the landowners themselves can make up rules for the protection of local fauna and impose small fines on offenders within the local community. Since the state acquires no rights or obligations to assist in this effort there is nothing to prevent local landowners from changing their minds about the need for protection. The Conservation Areas Act of 1978 requires a greater degree of government involvement in the management of customary land allocated to a Conservation Area, but it has only recently come into effect (Filer 2012). In this case also, there is no diminution of customary rights except insofar as local landowners agree to abide by a management plan whose implementation is largely their own responsibility. The total area of customary land currently protected under these two laws is approximately 1.5 million hectares – about one third of the area covered by FMAs.

The main innovation in forest conservation policy over the past two decades has not been a legal innovation, but the appearance of new types of partnership between different actors in the establishment and maintenance of what are commonly called integrated conservation and development projects or community-based resource management projects. The trigger for this innovation was the government's ratification of the Convention on Biological Diversity in 1993. There followed a substantial but erratic flow of foreign financial support for the conservation of forest areas with high biodiversity values, but most of the money was consumed in the process of measuring these values and attempting to create various forms of 'landowner awareness.' The idea that customary landowners could be persuaded to 'exchange' the conservation of their forests for some form of 'development' was heavily promoted in the 1990s, but has largely been

abandoned since because the parties could not agree on terms (Filer 2004). What did emerge was a fairly well-defined conservation policy community with a ready-made interest in the use of forest carbon finance as a new type of incentive for local landowners to protect their forests.

Forest Clearance Policy

Sections 90A-E of the Forestry Act enable the PNGFA to grant Forest Clearing Authorities (FCAs) to companies that can demonstrate a need to clear-fell large areas of native forest for the purpose of road construction or agricultural investment. The World Bank persuaded the PNG government to introduce these provisions into the Act in 2000 because of evidence that some logging companies had been using Timber Authorities to gain access to areas of native forest on the pretext of building roads or developing cash crop plantations that would not materialize (Bird *et al.* 2007). However, the amendments were themselves amended in 2007 to create an even bigger loophole, by reducing the power of the PNGFA to refuse the grant of an FCA to any company that could justify its development proposals by reference to government plans for the expansion of commercial agriculture. Since then, FCAs have been granted over an area of more than a million hectares, which means it has effectively been removed from the domain of PNG's forest management as well as its forest conservation policy (Filer 2011).

Under the provisions of the Land Act 1996, a Special Agricultural and Business Lease (SABL) may be granted over an area of customary land if the customary owners have first agreed to lease the land to the state on condition that the state then leases it back to a corporate entity approved by the landowners themselves. This peculiar arrangement, known as the lease-leaseback scheme, was originally devised more than 30 years ago as a means to create negotiable titles over small areas of customary land in the absence of any legal mechanism by which groups of customary owners could register their ownership directly (Filer 2011: 2). Under the terms of the Land Act, it is clear that the original lease of land to the state should be granted by incorporated land groups, but it is not clear whether SABLs should then be granted to these same land groups or to landowner companies or other corporate entities. Over the past decade, there has been a rapid acceleration in the rate at which SABLs over large areas of forested land have been granted for the maximum allowable period of 99 years to landowner companies operating in association with foreign companies proposing to invest in so-called 'agro-forestry' projects that depend on the subsequent grant of an FCA, effectively removed more than 5 million hectares of land from customary ownership. The 'private dealings' that were excluded from the new forest management policy regime in 1991 have thus made a fresh appearance under this more recent forest clearance policy regime.

Forest Carbon Policy and Property

There have been four distinct phases in PNG's forest carbon policy process since 2005. In the first, which culminated in the Bali climate change conference in December 2007, government representatives played an active role in advancing the international REDD agenda through the UNFCCC. In the second, which lasted until June 2009, one government official encouraged a group of foreign investors to negotiate voluntary REDD projects with local landowners, while foreign aid agencies offered some financial support for the development of a national policy framework. In the third, the government tried to suppress the negotiation of voluntary carbon schemes between foreign investors and local landowners, and opted instead for a process of policy development that would secure greater financial support from foreign aid agencies. This phase culminated in April 2011, with the approval of a national plan of action by the board of the UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD). The fourth and most recent phase has engaged the representatives of national government departments, non-government organizations and foreign aid agencies in the implementation of this action plan.

