



ITS Global

Consultants on Global Issues

Global Initiative on Forests
and Climate

Proposals to the Australian
Government by the Papua
New Guinea Forest
Industries Association
(PNGFIA)

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Executive Summary

The Papua New Guinea Forest Industries Association (PNG FIA) welcomes the Australian Government's Global Initiative on Forests and Climate (GIFC). Papua New Guinea's (PNG) forest conditions are unique. GIFC projects need to reflect PNG land tenure, legal, policy and institutional arrangements and realities.

Forest cover in PNG has been quite stable since Independence. Landclearing reflects population pressures (particularly in the Highlands) and for agriculture. PNG's forest endowment is not under threat from commercial forestry.

But it does not follow that the scope for cost-effective sustainable development and carbon absorption outcomes under GIFC are any less in PNG than it is in other target countries. GIFC investments that encourage the momentum towards sustainable forest management can achieve cost-effective outcomes.

Designed and implemented in concert with PNG's private sector forestry industry, GIFC offers the prospect of two economic and environmental benefits in the event that PNG participates in an Australian emissions trading scheme: access by Australian entities to low cost abatement in PNG (subject inter alia to the risk premiums on PNG permits); and financial incentives and capacity building assistance to PNG from GIFC. It is not a case of either/or. There are win/win opportunities.

Challenges include: PNG's capacity to implement and meet commitments; measuring and verifying its emissions from increasing the carbon absorptive capacity of its forestry endowment; and increasing the capacity of key institutions to deliver what Australia requires under GIFC.

The PNG FIA proposes some pilot projects where some basic facts about the carbon absorptive capacities of PNG's forestry endowment require further analysis. These proposals reflect the belief that there is scope cost-effectively to increase carbon absorption from both native and plantation forestry - while also improving socio-economic outcomes for PNG from the use of its environment endowment. Examples include pilot projects involving the private sector to undertake silvicultural investments in forested areas; assessments of on-ground outcomes in forested areas and identifying options for reforestation, particularly on degraded land; identifying the preferences of local people and designing incentive payments that are based on sound economics and what works in PNG rather than theoretical concepts; and undertaking a full forest inventory.

The PNG FIA looks forward to working with the Australian Government on this important initiative. Misperceptions about the nature of the commercial forestry industry in PNG have cost the Government and the people of PNG a great deal. The PNG Government and its people want to maximise the sustainable development of its forestry endowment. Constructive engagement by GIFC officials with the commercial forestry industry offers Australia the prospect of maximising the achievement of GIFC's objectives.

Global Initiative on Forestry and Climate: Achieving objectives via the catalytic role of private sector forestry in Papua New Guinea

Purpose

Australian Government agencies have sought suggestions from the Papua New Guinea Forest Industries Association (PNG FIA) on how the Global Initiative on Forestry and Climate's (GIFC) objectives can be achieved in Papua New Guinea (PNG). The PNG FIA looks forward to constructive discussions with Australian and PNG officials on them.

Introduction

The PNG FIA welcomes this initiative. It represents an opportunity to maximise the sustainable development and carbon absorptive potential of PNG's forestry endowment. The PNG FIA, on behalf of its members, wants to work constructively with the Australian Government. It believes the prospects for achieving GIFC objectives in PNG will be maximised if the Australian Government understands the catalytic role the commercial forestry industry can play.

This report identifies a range of areas in which funding could make a practical contribution to achieving GIFC's twin objectives. Its premise is that to maximise the contribution of PNG's forestry endowment to GIFC's sustainable development and carbon absorption objectives the nature and operations of commercial forestry in PNG need to be understood. It is hard to see how GIFC objectives can be maximised in PNG without the cooperation of the commercial forestry industry.

Commercial forestry facts

PNG's forestry endowment is being used sustainably. The rate of deforestation is low. The United Nations Food and Agriculture Organisation (FAO) concludes that for the past decade the rate of forest reduction in PNG was less than 0.5 per cent per annum – unchanged since the 1990s. The global rate is 2 per cent. Deforestation reflects primarily population pressure, especially in the Highlands. Social and other tensions in the Highlands make it an unattractive option for commercial forestry. In other areas, where soil and rainfall conditions combine with low population densities and transport access, commercial forestry has demonstrated its ability to make a major contribution to sustainable development.

Just because there has been limited deforestation in PNG, it does not follow that its forestry endowment has limited potential to achieve significant carbon absorption/abatement. Policy and institutional changes can be achieved under GIFC which would increase carbon absorption – without undermining the economic contribution of commercial forestry.

Commercial forestry in PNG is generally legal. Permits are issued by the Government in accordance with its law. Cutting cycles are appropriate. Land that is inappropriate for commercial forestry is off limits. Around a third of the total area of PNG is not allocated for any purpose. Land titling is complex, meaning legality verification is not straightforward. However, systems of verification are being developed which will involve verification of the legality of timber products in PNG. The industry is addressing the need to provide evidence

of legality and provide transparency. This is a market-driven response to misconceptions about illegal logging in PNG.

