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*Asia-Pacific Network for Sustainable Forest Management
and Rehabilitation*

PROJECT PROPOSAL

A Sustainable Model for Community Sawmilling

[Foundation for People and Community Development Inc, Papua New Guinea]

[28 November 2013]

Project title	Establish the Self Sustaining Model for Community Forest Harvesting	
Supervisory agency	Papua New Guinea Forest Authority (PNGFA)	
Executing agency	Foundation for People and Community Development Inc. Papua New Guinea	
Expected project duration: 10 months from the agreement signing date		
Target area: Madang, Morobe and Eastern Highlands Provinces, Papua New Guinea		
Total budget(USD) US\$64,500	Expected APFNet grant(USD) US\$51,000	Counterpart contribution (USD) (in cash and in-kind) US\$13,500
<p>Project summary:</p> <p>Commercially orientated community sawmills in PNG are unsustainable without the ongoing financial support of NGOs like the Foundation for People and Community Development (FPCD). Portable sawmills are seen as a way of providing a greater share of income from the utilization of forest resources to the forest owners.</p> <p>An ACIAR study that examined different models of financial viability recommended engaging with communities, industry and thought leaders to establish what business model(s) may be attractive and sustainable (<i>Production and supply options for community forest enterprises in Papua New Guinea</i>, 2010)</p> <p>This project will determine what business model(s) is viable, attractive and sustainable for communities interested in small scale ecoforestry.</p> <p>The project is designed into two stages.</p> <p><u>Stage 1:</u> Review the international literature on community sawmilling, and establish the principles, resources, activities and market factors that ensure successful operations. Contact practitioners and thought leaders to understand why certain sawmill operations are successful, and others are not.</p> <p>Output: Document a ‘roadmap’ listing philosophies, activities and inputs (factor and market related) for self sustaining community sawmilling. Draw lessons that could be applied to the PNG context, and that will help in shaping business models to be tested with communities (Stage 2).</p> <p><u>Stage 2:</u> Engage the PNG Forest Industry, Forest Authority, communities and sawmillers for their involvement to examine what is required to make community portable sawmilling:</p> <ul style="list-style-type: none"> • Viable without the need for ongoing support from NGOs; • Inherently attractive to communities; and, • A valuable contributor to local economies. <p>Output: Document the business model(s) that appear to be feasible and attractive to communities and promote.</p>		
Prepared and Submitted by Yati A. BUN, FPCD Executive Director	Reviewed and Nominated by Dr Ruth Turia, Director, PNG Forest Authority	
_____ Project Proponent Signature on behalf of EA Date	_____ Focal Point Signature Date	

Abbreviations and acronym

ACIAR	Australian Centre for International Agricultural Research
CSIRO	Commonwealth Scientific and Industrial Research Organization, Australia
CSO	Civil Society Organizations
DEC	Department of Environment and Conservation
EFF	PNG Eco Forestry Forum
FMA	Forest Management Agreements
FPCD	Foundation for People and Community Development Inc.
FROs	Forest Resource Owners
FSC	Forest Stewardship Council
ICF	Indigenous Community Forestry Group Certification Scheme
IGES	Institute for Global Environmental Strategies
ILG	Incorporated Land Groups
MFROA	Madang Forest Resource Owners Association
NGO	Non Governmental Organization
PFO	Provincial Forest Office
PNG	Papua New Guinea
PNGFA	Papua New Guinea Forest Authority
REDD	Reduced Emission from Deforestation and Forest Degradation
SFM	Sustainable Forest Management
TA	Timber Authorities
TRP	Timber Rights Purchase

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1. Background and Rationale

Small scale sawmilling in Papua New Guinea commenced in the mid 1970s when church groups situated in remote areas used them to provide communities with building materials. By the early 1980s, portable sawmills that could be carried into the forest by four men had been designed. Subsequently, there was rapid growth in the number of mills in use, with subsidies from development agencies or funding provided by government for communities to purchase mills.

Portable sawmills have been proposed as a potential alternative to large scale timber harvesting by many participants in the debate over the management of Papua New Guinea's forests. They are seen as way of providing a greater share of income from the utilization of forest resources to the forest owners, engaging them more in forest production, and minimizing the impact of timber harvesting operations on other forest values.

In 1993, a nationwide survey of three hundred and fifty of the estimated fifteen hundred portable sawmills were surveyed. It found that operators were harvesting an average of three to four trees per week and were employing seven people.¹

Portable sawmills usually operate near existing roads, often in areas where industrial logging has taken place and existing logging roads and tracks can be used to access the resource and transport sawn boards to market. Mechanization (i.e. truck, tractor) to reduce the manual handling of a heavy material is a primary requirement of communities.