New Windows of Opportunity

For a brief period in the middle of 2005, there was an intense but inconclusive public debate about the relationship between the terms of engagement of PNG's official envoy to the UNFCCC, an American, the simultaneous decline in the World Bank's influence over the direction of national forest policy, and rumours that foreign logging companies had persuaded the government to remove the right of local landowners to be consulted over the allocation of new Timber Permits. Although this public debate did not last long, it did point to a serious problem of moral hazard in the case that the envoy was making to the international community (Filer 2010). By the end of 2005, the PNGFA was directed to speed up the allocation of new Timber Permits over areas already covered by FMAs, and then the Forestry Act was amended to facilitate the grant of FCAs immediately prior to the Bali climate change conference at the end of 2007.

The Moment of Irrational Exuberance

The Bali Action Plan agreed at this conference contained a definition of what is known as REDD-plus, by adding the 'sustainable management of forests and enhancement of forest

carbon stocks' to the conservation of forest ecosystems as policy measures that might be rewarded by the international community. This created a space for the PNGFA, as well as the Department of Environment and Conservation (DEC), to be included in the further development of PNG's forest carbon policy. An Office of Climate Change (OCC) also began to emerge within the Prime Minister's Department, but was not formally established until September 2008. The envoy created an appearance of unity among these three agencies in the negotiation of financial support for the national policy process with a number of foreign governments, and even with the World Bank (Pearse 2012: 196).

In the meantime, the would-be head of the OCC had started issuing certificates to foreign investors which apparently authorized them to negotiate REDD projects with customary landowners in different parts of the country. Rumours about 'carbon cowboys' had already begun to circulate by the middle of 2008 (Melick 2008), but it was not initially clear who these people were. The head of the OCC was formally appointed in September 2008 and started warning the public about non-government organizations, private investors and 'imposters' posing as government officials in order to develop REDD projects without his authorization (Anon. 2008). But in June 2009, his own activities in this regard were suddenly exposed to sensational media scrutiny that very soon led to his dismissal (Pearse 2012). In effect, this was a recapitulation of the public debate that had taken place 4 years earlier, but now on a much larger stage and with a much bigger audience.

The wave of speculation that took place during this 18-month period has been compared to a 'cargo cult' because of the enormous sums of money that some of the actors hoped to gain or promised to deliver (Callick 2009). Although these fantasies have not been realized, it is clear that enough money was being devoted to the design of REDD projects during this period to constitute a new forest carbon service economy. The OCC certificates might be regarded as one of the commodities that defined this branch of the national economy, but it is very hard to establish their value. The key commodities in circulation at this time were not so much pieces of paper purporting to be 'carbon credits,' let alone rights of access to land containing forest carbon, but specific forms of knowledge that could be applied to the development of REDD projects. Individuals were being paid for their knowledge of such things as the country's legal and policy framework, ways to measure volumes of forest carbon, or methods of producing 'landowner awareness' (Leggett 2009).

It has not been possible to establish the proportions in which this forest carbon service economy was ultimately funded by foreign speculators, by the national government budget, by international aid agencies, or by gullible local landowners. It is not even possible to determine which payments had some kind of government sanction. Many of the individual actors, including politicians and public servants, were dealing with several other actors who were in turn competing to exclude each other from both the forest carbon policy process and the forest carbon service economy, and deals could be readily forgotten or repudiated.

Melick (2010: 360) has estimated that there were more than 90 carbon trading schemes being promoted during this period, with a combined coverage of more than 5 million hectares of forested land Those few schemes that have been documented in any detail are either proposals that were certified by the OCC at some stage of their development, or else proposals by non-governmental conservation organizations for which OCC approval was not sought or was not forthcoming. The proposals certified by the OCC were directed to those areas in which the PNGFA had already acquired timber harvesting rights by means of an FMA, but had not yet allocated these rights to a logging company (Filer 2012). By contrast, conservation organizations were mainly interested in securing carbon credits for areas where local landowners had volunteered their land for protection under the forest conservation policy (Cuccaro 2008). There were a few places in which the customary landowners had supposedly agreed to logging and conservation at roughly the same time, and that is where the two different types of REDD project proposal were directly at odds with each other (Leggett 2009; Leggett and Lovell 2012). But for the most part, they were not in direct competition in a geographical sense. The competition took place at an institutional level because public servants in the PNGFA and the DEC thought OCC actions had encroached on their respective territories.

