

Institute for Global Environmental Strategies



FOREST CERTIFICATION in Papua New Guinea

PROGRESS, PROSPECTS AND CHALLENGES



Forest Conservation, Livelihoods and Rights Project • Occasional Paper No. 1 October 2007

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October 2007

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Forest Conservation, Livelihoods, and Rights Project Occasional Papers

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Authors' note

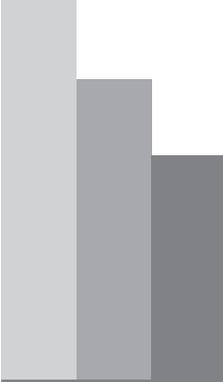
We are grateful to anonymous reviewers for their candid comments that have enriched this paper. We would also like to thank key informants in Papua New Guinea who are too many to mention individually, including resource owners, foresters, officials and NGO personnel, for sharing their knowledge, views and experiences.

Yati A. Bun and Henry Scheyvens

Cover photo: Community timber milling training, Minda, PNG. Photo credit - Henry Scheyvens

ISBN: 978-4-88788-043-6

Printed and bound in Nepal by WPS, Email: wpsdm@wlink.com.np



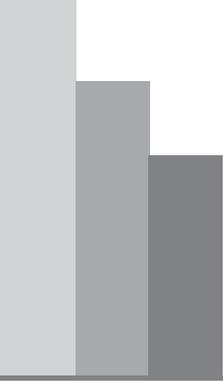
ABSTRACT

Despite reform of forest law to embrace the concept of sustainable forest management and the development of a raft of subordinate regulations/guidelines to implement the Forestry Act, forests in Papua New Guinea (PNG) continue to be degraded by industrial-scale commercial logging operations. Numerous independent reports over the past two decades have highlighted the environmental degradation, the undermining of a valuable national economic resource, and the social disharmony caused by these operations, yet in recent years the government has sought to accelerate the granting of logging concessions. A small group of committed individuals and organisations have sought to build the capacity of Papua New Guineans to manage their forests for a variety of purposes, including commercial timber production, as a more sustainable, profitable and socially acceptable alternative to them handing over the timber rights through the Forestry Authority to logging companies. They have sought to use forest certification as a means to build the capacity of the traditional resource owners to manage their forests sustainably and to construct viable locally-based timber enterprises by linking with international markets for certified timber. This has proved a very difficult challenge because, inter alia, of the absence of government support and company interest in forest certification, most of the accessible forest has already been commercially logged, and because the resource owners are starting from a low financial base and have low awareness of how to manage their forests sustainably for production and how to manage a cash-based enterprise. Nevertheless, the proponents of forest certification in PNG have been successful in: creating pioneering “eco-forestry” models of community-based timber production and having these certified by the Forest Stewardship Council (FSC); in exporting the certified timber; and in establishing FSC National Standards. They continue to face challenges to securing the economic viability of certified “eco-forestry”, but their work provides invaluable knowledge for how more sustainable, economically beneficial and socially acceptable forms of forest management in PNG can be designed.



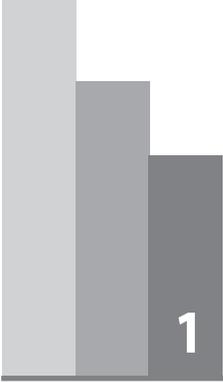
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ACRONYMS AND ABBREVIATIONS

CAR	Corrective Action Request
EFP	Ecoforestry Programme
FAO	Food and Agriculture Organisation of the United Nations
FMA	Forest Management Agreement
FORCERT	Forest Management and Product Certification Service Ltd
FPCD	Foundation for People and Community Development Inc
FSC	Forest Stewardship Council
ha	hectares
ICF	Indigenous Community Forest Group Certification Scheme
IRECDP	Islands Regional Environmental and Community Development Programme
ITTG	Imported Tropical Timber Group
ITTO	International Tropical Timber Organisation
MCPFE	Ministerial Conference on the Protection of Forests in Europe
MFROA	Madang Forest Resource Owners Association
NGO	Non-governmental organisation
PGK	Papua New Guinea Kina
PHF	Pacific Heritage Foundation
PNG	Papua New Guinea
SGS	Société Générale de Surveillance
TRP	Timber Rights Purchases
TTF	United Kingdom Timber Trade Federation
UNECE	United Nations Economic Commission for Europe
VDT	Village Development Trust



1 INTRODUCTION

In terms of global reach, forest certification is a relatively new instrument to promote sustainable forest management.¹ Its early proponents included international environmental NGOs that had grown frustrated with what they viewed as the inability of governments to manage the world's tropical forests sustainably. They saw certification as a means by which the market could be used where governments had failed to encourage and reward sustainable forest management. Forest certification emerged in this setting as a market-based, voluntary instrument to identify products that had been sourced from forests managed according to a set of minimum sustainability standards.

Despite its brief history, forest certification is now accepted globally as an important instrument in the forester's toolbox for the sustainable management of production forests. Progress in certifying forests has been remarkable. By mid-2006, 270 million hectares (ha) of forest area had been certified, accounting for seven per cent of total forest cover (UNECE/FAO 2006). Approximately one quarter of global roundwood production in 2005 was from certified forests and by 2006 the total number of chain-of-custody certificates had reached 7,200 (ibid).

Amongst Asia-Pacific countries, Papua New Guinea (PNG) has a relatively long exposure to forest certification. Its nationals were involved with the foundation of the Forest Stewardship Council (FSC), the first global forest certification scheme, in 1993 and subsequently several forest management certificates were granted for community-based forestry.

The enthusiasm and commitment towards forest certification in PNG has come from a small group of committed individuals and organisations who are promoting forest certification as part of their work on locally-based, small-medium scale forestry operations. For them, forest certification is part of a broader agenda to enable Papua New Guineans (the resource owners) to sustainably manage their forests for a variety of purposes, including commercial timber production. This agenda is seeking to create economically viable, environmentally acceptable, and socially beneficial locally-based forest management models as an alternative to the government's dominant forest management approach for natural production forests, which involves acquiring timber rights from the forest owners, then passing these on to (mainly foreign-owned) logging companies.

1. IGES uses the Ministerial Conference on the Protection of Forests in Europe definition of sustainable forest management, which is "Stewardship and use of forests and forest lands in such a way, and at a rate, that maintains their productivity, regeneration capacity, vitality and their potential to fulfill now and in the future, relevant ecological, economic, and social functions, at local, national, and global levels, and that does not cause damage to other ecosystem" (MCPFE 1993).

The companies responsible for the industrial-scale logging operations under this model have mostly displayed little enthusiasm for forest certification.

The objective of this paper is to provide a deeper understanding of the role certification could play in supporting efforts to build the capacity of Papua New Guineans to manage their forests. We first provide an overview of some of the problems of state sanctioned industrial-scale logging in order to develop an understanding of why alternatives to the government's domi-

nant production forest management paradigm are urgently needed. We next analyse progress towards forest certification by examining the technological and conceptual bases for the certification of community-based forestry, the forest management models that have succeeded in achieving forest certification, and the development of a national PNG FSC standard. Our discussion concludes by identifying the factors constraining and supporting certification.

