ITS Global

Consultants on Global Issues

Submission to the Inquiry by the Senate Foreign Affairs, Defence and Trade Committee on the Economic and Security Challenges facing Papua New Guinea and the Island States of the Southwest Pacific

ITS Global, on behalf of the Papua New Guinea Forest Industries Association

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Level 26, 35 Collins Street
Melbourne VIC 3000 Australia
Tel +61 3 9654 8323
Fax +61 3 9654 4922
www.itsglobal.net

THE SOCIO-ECONOMIC IMPORTANCE OF THE PNG FORESTY INDUSTRY

1. Who is PNGFIA?

The Papua New Guinea Forest Industries Association (PNGFIA) is an incorporated association of companies involved in all levels of operations of the forestry industry. Its members account for 85 per cent of forestry production. The Association is committed to the sustainable development of PNG's forestry endowment and to working closely with the National and Provincial Governments to this end. It opposes illegal logging. It supports legality verification and chain of custody arrangements as a better option to address illegal logging than import restrictions.

2. Why this submission?

As PNG's major renewable industry, the commercial forestry industry not only makes a significant socio-economic contribution to PNG but has a significant stake in its future. PNGFIA is concerned about PNG becoming a failed state. Avoiding that outcome requires, inter alia, lifting living standards. That requires an effective and healthy private sector and better governance outcomes. The dysfunctional public sector inhibits private sector growth and the effectiveness of Australian aid efforts. Australian public policy towards PNG should therefore increasingly entail working with and through the private sector to improve economic outcomes – particularly in remote areas where National and Provincial Governments are unable and/or unwilling to provide services and generate jobs but where the forestry sector has long experience and understands and is supported by local people. How this could be achieved is identified in the Association's submission to the previous Australian Government's Global Initiative on Forests and Climate, which is at Appendix A to this submission.

3. The forestry industry in PNG

The commercial forestry industry generates between 5 and 8 per cent of GDP and around 5 per cent of merchandise exports. Taxes on log exports amounted to around 6 per cent of all tax receipts and around 5 per cent of all revenue collected by the PNG Government between 1998 and 2004. Those taxes fund around 30 per cent of development expenditure. The industry generates around 10,000 jobs, primarily in remote areas where there is little or no other paid employment. It provides and maintains health and

education services and transport infrastructure in remote areas where National and Provincial Governments are either unable or unwilling to do so. Local people use and value highly the jobs, income and social services and infrastructure provided by forestry companies.[1]

While the export of logs is and will remain central to the industry's economic contribution (with log exports nearly doubling in value between 1998 and 2005), the industry is also contributing to value adding via investments in processed timber products. Processed forest product exports are increasing.

4. The failing state and the private sector

Notwithstanding better macroeconomic management and outcomes over recent years and, until the global financial crisis, high commodity prices,[2] PNG exhibits worrying signs of becoming a failing state. Even with very strong population growth rates in recent years its natural resource base should have delivered better economic outcomes. Economic performances have however been poor: real GDP per capita declined by almost 4 per cent between 1997 and 2002. The number of people living on less than $US1 per day has increased rapidly.[3] Roads and other public infrastructure are deteriorating. Telecommunications services are unreliable. Education and health services, as well as roads and other public infrastructure, are deteriorating rapidly. 19 per cent of children do not attend school. HIV/AIDS is spreading rapidly. 300 aid posts were closed between 1995 and 2000.[4]

Violence, especially in the cities and the Highlands, is widespread. PNG has no shortage of profitable investment opportunities (especially but not only in its resources sector) but it lacks management expertise.

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[1] ITS Global, *The Economic Importance of the Forestry Industry to Papua New Guinea (*ITS Global 1) and *The Economic Contribution of Rimbunan Hijau's Forestry Operations in Papua New Guinea (*ITS Global 2)*,* at www.forestryanddevelopment.com. The two case studies in these reports demonstrate, inter alia, that while these services are provided as part of forestry lease conditions, they generate substantial benefits for local people. Two thirds of the benefits from the airstrip at the Wawoi Guavi project in Western Province accrue to local people using the service. Health, education and infrastructure expenditure by Rimbunan Hijau in both the Gulf and Western Provinces dwarf comparable investments by either the National or Provincial Governments.