The Moment of Bureaucratic Consolidation

Some opponents of the head of the OCC evidently thought that he was acting on behalf of the envoy to the UNFCCC and that his removal would therefore weaken the envoy's position in the forest carbon policy process (Lang 2009b). However, in his own negotiations with the international community, the envoy consistently argued for a 'national' approach to REDD and not for the state-sponsored 'project-based' approach authorized by the OCC or the purely voluntary version of that approach favoured by some of the non-governmental conservation organizations (Howes 2009). An official statement released to the media in August 2009 announced '[the] Government does not currently see a role for Voluntary Carbon Agreements in its policy development and regulatory framework for forest carbon and climate change in general' (Somare 2009). Responsibility for climate change policy then reverted to the DEC, and the National Executive Council (NEC) was persuaded to appoint McKinsey and Company to develop a new national

policy framework (Lang 2010). These decisions were clearly intended to save the PNG government and its climate change ambassador from any further embarrassment in the lead-up to the Copenhagen climate change conference in December 2009.

The McKinsey team produced two climate change policy documents in 2010 (GPNG 2010a, b), partly with an eye to persuading foreign donors and investors that the PNG government was fully aware of the need to create a solid institutional framework and a reliable 'measurement, reporting and verification' (MRV) system before it could expect to reap any financial benefits from the sequestration or accumulation of forest carbon. The World Bank re-entered the national policy process by helping the government to produce a third policy document along similar lines (GPNG and World Bank 2010), while the Japanese government agreed to invest US$10 million in the development of the MRV system. A multi-stakeholder Technical Working Group was established to manage the implementation of the new forest carbon policy, and a lengthy process of consultation led to the release of US$6.4 million from the UN Collaborative Programme to implement the first, three-year phase of PNG's 'REDD+ readiness roadmap' (UN-REDD 2011).

This process of centralization and rationalization was quite successful in marginalising or excluding many of the actors who had previously been parties to the forest carbon policy process or beneficiaries of the forest carbon service economy. Only two of the voluntary schemes that had been authorized by the OCC survived long enough to seek international validation from the Climate, Community and Biodiversity Alliance (Filer 2012). In both cases, it could be argued that landowner representatives retained the right to negotiate voluntary agreements since the degree of their consent to earlier FMAs was open to question. However, legal advice provided to the newly reformed OCC in 2010 questioned this right, even in the absence of an FMA, by asserting that carbon sequestration is an intangible phenomenon of nature that could not be owned by anyone under customary law, and could not yet be owned by anyone under existing national laws (CCBA 2010: 7).

While non-governmental conservation organizations were still part of the policy process, they were not satisfied with its new direction largely because of the emphasis placed on 'additionality' or on the 'plus' part of REDD-plus, which diminished their prospects of obtaining carbon credits for the protection of forests that were already protected, or likely to be protected, as a result of their own dealings with customary landowners. Some of them received small grants from international aid agencies to experiment with the question of how to distribute landowner benefits from future REDD projects (Babon 2011), but this funding was a tiny fraction of the amount that McKinsey and Company were charging the PNG government for their own contribution to the policy process (Lang 2010). Furthermore, that contribution was based on a cost-benefit model that has been subject to intense criticism by conservation organizations at an international level because it undervalues local people's rights and livelihoods (Dyer and Counsell 2010; Greenpeace 2011).

Forestry officials had reason to applaud the new emphasis on additionality because it meant that future REDD projects would most likely be located in areas where they already had legal responsibility for decisions about forest management (Filer 2012). They had already designed a number of 'pilot projects' to be implemented as part of the 'REDD+ readiness roadmap' (Babon 2011), and they would be responsible for development of the MRV system funded by the Japanese government. Consequently, they thought the forest carbon component of the new climate change policy should be their exclusive responsibility, and thus came to share the resentment of the conservation organizations towards the control being exercised over the policy process by a group of highly paid foreign consultants.

Aside from the resistance of some actors who were still part of the forest carbon policy process, the McKinsey team faced a bigger problem created by some of the actors outside of that process. The new climate change policy had to be consistent with the national government's plans for economic development, and these plans set very ambitious targets for the expansion of commercial agriculture into areas previously covered by native forests (Filer 2010). The rate at which customary land was being alienated for 'agro-forestry' projects was clearly accelerating in the period from July 2009 to April 2011, and PNG's reputation as an innocent 'rainforest nation' in global climate change negotiations was therefore at risk (Filer 2012). The McKinsey consultants were alerted to this problem and their first climate change policy document proposed a moratorium on this form of alienation (GPNG 2010a: 29). However, another year passed before the NEC bowed to public pressure and agreed to institute a commission of inquiry into the operation of the lease-leaseback scheme.

