Asking the question: Is Papua New Guinea REDD-ready?

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Abstract

Following recent criticism of the Papua New Guinea's (PNG) progress towards adopting a Reduction of Deforestation and Forest Degradation (REDD) program, the article attempts to widen the technical, economic and social perspectives that impinge upon the country's REDD readiness. The discussion centres on ceasing or cutting back on selective logging for export which is the most amenable to REDD actions, given that it is under the control of the government and has had its large greenhouse gas abatement potential scientifically assessed. Conclusions are that that there are several preconditions necessary for the introduction of REDD, with the development of credible policies and plans being

central. A performance-based method for delivery of REDD funds at local level is key, in tandem with a national approach, fully costed, adopting rigorous standards of measurement and verification, but targeting specific areas of forest. The approach would achieve three things: the matching of costs with REDD funds, a reduction in administration and a minimization of the risks of leakage.

Key words: REDD plus PNG; REDD and development; REDD and corruption; REDD and logging; Payments for environmental services; PNG forests

Introduction

Sixty three percent of Papua New Guinea, a developing country in the western Pacific (Fig.1), is covered by forest. While 26,210 hectares is primary forest, it is one of five countries with the largest decrease in primary forest over the last 20 years [1] (FAO 2010), the rate of loss accelerating in recent years.

Figure 1: Papua New Guinea is comprised of the eastern half of the island of New Guinea and numerous islands in the western Pacific.

It has been estimated [2](Hunt 2010) that a continuation of export logging will generate cumulative CO_2 emissions of 400Mt from 2012 to 2020, and amount to 700Mt by 2025. A reduction in deforestation and forest degradation scheme (REDD) to cease export logging in PNG would thus make a substantial, and near term, contribution to a reduction in global emissions. However, Melick (2010) [3] has outlined the factors that have undermined the delivery of REDD in PNG, and Greenpeace [4] (2010) has asserted that PNG is not ready for REDD.

While not disagreeing with Melick and Greenpeace, we take a closer look at the impediments to REDD by examining the country's administrative capacity and the physical, economic and social characteristics that impinge upon the adoption of REDD.

The need for such discourse has been heightened by the earmarking of substantial sums for the conservation of carbon in the forests of tropical developing countries [5], [6]. (Laurance 2008, 2010). A Green Climate Fund was foreshadowed for the reduction in deforestation and forest degradation (REDD) at the Cancun climate change conference [7](UNFCCC 2010: Clauses 100,102). The funds-based

schemes could be seen as precursors of an eventual market-based scheme facilitating global carbon trading that would include carbon from REDD [8], [9](Hunt 2011).

At the UNFCCC-COP 13 meeting in Bali, where a roadmap for the implementation of REDD was officially recognized, the concept of global REDD was advanced. Over the next two years, the concept of "REDD-plus" emerged, calling for activities to address issues relating to the implementation of REDD and implications for local communities.

REDD-plus mechanisms should be robust enough to instil credibility in terms of reduction in emissions, deal with in-country and international leakage, deliver ecosystem benefits, and provide incentives for sustainable forest management. Importantly, REDD-plus programs should also ensure that benefits are equitably distributed within countries and internationally, and that the rights of Indigenous peoples are protected. This wider ambition of 'REDD-plus', is the focus of our analysis.

In most tropical forested countries, and Indonesia provides a good example, the government claims ownership of most of the land but property rights are often unclear and in dispute. In contrast, in PNG, customary ownership is recognized in the country's constitution. Over 90 per cent of the land and the forests they contain thus constitute major tangible resources of PNG clan and community groups. Given this recognition of tenure, REDD finance for forest conservation could deliver long term additions to landowner livelihoods. It could also facilitate the conservation of the country's unique biodiversity. PNG could thus provide an example of how benefits might flow to Indigenous people from REDD.

The potential benefits of REDD on the one hand, and the barriers to incorporating the needs and aspirations of the poor and Indigenous peoples on the other, have been extensively canvassed [10],[11],[12]. But in this essay we attempt to be more specific in suggesting how these barriers might be overcome. We suggest that the deployment of REDD funds should be based on two overarching principles – efficiency and flexibility: efficiency as it relates to the distribution and use of REDD funds, and flexibility as it relates to meeting community needs and aspirations in diverse local environments. Given that REDD schemes are characterized by top-down flows that require diverse bottom-up responses, we believe that the application of these principles could apply in delivering REDD-plus in other tropical developing countries.