[2] High commodity prices recently promoted ratings agency Fitch to upgrade its long term sovereign currency rating for PNG to B+ from B in March 2008.

[3] The World Bank estimates that between 1996 and 2002, the number of people living on less than $US1 per day increased from 20 to 40 per cent of the population. World Bank, *Strategic Directions for Human Development in Papua New Guinea,* 2007, Overview, page 9.

[4] World Bank, op cit, page 4.

Corruption remains a major problem, at both the National and Provincial Government levels. Up to 40 per cent of the National budget may be stolen. Efforts by donors to improve governance have yet to lead to better socio-economic outcomes.

The private sector and the urban and rural poor bear the brunt of PNG heading further down the path towards a failed state.

5. Challenges to the forestry industry in PNG

a. Background

Commercial forestry in PNG takes place where growing conditions and sustainable forest management can be practiced in accordance with PNG law and where it is economically justified by the risks and returns. Of PNG's land area of 46 million hectares, 39.3 million hectares are forested - 39 per cent of which has been classified by the Government as productive with 11.2 million hectares defined as having harvesting rights. The annual average rate of deforestation is 0.5 per cent. FAO and ITTO (International Tropical Timber Organisation) data demonstrates that forest cover has declined by 6.7 per cent since Independence.[5] Suggestions by Green NGOs that with the current (low) rate of deforestation PNG's forests are under threat by commercial forestry are wrong.[6]

Much of PNG's forestry endowment is off limits to commercial forestry because PNG law does not allow it, growing and cutting conditions are not conducive or, in the Highlands, violence.

PNG's annual allowable forestry cut is 3.9 million cubic metres. Yet the annual harvest is only around 3 million cubic metres. The failure to use the annual allowable cut (as estimated by the ITTO) cost the PNG Government around $US20 million in lost revenue in 2004.[7] This is a cost that PNG cannot and should not continue to pay. This can be regarded as a cost of Green NGO campaigns against the industry and failures of PNG policies.

[5] ITS Global 1, page 45.
[6] Care is required in reaching conclusions from definitions of forests which in the case of Green NGOs reflect their political ambitions rather than accepted forestry definitions. Greenpeace, for example, uses the term "ancient forests" which is not a term used by the FAO or ITTO. As noted in section 5 (c) of this submission on climate change, even greater care is needed when assessing assertions about the extent to which PNG's forests have been deforested and/or degraded in the context of climate change policies and options.
[7] ITS Global 1, page 46.

In any case, much of the (modest) reduction in forest cover has not been caused by the forestry industry. It reflects primarily population growth, especially in the Highlands (where commercial forestry does not operate) and clearing of land for agricultural purposes – particularly oil palm.[8] It is imperative that PNG uses its forestry endowment for development. To stop deforestation is to stop development.

In accordance with PNG law, forest leases are allocated by competitive tender by the PNG Forest Authority (PNG FA). Forestry companies cut timber based on a 35 year cutting cycle and other conditions specified in their leases.[9] PNG FA enforces compliance with lease conditions. There is no evidence that Association members flout these requirements.[10]

Forestry companies pay a silvicultural levy to the PNG FA. The levy is designed to maximise the probability of the forests regenerating themselves with the same species and as fast as local growing conditions allow. But the PNG FA is not making these investments.[11] That is a failure of the Authority, not the Association's members.

PNGFIA believes that sustainable forestry and forest regeneration would be more effectively achieved in PNG if forest companies were obliged as part of their lease conditions to be responsible for silvicultural investments.