Windows Half Shut

The Acting Prime Minister announced the Commission of Inquiry shortly after the UN-REDD Policy Board had finally approved PNG's National Programme Document in April 2011. This was accompanied by a moratorium on the grant of any more SABLs and FCAs, but logging in areas already covered by these forms of property was allowed to continue. The announcement was initially greeted with outrage by the leader of the opposition, the former Forests Minister who had been the sponsor and beneficiary of several 'agro-forestry' projects in his own constituency. In August 2011, the

Prime Minister was ousted and his successor appointed the leader of the opposition as his deputy, restored him to his former portfolio, and put him in charge of the OCC as well as the PNGFA. Shortly after his appointment, the Forests Minister announced the dismissal of the envoy to the UNFCCC on the grounds that he had little or no knowledge of the 'culture, tradition and lifestyle of the people,' and therefore could not deal with 'landowner issues' (Waima 2011). Meanwhile, the McKinsey team had disappeared because their contract had expired or their fees had not been paid.

Despite these upheavals, the Commission of Inquiry was allowed to continue its investigations until March 2012. From transcripts available at the time of writing, it is evident that the commissioners discovered numerous instances of local landowners being expropriated without their knowledge or consent. Meanwhile, in the absence of the envoy to the UNFCCC and the McKinsey team, and despite the presence of the new Minister for Forests and Climate Change, the OCC retained its affiliation with the DEC and was not absorbed into the PNGFA. Those actors who maintained their previous positions in the forest carbon policy process have since been following the 'roadmap' set out in the National Programme Document by holding meetings and spending money in ways that have attracted no national publicity and involved minimal engagement with local landowners.

Kamula Doso Forest Area

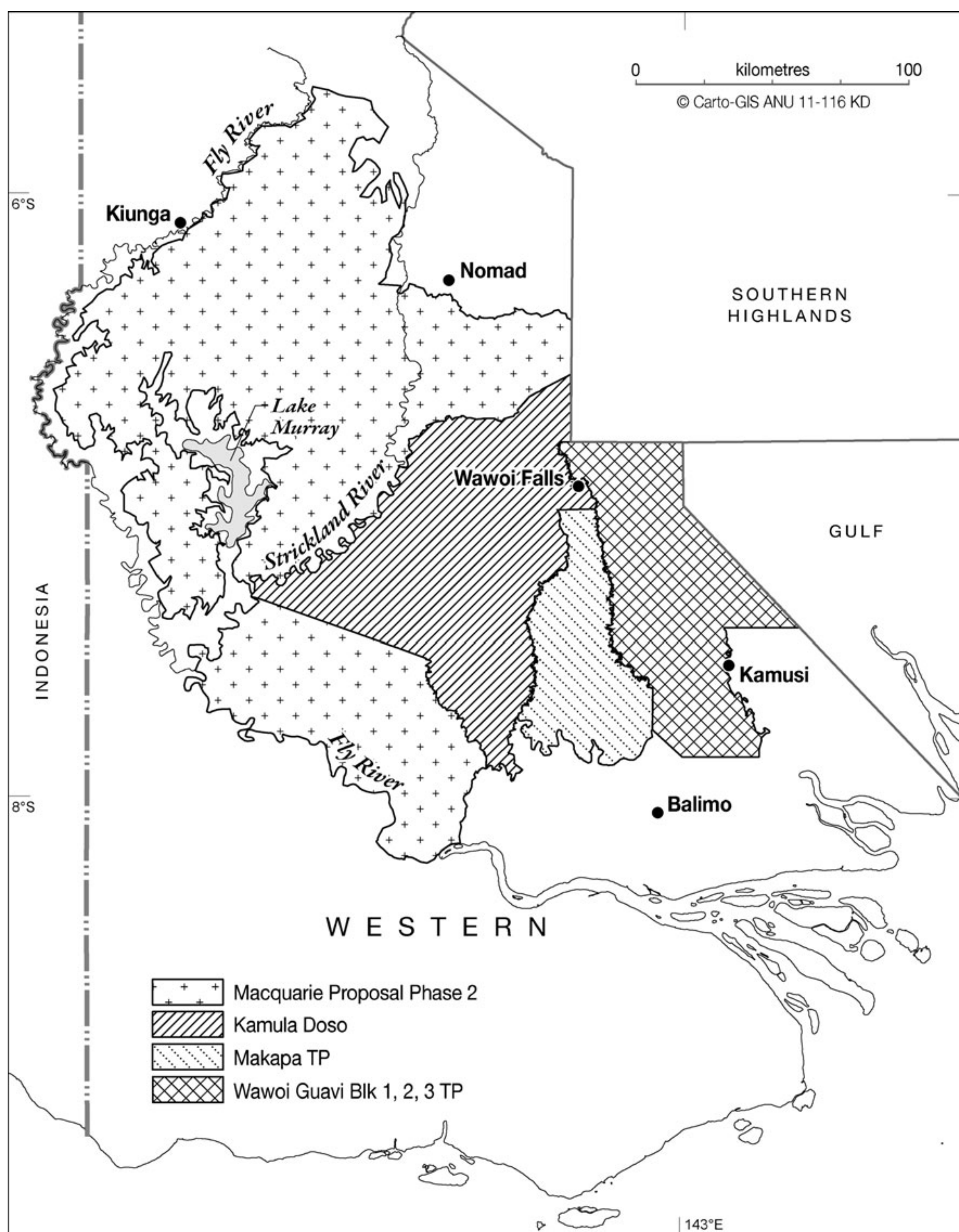
We now consider the ways in which forest carbon policy and property rights in forest carbon have been related to other forms of forest policy and forest property in the Kamula Doso forest area, which covers roughly 790,000 hectares of customary land in the Middle Fly District of Western Province (Map 1). Very few people actually live within its boundaries and it is almost impossible to estimate the number of customary landowners because claims of ownership are often contested. The forest area is named after two languages that are spoken by many of the claimants. Here we refer to the local population simply as 'Kamula'.