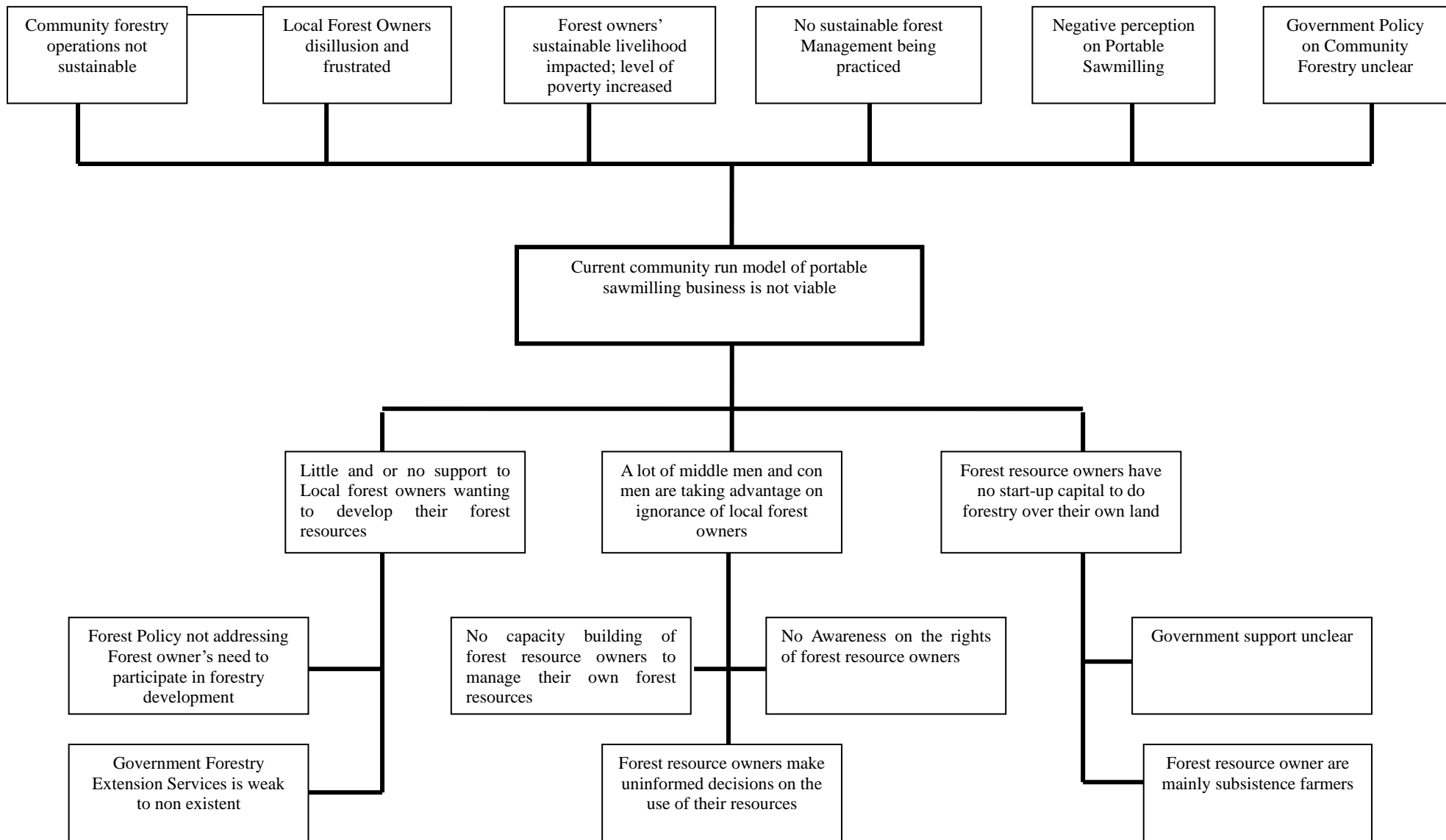
A community's decision to produce timber for the local and / or export market will determine their selection of species, sizes, quality and the level of financial capital required to purchase equipment and begin processing. This decision is again influenced by whether a community will apply for certification that verifies the sustainability of their operation. Some non government aid organizations find the complex demands and substantial costs, coupled with uncertain rewards of certification can make it hard to justify.² International markets offer only a small premium for certified material.³

Forest certification is usually not required by local buyers, who are prepared to accept smaller volumes and lower grades of timber. Export markets by contrast demand large volumes of particular species at specific sizes and quality. Please see the attached problem tree below.

¹ Hunt, C., Marketing Eco-Timber in Papua New Guinea, contained in Proceedings from an international Symposium held in Kuranda, Australia 9-13 January 2000 (Developing Policies to encourage small scale forestry). P. 150

² Hunt., Production, Privatisation and Preservation in Papua New Guinea forestry, International Institute for Environment and Development, 2002, p. 77.

³ Peter Mussett, *The Woodage Pty Ltd* indicated that a 5% premium would be paid.