Sustainable forest management and GIFC

The task is to encourage the forestry industry to continue to implement sustainable forest management as fast as possible and thereby to maximise carbon absorption/abatement.

It can be expected that PNG will follow the key principles of the Kyoto Protocol. It can be expected to be committed to the Reduced Emissions from Degradation and Deforestation (REDD) process. It can also be expected to seek to use GIFC to maximise the development potential of its forestry endowment. It is most unlikely to agree to rules and institutional arrangements that would, in its view, constrain its ability to use its forestry endowment for sustainable development and poverty alleviation.

In the light of the Australian Government's High Level Meeting on the GIFC, some background issues are better understood. But for PNG and its commercial forestry industry, clarification is needed on some key threshold issues:

- Is plantation forestry to be included, and if so on what basis?
- Is equal weight to be placed on avoided deforestation and carbon absorption? If not, how can the initiative maximise the carbon absorptive potential of PNG's forestry endowment – and enable PNG to achieve its legitimate development objectives?
- Will Australia apply Kyoto Protocol sinks rules, or is it prepared to develop and apply a set of rules that will maximise the incentives for private sector investment in sustainably developing PNG's forestry endowment? Is Australia prepared to develop and negotiate sinks rules that maximise its access to the low cost abatement potential of PNG's forestry endowment while also enabling PNG to achieve its commercial forestry objectives?
- Can GIFC funds be used for silvicultural investments?
- Can PNG participate in an Australian emissions trading system, and if so under what conditions? What would the implications be for commercial forestry in PNG from such participation?
- What is the balance between maximising the carbon absorptive capacity of PNG's forestry endowment and avoided deforestation? Is equal weight put on these two concepts?

Carbon absorption and GIFC

A range of issues need to be addressed in developing strategies to reduce carbon emissions. Successful strategies requiring change in each of those factors need to be specifically focused on those factors. Those issues usually encompass:

- Improving sustainability of commercial native forestry;
- Improving governance;
- Improving environmental management and standards in forestry and enhancing capacity;

- Enhancing alternative forestry options and payments for environmental services;
- Fostering the development of plantations;
- Payments for environmental services;
- Carbon absorption;
- Carbon trading; and
- Risk management.

Each of those issues are briefly examined below with suggestions of actions which could be taken in PNG to support the goals of the Global Initiative on Forestry and Climate.

Improving the sustainability of commercial native forestry

Background

In Papua New Guinea, around 65 per cent of the country is forested. Of that, around half remains unallocated for any purpose. The remainder is earmarked for other uses, including for sustainable commercial forestry.

The area under forest (excluding plantations) has declined by 6.7 per cent since Independence.¹ Forest cover has been quite stable for 30 years. The annual rate of loss is estimated at less than 0.5 per cent per annum. The major cause of deforestation is population increase in the Highlands and conversion of forest land to other productive purposes, such as agriculture and other commodities, such as palm oil, copra, tea and coffee.

Commercial forestry in PNG is harvesting only around two thirds of the sustainable cut as estimated by the International Tropical Timber Organization (ITTO).²

Commercial native forestry and carbon absorption

Commercial native forestry is legal and more rather than less sustainable. It delivers economic and social welfare and infrastructure benefits, especially in remote rural areas. These benefits are very significant. They are understood and valued by local people. If the commercial forestry industry did not provide these services, there are no grounds for assuming that the National and/or Provincial Governments would do so – let alone maintain such investments even when notional allocations are spent.³

FAO and ITTO figures (cf. footnote 2) make it clear that commercial forestry is not undermining PNG's forestry endowment. Land which may be forested is clearly identified. Conservation areas are set out. Around one third of the total area of PNG is not allocated for any purpose.

Deforestation is not an existing problem in PNG. It may be a potential problem. But it does not follow that the scope to use PNG's forestry endowment to secure carbon absorption under GIFC is any less in PNG than in other GIFC target countries.

Nor is it true that its forests are under imminent threat of destruction. PNG has very good growing conditions. It is moving to sustainable forest management principles and practices. Regrowth forests absorb more carbon than mature forests. Using GIFC to encourage PNG to put in place policies and institutional arrangements to maximise the carbon absorptive potential of its forestry endowment would deliver significant carbon and development outcomes. Such outcomes are likely to be very cost effective – especially compared with the risks in other target countries.

The principal means to secure gains in carbon absorption in PNG lie in more sustainable management of commercial forestry. Industry understands this and is in a better position to

¹ See ITS Global, *The Economic Importance of the Forestry Industry to Papua New Guinea*, page 45.

² ITS Global, *The Economic Importance of the Forestry Industry to Papua New Guinea*, pages 44-47, at www.forestryanddevelopment.com.

³ The economic report by ITS Global cited in the preceding footnote provided a case study of the economic contribution of Rimbunan Hijau's Wawoi Guavi project. It demonstrates that in addition to generating jobs in a remote part of PNG, the infrastructure and health and education services are significant and used and valued by local people – who understand that without commercial forestry they would have neither jobs nor access to these services.

deliver improved outcomes than Government.