Landowner companies receive forestry company lease payments in return for the right to cut timber on communally owned land. Disquiet by the rural poor in forested areas that they are not receiving a fair distribution of these payments may be justified. But that is a

[8] Green NGOs oppose clearing of land for palm oil in PNG. This position cannot be justified by claims that old forests replaced by oil palm would absorb more carbon dioxide than oil palm trees - which research has demonstrated are very effective absorbers of carbon.

[9] The largest forestry company in PNG, Rimbunan Hijau, is a private company. It is not required to publish the sort of data required of a public company. The draft report by the so-called Independent Review Team (*Towards Sustainable Timber Production – A Review of Existing Logging Products, Draft Observations and Recommendations Report)* attempted to demonstrate that forestry companies are not making enough profits and that therefore they must be cutting more than their lease provisions to make a profit. This report was deeply flawed and exhibited a strong green bias. It was not adopted by the PNG Government. It did not have access to profit and other key data from private companies such as Rimbunan Hijau that would have been required to reach its conclusion on profitability and over cutting – which is in any case inconsistent with known facts about rates of deforestation and forest cover in PNG. See ITS Global 1, Appendix II.

[10] PNGFIA is, indeed, pushing for a 40 year cutting cycle, albeit that in some areas and with some species an environmentally sustainable cut is much less – in some cases only 6 years.

[11] PNGFIA has therefore proposed that the forestry companies rather than PNG FA undertake silvicultural investments - and receive a rebate on their levy obligations when independent auditors have signed off that these investments (which would generate a very substantial number of additional jobs in remote areas) have been undertaken.

function of how forestry is structured in PNG and attitudes towards public money by urban elites. It does not reflect a lack of compliance with PNG law by Association members.

b. Economic challenges

PNG's commercial forestry industry faces a range of international and domestic economic challenges. Log and other timber product prices are determined globally and fluctuate substantially. Contracts are in US dollars. The substantial depreciation of the US dollar against the Kina over recent years has hurt the industry.[12] This has been compounded by high oil prices. Diesel is a major cost at forestry projects. While oil prices have declined from their recent peaks, even current prices are a constraint on current projects and further investment. The prospect of a global economic slowdown, particularly in China which imports 80 per cent of PNG's log exports, is another short term economic challenge for the industry. (China processes PNG logs into timber products that are largely exported to the United States where they are primarily used in housing construction – a sector which will grow slowly if at all in the next few years.)

Neither PNG nor its forestry industry can influence global economic challenges. But domestic economic challenges that constrain the industry can and should be addressed. Effective tax rates on log exports have declined from 48.1 per cent in 2000 to 29.2 per cent in 2004, but are still very high. There has been some progress, for example eliminating the progressive log export tax,[13] but taxation and royalty payment, at around 50 per cent of current log prices, are not providing sufficient investment incentives.

Capricious decision making is a major concern. The Minister for Forests threatened recently arbitrarily to increase royalty rates from Kina 10 to Kina 30 per cubic metre. Given current challenges facing the industry, this would have had a serious impact on the industry and investment incentives.

Forestry companies are paying for silvicultural investments after forestry which are not being made. They are not getting the benefit they should from the faster regrowth that effective silvicultural investments would deliver.

[12] The Kina has appreciated against the US dollar since 2002 but depreciated over this period against the Australian dollar. Bob Warner and Eric Omaru, *PNG Commodity Prices – an opportunity not to be missed"*, Pacific Economic Forum, at http://peb.anu.edu.au/pdf/PEB23--1-survey-PNG.pdf.

[13] A progressive log export tax, which the World Bank encouraged PNG to adopt, made no economic sense. PNG needs to maximise export revenue. Green NGOs argue that forestry companies engage in transfer pricing. While they have adduced no evidence to back up this assertion, a progressive log export tax may have been an incentive to engage in transfer pricing.