2

CURRENT FOREST POLICY AND THE PROBLEM OF WEAK GOVERNANCE

What could forest certification offer PNG? To answer this question requires an understanding of contemporary forest management in PNG and, in particular, why the dominant paradigm of state sanctioned forest exploitation is bringing limited and unsustainable benefits to its people.

PNG has the world's third largest cover of tropical rainforest. About 77% of the total land mass of 46.3 million ha is covered by some type of forest. The most recent inventory of the country's forest resources was undertaken in 1996 (Hammermaster and Saunders 1995), which concluded that there was a total of 26.1 million ha of forest estate.² The recent International Tropical Timber Organisation (ITTO) diagnostic mission report *Achieving the ITTO Objective 2000 and Sustainable Forest Management in Papua New Guinea* (2007) gives an update of the forest resources, but this was based on a desktop exercise. All natural forests in PNG are tropical, according to classification of the Food and Agriculture Organisation of the United Nations (FAO), and range in type from mangroves at sea level to mountain forest at about 3,000 meters above sea level.

These forests are of immense importance at global, national, and local levels. Globally, they are valued for their rich biodiversity. FAO describes the ecological value of PNG's forests as "enormous", with the flora comprising more than 11,000 species and the lowland forests containing about 2,000 timber species (FAO 2000). Nationally, PNG's natural forests serve as the basis for the country's forestry industry, which accounted for between three and five per cent of GDP since 1999 (DFAT 2004). Locally, forests are of important economic and cultural significance for communities who have constructed their livelihood systems, social institutions and rituals around them.

During the colonial period and in the post-independent state the concession system became the principle regime of natural production forest management. By the year 2002, 11.2 million ha, or 42% of the total forest area, were either allocated to working concessions or earmarked for forestry in unallocated concessions. While 14.9 million ha remains unallocated, of the total forest resource available in 1996 only 11.7 million ha was suitable for forestry operations. Of this area of "unconstrained forest" some 57% has been allocated to the forestry sector. When these

2. This was largely a desktop exercise with very little ground verification of the data and therefore the results should be treated with some caution. There has not been a properly planned national forest inventory carried out systematically throughout the country. Forest surveys have been done on an ad hoc basis where the forested areas are either accessible or where somebody wants to harvest timber. Hammermaster and Saunders (1995) produced the national forest inventory data by combining information extracted from old aerial photographs with existing field survey data.

figures are adjusted to equate to log volumes per hectare, approximately 70% of the total timber resources have already been allocated to the timber industry. Most attractive areas in terms of access and timber volumes have already been logged.

Juxtaposed against this state support for industrial-scale logging is a rural setting in which local communities have traditionally relied heavily upon forests for a wide range of products and environmental services for their subsistence. Only a small proportion of the population participate in salaried employment and most are engaged to varying degrees in a subsistence lifestyle that involves gardening, the collection of wild food plants, fishing and hunting. Social institutions and controls have evolved according to the needs of communities to manage forests for multiple uses, including as a source for starch and protein, construction materials, and for traditional medicines. Ninety-seven per cent of the land is held under systems of customary tenure, involving clans or kinship groups rather than individuals, and these systems are acknowledged by the Constitution. Customary rights recognised by the Constitution include rights to all natural resources, with the exception of minerals, petroleum, water, and genetic resources. As the government does not own the forest land and forest resources, it must negotiate with landowners before it can undertake a forest development project.

To acquire legal approval for log extraction from customary owners, the government has over the past twenty years developed several pieces of legislation. Prior to 1991 the state was able to acquire rights for the development of forest resources through Timber Rights Purchases and

the provisions of the Private Dealings Act. Timber Rights Purchases (TRP), which were the main instrument for large scale timber extraction, enabled the state to obtain the rights over the resources of a given concession area and to issue a permit to a selected industry participant.

While the TRP system was operating, allegations were made that members of the Forest Industries Council executive had interfered with functions of the Minister of Forests and the Secretary and Department of Forests. A Commission of Inquiry into Aspects of the Forest Industry headed by Justice Barnett was established in 1987 to investigate these and other allegations relating to the allocation and management of forests. The damning findings of the Commission's report, commonly referred to as the "Barnett Report" (see Box 1 for extracts), prompted a complete legislative overhaul in the forestry sector.

In response to the Commission of Inquiry, a National Forest Policy was published in 1990 and a new Forestry Act (1991)³ was passed, superseding the Private Dealings Act, under which the concept of TRPs was replaced with Forest Management Agreements (FMA). These reforms were an attempt to bring forest exploitation within the boundaries of a rational National Forest Plan and to bring future concessions into a forty year rotational regime. The objectives of the new policy stem from the Act and the Constitution. Its main objectives are a) the management and protection of the nation's forest resources as a renewable natural asset, and b) the utilisation of the nation's forest resources to achieve economic growth, employment, greater Papua New Guinean participation in industry, and increased viable onshore processing.

3. The Forestry Act regulates the carrying out of forest industry activities. It is an offence to engage in forest industry activities without being registered as a forest industry participant (Section 114). A timber permit, license or authority is required in order to carry out any forest industry activities (Section 55(2)). Forest industry activities are defined as any commercial activities within PNG connected with a) harvesting or processing timber or rattan, b) buying unprocessed timber or rattan for processing or export, or c) selling timber or rattan.

Box 1: Extracts of the “Barnett Report”

“the New Ireland [one province of PNG] timber industry is out of control and has blighted the hopes of landowners and devastated a valuable timber resource for very little gain to the people or government of Papua New Guinea.”

“A major concern . . . is the evidence of blatant corruption at high levels of government and the practice of ministers and senior public servants of negligently, and sometimes deliberately, ignoring and contravening the laws of Papua New Guinea’s Parliament and the policies of its government.”

“Another major concern . . . is the irrefutable evidence of full-scale transfer pricing and other fraudulent marketing practices of the foreign companies. . .”

“Timber companies have been allowed to carry out destructive operations, to log the slopes and to remove undersized trees with virtually no effective monitoring system. . .”

“timber companies which bribed politicians are still receiving political support and, it is alleged, are still offering substantial payments.”

Source: Barnett 1989

The PNG Forest Authority (PNGFA) was subsequently created with the mandate to implement the Forestry Act (1991) and the Forest Policy (1991). The Forestry Act gives the PNGFA the authority to acquire timber rights from customary owners pursuant to a Forest Management Agreement with the owners. A timber permit may be granted to a “registered forest industry participant” after a FMA has been completed. In contrast to Timber Rights Purchases, the responsibilities of the state under FMAs include the provision of social and economic services to landowners and the construction of infrastructure. These responsibilities are transferred to an investor through the granting of a timber permit.

Table 1 lists measures introduced by government to give operational effect to its forest policy. Through these initiatives PNG is considered to now have a reasonable regulatory framework for forest management. Based on a review of the current policies, laws, regulations, guidelines, and other mechanisms, the 2003/2004 Review Team under the Inter-Agency Forestry

Committee concluded that “the PNG Government and its regulatory institutions have all the necessary policies, laws, regulations and guidelines required to ensure that sustainable timber production can be achieved” (2003/2004 Review Team, August 2004, x).