The rationale for this work programme is to let the communities and timber markets establish what is a viable business model(s) for community sawmilling in PNG. The evolution and growth of community sawmilling can be achieved where there are sufficient incentives for people and communities, and where barriers can be overcome e.g. employing a tractor to move sawn timber from the forest to the roadside.

The FPCD is the pre-eminent NGO working in this field. It has launched multiple communities into portable sawmilling. This project aims to find the path where communities can 'graduate' from the need to have continuing support from NGOs. The FPCD wants to be made redundant in communities that are deriving economic benefits from sustainable forestry practices.

This project is in line with the general direction and priorities of APFNet Strategic Plan 2011-2015. The particular priority is "*Community based forest resource management and rural development*".

This project is also in line with PNG Government Policy Direction. The fourth goal of the PNG Constitution says; "*to ensure that the forest resources of this country are used and replenished for the collective benefit of all Papua New Guinean now and for the future generations*"

Under the Forestry Act 1991, the second objective of the Act states; "*maximize Papua New Guinean participation in the wide use and development of the forest resources as a renewable asset.*"

2. Goal and Objectives

The goal of this project is to improve livelihoods and/or enhance quality of life for the participating communities through sustainable forestry practices.

The specific objectives are as follows:

Specific Objective 1: To establish the path and business model(s) that would allow community sawmilling to become independently viable, attractive and sustainable.

Specific Objective 2: Engaging PNG Forest Industry, Forest Authority, communities and saw millers, to identify the business model(s) that could be commercially self sustaining, improve the livelihoods of communities, generate new skills that is both technical and business orientated and founded on sustainable forestry practices.

Project success will be gauged according to the following perspectives.

Commercially self sustaining. The project aims to identify a model(s) of operating a sawmill, and methods of transporting timber and selling to local and possible overseas markets that is appealing to communities and commercially lucrative. Input will be primarily drawn from communities that are operating portable sawmills, communities that have ceased sawmilling and private entrepreneurs operating portable sawmills.

Improves the livelihood of communities. Operating a portable sawmill in PNG involves physical and arduous work. The project will seek to identify ways of operating, transporting and selling timber that enhances people's welfare, enjoyment and willingness to work.

Generates new skills. Enhancing skills and providing opportunities across the communities to learn technical, business and marketing skills.

Sustainable forestry practices. Business models selected will align with the natural sustainable practices used by communities to their forests.

3. Outputs and Strategic Activities

The expected outputs of the project organized according to the project objectives are listed as follows:

Specific Objective 1: To establish the path and business model(s) that would allow community sawmilling to become independently viable, attractive and sustainable.

Output 1-1: Identification of practitioners that PNG can learn from. This includes reports, activities, locations and contacts both locally and internationally.

Activity 1-1-1: Getting hold of written materials including reports and making contacts with key ***stakeholders***. This will require internet search, phones calls, emails and all relevant means of communications to get the necessary data required.

Activity 1-1-2: Developing a database and or reference list of practitioners and materials that will help in contributing to achieving specific objective 1.

Output 1-2: A report summarizing the findings from a desk top review of the international literature on community sawmilling, where it has been successful and why. Business models that are likely to be attractive to PNG communities devised based on the findings.

The findings from international literature review of successful experience on community sawmilling will allow the team to focus on devising, with their deep local knowledge, a range of business models that are likely to be attractive to PNG communities. These models will be presented to PNG forestry experts and communities for feedback, refinement and selection. The findings from the literature review and business model options will allow the project team to engage communities so as to verify what model(s) is likely to be attractive and self sustaining.

Activity 1-2-1: Prepare a report documenting the principles, resources and activities required in engaging in community sawmilling, highlighting the successes and failures (if any).

Activity 1-2-2: Draft report circulated to key stakeholders both within PNG and abroad for review. This will include a workshop at PNGFA where PNG based key stakeholder's will be invited to attend.

Activity 1-2-3: Following the workshop, devise and document business model options.

Activity 1-2-4: Report finalized, printed and distributed as needed.

Specific Objective 2: Engaging PNG Forest Industry, PNG Forest Authority, communities and saw millers, to identify the business model(s) that could be commercially self sustaining, improve the livelihoods of communities, generate new skills that is both technical and business orientated and founded on sustainable forestry practices.

Output 2-1: Confirmation/Network of key stakeholders/participants involved in this work including the participating community forestry practitioners.

Activity 2-1-1: FPCD will take the lead in making contact with key stakeholders (getting names of contact persons) and programme involved in the sector. Relevant and appropriate means of communications will be made to the respective stakeholders including field visits where necessary.

Activity 2-1-2: A data base will be created to store basic information about the stakeholders and their respective activities.