As explained in more detail in Section 5.d below, climate change policies are also a potentially serious threat to the industry.

c. NGO anti-forestry campaign

i. Summary

Green NGOs (led by Greenpeace and with the active support of WWF and the ACF) have conducted a sustained, scurrilous and unjustified public attack on the PNG forestry industry. These activities have been funded by Dutch and US foundations. The campaign has been sophisticated. It reflects a complete disregard for the interests of the rural poor who rely on the forestry industry for their incomes and other socio-economic benefits. It also reflects a preparedness to use whatever means are available to undermine and, ultimately, close down the commercial forestry sector in PNG and replace it with so-called ecoforestry.

While ecoforestry is an ill-defined term, it rests on the assumption that small scale forestry activities can replace commercial forestry at a much lower environmental "cost" and generate just as many benefits. But WWF's own analysis demonstrates that ecoforestry is not viable without a subsidy. Who is to pay this subsidy? Not WWF or Greenpeace, whose policies are already costing the PNG Government $US20 million per year in foregone revenue from a failure to use to the full PNG's annual sustainable cut. The PNG Budget has more important priorities than subsidising ecoforestry – which if adopted on a large scale may be environmentally damaging.[14]

ii. Illegal logging

A central argument against the commercial forestry industry in PNG by Green NGO's has been that "virtually all large-scale logging operations in Papua New Guinea can be classified as illegal" and that "the global trade in illegal and destructively logged timber is now out of control".[15] Definitions matter. Greenpeace and others use a definition of

[14] A WWF ecoforestry project in PNG cut sensitive coastal mangroves. While accurate data on "walkabout sawmills" is lacking, there is no compelling evidence that it has a more benign environmental impact than commercial forestry. Greenpeace argues that ecoforestry "provides up to ten times more profit to local communities than large scale logging operations" but provides no evidence. ITS Global's reports, on the other hand, demonstrate that commercial forestry generates very substantial socio-economic benefits for PNG.
[15] ITS Global, *Whatever it takes: Greenpeace's anti-forestry campaign in Papua New Guinea,* (ITS Global 3) pages 21 and 13.

illegality that does not reflect PNG reality. It has proposed that the World Bank adopt a "baseline and definition and criteria for 'legal' timber and timber products which must include workers' rights, payment of fees and taxes, compliance with international agreements as well as national laws, tenure and user rights, forest management plans, indigenous peoples' rights, clear identification of timber and verification by an independent body".[16] On that definition, no commercial forestry exports would be legal in PNG or in any other developing country.

Greenpeace argues that logging by Rimbunan Hijau (the largest commercial forestry company in PNG) is illegal as it does not have the consent of landowners; extensions to timber permits were invalid; and forestry and environmental laws were breached in the execution of timber permits. ITS Global has examined each of these arguments and concluded that they are without foundation.[17]

Greenpeace recently asserted at an Australian Government consultative forum that a forest lease should be deemed illegal if a challenge to the legal standing of that lease was still outstanding in a PNG court.

Most timber exports are legal. Assertions by Green NGOs that 70 to 90 per cent of timber production in PNG is illegal are false. Rimbunan Hijau accounts for half of timber production in PNG. A review jointly funded by a major international company in accordance with its new sustainability policies concluded that Rimbunan Hijau's operations were fully legal. The Swiss firm SGS independently verifies origin of timber exports to ensure royalties are paid. Any illegal timber exports would be by small companies not members of the Association. PNGFIA is happy to lead institutionalisation of legality verification if that was to be a requirement under any Australian policy on illegal timber imports. A formal ban would be disproportionate to the scale of the problem, and would raise questions about consistency with Australia's WTO obligations.

The Association, through its largest member, Rimbunan Hijau, has initiated with the ITTO the introduction of a voluntary system of independent verification of the legality of production and chain of custody.

Greenpeace protestors recently boarded a ship illegally in the Gulf of Papua, claiming timber going to China was illegally logged by a Rimbunan Hijau company. This was incorrect and publicly demonstrated as such. Greenpeace did not apologise but continued to assert the contrary and then accused the company of paying slave rates to its workers.