2.1 Strengthened regulatory framework for forest management, but weak implementation

While the regulatory framework for forest management has been considerably strengthened since the Barnett Report was released, its implementation remains problematic, which is why in 2006 the UK Timber Trade Federation (TTF) warned its members not to purchase timber originating from PNG and the Solomon Islands: “our own investigations... found that little evidence can be obtained to give even a minimum guarantee of legality. Any wood from these countries must therefore be deemed very high risk”.⁴ In March 2001, a PNG Forest Authority economist concluded that,

4. Note from UK TTF Chief Executive John White to Trader, 28 June 2006 (<http://www.greenpeace.org/raw/content/international/press/reports/rh-fiction.pdf>, 25 November 2006).

Table 1 Measures to operationalise the new forest policy

YEAR	MEASURE
1991	Forestry Act (amended in 1993, 1996 and 2000)
1993	Specific Guidelines for Forestry Harvesting Operations
1993	National Forestry Development Guidelines
1995	Planning, Monitoring and Control Procedures for Natural Forest Logging Operations Under Timber Permit
1995	Set-up Monitoring and Control Logbook
1995	Key Standards for Selection Logging in Papua New Guinea
1995	Waste Assessment Manual
1996	National Forest Plan
1996	Procedures for Environmental Plan Assessment
1996	Guidelines for the Preparation of Environmental Monitoring and Management Programs for Commercial Forestry Harvest Operations
1996	Guidelines for the Preparation of Waste Management Plans for Commercial Forestry Harvest Operations
1996	Procedures for the Identification, Scaling and Reporting (including Royalty Self-Assessment) on Logs Harvested from Natural Forest Logging Operations
1996	The Logging Code of Practice 1996
1998	Forestry Regulations (amended in 2004)

Notable problems within the industry include: still virtually no sustainable forestry projects; poor logging practices with little compliance to the Logging Code of Practice; widespread environmental damage; very few long-term benefits, causing social upheaval; corruption a persistent problem at all levels of the industry; minimal domestic processing investment, and; many proposed projects too small to be viable (PNG Forest Authority 2001).

These observations are supported by recent independent reviews of the forestry sector, which reveal that many of the problems of the logging industry identified in the 1989 Barnett Report still exist.⁵ The major problems in the logging industry in PNG can be summarised as

a) non compliance with laws in all aspects of forest acquisition, forest allocation, and forest operations, and b) non compliance with timber permit conditions. Across PNG, logging operations have resulted in profoundly negative social and ecological impacts and have been contrary to both the Constitution and the long-term economic, ecological, socio-cultural, and security interests of PNG and the majority of its citizens. State sanctioned logging has undermined the resource base and caused significant economic, social and cultural harm for the medium and longer terms.

Shearman and Cannon (2002) calculated that rather than lasting the prescribed forty years, the average life for concessions in operation

- Not all of these reviews are publicly available, but the following can be accessed at <http://www.forest-trends.org/documents/publications/PNG2006/png.php#>:
 - 2003/2004 Review Team. August 2004. Towards Sustainable Timber Production – A Review of Existing Logging Projects. Final Report, Volume 1. Main Report – Observations and Recommendations. A Police Committee Review Submissions report and 14 Project Reports are also available.
 - Forest Revenue Review Team. 13 March 2002. Review of the Forest Revenue System, Final Report.
 - Independent Forestry Review Team. October 2001. Review of Forest Harvesting Projects being processed towards a Timber Permit or a Timber Authority - Observations and Recommendations. A methodology report and 32 individual project reports produce by the Review Team are also available.

between 1993 and 2000 was only eleven years; a figure that rose to 12.2 years for concessions projected to last until 2010. The 2003/2004 Review Team found that “many breaches of the logging standards go unreported and are not actioned. Field based PNGFA [PNG Forest Authority] monitoring officers have lost faith that their attempts to impose sanctions on non-complying logging companies will be backed up by senior management, who in turn take their cue from the current political leaders” (2003/2004 Review Team, August 2004, viii). The overall conclusion of the Review Team was that “under the current market conditions, the current levels of log export tax, the current non-compliance with environmental standards, and the inadequate monitoring and control imposed by the Government regulating agencies, timber production as currently practiced is not sustainable” (2003/2004 Review Team, August 2004, ix). Good forest management practices that prepare the forests for harvesting in an efficient manner, without compromising the ecological integrity of the forests, are not being carried out. Logging companies are inadequately regulated, with the main role of the forest authority being reduced to acquiring the forest resources and allocating them to logging companies.

Under the concession system the benefits to the landowners, whether as royalties or in the form of infrastructure development, are not commensurate with the true economic value of the resource and are often short-lived. A review of the socioeconomic and financial impacts of timber permits in 2004 concluded that,

Few lasting benefits are reaching landowners because payments to the poorest and most remotely located communities are too small and ephemeral to have a lasting impact and are not complemented by investment in public services by government. Payments that reach

rural populations, furthermore, are primarily used to purchase consumables by men and infrequently invested (LaFranchi 2004).

Despite the serious deficiencies in current forest management practices, the present government has strongly defended large-scale logging of natural forests under concessions. Indeed, it has sought to accelerate the granting of timber permits, which will further stretch the capacities of the forest authorities. In its review of forest harvesting projects being processed towards a timber permit or a timber authority the Independent Forestry Review Team (2001) concluded that “by attempting to respond to the political call for more new forestry projects quickly, the National Forest Service has initiated far more new project developments than it has the capacity to process properly”. More recently, an ITTO diagnostic team sent to PNG to identify weaknesses of the forestry sector found that:

the more significant issues are to do with the compliance of the government itself with the laws of PNG when deciding to designate a forested area for logging purposes; negotiating the agreement with landowners; managing, monitoring and enforcing the agreement; and when extending current agreements. It is believed that the narrow focus of the PNGFA on exploitation of the forest resource for the primary financial benefit of the national government presents a conflict of interest which colors decisions made by the government at all levels (ITTO 2007).

2.2 Forest certification

The weak state of forest governance described above explains why current forestry operations in PNG are not conducive to certification. Because the regulatory framework is not being adequately enforced, current forest harvesting

operations are far removed from the standards prescribed by certification schemes.

Because governance conditions are not conducive to forest certification, one could conclude that certification is too difficult to pursue and that other less challenging options to promote sustainable forest management should be explored. However, it is precisely because forest governance is weak in PNG that certification could have a great deal to offer. Where the government has failed in managing the forest resource, other actors may be able to use certification to improve not only forestry practices, but also forest governance through the multi-stakeholder processes that certification requires. Certification may present an alternative paradigm of forest management that can be used to lever the government to reform the concession system away from destructive and illegal practices.⁶

Its potential to contribute to the development of a sustainable, balanced and mature wood processing industry in PNG is another reason for promoting certification. As will be explained below, the certification movement in PNG has combined certification with locally-based, domestic timber processing. This strategy could improve the structure of the forestry industry, which is heavily skewed towards large-scale extraction of logs from natural forests by foreign companies. Of the fourteen timber permit holders - who accounted for 65.4% of wood exports in 2004 - assessed by the 2003/2004 Review Team, twelve were foreign owned

(mainly by Malaysian companies), two were jointly owned by foreign companies and the government of PNG, and ten were exporting only raw logs (Forest Trends 2006, 10-11). The current forestry industry is not only unsustainable, it is also adding little value to the tropical wood that is extracted from the country's forests.