Output 2-2: Engaging communities will establish what commercial model(s) exists that improves livelihoods, offers the opportunity to learn new skills and sustains the forest ecosystem. This stage of the project is likely to deliver one of the following outcomes:

- One or more business models that is inherently attractive. We expect models will need to be adapted to reflect a community's forest cover (primary or secondary forest cover), the predominance of commercial species attractive to the market vis a vis lesser known species, likely yield per hectare, topography and climatic conditions (e.g. rainfall patterns) and proximity to a serviceable road to transport sawn timber to local markets.
- No business model has inherent and natural appeal e.g. communities show little enthusiasm.

The project's strategic focus and determination is to answer and verify whether portable Sawmilling by communities in PNG is viable and attractive, and if so, why.

Activity 2-2-1: Visits will be made to key stakeholders in the field by FPCD staff. The main agenda for discussions will be presentations of various commercial business models available.

Activity 2-2-2: Conduct a half day workshop at PNGFA conference room, where various commercial business models will be presented for discussions. Key stakeholders will be invited to participate.

Activity 2-2-3: Write the report and the recommendations for the way forward. The lead agent will be the expert engaged to do this work.

4. Risks and assumptions

Risks

A low participation by women. To mitigate against this possibility, some of the communities that will be engaged will be selected from regions that are matriarchal societies.

Sample size. To make this research robust and avoid potential bias, communities will be engaged across multiple provinces, both in the PNG highlands and in coastal areas.

Business models that are appropriate to PNG customs and traditions. Business models are mostly considered from a narrow commercial perspective. The project will adapt business models to allow for local customs and traditions, and to include the positive spillovers that we would like communities to capture – improved welfare by mitigating the physical nature of sawmilling, generate new skills and operate according to sustainable forestry practices.

Delivery on time and budget. While the project will operate according to a project plan, problems will inevitably arise. The team has experience in overcoming the many small problems that arise from projects of this nature. Where major hurdles are encountered, the team will consider providing additional resources and may seek the assistance of third parties e.g. The Australian Centre of International Agricultural Research.

Assumptions

Support from communities and PNG's Forest Authority. Communities have indicated their willingness to work with the FPCD on this initiative. PNG's Forest Authority is very supportive of this initiative.

5. Human Resources and capacity assessment

The work will be led by Yati A. Bun with supervision from PNG's Forest Authority. Mr. Bun is the founder and Chief Executive of the Foundation for People and Community Development (FPCD), the NGO he founded in 1993 focused on building capacities of locals who are interested in developing their forests resources themselves based on the international Forest Stewardship Council forest management Standards.

He is a qualified forester and is a member or has been a member of the following international forestry related bodies:

- Founding and current member of the Civil Society Advisory Group to International Tropical Timber Organization, Japan
- Founding Board member of the Rights and Resource Initiative Group based in Washington DC, USA
- Recently appointed to represent Asia Pacific on the Permanent Indigenous Peoples Committee to the International Forest Stewardship Council Board.
- Served 2 terms on the International Forest Stewardship Council Board
- Served as an External Advisory Group member to the World Banks Forest Strategy Implementation

The FPCD will be the implementation agency. It is headquartered in Port Moresby, with a field office in the Madang province and deep links to community sawmill operations across PNG. It is considered to be PNG's pre-eminent NGO in community forestry.

FPCD has assembled a team of seven experienced staff to drive this project. Five of this group have intimate experience of portable sawmill operations in PNG.

Key experts and responsibilities includes:

Yati A. Bun	Senior Forester /Over all supervisor
Stewart Serawe	Programme Manager
Thomas Joseph	Finance Manager
Bonti Krasi	Community Forester/Sawmiller
Fletcher Onise	Community Forester / Timber utilization
Mark Winai	Certified Forestry / Timber Utilization
Linson Zamang	Social Forestry / Sawmiller

Mr Jim Grigoriou from Australia's CSIRO will provide input into the design of business models. Jim offers a commercial background and has deep experience of Australia's wood products market, and important exposure to PNG's community portable sawmilling operations (author of ACIAR's 2010 publication, *Production and supply options for community forest enterprises in Papua New Guinea*).

Other expertise that may be needed will be identified during the project planning stage.

See [Annex C](#) for organizational chart

A project management team will drive the work programme and track progress to milestones.

Oversight of works will be provided by the PNG Forest Authority.

Project update reports will be made available at months 3 and months 6 over the project duration.

6. Budget, funding resources and financial management

See [Annex D](#) and [Annex E](#) for details

FPCD has ongoing support in the Forest Monitoring project work in collaboration with IGES, of Japan and the recently concluded Community Forestry Expansions work by Australia's ACIAR. These projects will be jointly supporting/complementing this work.

The project will have the experts, both internally and externally as needed, working on this document.

FPCD has accounting systems in place to manage its funds. There is until recently 6 monthly audits undertaken by one of FPCD major partners. There is the annual audit that is a requirement of the FPCD Constitution which is presented at the AGMs. On top of that, Quarterly financial reports are presented at Quarterly Board meetings.