The Kamula Doso forest area had already been the subject of controversy during the period of national forest policy reform that began in 1990 before the more recent period of forest carbon policy development began in 2005. The PNGFA supposedly acquired timber harvesting rights over the area by means of an FMA signed in 1998 by the executives of 52 incorporated land groups who were somehow affiliated with two different landowner companies (GPNG 2001). The directors of one company, Wawoi Tumu Holdings Ltd, supported a proposal for the area to be treated as an 'extension' to the adjacent Wawoi Guavi concession already held by PNG's biggest logging company, Rimbunan Hijau (RH). The directors of the other company, Tumu Timbers Development Ltd (TTD), opposed this and asked the PNGFA to put the concession out to public tender. Despite legal advice to the effect that a majority of landowners may not have consented to the FMA in the first place, the National Forest Board allocated the area to RH in 1999. After 3 years of investigation, the PNG Ombudsman Commission found that this decision had breached the provisions of the Forestry Act (GPNG 2002). Meanwhile, in 2000, World Bank staff had used it as a pretext for persuading the PNG government to impose a moratorium on the allocation of new logging concessions until the whole process of resource acquisition and allocation under the Forestry Act had been subject to an independent review (Filer 2000: 82–3). When the World Bank lost influence over national forest policy in 2005, the National Forest Board decided that RH was still eligible to apply for the Kamula Doso concession, but a national conservation organization, the PNG Eco-Forestry Forum, used the previous findings of the Ombudsman Commission to question this decision in the National Court, so the process of resource allocation was stalled.

New Windows of Opportunity

By the end of 2007, two Australian entrepreneurs had already initiated talks with the directors of TTD about alternative uses of the Kamula Doso forest area. According to evidence presented to the Commission of Inquiry on the operation of the lease-leaseback scheme, discussions as early as 2003 between landowner representatives from parts of Western Province to the north of the Kamula Doso area and Independent Timbers & Stevedoring Ltd (ITS) centered on the idea of a partnership with a number of local landowner companies in order to finance the construction of a road from the proceeds of logging the forests on both sides of it, something that came to be known as the 'logs for road concept' (GPNG 2011a: 80). The road was initially meant to link Kiunga, the capital of the North Fly District, to Nomad government station in the Middle Fly District, but the route was then extended south to Wawoi Falls, hence traversing part of the Kamula Doso area (Map 1). In due course, the scheme was elaborated to extend the main road, to be known as the Trans-Papuan Highway, east from Wawoi Falls through Gulf Province to connect with an existing road to the national capital, Port Moresby, and to construct a number of feeder roads to other places in Western Province.

In testimony to the Commission of Inquiry, the chairman of a landowner company based in Kiunga claimed that applications for Timber Authorities were lodged in 2007, but forestry officials advised the applicants to apply for



Map 1 The Kamula Doso FMA area and surrounding parts of Western Province

FCAs (GPNG 2011a: 81). It is hard to tell from available testimonies what progress had been made with the overall plan by the end of 2007, but it seems that land investigations were already under way in the Kamula Doso area. The District Lands Officer based in Balimo testified that he got involved in negotiations with TTD in 2007 or 2008, when some 'rogue directors' were 'pursuing carbon trade' in preference to their partnership with ITS (GPNG 2011b: 94). This last statement refers to the activities of the second Australian entrepreneur who may well have introduced the prospect of 'carbon trade' to TTD directors before the end of 2007. In the proposal later submitted to the Climate,

Community and Biodiversity Alliance, it was stated that the TTD board had 'convened a special meeting to formally announce their plans to convert the Forest Management Agreement to a Carbon Project and recognize the rights to carbon sequestered in the project area' at some point in 2007, 'after many months of planning and consultation' (TTD 2010: 10).

