
**INTERNATIONAL EXPERT MEETING ON THE DEVELOPMENT AND
IMPLEMENTATION OF NATIONAL CODES OF PRACTICE FOR FOREST
HARVESTING – ISSUES AND OPTIONS
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ABSTRACT

Papua New Guinea has a total land mass of 46 million hectares with vast natural forest comprising 39 million hectares and a total population of 5.2 million.

Forest Resources are acquired and allocated for industrial logging by the government to enhance the broad objectives of Sustainable Forest Management (SFM).

With SFM as a goal, the government has been tasked to manage and develop the Forest in PNG. Fifteen million hectares with sustainable cut of 4.5 million cubic metres per annum has been earmarked in the National Forest Plan.

The forest industry is dominated by foreign investors and is more log export oriented, unlike the trend twenty years ago. The government has recently completed a study on Domestic Processing with options and recommendations. Though log export was officially planned to be phased out in year 2000, Papua New Guinea (PNG) is yet to establish itself on domestic processing and marketing.

PNG's main market for round logs is China at the moment followed with Japan and Hong Kong. Due to the 1997/98 market down turn in Asia and the high log export taxes that have been imposed by the government, log export volumes have declined dramatically.

Certain priority policy areas that have been addressed to ensure SFM is achieved with minimal environment damages and maximum benefits streamlined to the rural population by way of economic, social and infrastructure services beyond the millennium include the implementation of the PNG Logging Code of Practice (LCOP), the Key Standards that have been instituted into the PNG LCOP and Standard Procedures for Monitoring and Control.

Another aspect that has been discussed on Regional Level in the Pacific but has yet to be formulated and implemented in the haste to manage and develop the forest under concept of SFM is the Reduced Impact Logging (RIL).

DEMOGRAPHY

The population of PNG has increased in size by more than 50% from about 2.2 to 3.6 million in 1990.

Projections indicated that by year 2020, the population will reach about 7 million. The average population growth rate between 1980 and 1990 was 2.3 percent per annum, and at this rate the population will double in about 30 years. The average population density is 10 people per hectare of land. As of 1990, 85% of the population lived in rural areas and they are heavily dependent on the forest for their livelihood. A systematic breakdown of their livelihood would include household and commercial use of wood, non-forest products, services, food and agriculture to generate income and employment.

Urban population growth was growing at an average rate of about 4.5% per annum and this is expected to double by 2005. Additional important demographic dimensions of the population growth is the impact on the structure of the population that has 59% people under the age of 25 years or younger (NSO, 1998).

LAND TENURE

Land ownership in PNG is vested with customary owners, which comprises a large portion of the rural population. In order for the government or private investor to develop any resources on the land, right has to be acquired from the customary owners.

Furthermore, traditionally, land is wealth virtually based on economic, environmental, ecological objective and social standing. Hence meaningful participation and involvement of landowners will create a conducive environment that would attract landowners to join in the national building and compete for job opportunities in that forest sector.

ECONOMIC DEVELOPMENT AND SIGNIFICANCE OF THE FOREST SECTOR

The PNG Forest sector represents a distinct sector within the country's economy and is the third to mining and Petroleum in terms of foreign exports earnings. The other sectors being Agriculture and fisheries.

Foreign exchange earnings from forest products has increased from an average 100 million Kina to 400 million Kina in 1993 until the currency downturn in Asia. In 1997 the foreign exchange earnings was 450 million Kina from export of forest products. By end of 2002 foreign exchange earnings drastically decreased to 367 million Kina.

The Forest sector employs about 7,500 people, representing approximately 4% of the total formal employment sector.

Logging Companies are responsible for providing roads, infrastructure and welfare services. Generally not all Companies comply with the obligations and more so the buildings are constructed using cheap materials like rough sawn and untreated timber, imported low grade construction materials and roading and bridge specifications used are unsatisfactory.

CURRENT STATUS OF FOREST MANAGEMENT IN PNG

PNG is endowed with vast natural forest resources. These resources are managed and developed by the government to enhance economic, infrastructure, and social advancement. This development is within the broad objectives of SFM as enshrined in the National Forest Policy and the National Forest Development Guidelines.

PNG's Forest Policy and Legislation are directed towards SFM. All new proposed timber projects are now required to meet SFM conditions before being acquired by the State through Forest Management Agreement (FMA). A logging code of practice is already in place and is being exercised as part of an overall effort to sustain the resource.