7. Monitoring and evaluation

Reporting

The Project Management Team headed by the Project Coordinator will prepare the following

reports:

- Project Inception report upon receipt of funding
- Project update reports including finances at month 3 and month 6
- A project completion report to be done one month after ending of the project.

Monitoring Reporting and Evaluation

The project will be subject to monitoring visits by members of the Project Management Team after month 3 and month 6 during the life of the project. Following the monitoring visits, the month 3 and month 6 progress reports will be submitted.

Table 1 Tentative Monitoring Reporting and Evaluation Schedule

<i>Description</i>	<i>Dates</i>
Project Management Team Meetings	Inception
1 st project progress report	Month 3
2 nd Progress report	Month 6
Project completion reports	1 month after project completion date

FPCD has monthly meetings amongst its staff to update and monitor on progress of all activities. This work will fit into the FPCD internal monitoring reporting and evaluation work as well.

8. Dissemination and sustainability

The project will be publicized at all key achievement/steps of the way acknowledging the sponsors in the statements. The publicity will be linked to the monitoring schedule so that reports from these regularly monitoring visits will be publicized appropriately in the relevant outlets. FPCD has a mini media unit which will be responsible to produce material acceptable and user-friendly to serve this particular purpose

This project will be documented and tailored for targeted audiences.

Project Sustainability

The results obtained by this project will be sustained by the following;

- The ACIAR study shows three business and financial models of portable sawmill operations (page 28-29). These are: (1) Product Leadership; (2) Operational Excellence and (3) Customer Intimacy. ACIAR highlighted Customer Intimacy as the future of Community Forestry in PNG and that is the route this project will undertake to sustain the operations.
- Following the outcome of this work, the next stage would be to evaluate the attractiveness and uptake of the new business model(s) with communities that are:
 - Operating portable sawmills – will they adjust how they operate and uptake the new model?
 - Considering engaging with portable sawmilling

Stage Gate: If an improvement in existing sawmill operations cannot be seen from the implementation of the new business model, cease works.

Next Stage: If the new business model(s) are adopted and deliver improved results, establish a plan that will secure and commit resources to promote the model to communities, and support these new enterprises with training and support.

The rationale for this work programme is to let the communities and timber markets establish what a viable business model is for community sawmilling in PNG. The evolution and growth of community sawmilling can be achieved where there are sufficient incentives for people and communities, and where market barriers can be overcome with ingenuity and creativity.

- ACIAR is funding a new 4 year research project on enhancing implementation of community based forest management in PNG. This project will include some social and biophysical research into how to scale up work on community forestry models with a primary focus on communities in Madang, Morobe and Eastern Highlands Provinces. It is expected that there would be strong collaboration between the ACIAR and APFNet project, through the common partner (FPCD) and that the research lessons from the ACIAR project will assist the long term sustainability of the APFNet project.
- Political Support in terms of the Medium Term Development Strategy of the Government. This factor requires our target group the evidence of legal status and that is done with one of our recently completed project with the FAO Forest Law Enforcement, Governance and Trade Support Programme. It has assisted targeted FROs to operate their community based timber enterprise as legal entities and at the same time continue to do SFM based in the FSC standards.
- Economic Sustainability through training and capacity building. Because this project is an initiative to facilitate income generation in the near future for the targeted FROs and with that training packages especially small business training that will be implemented will have these simple people to manage their income in a sustainable manner and will finally have this facility continue run after this project come to an end.
- Involvement of FROs in the implementation of the project. FPCD's former projects have this factor as one key area for project sustainability. With Certified Community based Forest Enterprise involvements of resource owners will be contracted to involve especially with the operating of sawmill tractors and bench machines.

Annexes:

Annex A: Project site Map and relevant information

Annex B: Project logical framework

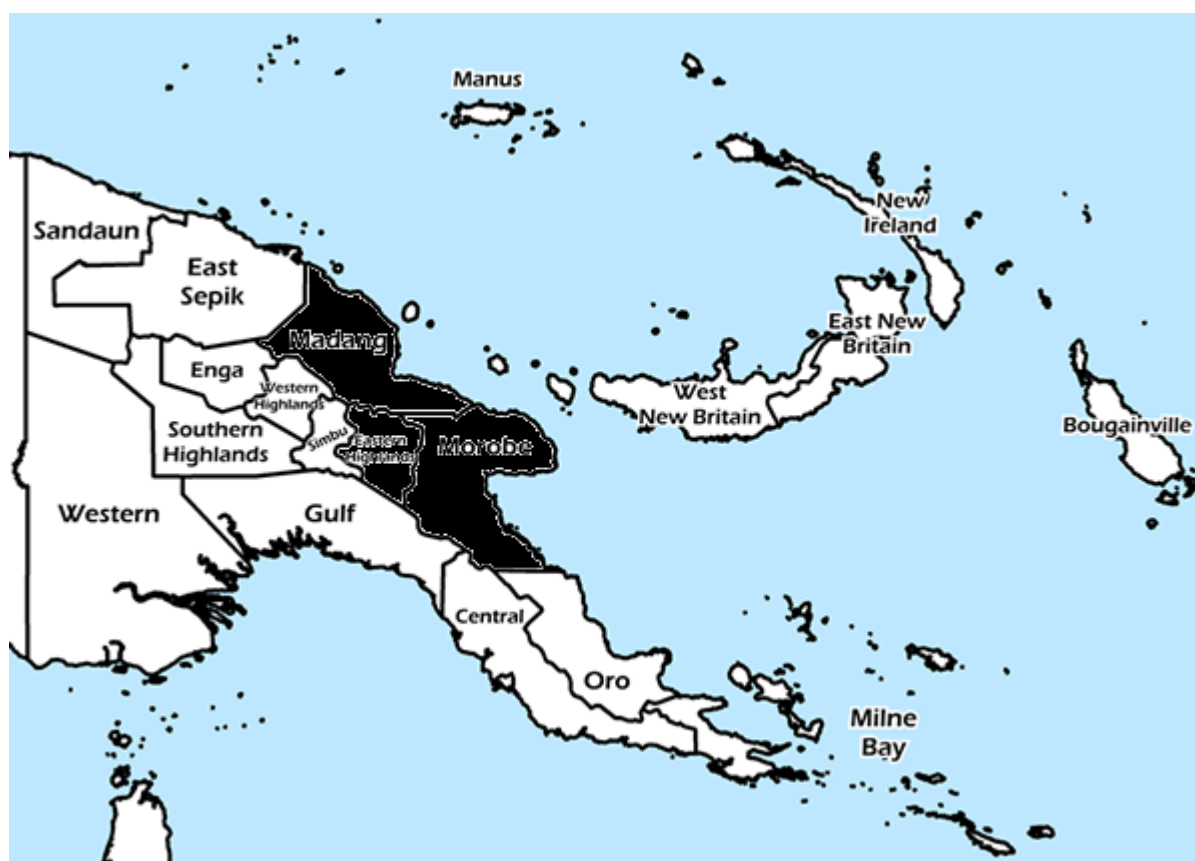
Annex C: Project organizational chart

Annex D: Overall Project work plan and budget by activity

Annex E: Project budget by category

Annex F: Terms of Reference for Experts

Annex A: Project site Map and relevant information



This study will take place in two coastal provinces of Madang and Morobe and one Highlands Province of Eastern Highlands. These provinces are interlinked by road and more importantly, that the use of portable sawmilling and sale of sawn timber (from portable sawmilling are prevalent in these three provinces.

Table 1: Area and Population by Target Province⁴

<i>Province</i>	<i>Total Surface Area (sq km)</i>	<i>Gross Forest Area (2009)</i>	<i>Population (2011)</i>	<i>Population Density</i>
EHP	11,006	5,130	582, 159	53 per sq km
Madang	28,732	14,800	487,460	17 per sq km
Morobe	33,525	18,100	646,876	19 per sq km

80% of the populations are subsistence farmers and rural based. Main cash crops are coffee, cocoa and copra with some fishing in the Maritime Provinces. There are some mining explorations activities in these 3 provinces.