The Moment of Irrational Exuberance

In December 2007, immediately after the Bali climate change conference, the Vice-President of the ruling National Alliance party wrote to Nupan, the company headed by the second Australian entrepreneur, recommending the Kamula Doso forest area as a potential REDD project site. In February 2008, the head of the OCC arranged a meeting with both of them and representatives of an Australian company called Carbon Planet, and this seems to have resulted in a complex set of financial arrangements to market the forest carbon contained in the area (Pearse 2012). The Australian entrepreneur was able to persuade the managers of Carbon Planet that he could deliver landowner consent to a REDD project in this area because the TTD board had granted him a 'power of attorney' to act on their behalf (Lang 2009c).

However, Carbon Planet and its ally Nupan, initially faced some competition. Between January and September 2008, Macquarie Capital Advisers Ltd drafted a proposal for an 'avoided deforestation' project that covered the whole of the Kamula Doso area and a further 1.2 million hectares of land beyond its southern, western and northern boundaries (Map 1). The proposal gave two main reasons for extending the area in what was described as the second phase of the project: to combat the possibility of 'leakage' through the award of new logging concessions in the adjacent areas and to lessen the risk of boundary disputes between customary landowners (MCA 2008: 4). This was clearly not one of the REDD project proposals that had been authorized by the head of the OCC and may have been one of the targets of the public warning he published in October 2008 (Anon. 2008). In any event, the proposal was abandoned before the end of 2008.

In November 2008, the head of the OCC signed a certificate granting Nupan rights to one million tonnes of carbon credits derived from the Kamula Doso area that would 'mature' on 1 January 2012. This became one of the prize exhibits in the wave of sensational media scrutiny that led to his dismissal in June 2009 (Lang 2009a). He later claimed that the Kamula Doso 'carbon credit' did not represent a 'real deal', and that it was 'not a false document but a sample' which had been stolen from his desk drawer (Gridneff 2009). He also said that he had ceased dealing with Nupan in February 2009 because his attention had been drawn to the ongoing litigation over the FMA.

In April 2009, TTD was granted a 99-year SABL over the Kamula Doso forest area. Shortly afterwards, the Eco-Forestry Forum and two other plaintiffs in the longstanding legal dispute over the area persuaded the National Court to restrain the Department of Lands from issuing the lease on the grounds that the status of the FMA had not been resolved and the OCC had therefore been wrong to grant Nupan carbon trading rights over the area. While the court orders were based on the assumption that Nupan would be the ultimate beneficiary of the lease, it later transpired that the leasing arrangements had been organized by the head of ITS and his supporters (GPNG 2011b).

The Moment of Bureaucratic Consolidation

Although the two Australian entrepreneurs had been competing for the loyalty of TTD board members for two years or more, the split between the two landowner factions did not become public knowledge until after the government's announcement that it was opposed to voluntary carbon schemes. By the end of 2009, the two sides were engaged in a legal battle for control of the board (Ruhfus 2009). Despite the government announcement, TTD submitted its REDD project proposal to the Climate, Community and Biodiversity Alliance (CCBA) in April 2010. The proposal claimed that '[t]he 52 ILGs with explicit land rights to the Kamula Doso forests have enacted their legal rights to halt existing logging plans' (TTD 2010: 50). It is not clear whether this was a reference to ITS or RH plans.

Six comments on the proposal were submitted to the CCBA in July and August 2010. One contained the legal advice provided to the recently reformed OCC on the impossibility of forest carbon being owned by anyone under customary law or existing national legislation (CCBA 2010: 7). But the most intriguing comments were in 50 identical letters under the letterhead of Wawoi Tumu Holdings Ltd (WTH), each purportedly signed by the chairman of a different land group, which claimed that many land groups were 'made "shareholders" in Tumu Timbers without their consent,' that they 'had their representative signatures forged for these purposes,' and that 'white people coerced landowners and bribed landowners into signing documents they could not read and did not understand.' The letter concludes: 'We do not wish to hand over our inalienable rights and future prosperity to rich white criminals who only wish to esploit [sic] what is rightfully ours.' A comparison of these letters with the TTD company record held by the Investment Promotion Authority shows that all 50 of the land groups whose chairmen apparently protested against the TTD project proposal are amongst the 52 groups holding shares in TTD itself.