2. Credibility gaps in PNG's present REDD policy

Despite the absence of land tenure problems that plague other forested developing countries, translating the REDD concept into practical actions in PNG has proved to be far more difficult than was first thought. Melick [13] asserted that it has been the emphasis on financial gain that has completely undermined the development of comprehensive REDD policy in PNG. That this has been the case is illustrated by the well-publicized activities of private traders who promised cash in exchange for carbon pledged by landowning clans [14]. In our view, more damaging to PNG's prospects than the dealings of unscrupulous carbon traders has been the blatant focus of the government on attracting rewards for REDD rather than on producing credible estimates of emissions and plans for their mitigation. The government employed McKinsey and Co to prepare the baselines or reference points for its official climate policy [15],[16]. But these forecasts contain large cuts in carbon emissions made possible by predicting very high levels of growth in carbon intensive activities and hence in business as

usual (BAU) emissions [17],[18],[19]. Rather than encourage donors to invest in PNG REDD these policies are likely to set donor alarm bells ringing.

Notwithstanding the lack of credible policy development so far, our focus is on whether a REDD scheme is feasible in financing a cessation or reduction in selective logging activity in PNG. Other means of abatement of emissions from land use change and forestry are not practical. The opportunity costs of reducing oil palm development on secondary or already-logged forest would outweigh the relatively small abatement in greenhouse gas emissions achieved [20]. Reducing or modifying smallholder agriculture and subsistence farming is impractical given that the measurement of abatement achieved would be very costly, and in any case such activities may already be quite efficient [21].

3. Stakeholders in logging and the opportunity costs of REDD

In order to discuss REDD prospects in PNG it is first necessary to review the benefits that the nation and stakeholders derive from export logging of native forests and their opportunity costs if it ceased or was reduced in scale [22]. The stakeholders in export logging are the landowners, logging companies and the PNG government. The government is a major recipient of income through the application of a tax of 28.5 per cent on the free on board value of log exports. This tax is returning some US$70 million a year at current log export prices and current rate of logging [23]. The PNG economy is expanding and the log export tax now constitutes only a small proportion of government's total receipts [24]. But resistance can still be expected from the PNG government if REDD funds associated with a cessation or a decrease in logging are perceived to fall short of fully compensating for its future opportunity costs; a resistance perhaps exacerbated by rapidly rising log prices [25].

REDD would occasion an increase in actual government expenditure as well as an opportunity cost. Government financial resources will be called upon for the establishment of the institutional framework and administrative arrangements for a REDD scheme. Activities to be funded include mapping the forests to be conserved, identification of landowners, and assistance to communities to prioritize their development options and to ratify their plans. If REDD did become a reality, the government would be able to use for its administration some or all of the funds that it presently spends on managing logging through the PNG Forest Authority – some US$13 million a year [26]. Nevertheless, transaction costs could still make considerable inroads into REDD funds, and before committing itself the government would need to be sure that it would be financially capable of administering REDD.

In the case of logging companies, the opportunity costs of a cessation or reduction in export logging under REDD are their profits foregone. The annual accounts of logging companies are not accessible to the public and opportunity costs can only be approximated from company gross returns, which are log export income, less government log tax, less landowner royalties and development benefits. This is estimated by Hunt [27] at US$38 million in 2011. Given that the PNG government is in possession of logging company income tax returns it should be in a position to determine fair compensation. However, considerations of "fairness" in economic terms could well give way to political considerations, dictated by the lobbying capacity and strength of political representation of stakeholders.

In contrast to the relatively simple criteria applicable to the disbursement of REDD funds in the case of government and logging companies, the task of determining how REDD funds should be distributed to landowners is formidable. While forest property rights are indisputable, and their share of proceeds of log export income is clear under legislation and regulation, the share of benefits may be disputed between landowners, particularly where land ownership has not been correctly identified. Ways and means need to be found not only to facilitate equitable distribution of REDD benefits but also to ensure that they result in socio-economic improvements.

Presently, PNG landowners receive direct cash royalties from logging according to the volume of timber removed from their land, the owners of the trees having been previously identified by the PNG Forest Authority, which is the agency managing the distribution of their share of log export income. Royalties amount to slightly less than a quarter of the total flow of log income to landowners, which will total about US$45 million in 2011 [28]. The majority of landowner income is deposited in specific funds to be released for approved development projects in logging concessions. These funds are administered by committees and agencies outside the control of landowners but their effectiveness in delivering development is questionable [29]. Therefore this system of administering development funds should not serve as a model for the distribution of REDD funds.

4. REDD and the development imperative

The need for flexibility in the allocation of payments for environmental services such as REDD has been discussed by Pascual et al. [30]. To be efficient, rewards to landowners from REDD must bear a close relationship to the quantity of carbon conserved. Rewards for groups and communities in carrying out programs in conserving and protecting their forests programs through for example prevention of fire and illegal logging could also be classed as efficiency payments. These would be made on a regular basis from “non-discretionary funds” to ensure service continuity.