⁴ PNG National Statistics Office and PNG National Forest Plan

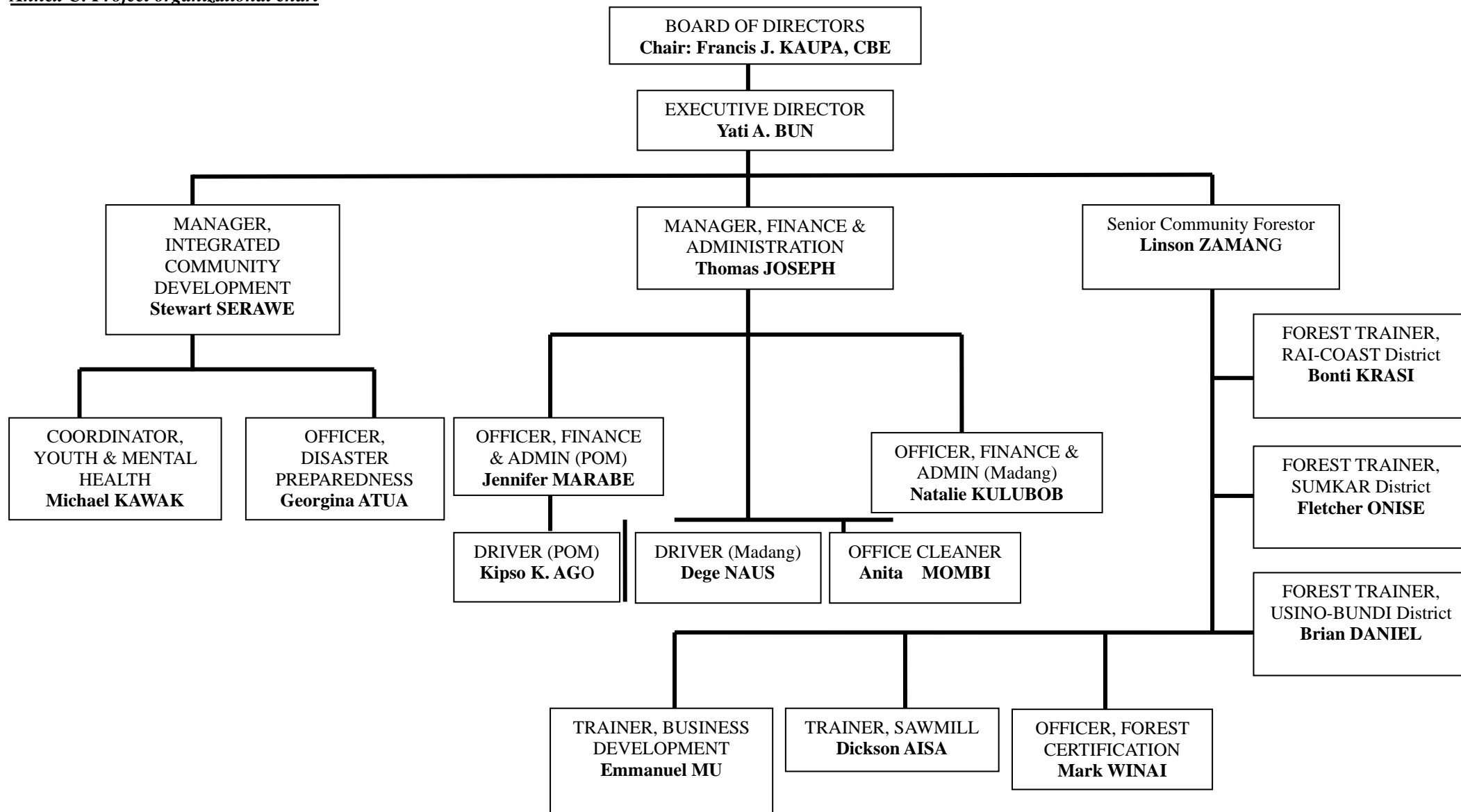
Annex B: Project logical framework

Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions/Risks
<p>Goal: The overall goal of this work for improved livelihoods and or enhanced quality of life for the participating communities through sustainable forestry practices.</p>	<ul style="list-style-type: none"> -Sustainable Portable Sawmilling Operations -FSC Certified Forestry Operations 	<ul style="list-style-type: none"> -Quarterly Field Activity Reports -FSC Annual Audit reports 	<ul style="list-style-type: none"> Participating Clan members remain committed to community forestry
<p>Specific Objective 1: Establish the path and business model(s) that would allow community sawmilling to become independently viable, attractive and sustainable.</p>	<ul style="list-style-type: none"> -Documentation. Desk top reviews and contacts with sawmilling practitioners 	<ul style="list-style-type: none"> - Quarterly Reports to Management Team 	<ul style="list-style-type: none"> -Access to relevant information -Cooperation from key stakeholders
<p>Expected Output 1-1 Identification of business models and practitioners that PNG can learn from. This includes reports, activities, locations and contacts both locally and internationally.</p>	<ul style="list-style-type: none"> - Documentation. References of key stakeholders 	<ul style="list-style-type: none"> -Quarterly Reports to Management Team 	<ul style="list-style-type: none"> -Access to relevant information -Cooperation from key stakeholders -Timely feedback
<p><u>Activity 1-1-1</u> Getting hold of written materials including reports and making contacts with key stakeholders.</p>	<p><u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones</p>	<p><u>Costs:</u> -Quarterly Finance Reports to Management Team</p>	<ul style="list-style-type: none"> -Timely feedback -Expertise available -Easy Access to internet -Cooperation from stakeholders
<p><u>Activity 1-1-2</u> Developing a database and/or reference list of practitioners and materials that will help to achieving specific objective 1.</p>	<p><u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones</p>	<p><u>Costs:</u> Quarterly Finance Reports to Management Team</p>	<ul style="list-style-type: none"> -Timely feedback -Expertise available -Easy Access to internet -Cooperation from stakeholders
<p>Expected Output 1-2 A short report summarizing the findings from a desk top review of the international literature on community sawmilling, where it has been successful and why.</p>	<ul style="list-style-type: none"> - Documentation. References of key stakeholders 	<ul style="list-style-type: none"> -Quarterly Reports to Management Team 	<ul style="list-style-type: none"> -Access to relevant information -Cooperation from key stakeholders -Timely feedback
<p>Activity 1-2-1</p>	<p><u>Means:</u></p>	<p><u>Costs:</u></p>	<ul style="list-style-type: none"> -Timely feedback