Scope exists to develop plantation forestry, but not as an immediate replacement for commercial native forestry. A high priority should be attached to getting plantation forestry established. There is also scope to encourage plantation forestry investment in degraded lands.

Proposed action

A pilot project could identify the potential carbon absorption from improving the long term sustainability of commercial forestry. This would require technical analysis of a range of issues, such as current conditions on the ground (before and after logging), growth rates and types of tree species, carbon absorption, current and prospective cutting cycles, biodiversity dividends and any important factors that could influence carbon absorption rates – such as fires, illegal logging and natural disasters.

The way forward would need to be agreed by the PNG Government and supported by industry.

Green non-government organizations (NGOs) should be consulted in any pilot project, but trying to secure a “consensus” view including those NGOs will not succeed – they are opposed to commercial forestry.

There are some lessons from recent European Union (EU) failures to improve forestry – both in PNG and elsewhere. Its actions have raised doubts in PNG about the extent it regards commercial forestry as a legitimate instrument for development. PNG wants to use its forestry endowment for sustainable development and poverty alleviation. The EU is more interested in governance – as its Forest Law Enforcement, Governance and Trade (FLEGT) program makes clear. PNG can be expected to be wary about attempts to have the EU involved in any GIFC projects.

Implementing arrangements could be identified as part of a pilot project. FAO and ITTO could provide advice and may be prepared to be involved in some elements of implementation. A government/industry strategic partnership on implementation will need to be identified. Clarification will be required on the extent of industry involvement in implementation – which will in turn hinge on the details of GIFC modalities as well as clarification on the questions set out in the Introduction.

Caution is needed in seeking to involve World Bank processes given its pursuit of governance over development objectives and the previous relationship with the PNG Government in its failed Forestry and Conservation Project.⁴

Silvicultural investments

One of the most effective ways to secure carbon absorption would be to involve the commercial forestry companies in measures to promote re-growth after harvesting. Silvicultural investments maximise regrowth. A silvicultural levy is paid by the forestry companies to the PNG Forest Authority (PNG FA). However, silvicultural investments have not been made by the PNG FA. What impact the lack of silvicultural investments is having in slowing the rate of regrowth (including whether tree species and size are being replicated) is unclear.

⁴ For a more detailed analysis, see ITS Global, *The World Bank and forestry in PNG*, at www.forestryanddevelopment.com.

Forest experts and economists with expertise in PNG forestry concur with the view of the PNG FIA:

- There is very considerable scope to improve the way silvicultural investments are undertaken in PNG; and
- Doing so would generate significant carbon absorption outcomes as it would maximise the probability of enabling the cut native species to become established rather than the default option, i.e. slower growing (but resilient) re-growth that characterizes many forested areas of PNG.

To the extent that such investments enable fast growing young trees to become established in areas where experience demonstrates they are suitable, then other things being equal there should be carbon absorption and biodiversity dividends.

There is scope to use GIFC investments to facilitate a more efficient set of arrangements to trial more efficient approaches to silvicultural investments in PNG by giving forestry companies responsibility for undertaking specified silvicultural investments. The project would be designed to assess the carbon absorption impacts of different silvicultural investments.

The forestry companies would use local labour for this work. The most labour-intensive part of silvicultural investments is in the preparation and planting of seedlings, and in clearing vegetation around these trees in the first few years after planting. Once they become established, monitoring is much less labour-intensive.

GIFC could fund some silvicultural investments along these lines. Doing so would require the support of selected forestry companies. Putting in place institutional arrangements would require further consideration. A key issue is monitoring and measurement of tree growth. Conceptually, satellite mapping could be used to monitor progress of silvicultural investments. Whether the technology will work as expected in PNG's conditions remains to be seen. There would be value in using both satellite mapping technology and on-ground monitoring and evaluation of re-growth outcomes.

Proposed action

GIFC could fund several pilot projects, implemented by industry, to identify the potential for silvicultural investments to deliver sustainable development and carbon absorption objectives. Such pilot projects could develop the design of a universal scheme for the forestry industry, whereby the forestry companies, in parallel with the Government, undertake silvicultural investments.

An output would be to undertake an analysis of the impact on regrowth and on carbon absorption for various silvicultural strategies and whether, at selected sites, logged forests are replacing themselves. Some of the background information is available but would be augmented by specific plot analyses. Estimates would be made of potential carbon absorption and sustainable development outcomes from silvicultural investments.

Improving governance

Background

Governance in the context of GIFC objectives refers to the quality and effectiveness of public sector regulation and management of PNG's forestry endowment.

Governance outcomes in the forestry industry reflect existing law (primarily the Forestry Act and laws governing access to and use of land) and institutional arrangements. There are governance challenges in the forestry sector. But they are minor by comparison with those in other sectors.

The governance problems in the forestry sector flow from the institutional arrangements for forestry and the behaviour of those who can access funds. The problem is not between the forestry companies and the government – where the law and competitive bidding processes governing the allocation of timber permits are appropriate and operate reasonably well. It is, rather, at the next level up the governance chain: where forestry funds do not “trickle down” to local people because officials, the well connected and landowner companies take their cut.⁵

The real governance challenges in the forestry sector in PNG relate to how to improve the quality and effectiveness of the policy and institutional settings.