Within the broad objectives of SFM, the government through Papua New Guinea Forest Authority (PNGFA) will manage the forest resources of the country that is owned by the people for the broad range of commercial benefits and values for the present and future generations, This entails specific objectives and policy initiatives and they include undertaking forest resource inventory, acquisition of forest resource areas, controlling and monitoring forest industry operations, promoting resource owner participation through awareness campaigns on multiple uses of forest resources and introducing new revenue systems and promoting marketing strategies for the forest and forest products to enhance industrial wood processing that is internationally competitive. Simultaneously, undertake research programs and data collection for SFM and reforestation purposes and identify priority areas that have significant environmental and ecological values they need protecting.

The outlook for PNG's Forest Sector in the years ahead is among other things placing a total ban on log exports and increasing processing which is yet to be established with clear policies.

WHY DO WE NEED LOGGING CODES OF PRACTICES?

Throughout PNG tropical forest harvesting has gain a reputation for being inefficient, causing severe environmental damage and causing social and cultural upheaval.

This should come as little surprise to those who have actually seen many of the logging operations carried out in the past. Often these operations were carried out with little forward planning and with little regard for the rights or interests of stakeholders who remain reliant on the area after logging is completed.

Often logging causes rapid changes in remote areas, through major transformation of physical and cultural environments. The changes can be positive in the form of roads and other infrastructure developments, or negative in the form of adverse environmental impacts. Socially the whole dynamics of communities can change with a sudden influx of cash into the economy. This can come from royalties, levies, compensation for lost rights and /or employment.

New employment regimes associated with logging can also change the social structure in the community by changing traditional labour roles, or by bringing new people into the area. Most of these changes happen in a very short time frame, thus producing little opportunity for people to adjust.

Codes of logging practice, as their definitions suggests, can conventionalise and regulate this change. The codes are designed to improve logging efficiency, mitigate against environmental damage, and reduce the social or cultural impacts of logging.

Evidence for the need for Logging Codes of Practice is abundant. Most logging operations completed prior to the introduction of the Logging Code of Practice provide glaring examples, polluted water sources, badly degraded forests, decaying infrastructure, underpaid monetary benefits and social problems are some of the tell tale signs left by these operations.

The logging code of practice can only be successful if;

- Receive the necessary political support.
- Is accepted by customary landowners
- Is implemented and administered by dedicated and competent forest sector representative,
- Receives the necessary resources and training to achieve full field implementation, and,
- Allow regional and international sharing of information and research work to improve on the codes.

IMPLEMENTATION STATUS OF THE LOGGING CODE OF PRACTICE

The underlying objective of the PNG Logging Code of Practice is to manage PNG Forest resources on a sustainable basis by the year 2000 and beyond as agreed by all ITTO member countries. It involves;

- Set guidelines for Forestry field staff, and industry personnel to apply
- Conservation & protection of water and soil
- A means of control measure during and after logging.

It has been almost six (6) years since the monitoring staff of PNGFA were first exposed to the Key Standards for selection logging in PNG, and the PMC Procedures. During that time, there has been numerous opinions of success and failures in their implementation with a great deal of opposition from a minority of logging companies. The Key Standards and PMC procedures and the LCOP have however provided monitoring staff with guidelines for assessing proper work standards of logging operations based on fundamental soil conservation and watershed management principals.

The following are some issues that have worked against successful implementation of the LCOP:-

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1. Poor knowledge and comprehension of the LCOP and PMC procedures by the Forest Industry and some PNGFA staff.
 2. Understaff – some projects are too big and cannot be adequately supervised by the lone officer on site.
 3. Use of monitoring log books and field sheet is poor. Maintenance of record require improvement.
 4. Some of the standards in the code are not always practical in implementation, thus require good assessment and judgement of field situations by field staff.
 5. There is some degree of non committal by management and supervisors with the industry to improve the quality of the operations. Production takes priority over proper environmental management of the forest.
 6. Lack of qualified and efficient logging supervisors employed by operators to implement the code of practice in the actual bush operations.

Implementation of the LCOP in the country varied due to differences in:-

- Geographic and climatic conditions
- Resource state
- Landowner attitudes and politics
- Industry acceptability level
- Culture between provinces

In general however, the code has been accepted by all parties, (the Industry, landowners & State) and since the introduction of the LCOP in July 1997 there has been significant signs of improvements in the general state of logged over forest compared to the pre-LCOP operations.

Nevertheless, the LCOP has also contributed to the improved level of monitoring by PNG Forest Authority through the enforcement of particularly the 24 Key Standards.

After almost 6 years since the PNG LCOP was adopted it is proving obvious that there needs to be minor reviews done with the code to accommodate the practical situations in the fields and for the code of practice to really work, constructive input and co-operation is absolutely necessary by the implementers and enforcers. Landowners also will have to play a major role in the success of the Code.