Within this setting of weak forest governance which is depleting the forest resource, disrupting the social fabric of forest-dependent communities and bringing mostly only short-lived gains to resource owners, forest certification theoretically could offer the following:

- improved dialogue between forest stakeholders, stemming from multi-stakeholder processes to establish and implement standards for good forest stewardship;
- improved harvesting of natural forests that does not comprise their ecological integrity and environmental functions;
- ensuring permit conditions (infrastructure and other developments) are met as agreed upon, thereby providing greater benefits to resource owners from the long term management of their forests;
- greater control by resource owners over their forests;
- greater retention of economic surplus from timber harvesting by the resource owners;
- adding value through downstream processing before export;
- improvement in the international image of PNG's forest management and industry.

6. The issue of unequal landowner benefits remains to be resolved.

3 PROGRESS TOWARDS CERTIFICATION

The share of the total area of production forest in PNG that is certified is very low. The few examples where forest certification has been achieved are the result of community forestry programmes and the efforts of “eco-forestry” groups. Government support for forest certification is not strong. Some large logging companies operating in the country have expressed interest in forest certification, even as far as sending key operations personnel to training on certification conducted twice in PNG by Société Générale de Surveillance (SGS) in 1996/97. Subsequently, Innovision (Ltd) and Stettin Bay Lumber Company had scoping visits conducted under the three year SGS certification support programme, but for various reasons their progress towards certification appears to have halted. For the most part the interest of logging companies in certification has been weak. Individuals and local non-governmental organisations wanting to see tangible changes in the forestry sector and with assistance from their international supporters have provided the major driving forces for forest certification.

3.1 Portable sawmills as the technological basis for current certification activities

The forests that have been certified in PNG are all being harvested using portable sawmills. Some knowledge of the background of portable

sawmill use is necessary to understand their significance to forest certification.

In Melanesia, the origins of eco-forestry (explained below) date back to the use of chainsaws to saw timber from round logs in Bougainville. The timber was cut freehand without guides. Frames to hold and guide the chainsaws were later developed. According to Martin (1997) church and mission groups that wished to provide building materials in areas with difficult access were the first to develop an interest in small-scale sawmilling. Easily transportable, or “relocatable”, sawmills were imported in the mid-1970s from Germany, Australia, New Zealand and the US. However, a truly portable sawmill that could be carried by hand was not developed until the early 1980s, when an American farmer, Frank Puzey, combined a light-weight engine with a light frame to carry the cutting head, enabling the sawmill to be carried into the forest by four men (*Iko-Forestri Nius* March 2000).

In the early 1980s, Village Equipment Supplies, the business arm of the South Pacific Appropriate Technology Foundation network, began constructing crude portable sawmills based on a framework of steel pipes. Sasa Zibe, who later became a parliamentarian, was the major driver of these developments. The local versions of the portable sawmill, known in *tok pisin* as the “wokabout somil”, were cheaper and better

suiting to local conditions than the imported models. Village Equipment Supplies also offered a training package.⁷

Portable sawmilling increased in popularity as the failure of large-scale logging to bring the benefits that communities expected became increasingly apparent. Some landowners were also motivated by a desire to run their own operations, instead of handing over timber rights to the state and foreign entities. In 1993, a nationwide survey of portable sawmills was undertaken by the Foundation of the Peoples of the South Pacific, PNG. Three hundred and fifty of the estimated 1,500 sawmills were surveyed. According to the survey, portable sawmill owners were harvesting on average only three to four trees per week and their environmental impacts would be minimal as long as they were carried by hand into the forest and the timber sawn *in situ*. The survey concluded that “portable sawmills offer an extended range of opportunities for forest owners”, noting that timber was being both sold domestically and used for the construction of schools, aid posts, churches, houses, and meeting houses (FSP/PNG 1995, 1).⁸

3.2 “Eco-forestry” as the conceptual basis for achieving certification

Proponents of forest certification wanted to show that it could be used as a tool to achieve sustainable forest management and provide additional benefits. The approach taken in PNG was to combine the technology of portable sawmills with the concept of eco-forestry.⁹ In Melanesia, eco-forestry evolved as a concept to

promote local development and forest conservation through small-scale, community-based forest enterprises. The PNG Eco-Forestry Forum describes the concept as follows:

Eco-Forestry is a term that collectively describes activities that sustainably utilise forest resources with as much benefit as possible being retained by the traditional resource owner. . . . Eco-Forestry allows us to continue to use the resources within the forest without destroying it - ensuring that the present and future generations of local people will continue to benefit. It allows development while protecting the resources and the environment (Eco-Forestry Forum 2004).

The proponents of eco-forestry present it as an alternative to large-scale, industrial timber operations. Table 2 provides a basic characterisation of the differences between eco-forestry, as its supporters envision, and typical industrial timber extraction.

Eco-forestry has mainly been driven by local NGOs, who believe that this is the most appropriate forest development tool for PNG, with support from their international backers. The existing eco-forestry projects are geographically widely dispersed, but the formation of the PNG Eco-Forestry Forum in 1999 gave the various NGOs supporting eco-forestry a medium through which to express their shared concerns. The purpose of the Eco-Forestry Forum is to support eco-forestry practitioners and advertise their activities, which it does through campaigns on illegal logging, sustainable forestry and strengthening partnerships. The Forum’s quarterly newsletter *Iko-Foresti Nius* is often

7. Information in this paragraph is based on interviews with Kenn Mondia in 2005 and 2007.

8. The survey highlighted a lack of technical support and after sales services, inadequate training, low availability of spare parts, lack of knowledge about sawmilling amongst provincial forestry staff, and difficult market access as obstacles to the portable sawmilling industry.

9. The expression “community-based timber production” is also used to describe eco-forestry in Melanesia.

Table 2 Characterisation of industrial timber harvesting operations and eco-forestry¹⁰

FEATURE	INDUSTRIAL-SCALE LOGGING	ECO-FORESTRY
scale	large scale	small – medium scale
forest services	trees only	diverse forest products
purpose of forest management	modern harvesting	traditional use in partnership with modern forest uses
size of investment	millions of kina (national currency of PNG)	thousands of kina
inputs	capital intensive	labour intensive
investment period	short term investment as capital is mobile and interest disappears once the forest is logged	long term investment as community interests are tied up with their forests
non-financial values	cultural values may not be recognised	cultural values recognised
resource rights	acquired by state and usually issued to foreign companies	retained by community
financial input	company and its financial backers	subsidisation, usually from abroad
technology	skidders, bulldozers, logging trucks etc. – controlling nature	portable sawmills, transportation by hand and water buffalo – working with nature
added value	usually no processing	commonly processed into sawnwood at felling site and sometimes finished goods
residence of harvesters	live far from the forest	permanently reside near the forest
financial rewards	mostly captured by company and government	largest part retained by local community

very critical of large-scale timber extraction operations in PNG and government officials/politicians who are seen as supporting the status quo with respect to forest management. The core individuals/organisations responsible for forming the Eco-forestry Forum were:

- Sasa Zibe of Village Development Trust
- Yati A. Bun of the Foundation for People and Community Development
- Wesley Watt and Tim King of the Pacific Heritage Foundation
- Gary Thomas and Kenn Mondiai of the EU funded Islands Regional Environmental and Community Development Programme
- Kelly Kalit of the World Wildlife Fund¹¹

According to Kenn Mondiai, Chair of the Eco-Forestry Forum, the individuals who initiated the Forum were all foresters who shared the common objective of promoting sustainable

forestry through locally-based, small-scale forest enterprises. Forest certification was viewed as a tool that should be introduced at an appropriate stage to achieve this objective and sustainable forest management in general. The core members found that existing NGO forums covered too many issues and thus resolved to establish the Forum with the specific intention of promoting eco-forestry as an alternative to large-scale destructive logging. The Eco-Forestry Forum's other major role is to be a mouth piece and advocate for eco-forestry matters.