But addressing governance problems is politically difficult. Removing “rent” from those who receive it under existing forestry arrangements will be hard. Strategies to address corruption require a change of values. This is not quickly achieved.

None of the leading features of corruption will be quickly changed. Strategies to improve the absorptive potential of PNG's forestry endowment, and hence the measurement and sale of carbon emissions, which presume these changes are necessary pre-requisites will produce meager results.⁶

It is worth recalling some facts about the forestry industry in PNG:

- Tender processes for timber permits are transparent;
- The forest industry is developing systems to verify legality of forestry. The incidence of “illegal logging” has been greatly overstated;

⁵ This argument is taken to its logical absurdity by those who claim that such arrangements do not deliver any socio-economic benefits to local people from forestry activities on their land. Local people derive benefits from the contribution of forestry activities to National and Provincial Government budgets and the jobs, infrastructure and health and education services generated in rural areas by forestry companies.

⁶ Some useful governance lessons from the cluster evaluation of three AusAID projects in PNG suggest that approaches to governance need to be grounded in projects that are developed strategically and well focused. A good way to achieve such an outcome would be to ensure GIFC governance projects are developed with the full support of the commercial forestry industry. An evaluation of governance projects undertaken as part of Omdudsman Commission Institutional Strengthening Project (OCISP); the PNG-Australia Treasury Twinning Scheme (PATTS); and the PNG Advisory Support Facility (ASF) produced an evaluation report, which provides some guidance to the design GIFC governance programs. Specifically, the report noted that: public sector/economic/financial reform activities must be strategically developed, properly targeted and prioritised and implemented to strengthen capacity and performance of PNG institutions in support of government priorities and not just improve specific technical competence; high-level support for public sector reform is lacking, the public service is highly politicized with diffuse accountability and a re-thinking of approach drawing on past experience is essential; technical assistance under PATTS has not been team-based, and professional interactions have been ad hoc and disorganised; the scope of coverage of public sector reform agenda needs to be better understood so projects and activities can be placed in a strategic context; the OCISP reflects characteristics of a successful, discrete, well-defined public sector reform activity, designed with good professional content and a good approach to implementation.

- The forestry industry suffers from a lack of people with the required technical forestry expertise. The Lae Forestry School is not meeting the demand for such skills. It and other institutions (for example the Vudal University, the Bulolo Forestry College and the Timber and Forestry Training College) need to be upgraded. It is a case of putting in place improvements in training at existing institutions, rather than establishing them.

If there was a desire for GIFC to demonstrate action to reduce the risk of illegal logging, the most effective spend would be to provide funding to companies to implement systems to verify legality and train staff to manage them.

The best approach to addressing governance in PNG via GIFC is to design programs that reflect an understanding of what has worked and what has not. In the forestry sector, that means encouraging the positive evolution of governance in recent years. It also points to the value for GIFC of close involvement of the commercial forestry sector in seeking to address governance challenges.

Seeking to achieve governance improvements in the forestry sector in PNG via GIFC presents opportunities and challenges. PNG is moving to address both policy and institutional reforms in areas of its forestry industry. It has replaced the progressive log export tax with a flat tax – which introduces better incentives to maximize export revenue and removes any incentives there may have been for transfer pricing.

GIFC can encourage PNG to continue to move in the right governance direction. Care will be required in ensuring objectives are realistic; that partner agencies are supportive and competent; that governance programs under GIFC reflect the lessons from recent governance programs; and are consistent with PNG Government objectives for the forestry sector – which are to use its forestry endowment to achieve both sustainable development and poverty alleviation objectives.

Proposed Action

- The professional and technical management capacity of the PNG FA to perform its functions could be improved by extending the Department of Agriculture, Fisheries and Forestry (DAFF) program (which should include exchange programs) and by identifying specific additional assistance that will be required for PNG FA to undertake to give effect to additional demands on it from GIFC.
- An assessment could be made of the capacity enhancement needs of the Lae Forestry School, the Vudal University and the Bulolo Forestry College. Funding could be provided via GIFC.
- Establish a trust fund to fund adoption of systems of legal verification for forestry.

Environmental management and standards and capacity building

Background

To achieve GIFC objectives an environmental baseline for forestry in PNG needs to be undertaken. Four measures present themselves:

- A full national forestry inventory. This is necessary to establish a proper technical base for managing the forest environment and biodiversity. The existing inventory (by Commonwealth Scientific and Research Organisation) was partial and done many years ago;
- A sound scientific analysis of regrowth cycles of major species. The output would be an important baseline for developing sustainability policies. In doing this analysis, it would be desirable if the experience of the forest industry is used. The industry is the repository of a lot of the scientific and technical expertise available on forestry conditions in PNG;
- Identify and classify the principal forest biosystems. Scientifically-based criteria for conservation need to be established and to inform policy; and
- Develop a set of criteria and indicators for forestry in PNG based on ITTO criteria and indicators. This would ensure that PNG is developing forestry policy in accordance with world's best practice.