We also propose that REDD funds would be used for implementing development plans for the need to link REDD with development [31]. Through their plans, communities have the flexibility to express their needs and aspirations. Payments depend on community needs for economic development and social infrastructure, such as schools and clinics and are based on performance.

An important role of government is to set the policy framework within which the efficient and equitable distribution of funds at the regional level can take place. While the government can oversee activities such as the formation of trusts and planning, the development of these instruments will be best facilitated by NGOs that have a much greater presence at regional and local levels. We believe that no new legislation is required to facilitate the administration of REDD funds – Trust Law, the Organic Law on Provincial Governments and Local-level Governments, and laws relating to land tenure are adequate. The challenge, for administrators and NGOs, is to design a system of administration and distribution of funds both at national and regional levels that is proof against maladministration and corruption.

5. Corruption and REDD

In PNG the potential for corrupt dealings is very real. The World Bank’s [32] assessment of the PNG’s ability to control corruption is among the worst and has been declining for more than a decade. Press

articles on the disappearance of logging income, destined for the benefit of the landowners, reinforce the risks in the transfer of REDD funds [33]. Moreover, scandals involving the issue of fraudulent carbon credit certificates have reached the highest levels of administration, resulting in the removal from office of the head of the PNG Office of Climate Change [34]. We therefore feel it is instructive to enter into a specific discussion of future corruption risks in relation to REDD generally and PNG in particular.

At the international level, the Kyoto Protocol's Clean Development Mechanism (CDM) has come under fire because the award of credits and the policing of their integrity have been weak; it has also failed to promote real emission reductions while facilitating massive wealth transfers [35],[36]. It would appear, however, that there are far greater opportunities for fraud in relation to REDD than under the CDM. These surround the measurement and verification of carbon sequestered and the manipulation of baselines or reference points against which REDD is measured. Brown [37] cites the possibility of the falsification of emission reductions achieved or achievable, for example as a result of bribes to verifying officials in exchange for not raising objections to overly generous estimates of emission reductions.

An example of the exaggeration of emission reduction is the claim that a substantial cut will follow the adoption of low impact logging [38]. There is already a Logging Code of Practice in force which is aimed at minimizing the damage to forest in logging operations [39] but its application is very patchy and collateral damage is the major source of emissions in log extraction [40],[41],[42]. The reduction in emissions from low impact logging should therefore be the difference between emissions under the Logging Code of Practice and emissions under low impact logging, rather than the much larger difference between emissions under present destructive practices and low impact logging. Another example of the adoption of a questionable reference point is the substantial reduction in emissions claimed from a shift in oil palm establishment from forested areas to already-cleared land. Of the 77 Mt CO_2 of abatement claimed for land use change and forestry in PNG by 2030, 10 Mt is from this shift [43]. Yet there is no attempt to quantify the availability of such land to accommodate the rapid rise in palm oil area projected.

Perhaps an even greater risk than that of fraud relating to the level of emissions abated by REDD schemes, is the maladministration that could plague the transfer of large (relative to developing country incomes) REDD donations from governments to landowners or rural communities. In view of this we stress the need to ensure that the conduit for REDD funds is as short and direct as possible. The top-down flow of REDD money either from donors or the carbon market must be administered by an independent entity. Such an entity could be made up of representative of donors, government and landowners and have the power to invest and distribute funds and be obliged to publish its audited accounts annually.

6. A national approach to REDD

It will be the responsibility of the PNG government to ensure not only that its reference points and BAU estimates of emissions are credible but that a reduction in deforestation in one location is not cancelled out by an increase in deforestation in another or that forest degradation does not go undetected [44],[45]. Such situations could arise from the piecemeal application of carbon standards or from the clearing of forests to make way for agricultural development, timber plantations and

extractive industry projects. In our view, only the establishment of a rigorously administered, nationwide carbon inventory by the central government will ensure that such carbon leakage does not undermine applications of REDD and that net entries in the forestry sector inventory are positive.

The Cancun climate change conference failed to form an international body with the power to instil REDD best practice and optimize the use of resources. This vacuum has led to a burgeoning of disparate initiatives outside the UNFCCC framework [46]. These programs include the REDD+ Partnership [47], the Forest Carbon Partnership Facility [48] and the Forest Investment Program [49], The Governor's Forest and Climate Task Force [50] and other private and public partnerships. It is now almost seven years since the Coalition of Rainforest Nations, led by PNG and Cost Rica, submitted the original REDD proposal [51]. Yet an overarching REDD program still does not exist, nor does a system to monitor international leakages [52]. Meanwhile, the world has lost another 50 million hectares of forest [53] and our estimates are that PNG will have lost about a million hectares to logging.