PNG's National Forest Policy (1991) did not provide for eco-forestry; hence, the major driving force had to come from non-state actors. A European Forest Institute report published in 2000 concluded that the government did not have a clear policy or strategy to promote small-scale sawmilling, despite the large number in

10. This table draws on Salafsy et al. (1997) and Travers (1998).

11. Based on interviews with Kenn Mondiai in 2005 and 2007. Some of these individuals now work for other organisations.

operation (EFI 2000). The government could at best claim to have promoted eco-forestry through its Ecoforestry Programme, which came to an end in August 2006, and National Eco-Forestry Policy. This Policy was drafted by the policy component of the Ecoforestry Programme and was approved by the National Forest Board. However, it has not been endorsed by parliament and was heavily criticised by the NGO sector.¹² Any government support for eco-forestry is marginal compared to its promotion of industrial-scale concessions.

The proponents of eco-forestry in PNG have displayed enthusiasm for forest certification. Not only have they sought certification of their eco-forestry operations, but they have also been engaged in the development of a PNG national certification standard and they established a national certification service (i.e., FORCERT). Individual practitioners and supporters of eco-forestry have been involved with forest certification since the founding phase of the FSC. To prepare for the launching of the FSC, PNG was one of the countries chosen to undertake a pilot study to gauge views of forest certification and eco-labelling. The three-month study was presented by PNG nationals at the founding assembly of the Forest Stewardship Council in Toronto, Canada in September 1993. Interviews conducted during the country assessment were later used to establish chambers for the PNG National FSC Working Group. A number of PNG nationals/residents were thus involved in establishing forest certification at the international level during its formative years and remain actively involved. Yati A. Bun conducted the PNG FSC country study and served two terms on the FSC Board. Peter Dam, member of the FSC PNG National Standards development committee, Technical Advisor to the PNG FSC National Working Group, former member of the

FSC Controlled Wood technical committee, and now as FORCERT manager, can also be counted amongst the key individuals who have provided the driving force for certification in PNG.

3.3 Forest certification initiatives in PNG

The initiatives to promote certification in PNG include efforts to have eco-forestry and small sawmill operations certified and the development of the national standards. We describe these separately.

3.3.1 Pacific Heritage Foundation

The first operational example of forest certification in PNG was the certification of 12,500 ha of forests in Bainings Rabaul, East New Britain Province in the mid-1990s. Max Henderson, a plantation manager, had initiated an eco-forestry project with the Bainings people and had established the Pacific Heritage Foundation in 1992 to support his eco-forestry work. With funding from B&Q, a UK nationwide chain of “do-it-yourself” stores, the eco-forestry project involving the Bainings people was successfully audited by SGS, one of the first certifiers accredited by the FSC, in 1994. The Pacific Heritage Foundation began marketing the certified timber in 1995, but folded in 2003 because of management issues and its eco-forestry work ended in the same year when its major funding contract expired (Bun and Bewang 2006, 114-5). Its forest management certificate lapsed in 1996 as no annual audit was conducted. Difficulties the project faced included:

- “market access: trouble in supplying the overseas markets and meeting demand on time with quality and quantity of required timber and absence of local niche market for FSC certified timber;

12. The draft policy can be accessed at <http://www.forestandtradeasia.org/files/png%20ecoforestry%20policy.doc>.

- 1994 disruption of normal business operations due to volcanic eruption;
- technical complications, including the absence of Forest Management Plans and lack of compliance;
- problems implementing the FSC International Standards with Corrective Action Requests (CARs) not met on time;
- absence of documented guidelines and directions for FSC Certification requirements;
- very high costs of maintaining the FSC certificate;
- inability of producers to implement certification themselves without assistance from PHF or donors;
- low staff capacity (unskilled in forest verification and management);
- very low NGO financial, technical, and capital capacity” (ibid.).

3.3.2 *Islands Regional Environmental and Community Development Programme*

The government began formally supporting eco-forestry with the launch of the Islands Regional Environmental and Community Development Programme (IRECDP), which ran from 1995-2001. IRECDP was funded by the EU and based in Kimbe, West New Britain Province. Although IRECDP was ostensibly the government’s Ecoforestry Programme, Kenn Mondiai, who worked for IRECDP for seven years, feels that the government had little interest in the programme, which it viewed as oriented towards conservation rather than forestry.¹³ The Department of Environment and Conservation took the lead on behalf of the government for implementing IRECDP, but was not allocated sufficient

resources; it could not even appoint a programme co-ordinator.¹⁴

IRECDP included village based eco-forestry involving selective harvesting and sawmilling; the marketing of processed forest products from sustainable sources; support for other village based and managed activities including ecotourism and insect farming; and environmental conservation and environmental awareness (Salafsky 1997). The Programme developed an eleven-step process to assist small-scale community-based timber harvesting enterprises and was successful in having 4,310 ha of forests certified by SGS in 1998 (EFI 2000). Mondiai believes that the Programme made it easier for NGOs to pursue forest certification because of the training programmes and other useful tools that it developed.¹⁵

The successor of the IRECDP was the Ecoforestry Programme (EFP). EFP inherited the FSC group certificate, but with very little support from the programme management for continuation of the certificate. FORCERT (see below for further details) was identified as the exit strategy for the EFP certification activities, but instead of collaborating with FORCERT to achieve a smooth transition of the existing FSC certified producers into the new FORCERT group certificate, the EFP management let their certificate lapse one year before FORCERT was ready for its main assessment. For its subsequent phase, the Ecoforestry Programme shifted its base of operations from Kimbe in West New Britain Province to Lae, the capital of Morobe Province. The second phase came to an end in March 2006 and a third five year phase was proposed by the PNGFA, but was not supported by the EU.¹⁶

13. Based on interviews with Kenn Mondiai in 2005.

14. Ibid.

15. Ibid.

16. Information in this paragraph is partly based on communications with Peter Dam in September 2007.

3.3.3 Village Development Trust

The Village Development Trust (VDT) also has an important place in PNG's experience with eco-forestry. The need for VDT was discussed by a number of individuals associated with the Foundation for the People of South Pacific, the South Pacific Appropriate Technology Foundation, Village Equipment Services, and its successor NatEquip (*Iko Forestri Nius* March 2000). VDT was established in 1990 to draw on the technological development of the portable sawmill. Its mission is "empowering and supporting village communities to manage their resources in ways that promote self-reliance and that are environmentally, economically and socially sustainable" (VDT 2006). Amongst its objectives, VDT is seeking to establish a small-scale eco-timber industry based on a lumber yard with a resawing facility in Lae, field extension services, training programmes, and a loan programme. Through its Village Eco-Timber Project, VDT provides these services to portable sawmill owners and sells their timber as "eco-timber", though no forest management standard is applied. VDT was involved in the creation of the PNG FSC national standard and is a partner organisation of FORCERT through which it is pursuing FSC certification of all its community timber producers.