Contrary to assertions by green NGOs, adverse environmental outcomes in PNG are not attributable to the activities of the commercial forestry sector. There is no evidence of a substantial loss of biodiversity from commercial forestry. The forest cover has declined by 6.7 per cent since independence – much of which has been for agriculture. Deforestation problems are largely confined to the highlands and reflect problems such as population pressure rather than commercial forestry, as well as wider failures of governance in the highlands.

Key capacities in the forestry sector have been allowed to run down. There is an acute lack of skills. Options are to upgrade the Lae Forestry School, the Vudal University (which provides agricultural training), the Forestry College at Bulolo and the Timber and Forestry Training College.

Recent Australian Government governance projects in PNG demonstrate the centrality of a long term commitment; identification of milestones, risk management and flexibility; and strong monitoring and evaluation. Ambition needs to be realistic and tailored to local conditions.

Developing and designing specific capacity enhancement options will depend on decisions on the operational modalities for GIFC.

The PNG FA is operating reasonably well, but there is scope for targeted capacity enhancement.

The PNG FIA is improving its capacity. If it was to be used as a delivery agency, some additional but modest capacity building would be required.

A PNG counterpart agency will need to be agreed. The Department of National Planning is well resourced but questions remain over its capacity. The potential role for the Department of the Environment and Conservation (DEC) under GIFC is unclear. It will be difficult to

achieve GIFC objectives in PNG without the active support and involvement of DEC. Depending on the wider design features that are agreed for GIFC, there would be value in building DEC's technical and policy capacities.

Carbon accounting techniques in PNG require improvement. Some of the information required for PNG to adopt carbon accounting along the lines of Australia's National Carbon Accounting System (NCAS) is available. But its quality, coverage and consistency with what would be required to adopt NCAS as its model is unclear. There is therefore scope for a pilot project in this area.

Assistance will be required to use outputs from satellite mapping. Satellite mapping should be regarded as necessary but not sufficient. Clarification is required on the probability of satellite mapping being able to work on the ground in PNG conditions – and specifically whether radar-based imaging can deliver the output at an individual tree level.

A pilot project along these lines could consider the practical issue of what would be required for satellite mapping and a PNG carbon accounting system based on NCAS to work at the individual project level. If PNG's carbon accounting system is to be compatible with that of Australia's as a condition for its participation in an Australian emissions trading scheme, it will need to be able to account for net carbon absorption at the project level.

Carbon leakage will need to be considered. GIFC investments can encourage increased carbon absorption at one project. But whether that results in net national increased absorption depends on the extent of any carbon leakage. This emphasises the importance of satellite mapping and carbon accounting systems that can measure outcomes.

Proposed action on environment management and standards

Implement pilot projects to give effect to the four options outlined above. Implementation arrangements could be as follows:

- CSIRO could be contracted to undertake a full national forest inventory.
- A consultant could be appointed to undertake a scientific analysis of regrowth cycles of major species.
- A consultant could be contacted to identify and classify forest biosystems.
- A consultant could be contracted to develop a set of criteria and indicators for the certification of sustainable forestry management (SFM).

Proposed action on capacity enhancement

- Identify the steps required for PNG's carbon accounting system to be upgraded to enable it to participate in an Australian emissions trading system. This could be done by commissioning consultancy input, following terms of reference that would need to be agreed with the PNG Government.
- Confirm that improved carbon accounting systems and satellite mapping can work at the project level – and if not how they might best be improved.
- Develop detailed proposals for capacity enhancement of the Lae Forestry School, Vudal University, Bulolo Forestry College and the Timber and Forestry Training College; and PNG FA. This could be done via a consultant's report

- Implementation arrangements will need to reflect an industry/government partnership. How this might operate will need to be identified. If there is interest in using the PNG FIA as a delivery mechanism for GIFC, identify capacity enhancement requirements.

Alternative forestry options and payments for environmental services

Background

Forests provide a range of services for local people, including for housing, consumption and food. There is scope to identify how these services can be optimized. The biomass on the floor of native forests provides a range of services. Alternatives to commercial forestry need to be considered and where appropriate enhanced.

Eco forestry is seen by some as an alternative to commercial forestry. But it is not viable without a subsidy. Even with a subsidy, there are questions about the effectiveness and environmental outcomes from some eco-forestry projects. The focus should be on what will work – and to understand why many eco-forestry projects have failed.⁷ The argument that portable sawmills are a viable alternative forestry option is inconsistent with [Australian Centre for International Agricultural Research](#) (ACIAR) conclusions.⁸

Investments in alternative forestry options via the commercial forestry industry offer the Australian Government some comfort that the sorts of adverse outcomes experienced by NGO projects in this area can be avoided. Forestry companies have much closer links with local people than NGOs. These links suggest that if problems arise forestry companies are likely to be better placed than NGOs to work with local people to resolve difficulties. The forestry companies could for example be funded to assist local villages to undertake local silvicultural investments in harvested lands.

The scope for GIFC to provide payments to local people for environmental services, and to structure those payments in a way that minimizes or reduces incentive to cut down trees, is arguably less in PNG than it is in Indonesia – where this is a major source of deforestation.