[16] Ibid.
[17] ITS Global 3, op cit, pages 24-26.

The facts are that the company has been recognised by the PNG Department of Labour as paying its workers well above PNG minimum wages.[18]

iii. Environmental damage

Greenpeace asserts that the commercial forestry industry is environmentally damaging and that PNG's "ancient forests" are under threat.[19] This implies the biological diversity of PNG forests is endangered. 25 per cent of PNG's total area has been set aside as reserved forest, in which forestry is not permitted. Forest cover has declined by 6.7 per cent since Independence and reflects population pressures and conversion of forest land for agriculture.

A recent report, highlighted by Greenpeace, by Shearman et al argues that at the current rate of use, more than half of PNG's remaining forests will have disappeared or be damaged beyond repair.[20] But the PNG Government, the PNGFIA and leading forestry experts have discredited this analysis for seriously miscalculating the baseline used and in overestimating the extent of deforestation.

iv. Corruption

Corruption is a major problem in PNG. It hinders private sector investment and therefore growth. Transparency International's Corruption Perception Index in 2007 put PNG in the bottom 20 (i.e., most corrupt) category. Corruption shows no sign of abating.

Greenpeace and other NGOs assert that the forestry industry is corrupt. There is however no credible evidence that PNGFIA members have acted corruptly. Corruption in the forestry industry is not at the level of lease allocation and therefore does not involve Association members.[21] Corruption involving forestry funds reflects the structure and operations of landowner companies and payment of levies and taxes by the forestry industry into general revenue.

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[18] Greenpeace reports that its campaign to "save the Paradise forests in PNG" was funded with a grant of over 2 million Euros by a Dutch foundation.
[19] Greenpeace defines ancient forests as those "which have been shaped largely by natural events and which are impacted little by human activities". This is not a technical term recognised by forestry experts.
[20] Shearman, Bryan, Ash, Hunnam, Mackey and Lokes, *The State of the Forests of Papua New Guinea: Mapping the Extent and Coverage of Forest Cover and Measuring the Drivers of Forest Change in the Period 1972-2002.*
[21] If there was large scale bribery to secure forestry leases, then presumably the delays experienced in allocating leases would be much less.

v. Human rights abuses

Greenpeace and the ACF[22] claim that the forestry industry is associated with sexual abuse, abuse of labour rights and even that the forestry industry is responsible for people trafficking and gun running. These claims are not backed by verifiable evidence.

Greenpeace has accused Rimbunan Hijau of human rights abuses: bribing the police to intimidate landowners and workers through physical abuse, torture and unlawful detention.[23] These reports are scurrilous. The claims cannot be substantiated.[24]

The claims in this report are the same or similar to those advanced by Greenpeace. These reports are without either evidence or credible evidence. They were used, unsuccessfully, to pressure the ANZ Bank to cease servicing timber companies in PNG.

d. Climate change

While the effects of climate change are unlikely to be a major threat to the forestry industry, this is not the case with policies by developed countries to address it. The Australian Government has indicated that permits generated by avoided deforestation in PNG could be used by entities in Australia to offset their liabilities under an Australian emissions trading scheme (AETS). PNGFIA supports the proposition that the carbon absorptive potential of PNG's forestry endowment should be better managed and that PNG may be able to sell carbon dioxide permits in a manner that does not undermine the commercial forestry industry.