3.3.4 Foundation for People and Community Development

The Foundation for People and Community Development Inc. (FPCD) was established in 1992 as a Papua New Guinean non-government, not-for-profit organisation. Its mission is to "support Papua New Guineans to develop and manage their own forest resources towards

environmental, economic and social benefits". It views forest certification as playing an important role in achieving this mission. A major part of its work programme is support for eco-forestry in Madang Province, where it was awarded a FSC group certificate for its Indigenous Community Forest Group Certification Scheme (ICF) covering 2,705 ha in June 2007.

FPCD's Eco-forestry programme focuses on building the capacity of the traditional resource owners and includes training in forest management, small sawmilling and small business, forest surveys, and clan-based forest management planning. The Madang Forest Resource Owners Association (MFROA) has been the primary target group of FPCD's eco-forestry activities.

When FPCD launched its Eco-Forestry Programme in Madang it worked with the Imported Tropical Timber Group (ITTG), a consortium of tropical timber buyers in New Zealand, to enable resource owners to harvest timber from their forests according to ITTG's Criteria for Management of Pacific Indigenous Tropical Forests for Ecotimber.¹⁷ Greenpeace played an important role in organising the ITTG and developing the Pacific eco-timber standard and label. This standard uses second-party verification of sustainable forest management to start the resource owners on a path towards FSC certification. For FPCD, building the capacity of resource owners to manage their forests for timber production according to the ITTG Pacific eco-timber standard was an important part of the process by which it acquired its FSC group management certificate. By September 2007, FPCD had exported several small volumes of "eco-timber" and was preparing the export of

17. The goals of the ITTG include ensuring that all tropical timber imported to New Zealand is sourced from certified sustainably managed forests. Its members are representatives of tropical timber importers, tropical timber retailers and environmental non-governmental organisations.

one small volume of certified timber. FPCD's major challenges with respect to utilising its group certificate are to: build up certified timber volumes, including expanding the number of certified producers, to the level required for a viable and sustainable enterprise; assign costs in an appropriate manner; devise a system to make portable sawmills and other necessary inputs available to producers that operates at full cost recovery; and to further build the capacity of MFROA to take on greater responsibility for the management and planning of the certified timber production operations.¹⁸

3.3.5 FORCERT

The Eco-Forestry Forum initiated a study on the need for a national forest certification service in PNG in 2001. This study concluded that small-scale timber producers and timber yards were clearly interested in accessing and using certification as a management and marketing tool. The Forest Management and Product Certification Service Ltd. (FORCERT) was founded in 2003 and began operating in January 2004 as a not-for-profit company with its overall goal to "facilitate the responsible management and conservation of forest resources that maximizes the economic benefits for local resources owners". FORCERT received a FSC group forest management certificate for an initial 19,215 ha in 2005.

FORCERT holds FSC forest management and chain-of-custody certificates. It aims to ultimately be national in reach and to be able to supply the volumes requested by international buyers by combining the timber milled by its certified producers in different localities. Under the FORCERT model, FORCERT foresters work with partner organisations (NGOs, training and

government institutions, local businesses) to build the capacity of producers to supply certified timber through training and institution building programmes. The producers commit themselves to supplying a minimum annual volume of certified timber to "central marketing units" - certified timber yards - that in turn provide some essential support services to producers such as spare parts and organising transportation. The timber yards are given the responsibility of transporting and marketing the timber, which removes much of the business side of certification from the NGO sector and transfers it to the private sector. In 2006, FORCERT exported 134.9 m³ of sawn timber (FORCERT 2006 Annual Report).

The FORCERT approach has developed into a unique stepwise model that consists of three distinct steps for producers: Step 1 – Community Based Fair Trade Certification; Step 2 – Pre-certified status; Step 3 – FSC certification. The model also incorporates an innovative micro-credit facility, primarily to make equipment available to the village enterprises.¹⁹

FORCERT is the first organisation to combine FSC and Fair Trade certification and to market Fair Trade sawn timber. Its stepwise approach should make forest certification more accessible to community timber enterprises and assist in building up the volumes required for FORCERT's production related services to be economically sustainable. FORCERT anticipates that Fair Trade certification could provide further access to niche markets offering higher prices and willing to accept "lesser known species" (ibid.). Though FORCERT continues to face significant challenges, such innovations are of a pioneering nature and will offer important lessons for other practitioners.²⁰

18. A paper on FPCD will be forthcoming in this series.

19. See below for further details on the micro-credit facility.

20. Some of these challenges are spelt out in an external evaluation released in January 2007 (see Titus et al. 2007).

3.3.6 National certification standards

Another noteworthy initiative in PNG is the development of FSC national standards under the auspices of the PNG FSC National Initiative. PNG is only one of three countries in Asia that has FSC National Initiatives.²¹ The aim of the National Initiatives is to decentralise the many FSC activities to a regional/local base. To promote the mission and activities of FSC, the National Initiatives work in three ways:

- “in supporting FSC A.C. [*Asociación Civil*], certification bodies and the members;
- as being the primary motivating and coordinating body at the local level for particular FSC activities, such as promotion of certification, and publicity and information programmes;
- development of national/regional standards” (Evison 1998, xvi).

Following the FSC system for developing National Initiatives (see Evison 1998), the PNG Working Group comprises three chambers that represent the social, environment and economic sectors. One of the tasks of the Working Group is to develop national certification standards for forest management in PNG based upon the global FSC Principles and Criteria for good forest stewardship. The Working Group had to identify a sub-committee of knowledgeable people to represent the three chambers and resource personnel and organisations including certifiers and government bodies to assist in the development of the national standards.

In April 2001, the National Initiative was able to submit the PNG FSC National Standards to the FSC International Secretariat for endorsement. After a few exchanges between FSC and

the PNG FSC National Initiative, the National Standards were finally endorsed in principal in 2003 with a number of pre-conditions and conditions. The PNG FSC National Initiative is currently working on these conditions. The final endorsement of the standards was delayed by a lack of funding (all Working Group members contribute their time voluntarily), the absence of fulltime staff and the need to have the Working Group endorsed by FSC. PNG is a small community in terms of those with both knowledge of forest certification and the forestry sector so the Working Group was able to make progress by “piggy backing” its meetings with other events. The FSC system meant that all those who represented the three main sectors had the opportunity to voice their views, had access to all documents, and had knowledge of all developments at all stages in the creation of the national standards.

The PNG FSC National Standards are a significant achievement. They will be a useful benchmark for assessing forest management in PNG and will provide further impetus for forest certification. The National Standards are “home grown” in that they required broad PNG stakeholder participation in their formulation. Thus far the potential of the National Standards to promote certification and sustainable forest management has only been glimpsed. Lack of official endorsement of the national standards and publicity is constraining this potential. An official launch of both the National Initiative and the National Standards is planned for through a two-day national certification workshop, which will also see a review of the representatives of the three chambers of the National Working Group.