⁷ The Tonda Wildlife Management Area aimed at generating income for local people. A wildlife lodge to encourage tourists in hunting and fishing was established. When the lodge was under private sector management it worked well and the lodge acted as manager of the Wildlife Area Management Area (WMA). But after the WMA was taken over by the Worldwide Fund for Nature (WWF) it became dysfunctional. An analysis of this project noted that an absence of government officers from stations in the 1980s and 1990s, the neglect of wildlife stations and that annual operations had ceased. This caused anger among communities that feel neglected in their responsibilities for conservation management. (Chatterton, Paul, *Conservation by Communities of Tonda Wildlife Management Area*, page 6, at <http://www.ramsar.org/cop7181cs15doc>.)

The UNDP and Global Environment Facility (GEF) and donor-supported Integrated Conservation and Development project in the Lak area in New Ireland has been evaluated and found wanting in some key respects. Some conclusions from the evaluation of this project, whose field operations were terminated by UNDP and GEF in August 1996, are worth noting, particularly that: royalties from logging are viewed by villagers as an attractive windfall compared with low-reward conservation projects from NGOs, despite offering an “early rewards schedule” package of immediate small-scale development initiatives; prospects for participation were not assessed by project developers; and project staff were motivated by the presence of commercial logging to demonstrate alternatives to royalties; and early project termination was difficult despite obvious constraints to success. (GEF Lesson Notes, *Lessons from Integrated Conservation and Development Experience in Papua New Guinea*, at <http://www.gefweb.org/English3PLN.pdf>.)

⁸ Preliminary conclusions from an evaluation by the Australian Centre for International Agricultural Research (ACIAR) of portable sawmills in PNG concluded that: recovery rates for felled trees could be low, because logs that were inconvenient to saw were left; mill owners lack long-term financial skills, such as planning for machinery repairs or replacement, fuel costs and saw sharpening; the success of the use of portable sawmills could come down to the levels of organization within family groups. ACIAR quotes WWF conceding that eco-forestry “could be financially viable if business establishment, marketing and certification were financially supported by donors. They found that community groups were unable to succeed where they had to borrow the full cost of the equipment and required over 50 per cent of equity to manage the debt”. Some press reports have suggested that a WWF eco-forestry project facilitated illegal logging of mangroves in Kikori River Delta. This project was rejected for FSC certification because of the illegal mangrove logging.

There is however a potentially useful role for payments to landowners/local people in undertaking environmental services – such as silvicultural investments.

Not enough is known about what local people most value. We do not know what their relative priorities are: jobs, education, health or infrastructure services. These preferences should be identified. There is scope to use techniques such as experimental economics to undertake a pilot project that can identify these preferences. Experts at the Australian National University have used this technique to put values on what people in rural areas in Australia are prepared to pay for specified environmental outcomes.

A variant that could also be tested would be how to capture the higher value of carbon embodied in PNG's forestry endowment should it be allowed to participate in an Australian emissions trading scheme - and what that might mean for payments for environmental services.

Some pitfalls in the design and implementation of projects that involve payments for environmental services can be obtained from the collapse of the Milne Bay Community-Based Coastal and Marine Conservation Project – which was designed to save the marine biodiversity in Milne Bay Province through research and public campaigns. Its budget of \$US7.127 involved funding from the United Nations Development Program (UNDP), GEF (Global Environment Facility), The Japanese Human Development Trust Fund, the Australian National University, Conservation International and the PNG National and Milne Bay Provincial Governments.

A UNDP evaluation concluded that the abrupt end to project field activities in October 2005 had been damaging and that “The sudden cessation of project field activities ... has left many individuals and communities frustrated, some, as the evaluators learned, angry. A church development fund association, funded on the basis of a project commitment almost collapsed, (and) fish aggregation devices have sunk because project-staff lack funds to travel to repair them.”⁹ In commenting on this outcome, *Pacific Magazine* comments that this outcome “speaks to perhaps the biggest challenge of all: how to regain the trust and support of those community members who have invested their time, energy and convictions in the conservation project.”¹⁰

Proposed action

- A research study could be undertaken to identify the economics of eco forestry and alternative forestry services to local people. The objective would be to determine the best options for developing and supporting local forest-based enterprises and services.
- A pilot project could draw together what is known about how these services are provided in a particular area. The project should identify preferences of local people for jobs, infrastructure and health and education services be tested. The output would be to identify the preferences of local people and to identify options to optimize outcomes for them from alternative forestry. Such a process could also put values on the biomass on the floor of native forests.
- The output would be a report recommending options for the development of alternative forestry options.

⁹ Pacific Magazine, *A False Start: Critical Conservation Initiative Runs Out of Money One Year Early*, March 1, 2007, page 2, at <http://www.pacificmagazine.net/issue/2007/03/01a-false-start>.

¹⁰ Pacific Magazine, op cit, page 2.