But PNGFIA has serious reservations about the mechanism currently being supported by a range of countries (including Australia) to achieve this objective: Reduced Emissions from Deforestation and Degradation (REDD). The potential benefits for PNG from REDD are limited as PNG has had almost no deforestation. Even under a successor instrument to the

[22] ACF and The Centre for Environmental Law and Community Rights, *Bulldozing Progress: Human Rights Abuses and Corruption in Papua New Guinea's Large Scale Logging Industry.*
[23] Greenpeace International, *The Untouchables: Rimbunan Hijau's world of forest crime & political patronage* and *Partners in Crime: The UK timber trade, Chinese sweatshops and Malaysian robber barons in Papua New Guinea's Rainforests.*
[24] One source was SBS's *Dateline,* which aired allegations of violence by a former policeman. These allegations could not be verified by a formal investigation. SBS has now removed those programs from its website. One of the pieces of evidence in the *Partners in Crime* report was never adopted, with the PNG Minister for Labour and Industrial Relations advising that the report relied on by Greenpeace was "biased" and did "not accurately reflect the actual situation". See ITS Global 3, pages26-27.

Kyoto Protocol that has Land Use and Land Use Change and Forestry rules that are more encouraging for investments in forest carbon than the current provisions in the Clean Development Mechanism, PNG by definition stands to gain little if any income from reducing deforestation.[25] A worst case outcome is that REDD stops PNG from continuing to used its forestry endowment for development.

Australia has been attempting to help PNG implement its National Carbon Accounting System, including via assistance with satellites and radar which may be able accurately to measure carbon dioxide emissions and absorption by PNG's forests. But thus far PNG shows no signs of implementing the commitments it has given to Australia. It is therefore hard to see how permits can in the foreseeable future be generated in PNG for sale to Australian entities to offset their AETS obligations.

This is regrettable. There is no reason why PNG could not generate a development benefit from selling carbon permits from its forestry endowment and retain a vibrant commercial forestry industry.[26] But that would require, inter alia, allocating the property rights from selling carbon credits in an equitable and efficient manner between the Government, landowners and the forestry companies. There are no signs of this happening. Carbon revenue will be much less than current estimates.[27] The risk is that the expectation of a carbon bonanza will induce PNG to put in place policies that not only don't produce much if anything from selling carbon permits,[28] but which undermine its key renewable industry.

[25] As the World Bank does not have agreed rules that would apply to REDD projects, estimates of the value to developing countries from REDD make little sense. The Bank itself seems to have subsumed REDD into its wider environment program. While some in the EU suggest proceeds from auctioning its emissions trading permits could be used to pay developing countries to reduce deforestation, PNGFIA questions whether this will transpire. Given what is known about the EU objectives towards commercial forestry in developing countries, the conditions that would be attached to such funds would be inimical to Association members' interests – and therefore those of the rural poor in PNG.

[26] Even if such permits were accepted in Australia, they would have to compete with offsets from all other sources, including from within Australia and other countries – which will in turn depend on the emissions reduction target agreed by Australia and other countries in any successor instrument to the Kyoto Protocol. The risk adjusted prices of PNG carbon permits might therefore be very low - calling into question whether PNG's forests will be worth more as carbon than being used for commercial forestry.

[27] In its GIFC submission, PNGFIA argued that rather than REDD, a mechanism aiming to maximise the carbon absorptive potential of PNG's forestry endowment (and pay developing countries for such carbon absorption above an agreed baseline) is a much more promising option. That approach is supported in the UNFCCC negotiations by Indonesia, Gabon (on behalf of the South West African countries) and Costa Rica.

[28] The newly established Office of Climate Change estimates that PNG stands to gain $US198 billion from carbon trading. This is a gross exaggeration of what might be in prospect.

PNGFIA is concerned about the role of the World Bank in REDD. It tried unsuccessfully to encourage PNG to borrow Bank funds at commercial interest rates and in return to cede control of its forestry endowment to Green NGOs. The previous PNG Government rejected that loan.[29] PNGFIA is concerned that the World Bank is attempting to use REDD to resurrect its governance/sustainability objectives rather than to help PNG use its forestry endowment for development. PNGFIA would be disturbed if Australian Government contributions to the World Bank for REDD were to be used to undermine the industry.