Papua New Guinea, blessed with its vast timber resources does certainly need the LCOP to really work. The current status of the implementation of the code is promising, however, there needs to be more emphasis placed on the enforcement by PNGFA. More public awareness is also required. Landowners especially must

be made to understand the importance of the Code which is basically in their interest and the interest of the Country as a whole.

FUTURE DIRECTIONS

Following are the shortfalls of the PNG Logging Code of Practice which determines the future directions of the Code that needs immediate addressing.

- Code does not address the indigenous silviculture of sustainable forest management
- Code is less applicable in specific sites, inundated areas where seasonal operation occur.
- Code not accommodating small scale operations viz Timber Authorities (5000m³) and 500 cubic metres and less.
- Code is less applicable in forest plantations. The only aspects of the code applicable are roading, camp hygiene, buffer limits and Waste Management.
- Reduced impact harvesting guidelines (RIHG) and Harvesting Prescriptions.
- Landowners awareness and education training.
- Specialised training in the industries on the logging code of Practice, its importance, direct and indirect benefits.
- Safety standards.
- Creating a Model Forest Management areas in four (4) Provinces in PNG namely Northern, Central, Madang and West Sepik, will allow PNG to set aside and establish, Forest areas for the intended purposes of specialised research, training and demonstration particularly in the areas of Forest Management practices and Timber Harvesting viz, planning, monitoring and control procedures, PNGLCOP, watershed management. Forest Inventory Mapping System, pre and post silviculture system, sociological studies, and reduced harvesting impact studies.

PNGFA SECTORAL MANAGEMENT

In order that sustained yield management is effectively managed at the sectoral level, the PNGFA will require a small skilled Forest management team, and such a team would set, and monitor the effectiveness of key standards set-out in the code and prescriptions for planning and implementing forest silvicultural and harvesting operations, and effect changes as required.

RESEARCH MANAGEMENT

Whilst sufficient basic forest information exists to specify broad harvesting and silviculture treatment standards, further research is needed to improve the understanding of the growth yield patterns of commercially desirable species, and their response to Forest canopy disturbance, (Harvesting) and other silvicultural interventions, this will allow fine tuning of Forest Management prescriptions for particular forest types and locations.

The classic example is the current 50cm dbh limit criteria, used to protect smaller trees until the next harvest, needs to be replaced with a combination of minimum species dbh limits, and maximum canopy disturbance limits.

And moreover, to remove the rights of loggers to leave any trees non commercial, needs to be changed so that sustained yield forest management practices can prevail and determine which trees to remain and which to be removed.

ALTERNATIVE TO LARGE SCALE LOGGING

The Eco-Forestry Programme funded by the European Union is seen as an alternative to large scale industrial logging.

A definition of eco-forestry was given in Port Moresby, in January 1999, as follows:

“Eco-forestry is a long term ecologically and economically sustainable alternative to current industrial logging by clear felling. It is predicated to maintain the natural capital of the forest ecosystem while allowing the limited use of wood and non timber forest products from the forest. The scale of the activity in the forest to satisfy human needs must be balanced with its capacity to maintain and sustain itself. The use pattern of eco-forestry are specific to the respective ecological and socio-economic environment and in the context of PNG should be developed as a learning approach.

Commonly accepted principles and practices eco-forestry are based on a low impact approach with selective felling of trees that leaves the forest structure largely intact. These practices maintain native tree and plant species and wildlife. Some of the basic principles are as follows;

- Selecting trees for removal based on specific forest ecosystems, not exceeding the forest's annual growth rate,
- Preserving the natural diversity of ages, heights and species of trees.
- Promoting natural tree regeneration
- Protecting wildlife and wildlife habitats
- Collecting non timber forest products such as food and medicines.
- Using small scale equipment and low impact access systems.
- Local Value-added processing and manufacturing”

The current policy, legal and institutional framework does not pertain to eco-forestry. So far, the National Forest Policy does not serve the purpose of this relatively new approach.

Eco-forestry is seen by policy makers and stake holders alike as a set up of promising forestry management options which are environmentally friendly for simultaneously utilising natural resources, empowering the resource owners and minimising adverse effects on the environment. It must be made clear that eco-forestry is not confined to small-scale timber businesses, that is wokabaut or

portable sawmill, but could relate to various topics such as tree farming, participatory watershed management, hunting, cultural activities, etc.

Obviously the degree of involvement of PNGFA and Office of Environment and Conservation (OEC) widely varies from topic to topic.

FOREST CERTIFICATION

The first phase of the European Union (EU) funded eco-forestry project based in the islands region in the early 1990's was known as the Islands Regional Environmental and Community Development Programme (IRECDP), an initiative of the government of PNG. The main purpose of IRECDP is to promote income earning possibilities compatible with sustainable development of PNG's forests. The programmes primary focus has been on eco-forestry, mainly through assisting landowners in setting up village based small scale timber production companies.