Fostering plantations

Background

Plantations are well established and deliver significant economic and social returns. PNG has considerable potential to develop plantation forestry. It has been argued that PNG has the potential to attain Sweden's level of plantation output given its equal and possibly superior – suitability for softwood pine forestry. Its logging exports would therefore be worth K13 billion, nearly double current *total* exports. This would compensate for a projected decline in mineral exports after 2010.¹¹ Actions that would be required to generate such an outcome include changes to the Forestry Act 1991 and removing restrictions on the right of customary landowners to negotiate timber sale agreements.¹²

Plantation forestry also offers potential for carbon absorption. The scope for doing so should be investigated and options identified to secure carbon absorption, consistent with plantations still being cut. Given fast growth rates for plantation forestry species, cost-effective carbon absorption can still be achieved if trees are eventually harvested.

There is considerable potential for investing in plantation forestry on degraded land.

Proposed action

An assessment is required of the scope to encourage the plantation forestry industry to maximize carbon absorption. This could include an analysis of what is holding back the plantation forestry sector; how such constraints might best be addressed; the scope from an expanded forestry industry to achieve GIFC objectives; and the comparative carbon absorption characteristics/attractions of commercial and other forms of forestry.

¹¹ Curtin, Tim, *Forestry and Economic Development in Papua New Guinea*, Abstract, at http://pidp.eastwestcentre.org/pireport/2006/April/Forestry_development_PNG.pdf.

¹² Curtin, Tim, *op cit*, page 11.

Carbon absorbtion

Background

Commercial forestry is potentially an extremely effective mechanism for achieving global and Australian carbon absorbtion objectives. Commercial forestry in PNG occurs where good soils and high rainfall combine with low population densities and good transport access. Tree growth rates are very strong. This is reflected in cutting cycles of around 35 years and in some places as short as 15 years, especially with silvicultural investments undertaken on an efficient and effective basis. These cutting cycles have been assessed as appropriate by international forestry experts and groups such as the ITTO and FAO.

GIFC therefore offers the prospect, if designed and negotiated with PNG in a way that delivers sustainable economic development, whereby Australia could get access to low cost abatement if PNG is included in an Australian emissions trading scheme; and PNG could maximise the sustainable development of its forestry endowment. Issues associated with carbon trading are addressed in the following section.

PNG has not had the same rates of deforestation as other target GIFC countries, especially Indonesia. But it does not follow that carbon absorbtion in PNG from slowing the rate of deforestation is therefore less cost-effective in PNG than in Indonesia. PNG may offer better prospects for GIFC than Indonesia as its forestry policy and institutional arrangements operate within well established legal and institutional arrangements, there is no substantial deforestation flowing from population and poverty challenges and the commercial forestry sector wants to cooperate constructively with Australia on GIFC in PNG.

Tree growing conditions in PNG are very good. There is a considerable amount of information available, but much of it is dated and not necessarily compiled on a consistent basis. For example, we do not know the carbon absorbtion potential in PNG from changes to the operations of commercial forestry in PNG – for example by encouraging silvicultural investments and in changing cutting cycles. These and other facts need to be identified.

The challenge is designing and negotiating a set of policy and institutional settings that would enable both Australia and PNG to secure their objectives. One such challenge will be how to secure the cooperation of the commercial forestry industry in PNG. It is hard to envisage how either Australia or PNG could achieve their objectives without constructive cooperation with and engagement by the PNG commercial forestry industry.

The PNG FIA believes that silvicultural investments that enable faster growing species to become established after forestry (rather than the slower growing trees that can become dominant if no such investments are undertaken) can deliver more carbon absorbtion than would otherwise have been the case. Further detail is provided below.

Some forests have been cleared, for both commercial and subsistence agricultural purposes. As noted above, forest clearing in the Highlands reflects population pressures rather than commercial forestry. Commercial forestry in PNG is not characterised by clear felling. It is done in accordance with global forestry best practice: selective cutting of the larger trees.

Young trees absorb more carbon dioxide than mature forests. Selective cutting of the larger trees, in accordance with PNG permit laws, and ensuring their replacement with fast growing smaller trees with much higher carbon absorbtive potential, offers the prospect of achieving higher carbon absorbtion outcomes.

Some key facts need to be established. Issues requiring clarification include:

- What is the potential for GIFC to encourage policy and/or institutional changes in PNG that maximise the carbon absorption of fast growing tree species after logging?
- Are the forests restituting themselves in the same way after cutting? In other words, are the trees that have been cut being replicated with the same or different species? If not, why not?
- What is known about regrowth potential in different areas?
- Is the relative carbon absorption potential from commercial forestry and agriculture (eg oil palm) substantially different?

There is considerable potential for investment in the re-forestation of degraded land. This is as true in the mainland as it is on the islands. But incentives and certainty are missing. Commercial forestry is prepared to invest in the re-forestation of degraded land. But it requires certainty of property rights. The key constraints to re-forestation need to be identified – and the PNG Government needs to be encouraged to address those constraints.