5. What can Australia do?

a. Encourage trade and investment

Australia must keep its markets open to exports from PNG's commercial forestry industry. A ban on imports of so-called illegally harvested timber to implement the Government's election commitment would be disproportionate to the problem. Such a ban would adversely affect the industry and the rural poor in PNG and undermine the economics of those firms in Australia that rely on imports from PNG. Certification and legality verification are better options. PNGFIA expects Australia to ensure that its WTO obligations are fully respected.

While there is a significant level of trade and investment between PNG and Australia, in recent years bilateral trade and investment flows have fallen.[30] Once the current financial crisis has been resolved, there is no reason why PNG should not grow strongly. There are encouraging signs that the Government wants to capitalise on its resource endowment. The property market is strong and there are shortages of infrastructure which Australian companies could address. Most of the challenges are on the PNG side. Consideration should therefore be given to providing greater EFIC support for Australian investment in PNG.

[29] See ITS Global, *The World Bank and forestry in PNG* (ITS Global 4). This report concluded that the Alliance between the World Bank and WWF informed the Bank's approach to that proposed loan and that "the Bank's focus on governance and sustainability issues was instrumental in leading other major bilateral donors to direct programs in the forestry sector towards governance and environmental management and away from helping PNG to maximise the contribution to growth from the sustainable commercial use of its forestry endowment". (ITS Global 4, page 16.)

[30] DFAT, *Papua New Guinea: The Way Ahead*, page 162.

b. Restore economic development as a key goal in aid policy

PNGFIA believes that there has been an excessive focus on governance in Australia's aid policy towards PNG. The Lowy Institute argues that this has resulted in a lack of balance in Australia's aid to PNG.[31] The previous Government's White Paper referred to the importance of economic growth. But Rural Development and Growth was estimated to receive only 3 per cent of Australia's aid funding in 2006-07.[32] There should be a progressive orientation away from governance and towards practical measures that will increase economic growth. Options for the Australian Government to consider in the forestry sector are set out in the GIFC Submission at Appendix A.

c. Use the private sector in remote areas to promote economic development in rural areas

The forestry sector is already active in remote areas of PNG where National and Provincial Governments are not providing social welfare services or infrastructure. Australia works with the mining industry in delivering aid to remote areas. There is no reason why it should not work with the forestry industry in the same way.

PNGFIA is concerned that the Australian Government may have wrongly assumed that the commercial forestry industry is corrupt, environmentally destructive and does not generate significant socio-economic benefits, especially in remote areas. PNGFIA would like to work much more closely with the Australian Government on aid policy and its delivery. Australia should consider co-financing activities with the forestry industry in remote areas, as it does with the mining industry.

Australian aid per capita in real terms has fallen dramatically since Independence. Total Australian aid to PNG in 2006-2007 was $332.2 million. PNG's population that year was 5.79 million. Per capita Australian aid was therefore $61. At the 1966 census, PNG's population was only 2.2 million. Australian aid in 1972-73 was $144 million. Per capita aid that year therefore around $65. In other words, real per capita aid to PNG has declined dramatically. To the extent that this reduction in real aid per capita to PNG has reflected Australian Government concerns about the effectiveness of its aid, an obvious

[31] Lowy Institute, *Beyond Good Governance,* at http://www.lowyinstitute.org/.
[32] *Australia's Overseas Aid Program 2006-07, Statement by the Honourable Alexander Downer MP, Minister for Foreign Affairs, 9 May 2006,* page 24.

solution should it with to increase real aid per capita would be via co-financing with the forestry industry.

Australia could for example fund recurrent costs at schools and aid posts in remote areas established by forestry companies while the forests regenerate after cutting and until forestry companies resume their activities. Such an option would be far more effective for Australia than working to achieve its objectives in health, education and infrastructure via dysfunctional National and Provincial agencies.

d. Ensure development interests are integrated into climate change forestry policies for PNG

Australian policy is not currently designed to maximise the benefits of PNG's forestry endowment as a carbon sink. As IPCC reports make clear, increasing carbon sinks by the expansion of sustainable forestry is the simplest and most effective way to reduce emissions. A more effective approach would focus both on increasing carbon sinks and reducing permanent reduction in forest cover by forestry. This would increase the area of harvested forestry and thereby improve the performance of the forest carbon sink.