Prepare a report documenting the principles, resources and activities required in engaging in community sawmilling, highlighting the successes and failures (if any).	Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	Quarterly Finance Reports to Management Team	-Expertise available -Easy Access to internet -Cooperation from stakeholders
Activity 1-2-2 Draft report circulated to key stakeholders both within PNG and abroad for review.	<u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	<u>Costs:</u> Quarterly Finance Reports to Management Team	-Timely feedback -Expertise available -Easy Access to internet -Cooperation from stakeholders
Activity 1-2-3: Following the workshop, devise and document business models	<u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	<u>Costs:</u> Quarterly Finance Reports to Management Team	-Timely feedback -Expertise available -Easy Access to internet -Cooperation from stakeholders
Activity 1-2-4: Report finalized, printed and distributed as needed.	<u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	<u>Costs:</u> Quarterly Finance Reports to Management Team	-Timely feedback -Expertise available -Easy Access to internet -Cooperation from stakeholders
Specific Objective 2: Identify the business model(s) that could be commercially self sustaining, improve the livelihoods of communities, generate new skills that is both technical and business orientated and founded on sustainable forestry practices	Documentation. Field visits and contacts	- Quarterly Reports to Management Team	-Access to relevant information -Cooperation from key stakeholders
Expected Output 2-1 Confirmation/Network of key stakeholders/participants involved in this work including the participating community forestry practitioners.	- Documentation. References of key stakeholders	-Quarterly Reports to Management Team	-Access to relevant information -Cooperation from key stakeholders
<u>Activities 2-1-1</u> FPCD will take the lead in making contact with key stakeholders (getting names of contact persons) and programme involved in the sector.	<u>Means:</u> Personnel; Transportation; Support	<u>Costs:</u> -Quarterly Finance Reports to Management Team	-Timely feedback -Easy communications systems -Cooperation from stakeholders
<u>Activities 2-1-2</u> A data base will be created to store basic	<u>Means:</u> Personnel; Transportation; Supplies;	<u>Costs:</u> Quarterly Finance Reports to	-Expertise available

information about the stakeholders and their respective activities.	Equipments; Internet; Emails; Faxes; Telephones	Management Team	-Easy Access to internet -Cooperation from stakeholders
Expected Output 2-2 Engaging communities will establish what commercial model(s) exists that improves livelihoods, offers the opportunity to learn new skills and sustains the forest ecosystem.	Documentation. References of key stakeholders	Quarterly Reports to Management Team	-Access to relevant information -Cooperation from key stakeholders
Activities 2-2-1 Visits will be made to key stakeholders in the field by FPCD staff.	<u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	<u>Costs:</u> Quarterly Finance Reports to Management Team	-Weather permitting -Easy access to sites -Cooperation from stakeholders
Activities 2-2-2 Conduct a half day workshop at PNGFA conference room..	<u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	<u>Costs:</u> Quarterly Finance Reports to Management Team	-Key stakeholders available to participate -Timely responses -Cooperation from stakeholders
Activities 2-2-3 Write the report and the recommendations for the way forward. The lead agent will be the expert engaged to do this work.	<u>Means:</u> Personnel; Transportation; Supplies; Equipments; Internet; Emails; Faxes; Telephones	<u>Costs:</u> Quarterly Finance Reports to Management Team	-Expertise available -Cooperation from stakeholders

Annex C: Project organizational chart



Annex F: Terms of Reference of personal to be funded by APFNet

Terms of Reference Design of Business Model for Community Forestry Expert

The Design of Business Model Expert will:

- Provide guidance on right business models for community forestry. The literature on business models will be first reviewed (e.g. *Reinventing Your Business Model*, Harvard Business Review Journal, October 2013 by Mark W. Johnson), current eco-forestry business models used by PNG communities will be drafted and new business model options will be crafted to be tested with communities.
- Help design an efficient sampling framework suited to data collection and at the demonstration sites. Quantitative and qualitative research expertise will be solicited from monitoring and evaluation experts from the University of Melbourne to assist with this task.
- Provide technical guidance on data processing and synthesizing of results. The appropriate quantitative and qualitative research methods will be adopted to complete this task.
- Assist in analyzing results and making recommendations on next steps

Terms of Reference Community Forestry Experts

The Community Forestry Experts will conduct the following tasks:

- Provide technical information on community sawmilling
- Engage with key stakeholders in surveys to collect necessary information for this project
- Data collection and analysis of socio economic information
- Assist in synthesizing of data and coming up with recommendations in moving forward.