Proposed action

- An analysis is required of the potential carbon absorption contribution from changes to silvicultural investments and changes in cutting arrangements. Separate analyses are required of native forestry and plantation forestry.
- A pilot project should be undertaken on the potential for re-vegetation of degraded lands.
- The potential role of plantation forestry should be assessed as a pilot project. Separate analyses are required of recently cut and degraded lands. This needs to include an assessment of the policy and legal issues that would need to be addressed to maximise the contribution of plantation forestry to achieving GIFC objectives.

Carbon trading

Background

It is possible that PNG may be able to sell carbon credits to Australian entities requiring them under an Australian emissions trading system. To the extent that such an outcome could be achieved via GIFC so that PNG could participate in an Australian emissions trading system, it is conceivable that Australia could get access to low cost abatement via PNG's forestry endowment (thereby lowering the cost of achieving any given level of emissions target in an Australian scheme) and PNG may be able to secure sustainable development outcomes.

Some threshold issues present themselves.

- How would baselines of carbon emissions in PNG to be identified and measured?
- What compliance arrangements would apply? Presumably the compliance obligation will be on the buyer.
- PNG would be in competition with emissions credits generated in Australia – especially from low cost sources such as avoided landclearing. Even if abatement costs were equal between Australia and PNG, then Australian permits will be preferred as there will be a risk premium attached to PNG permits.
- Who would own PNG permits?
- Can satellite mapping measure at the individual tree level? Can it be used as part of a monitoring and verification system as part of an Australian emissions trading regime?
- Capacity development issues associated with satellite mapping need to be addressed.
- There are some potentially significant economic effects for PNG and its forestry industry from participation in an Australian emissions trading scheme. These need to be assessed.

Based on the presentations made at the GIFC High Level Meeting on Forests and Climate, July 22-25, it is reasonable to conclude that:

- While there is much hype about developing countries using the revenue from the sale of carbon permits to developed countries for reforestation/avoided deforestation, no evidence was presented that this has delivered significant re-afforestation or avoided deforestation;
- Kyoto Protocol sinks credits rules (including for the Clean Development Mechanism) are a major constraint. A global emissions trading system under Kyoto Protocol auspices is not in prospect. There is no reason for either Australia or PNG to be bound by Kyoto Protocol sinks rules for investments under GIFC;
- Financial institutions are reluctant to provide finance to cover the gap between planting and maturity – and either cutting the trees and using the revenue to repay loans (and payments to local people for environmental services) or selling the rights to the permits theoretically embodied in the trees. But growing conditions in PNG for commercially viable plantations such as balsawood offer the prospect resolving this problem; and

- Fires and other natural disasters are challenges to emerging carbon markets between developed and developing countries.

Proposed action

- A consultant could be commissioned to provide advice on the issues associated with PNG participating in an Australian emissions trading scheme.
- Commission an analysis of the key potential impacts, if any, for the PNG forestry industry from participation by PNG in an Australian emissions trading scheme.

Threshold issues

In addition to the issues raised in the preceding two sections, there are some further threshold issues on potential GIFC investments that will require clarification. These include:

- Whether plantation forestry can be included in GIFC investments, and if so on what basis;
- Whether equal weight is to be placed on avoided deforestation and carbon absorption and carbon abatement? If not, how can the initiative maximise the carbon absorptive potential of PNG's forestry endowment – and enable PNG to achieve its legitimate development objectives?
- Is equal weight to be given to carbon absorption and abatement? If not, on what basis will the relative importance attached to these objectives be determined?
- Will Australia apply Kyoto Protocol sinks rules, or is it prepared to develop and apply a set of rules that will maximise the incentives for private sector investment in sustainably developing PNG's forestry endowment? Is Australia prepared to develop and negotiate sinks rules that maximise its access to the low cost abatement potential of PNG's forestry endowment while also enabling PNG to achieve its commercial forestry objectives?
- Can GIFC funds be used for silvicultural investments? If so, on what basis?

Proposed action

- A consultant could be commissioned to examine the issues identified above.

Risk management

Some risk management issues will require consideration. The main risks are that PNG institutions are unable or unwilling to implement commitments. Potential problems include:

- Not delivering projects for assessment in the required format and time;
- Appropriating funds for the wrong purposes;
- Not putting in place policies and institutional arrangements to give effect to commitments; and
- Getting key stakeholders offside – for example by not making payments to landowners that may be specified in GIFC projects or not implementing commitments to the commercial forestry industry and the Australian Government in a timely and effective way

Putting together project options in the form specified by the Australian Government for GIFC will be beyond the current capacities of the PNG bureaucracy. Capacity building is necessary but is most unlikely to be sufficient. Independent development of project options for consideration by the Australian Government can be expected to be superior to an arrangement whereby the PNG bureaucracy assumes this responsibility. It will be a question of where and how to draw the balance between efficiency and capacity building.

FAO and ITTO may agree to be involved in project development and delivery. PNG FIA could also be involved. Consideration should be given to how such an arrangement might be structured to achieve GIFC objectives and how potential conflicts of interest can be addressed.

Proposed action

- Commission a consultant to identify the risk management options available to maximise the probability that GIFC objectives will be achieved. This assessment should include the most efficient means to develop and submit proposals to GIFC for consideration.