Despite the lack of direction that could have set PNG on the road to REDD, positive action has been taken. Research on the carbon content of primary and recovering forests is well advanced [54],[55](Fox and Keenan submitted; Fox et al. 2010). Complementing this work are the methodologies developed for determining national net emissions abated by a reduction in logging (see Figure 2) and for estimating stakeholder opportunity costs of such abatement [56].

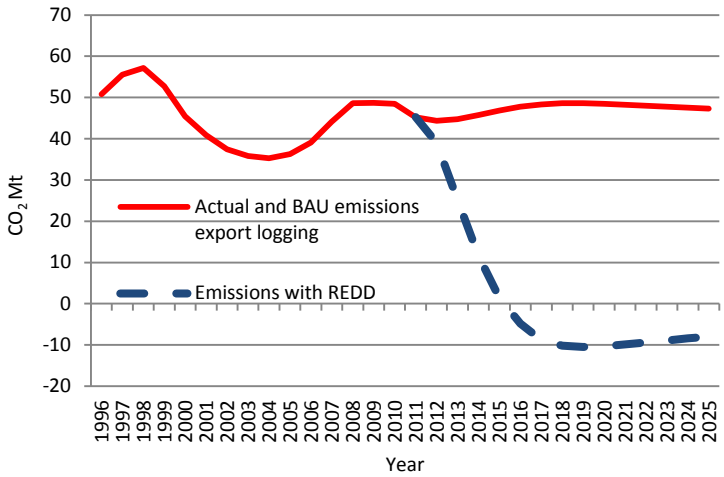

Figure 2: Abatement of emissions projected for REDD in PNG is the difference between business as usual (BAU) emissions projected and emissions expected after a cessation of logging (emissions with REDD) in 2012. Emissions with REDD become negative in 2016 as the amount of sequestered carbon in regrowth becomes greater than emissions (mainly from decaying dead trees) in logged areas.

Source: Hunt (2010).

These developments should complement the efforts of the Un-REDD program [57] and the PNG-Australia Forest Carbon Partnership [58], which have pledged funds for development of national REDD policies, capacity building, MRV systems and stakeholder awareness. While this financial assistance is important, the policies and plans will be ineffective unless there is ownership of them by the PNG government.

Continuing on the theme of national approaches to REDD we argue that targeting discrete zones for REDD would seem to be preferable to a scheme that diffuses effort and expense throughout the country. These zones could, for example, be comprised of planned logging concessions, with additional criteria applied such as levels of carbon sequestered and degree of landowner cooperation. As well as achieving efficiency another advantage of such zoning, compared with a fragmented scheme, is that it would facilitate monitoring and limit the possibilities for corruption [59]. In PNG, provincial governments are notoriously weak, ruling out a sub-national approach to REDD.

7. Summary and conclusions

We conclude that PNG is far from being REDD ready and its failure to successfully progress REDD policies and programs are being plagued by systemic administrative and political problems. Nevertheless, the potential global and national benefits justify a continuation of effort to work towards the installation of a REDD program in PNG, prioritized as follows.

The first requirement is the development of REDD policies that include transparent plans for cuts in emission from land use change and forestry with credible reference points and, in aiming for equity, the calculation of associated opportunity costs. We favour a national approach and the eventual adoption of protocols for measurement, reporting and verification (MRV) of the carbon sequestered in forests, as specified in MRV systems and design principles specified by UNFCCC. While there are MRV protocols outside the UNFCCC, our preference for UN protocols is because a uniform standard will minimise risks of leakage, as well as being acceptable to potential REDD donors. The development of sound and transparent policies and plans will encourage donor investment in REDD even if the UNFCCC fails to develop protocols. An approach that targets discrete areas for REDD will avoid the administrative and cost burdens of overseeing a large number of small scale projects, provide a clearer focus on what is achievable, and instil confidence in prospective donors.

Given the imperative to improve socio-economic conditions at the local level in PNG, no REDD scheme should be acceptable unless it contains institutional arrangements for the efficient but flexible distribution of REDD funds that will facilitate development. Efficiency in REDD delivery will be enhanced by matching local REDD rewards against achievement in meeting local development goals that have been locally formulated. This incentive will be enhanced if a strong link is made between the payment of funds and actions to conserve the forest.

At the same time, all stages and levels of planning at national and regional level must be designed to minimise fraudulent claims and the misappropriation of REDD funds. This will be facilitated by installing a direct conduit between the central REDD fund and local trust funds that reward REDD projects, the administration of which would be overseen by an entity representative of the stakeholders.

To ensure that plans materialize they must be fully costed, and the costs must be matched by the flow of REDD and other supportive funds. It goes without saying that a complementary imperative is proper accounting and auditing of the funds disbursed and used, at both national and local levels.

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