21. The other two are Japan and Viet Nam.

4

PREVAILING CONDITIONS: FACTORS CONSTRAINING AND SUPPORTING CERTIFICATION IN PNG

In the preceding discussion we have described what forest certification could potentially offer PNG. Regardless of its potential to improve forest management, certification is only worth pursuing if its benefits outweigh its costs. This is difficult to calculate, however, as a numerical value cannot be placed on dialogue, governance and ownership, which are but some of the many issues that forest certification can potentially influence. An understanding of the prevailing conditions with regards to whether they obstruct or support certification, combined with the potential of forest certification to improve forest management, can be used to provide a rough guide of its efficacy within a particular national context.

In this section we analyse the prevailing conditions using the Enabling Conditions Framework, which was designed as a diagnostic tool for undertaking a systematic analysis of conditions that can be considered supportive of forest certification (Nussbaum and Simula 2005). The Enabling Conditions Framework analyses conditions under the headings of governance and regulatory framework, capacity to achieve certification, and demand for certification.

22. Peter Dam (pers comms September 2007).

4.1 Governance and regulatory framework

The forest sector in PNG is troubled by weak governance, resulting in poor implementation of forest policy and regulations. As a consequence many current forest operations are far removed from those required by certification standards. The regulatory framework itself is generally considered adequate to achieve sustainable management of the forest resource (ITTO 2007) and if logging operations were in legal compliance they might be close to forest certification standards.²² The problem lies not with the laws and regulations, but with the failure to implement these. Weak enforcement of forest regulations, combined with low support for certification from logging companies and government agencies, pose significant hurdles to the progress of certification in PNG. The few examples of forest certification that exist/existed are due to the efforts of committed individuals, NGOs and international donors.

The issue of governance extends to the local level. The Enabling Conditions Framework highlights the importance of tenure, community rights and conflict resolution as important factors that can facilitate or hinder certification. From a legal perspective, the resource owners are in a very powerful position as the government must consult with them before initiating any forest development project. However, low

awareness of the impacts of industrial logging and its alternatives, combined with insufficient resource owner preparation by the PNGFA, can mean that they are unable to participate in negotiations in a fully informed and properly represented manner. These concerns extend to forest certification.

Salafsky (1997) reported that the “largest single difficulty” IRECDP faced in encouraging resource owners to produce timber under eco-forestry regimes were “social problems that occur when residents of a village are not united behind the enterprise”. He provided the following example:

In one instance, we received an initial letter that was signed by only one person. When we arrived in the village, we found that he had not told anyone else in the village about his proposed ideas. Everyone was very suspicious of us and of him and the meeting involved only a lot of argument and shouting. This village was clearly not ready for an enterprise. Similar problems have also occurred at villages where one clan has already signed an agreement with a logging company (Salafsky 1997).

Lack of knowledge of development options, including their costs and benefits, and the unpreparedness of social institutions for dealing with external pressures, do not pose an insurmountable hurdle to forest certification, but they necessitate a well-designed approach that includes careful selection of communities, long-term commitment and a readiness to invest heavily in awareness raising and capacity and institution building.

23. Interview, Peter Dam, 2005.

4.2 Capacity to achieve certification

The Enabling Conditions Framework views capacity as a critical factor in forest certification and divides this into capacity for sustainable forest management and capacity for certification. When dealing with community-based enterprises in PNG, the issue of capacity applies most importantly to the capacity of the support organisations and the capacity of the communities themselves.

There is a small yet critical assemblage of committed supporters of certification with a high level of expertise in PNG. Through their involvement with certification over the past ten years that extends from participation in international initiatives to implementation at the forest level, these support organisations have developed considerable practical certification-specific expertise. This is evident in the demand for these organisations to provide training and services related to certification and eco-forestry across the country. Of the examples that could be cited, FORCERT is contributing to the curriculum of UniTech in Lae²³ and FPCD was contracted by Greenpeace to do its forestry work in PNG and Irian Jaya, Indonesia. However, these organisations are limited by their human resources and dependence on international funding (their cost-recovery strategies notwithstanding). At a national level, the capacity for certification in PNG is severely constrained by the fact that it is poorly publicised and effectively not supported by the government or the forest industry sector.

Capacity and awareness raising are also critical issues at the community level. One problem support organisations face is convincing resource owners that the long-term benefits of certification outweigh the short-term, unsustainable gains of industrial-scale logging opera-

tions. Logging companies are able to provide resource owners with immediate cash payments and bring with them promises of roads and other forms of “development”. Even when some clan members oppose the logging of their forests, PNG culture and custom make it difficult for them to oppose their *wontoks*²⁴ who have agreed to hand over timber rights through the Forestry Authority to the logging companies.

Organisations promoting eco-forestry as an alternative forest management regime must convince the resource owners that the hard physical labour, training, and long-term commitment needed to establish a viable enterprise is worthwhile. This can be a difficult task. Martin (1997, 277) reported that “wherever small-scale forestry has been offered as an alternative to income generated by large-scale logging, the latter has been preferred”. He continues,

The greater size of the return in the short term, the ability to distribute some of the returns across a community, and the lack of any need for physical labour to extract that return, have been far more attractive than the work required to service a loan for a portable mill, the business of arranging to market the product, and the prospect of disputes arising from the lack of any means to redistribute the resulting income with some degree of equity around the community (Martin 1997, 278).

These statements are now somewhat dated and, while likely to still be true for some locations, organisations such as FPCD and FORCERT have found an increasing interest from resource owners in milling their own timber.

Forest-dependent communities in Melanesia primarily rely on their forest gardens, fishery resources, and their forests for their subsistence. Their cash needs are occasional, rather than daily, and people generally only work for cash when they need it. Moreover, timber production must be balanced with other subsistence activities and cultural obligations. This poses challenges as a regular income flow is required for forestry operations under eco-forestry regimes to be viable and the size of this income must be sufficient to retain the interest of the producers. Discussions with resource owners in Madang reveal that this is in no way an impossible task and that some clans are already receptive to alternatives to industrial logging. As resource owners become increasingly dissatisfied with the destruction of their forests and the often short life of infrastructure constructed by the logging companies, and as more examples of successful locally-based forestry are demonstrated, the number of resource owners open to eco-forestry as an alternative forest management regime is increasing.²⁵

Some of the challenges facing the foresters responsible for preparing resource owners for certification and eco-forestry were highlighted in an interview with an FPCD forester, who described his experience of conducting forest surveys for Greenpeace at Lake Murray. He found that the local people had very little outside contact making it challenging for the foresters to work with them. They spoke only “basic English” so the foresters had to use actions to make themselves understood. Many locals were reserved and preferred to watch from afar, even though their overall response was generally positive; they were interested in certification, as this was the first time that they

24. Wontok is literally translated as “one language” and refers to a group of people traditionally bound by a shared language and set of social obligations.

25. Ibid.

had seen a forest management system significantly different from industrial logging. However, the forester found that he had to be careful in persuading the local people that the new approach would be beneficial, without raising false hopes.²⁶

The challenge of achieving forest certification of eco-forestry in PNG is further augmented by the technical needs of certification and of establishing viable forestry enterprises. In some cases the resource owners are being prepared to harvest timber from their forests for the first time. Not only must forest management plans be drawn up and implemented, but the resource owners require technical training on chainsaw and sawmill use and maintenance and on business development. Maps of forests owned by individual clans are usually non-existent and boundaries must be demarcated. Depending on a number of variables a forest survey could take three foresters three weeks to complete. Tree inventories are required and high-value conservation forests and ecologically sensitive areas must be identified. Further time and investment is required to establish a sustainable harvesting plan that meets the requirements of the certification standard.