In year 2001 there were 33 operating project in six (6) provinces of PNG, working under the EU- IRECDP, with a total forest area of approximately 140,000 hectares. These projects plus new ones are currently being pursued through the second phase, of the EU-funded project now known as Eco-Forest Programme (EFP). The EU-IRECDP received Forest Stewardship Council (FSC) Certification in October 1998 after being assessed by SGS Forestry under their Quarlifer Programme. The Certificate is a so-called Group Certificate, meaning that EFP as an organization holds the certificate and determines which producers are meeting the standards and are allowed to join. So far 4 projects have been awarded FSC back certificate, which are NGO/Community forestry sector, being the driving force behind forest certification in PNG.

SILVICULTURE TREATMENT

Commencing 1995 through an Ausaid funded Kandrian Gloucester Intergrated Development Project (KGIDP), a first 50 hectare demonstration area was established at Amihak, in the Inland Passismanua Local Forest Area.

Landowners were engaged to carry out Silvicultural tendings to release growth of desirable tree species from competing with undesirable weeds and vines. The success of this demonstration area enabled KGIDP forestry staff to further establish additional areas in other forest concession areas in West New Britain.

In 1996 first large scale area of 300 hectares was established by PNGFA staff in Kapuluk Timber Rights Purchase (TRP), to test the technique over extensive logged over areas and also to find out its practicality and how well officers could cope with supervision and quality control, while landowners carried out prescribed treatments. This was the first Project where reforestation levy was used to pay the contract groups after required treatments was completed.

OBJECTIVE

- Encourage active participation by landowners in conservation and management of their forests, primarily for their benefits;
- Promote maximum growth of more valuable (usually slower growing, longer lived) tree species;
- Shorten the rotation, more than would normally be achieved through natural means alone;
- Enhance recovery of the forest with respect to commercial value of the regeneration.

ATTRIBUTES

- Customary landowners commit themselves and their land to long-term forest management.
- The method is well suited to PNG's land tenure system as there is no need for alienation of land.
- Villagers do the work so there is no need to import labour and therefore no consequential social disruption.
- The technique provides rural employment for men, women and youths.
- The technique is adaptable using contracts to (i) Custom events which would otherwise therefore with full-time employment, and (ii) to variable working hours (ie; there is no need to work from 8am to 4.06pm).

COST OF REFORESTATION NATURALLY TECHNIQUE

Treatment every 3 months over a two (2) year period, to commence 6 months after the set-up are closed.

-	First tend 4-5 person days per ha.	K23/ha
-	Second tend 3 person days per ha.	K15/ha
-	Third tend 2-3 person days per ha	K12/ha
-	Fourth tend 2-3 person days per ha	K10/ha
-	Fifth tend 2-3 person days per ha	K10/ha
-	Sixth (final tend) 2-3 person days	K10/ha

Total cost per hectare **K80/ha**

ACHIEVEMENTS

To date 23,000 hectares have been established and more than 1.8 million Kna of reforestation levies paid directly to landowners for looking after trees on their own land.

Areas established to date by Province.

West New Britain	-	8,836 ha
West Sepik	-	7,152 ha
Morobe	-	2,230 ha
East New Britain	-	1,917 ha
Oro	-	1,917 ha
East Sepik	-	806 ha
New Ireland	-	223 ha
Milne Bay	-	71 ha
Manus	-	36 ha

LESSONS LEARNED

- Landowners will never place the forest as a valuable asset, unless more awareness campaigns are conducted stressing the importance for managing the resource for their livelihood.
- Unless landowners are well informed of the monetary and other benefits the forest provides, protection of natural forest for the benefit of future generations will never compete with other forms of land uses.
- Landowners lack basic understanding of land use plan at clan level, and unless the basic principle of land management is taught, conversion of forest areas to other land uses will still continue.
- Basic education has to ensure that any particular land area owned by respective clans is demarcated proportionally to different land uses to ensure one does not have all the area allocated to only one land use.

FUTURE PLANS

- Reduce annual allowable cut volume, on M.A.I (0.55 m³/ha/yr x area of forest) and continue enforcing careful felling and extraction.
- Ensure adequate number of desirable residual trees, remain per hectare after harvest.
- Canopy opening is minimised to reduce the need to apply Reforestation Naturally - Technique.

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- Establish Central nurseries to raise desirable species to carry out enrichment planting in areas landowners wish to set aside for long term forest management.
 - Establish plantations in areas landowners enter into long term resource security agreements, such as lease lease back, lease and joint venture agreements through Incorporated Land Groups.