These letters were produced shortly after the National Court had ruled that there never was a legally valid FMA

over the Kamula Doso area. If the directors of WTH were still hoping that RH would finally obtain the Timber Permit that it had been seeking for more than 10 years, this would have been a major setback. It is not clear how the TTD directors initially reacted to the court decision, but in February 2011, those who had previously supported Nupan issued a press release declaring that they had terminated their deal with the company after realising that the carbon trade had no legal framework and now 'wanted to lease their land out for agro-forestry projects and sustainable logging' (Laepa 2011).

In September 2010, ITS's version of an 'agro-forestry project' received a significant boost when three more SABLs over a combined area of about 1.25 million hectares were granted to two other 'landowner companies' with which it had entered into a partnership. The area covered by these three leases substantially overlapped the area that had been earmarked for the 'second phase' of the earlier Macquarie proposal (Map 1), thus confirming the fear of 'leakage' expressed in that proposal. By April 2010, ITS had already applied for an FCA over 2400 hectares of land surrounding one small section of the proposed Trans-Papuan Highway, but we have not been able to establish whether this or other similar licences were actually granted before the moratorium was imposed in May 2011.

Windows Half Shut

The announcement of the Commission of Inquiry into SABLs did not deter a number of government dignitaries from attending a 'signing ceremony' for what was described as the 'Trans-Island Highway (stage two) road project agreement' shortly afterwards (Wuri 2011). The parties to this agreement were the State of PNG, the Fly River Provincial Government, ITS and four of its corporate partners. At this juncture the existing directors of TTD had entered into a new alliance with the directors of WTH, but they were replaced by a newly appointed set of directors who attended the ceremony. However, they were not parties to the new agreement because 'stage two' of the Trans-Island or Trans-Papuan Highway is only meant to extend as far as Nomad government station.

While the Commission of Inquiry revealed the identities of the main actors in the complex web of transactions between land group executives, landowner company directors, government officials, and private lawyers and surveyors involved in the grant of SABLs over more than 2 million hectares of customary land in Western Province, the numerous contradictions in their testimonies make it very hard to determine who did what with whom at what stage in the property process, or even what they thought they were doing. For example, when an ITS surveyor was asked whether his signature on a map of the Kamula Doso area constituted a process of alienation, he responded by saying that 'there was an alienation process taking place but there is no acquisition' (GPNG 2011b: 24). The only clear message to emerge from the transcripts is that most of the customary landowners in the area were totally excluded from the process.

Since we have not yet examined the transcripts of the 2 days of hearings that relate exclusively to the Kamula Doso area, we do not know what claims were made by TTD directors or other Kamula witnesses in November 2011. From recent conversations with Kamula informants, it appears that landowners aligned with WTH have been hoping that forestry officials would negotiate a new FMA to replace the one that had been invalidated, and thus open a new opportunity for RH to log at least one of the three blocks into which the forest area is divided. We have no evidence of such negotiations taking place, but we do know that the Kamula Doso area is not one in which the PNGFA plans to locate one of its pilot REDD projects. Nupan has departed the scene of the action, and the CCBA has not validated the TTD project proposal. Meanwhile, some of the landowner representatives who formerly supported the ITS proposal have since claimed that the Forests Minister told them that he did not support the allocation of any part of the Kamula Doso area to RH, but would support a new 'agro-forestry' project in which parts of the forest would be cleared for the commercial cultivation of rice.

Conclusion

One observer has recently remarked that PNG's forest carbon policy process 'has been plagued by a string of scandals, including allegations of corruption, nepotism and dishonest conduct amongst various actors taking advantage of the current policy vacuum and general poor governance' (Babon 2011: 6). If so, we might conclude that remedial action taken to populate the vacuum with a new set of institutions will limit future opportunities for such deviant behaviour. However, once the forest carbon policy and property process is placed in a broader institutional context, it is evident that a legalistic and bureaucratic response is one moment in an inconclusive behavioural cycle that is manifest in each branch of national forest policy. The popular demand for 'development' generates new forms of property in forest resources, these are 'corrupted' by the multiplication of contested claims to ownership and control, the claims are subjected to new forms of state regulation, but these fail to satisfy the original demand for development, and so the cycle starts again. The circularity of this process is itself disrupted by the lack of correspondence between the movements of the cycle in different branches of forest policy over any given period. This is evident, for example, in the two-

year time lag between the move to eliminate voluntary carbon schemes in the middle of 2009 and the move to investigate 'agro-forestry' projects in 2011. We might even describe this as a sort of 'institutional leakage' in the sense that a moment of bureaucratic consolidation in one policy process may serve to stimulate a moment of irrational exuberance in an adjacent policy process, thus compounding the friction between the two, at least until the second process catches up with the first.