Financing of eco-forestry enterprises presents a particularly difficult problem. A good quality portable sawmill costs about PGK 60,000.²⁷ An alternative is to begin milling with a chainsaw mill, which consists of a chainsaw and a frame and costs PGK 6,000 – 9,000. It is possible to produce the same export quality timber with a chainsaw mill, but compared to a portable sawmill production is about half as slow, more waste is produced because of a larger cut, and more fuel is consumed.

26. Based on interviews with forester in 2005.

27. 1 USD = 2.87 Papua New Guinea Kina, 8/19/2007.

28. Peter Dam (interview August 2007, pers comms September 2007).

Clans whose livelihoods are based on subsistence do not have the capital to purchase sawmills outright, nor the equity to secure loans. PNG has a poor repayment record of loans for locally-based forest enterprises and banks are reluctant to lend start-up funds. Another cash-related concern is the need to build the capacity of communities/clans to effectively manage the sudden influx of cash into their subsistence economy from the sale of certified timber. These challenges are not insurmountable but require innovation. FORCERT has recently introduced a micro-credit component into its model for assisting resource owners to have their forests certified. The terms of the micro-credit are:

- equity of 10% provided by producer
- interest rate of 10%
- repayment period of three years
- loan amount of about PGK 65,000 (this is based on the cost of a sawmill, chainsaw, and chain and pulley, though may be reviewed as prices for portable sawmills have increased)
- Producers can also take loans to construct forest access tracks, but need to be able to provide security for the total amount of the loan
- The central marketing units can borrow up to PGK 120,000 for wood processing equipment, yard construction, and means of transportation²⁸

Under IRECDP, micro-credit was provided to three producer groups, all of whom repaid their loans within two years. This provides reason for optimism that FORCERT's experiments with micro-credit could offer further breakthroughs.

The issue of capacity also extends to the capacity of the forest resource to support viable for-

estry operations. Some clans own large areas of forests which can serve a small-scale harvesting and milling operation, whereas other clans have too small a resource for long term eco-forestry operations. In PNG, many potential timber producers have forests that are currently inaccessible by road and this is becoming an increasingly serious challenge. As nearly all accessible areas are either logged over by logging companies, converted into cash crops, or used for gardening or for settlements, the remaining forest resources are becoming less and less accessible. Trees suitable for harvesting can still sometimes be found in logged-over areas and, indeed, this is where many portable sawmills are put to use. Nevertheless, industrial logging may have left many areas unsuitable for certification as the remaining trees are insufficient for a financially viable operation. This does not negate the potential of forest certification, but it does demand careful selection of forests. On a positive note, PNG forests contain species that fetch a high price on the international market; hence, a high extraction rate should not be necessary for a small-scale forestry operation to be viable. In addition, only a relatively small area needs to be accessed each year for a portable sawmill operation. The break-even point typically lies around 60-70m³/yr and a well-managed operation would produce 120-150m³/yr sawn timber. With a recovery rate of about 50%, the round log input needed is then about a maximum of 300m³/yr, which can be harvested from a 20-50 ha forest area (depending on the total standing commercial volume/ha).²⁹

Transportation of the felled timber presents another challenge. Where roads and bridges do not exist or are *giaman* (i.e., made only to last a short while or of substandard quality), sawnwood may have to be carried by hand from the

logging site to the nearest roadside, by water buffalo and trailer, and/or by boat. This can be physically demanding work because of the rugged terrain, the humid climate and the high density of tropical hardwoods. These physical constraints may make it impossible for single producers to supply markets that require regular, large volumes of timber.

4.3 The demand for certification

The Enabling Conditions Framework asks whether the quality, price, volumes, and reliability demanded by the market can be met. Overall, the experience of PNG is that with adequate support resource owners can produce A-grade timber sawn *in situ* to international specifications in small volumes that the market will accept. Providing these volumes on a regular basis and/or combining the production of individual sawmill operators to meet larger orders are major challenges. Another challenge is securing international markets for certified timber that is below A-grade standard, most of which is currently sold on the local market that does not offer a premium for certified wood (e.g., lower grade “rustic” certified timber could possibly be sold as flooring, which only needs to be visually attractive on one side). There is practically no domestic demand for certified wood in PNG, but this does not pose a major obstacle as the demand from international markets far exceeds supply. To fill one order, FORCERT resorted to sending timber of odd sizes over to a Chinese buyer to be used for the manufacture of billiard cues. This was followed by another order from the same buyer.³⁰

29. *ibid.*

30. *ibid.*

Forest certification has had to tread a difficult path in PNG. There is essentially no effective support for forest certification from government and very little interest from industry. Rather, it has been left to a small group of individuals and organisations to develop certification as an alternative to the dominant state sanctioned forest management model of industrial-scale concessions that has proved socially and ecologically destructive and has undermined the resource base and the international image of PNG's forestry sector. They have directed their efforts towards building the capacity of Papua New Guineans to manage their forests as an alternative to handing over management rights to foreign-owned logging companies. This has been a difficult task for a variety of reasons, not least of which are:

- the absence of a consistent and clear national policy direction to recognise and support forest certification;
- lack of commitment from logging companies to have their concessions certified;
- a large gap between current forestry practices and those required by the certification standards because of weak forest law enforcement;
- low awareness of certification;
- poor transportation infrastructure;
- lack of financial services to support community-based forest enterprises;
- little government support for communities to manage and harvest their own forests;
- low awareness amongst communities of the full consequences of allowing their forests to be logged;
- need for a wide range of finely-tuned professional inputs (such as boundary demarcation, forest management plan, set-ups and harvesting plans) before communities can have their forests certified;
- that the most accessible forests have already been logged;
- popular attitudes of working for cash only when it is immediately needed and a high social discount rate for cash.

These challenges do not mean that PNG is not suited to forest certification. On the contrary, it is precisely because of some of these challenges that certification could have a great deal to offer. While the challenges to moving certification forward to a point where it can make a major contribution to sustainable forest management in PNG are significant, there are some factors that are conducive to certification. These include:

- a small but committed group of individuals and organisations, backed by international funders, that are currently driving certification forward;
- considerable certification-specific expertise that this group holds from implementation at the forest level through to national and international standards development;

- close working relationships that exist between the support organisations, as is evident in the formation of the Eco-Forestry Forum, VDT and FORCERT;
- the existence of the PNG FSC National Initiative and National Standards;
- the existence of eco-forestry and certified producer groups that can act as demonstrations;
- growing ill-feeling amongst resource owners towards industrial logging;
- strong international demand for certified timber species that PNG can supply;
- the readiness of some markets to accept small volumes and to offer open orders for FSC certified natural timber;
- growing pressure of international markets for industry to improve their standards.

There are currently two active forest management certificates in PNG, both of which are FSC group certificates. There is no shortage of demand for FSC certified commercial timber species that PNG can supply to the international market. The challenge for the proponents of certification as a means to enable and encourage resource owners to take charge of managing their forests sustainably is to draw on this demand to build a viable community-based forestry industry. Some important innovations towards this end have been touched upon in this paper.



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