Specific actions that should be considered by Australia include; funding a full national forestry inventory; undertaking a sound scientific analysis of regrowth cycles of major forestry species; identifying and classifying the principal forest biosystems; and developing a set of criteria and indicators for forestry in PNG based on ITTO criteria and indicators.

Australian aid money is not used to provide practical assistance on forestry to PNG. Funding activities that will enable PNG to use its forestry endowment for development should resume.

EU and Norwegian aid donors are using climate change funds to halt commercial forestry in PNG. Their argument is that reducing emissions from deforestation in developing countries can make a valuable contribution to global greenhouse gas reduction efforts. For the reasons outlined above, this will not deliver much if any additional revenue for PNG. The ultimate objective of these donors is however to close down commercial forestry in PNG. Such an outcome would be contrary to Australia's interests.

Australian aid money was used by the World Bank in a forestry and conservation project that, had it gone ahead, would have undermined PNG's forestry industry.[33] Australia should ensure that its climate change policies, including via the World Bank and REDD, do not undermine PNG's commercial forestry industry. If this requires Australia to stand aside from EU, Norwegian or World Bank approaches that would have this effect, then it should do so.

[33] See Response by former Minister for the Environment and Heritage to Question on Notice number 284 on logging in PNG on 17 June 2002, at http://www.aph.gov.au/Hansard/senate/dailys/ds170602.pdf, page 1977 and 1978. There are three possible interpretations as to how this happened. First, Australia did not know what the World Bank was trying to achieve. Second, it endorsed the Bank's approach in the full knowledge of what it was trying to achieve. Third, it tried to change the Bank's approach but failed.

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APPENDIX A: SUBMISSION BY PNGFIA TO THE FORMER AUSTRALIAN GOVERNENT'S GLOBAL INITIATIVE ON FORESTS AND CLIMATE

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

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Purpose

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

Introduction

The PNGFIA welcomes this initiative. It represents an opportunity to maximise the sustainable development and carbon absorptive potential of PNG's forestry endowment. The PNGFIA, 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 Organization (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 is 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.[34] 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).[35]

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.[36]

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

[34] See ITS Global, *The Economic Importance of the Forestry Industry to Papua New* Guinea, page 45.
[35] ITS Global, *The Economic Importance of the Forestry Industry to Papua New* Guinea, pages 44-47, at www.forestryanddevelopment.com.
[36] 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.[37]

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.

[37] 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 PNGFIA:

- 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.[38]

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.[39]

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;

[38] 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.

[39] 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 Ombudsman Commission Institutional Strengthening Project (OCSIP); 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 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 PNGFIA 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 PNGFIA 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.[40] The argument that portable sawmills are a viable alternative forestry option is inconsistent with Australian Centre for International Agricultural Research (ACIAR) conclusions.[41]

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.

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[40] 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.

[9] 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."[42] 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."[43]

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.

[42] 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.
[43] 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.[44] 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.[45]

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.

[44] Curtin, Tim, *Forestry and Economic Development in Papua New Guinea,* Abstract, at http://pidp.eastwestcentre.org/pireport/2006/April/Forestry_development_PNG.pdf.
[45] Curtin, Tim, op cit, page 11.

Carbon absorption

Background

Commercial forestry is potentially an extremely effective mechanism for achieving global and Australian carbon absorption 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 absorption 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 absorption 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 PNGFIA 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 absorption 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 absorptive potential, offers the prospect of achieving higher carbon absorption 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 (e.g. oil palm) substantially different?

There is considerable potential for investment in the re-afforestation 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-afforestation of degraded land. But it requires certainty of property rights. The key constraints to re-afforestation 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 land clearing. 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 reafforestation/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. PNGFIA 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.