Our case study of the Kamula Doso forest area shows how this type of friction or leakage can operate between property processes at a local scale as well as between policy processes at the level of the nation-state (Cleaver 2002). But it also shows how the multiplication of contested claims to ownership and control of the same forest resources can reach a point of crisis at which all state-mediated forms of property appear to collapse under the weight of their own internal contradictions – even at the very moment when their relative validity is being subject to a process of legal and bureaucratic determination. So far as we know, this is the only area in which the proponents of a voluntary carbon scheme have been in direct competition with the proponents of a forest clearance project, but this anomaly is partly due to the protracted contest over the acquisition and allocation of timber rights under the FMA that was supposedly signed by local landowners in 1998. In this instance, the end result of 15 years of friction between different forms of property was not only the dissolution of specific rights in forest property, but the decomposition of local institutions that could grant a legitimate form of consent to any use of forest resources. While it is feasible for the directors of two different landowner companies, or two different factions on the board of one landowner company, to claim support from a single set of land groups or group executives for two contradictory courses of action at much the same time, it is hard to imagine any form of government regulation that could remove the contradiction.

It could be argued that failure to establish unambiguous property rights in native forests reflects the ignorance and confusion of customary landowners, or at least a process of distorted communication between the custodians of traditional environmental knowledge and the holders of legal, bureaucratic, economic or scientific knowledge who have an interest in the creation of new commodities and markets (Appadurai 1986; Bumpus 2011). This argument is implicit in the idea of a 'carbon cargo cult.' However, evidence that local villagers were either excited or disturbed by the prospect of 'selling air' or collecting 'sky money' from the sale of carbon credits is itself the product of experiments in 'landowner awareness' that were part of an emergent forest carbon service economy (Leggett 2009: 56). The concept of 'landowner awareness' has been a permanent fixture of the national forest policy process for more than 20 years, but it is also a commodity in its own right because people who claim to be experts in its production can be paid to produce it – or at least to make the effort. If they have failed to produce an appropriate awareness of forest carbon as a potential commodity, it does not follow that other actors in the policy or property process possess a superior knowledge of what is at stake, nor does it follow that landowner awareness of other forms of forest property has been produced with any less difficulty. While Kamula people do have some interesting ideas about the relationships between people and forests, we are not convinced that they can explain the form or extent of their participation in the processes that we have described.

It could also be argued that the moment of irrational exuberance in PNG's forest carbon policy process was both irrational and exuberant because forest carbon is essentially more mysterious than other commodities or forms of property that can be derived from forests (Kosoy and Corbera 2010; Bumpus 2011). The public debate that took place around the value of the Kamula Doso 'carbon credit' in 2009 shows quite clearly that many of the actors in the national policy process were just as confused as local villagers who were barely aware of the process. The exchange of logs for a road, or the exchange of timber rights for royalties must surely make more sense to everyone because there is a real prospect of material change in the natural environment, and flows of money can be readily conceived as indicators of that change. Nevertheless, in the Kamula Doso forest area there is still no sign of the Trans-Papuan Highway or a new FMA being negotiated, so there is a sense in which these prospects are no less fictional than the prospect of a forest carbon market. At the same time, the Kamula Doso 'carbon credit' was no more fictitious, ambiguous or imperfect than some of the more familiar paper tokens that circulate within PNG's forest property process, like land group certificates, landowner company records, or the minutes of meetings that purport to demonstrate landowner 'awareness' or 'consent' (Bell 2009). While policymakers have sought to restore the authority of existing tokens of ownership during moments of bureaucratic consolidation, or to invent new ways of authenticating transactions in forest property, their efforts seem doomed to failure. This is partly due to the unequal distribution of knowledge (or ignorance) among the players in the forest property process, and partly due to the refusal of many players to follow the rules. But the constitutional recognition of customary land rights also acts as a basic constraint on the rationalization and commercialization of property rights in native forests (Filer 2012). For better or worse, this means that customary landowners cannot be separated from their land except by some form of trickery or deceit, and outsiders can only extract commodities from their forests by means of negotiations and transactions that continually fail to meet international standards of transparency.

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