

**FSP/NGO CONSORTIUM BUILDING  
PROJECT  
FOR SUSTAINABLE FORESTRY  
DEVELOPMENT**

**USAID MATCHING GRANT  
PVC/MG #PDC-0158-A-00-1103-00**

**ANNUAL SUMMARY**  
( AUGUST 1, 1993 - JULY 31, 1994)

AND

**QUARTERLY REPORT**  
(AUGUST 1, 1993 - OCTOBER 31, 1994)

**FSP REGIONAL OFFICE  
PO BOX 951  
PORT VILA  
VANUATU**

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## **FORWARD**

This report combines an annual summary (period August 1, 1993 - July 31, 1994) and quarterly report (period August 1, 1994 - October 31, 1994) for the project. Delays in reporting were due to the finalization of the mid-term evaluation and subsequent need to produce a detailed implementation plan for the final two years of the project.

## **SUMMARY OF ACTIVITIES AND EVENTS**

### **FSP/HQ AND REGIONAL OFFICES**

In January of 1994, FSP/USA moved its offices from San Diego, California to Washington DC, in response to expanded partnership initiatives with USAID in Eastern Europe and the Newly Independent States. The expansion into this new geographic sector is under the FSP parent organizational name of *Counterpart, Inc.*

As a result of this move, FSP created a new regional office primarily to look after USAID funded grants in the South Pacific Region. Kathy Fry was appointed Regional Director and assumed overall management responsibility for this grant, as well as the other USAID grants including 2 Child Survival projects (Solomon Islands, Vanuatu/Kiribati) and the Profitable Environmental Protection (Vanuatu). Dr. Michael Hamnett continues to be retained as the Regional Development Advisor in Honolulu with partial support from this grant.

At the request of the Regional Office, FSP/Vanuatu forester Stephen Wyatt travelled to PNG and Solomon Islands in January, 1994, to assess the status of the country affiliates' programs and discuss ways of improving cooperation and coordination of activities and technical assistance under the new regional management for the grant. One result of his trip was the suggestion from the country partners to implement the mid-term evaluation largely as a training activity to improve the country programs' monitoring and evaluation skills. Mr. Wyatt's trip report is

contained in his detailed annual program summary included in this report as Appendix K.

The project mid-term evaluation was carried out in late May, 1994. The US Forest Service was extremely helpful and supportive of this activity by seconding Leonard Newell of the Institute of Pacific Islands Forestry to be the team leader for the evaluation process. FSP is very grateful to the USFS for donating the time of Mr. Newell for this activity, as he is a skilled forester and facilitator with extensive forestry experience in the Pacific and familiar with the history of this project. The rest of the evaluation team was composed of two management or forestry staff from each partner country who travelled to all three countries with the team leader. The objective of the evaluation was to have the staff assess their own programs with the assistance of Mr. Newell, for the purpose of identifying their own achievements, strengths and weaknesses in the eco-forestry sector, and in order to better assess their own technical assistance requirements for the final two years of this program. The evaluation process concluded with a three day workshop in Vanuatu together with the Regional Director, where the partners discussed their problems, possible collaboration between programs, and planned activities for the future.

The evaluation was also invaluable as a tool to bring together the various country partners, and to strengthen an FSP cooperative network in the eco-forestry sector. As a result of the evaluation, it was decided to complete a Detailed Implementation Plan for the final two years of the grant in order to assess activities and budgets in light of institutional changes over the first three grant years. This was completed by the Regional Director and approved by USAID in November, 1994.

FSP lost two senior forestry professionals during this year. Bruce Grogan, who was directly responsible for the previous management of this grant, did not relocate with the HQ office to Washington DC. Dr. Nora Devoe, previous project manager for the USAID funded Profitable Environmental Protection (PEP) project, resigned from FSP in May, 1994, and was replaced by a Conservation Biologist, Ms. Suliana Siwatibau who has considerable experience with South Pacific community forestry projects.

This leaves this project with no fulltime technical forestry expertise at HQ or Regional, however, the expansion of professional forestry staff at the country level has virtually eliminated the need for technical forestry staff at HQ. The future aim will be to utilize this local forestry expertise between the country affiliates to strengthen a network of assistance to each of the FSP supported programs.

FSP was invited to participate in two Heads of Forestry (HOF) meetings held during this reporting period and coordinated by the South Pacific Forestry Development Program (FAO). The 1993 HOF meeting was held in Nadi, Fiji and attended by FSP staff Dr. Nora Devoe (PEP) and Stephen Wyatt ( FSP/Vanuatu). The appropriate theme of this regional meeting was "Small Scale Sawmilling in Pacific Countries". Steve Wyatt presented a paper on "Small Sawmills, Communities, and Forest Management in Vanuatu" detailing the Vanuatu experience. (Included in his annual program report contained in Appendix K of this report).

The 1994 HOF meeting was held in Nadi, Fiji July 18-22. It was attended by the FSP Regional Director, the FSP/Fiji forester, Mr. Andrew Sorely, and the FSP/Vanuatu forester Stephen Wyatt. The theme was "Peoples Participation and Conflict Resolution" and the meeting gave great emphasis to the important role that NGOs play in the sustainable development of the region's forest resources. FSP presented two papers: a case study on an FSP partnership program with the Department of Forestry in Vanuatu; and a brief training exercise in conflict resolution by the FSP/Fiji Assistant Country Director.

Kathy Fry and Dr. Michael Hamnett (Associate Regional Director/Hawaii) travelled to Washington DC in January 1994, in part for an FSP planning meeting including the Executive Director and Willis Eschenbach (Regional Health Coordinator/Fiji). The main purpose of this meeting was to strategize for future coordination of programming for the South Pacific region in light of the newly created Regional Office. Visits were also made to the USAID offices, including the Matching Grant Program Officer, Ms. Mary Herbert, to review the status of current projects and potential for future funding.

USAID was in the midst of defining its South Pacific closeout strategy, the decision having been made to close the USAID Mission in the South Pacific. The FSP team was able to coordinate some effective information sources for USAID which we hope played an important role in their decision to maintain many of the existing South Pacific programs to their planned programmatic end, including this matching grant. Since the overall funds involved in the South Pacific are relatively small, it may seem a minor decision in the overall USAID bureaucracy to terminate programs early, but when program commitments are made to small country governments, and more importantly grassroots communities, it can mean an irreparable loss of confidence in both the NGO and the US government.

FSP was widely represented at the Barbados Conference on Sustainable Development for Small Island States, April 25-May 6. Staff in attendance included: Stan Hosie (Executive Director, FSP/ USA HQ); Kathy Fry (Regional Director FSP/USA); Simione Kaitadi (Assistant Country Director, FSP/Fiji); John Salong (PEP Program Facilitator, FSP/Vanuatu); and Edwina Bume (GROW project officer, FSP/PNG). FSP participation was partially funded by UN/UNIFEM sources and a combination other FSP grants including this USAID matching grant and the USAID PEP grant.

### **PAPUA NEW GUINEA**

This has been a year of change for the PNG program. In 1993 the FSP/USA PNG Country Program Office became an independent local NGO with its own Board of Directors. It chose to retain the name of FSP/PNG, indicating its continuing membership in a network of 10 FSP affiliates incorporated as FSP/International (FSPI). In June 1993, the position of Director was also localized when Mr. Yati Bun, a forester and formerly the FSP/PNG EcoForestry Program Manager, took over the position from David Vosseler.

Prior to the localization of FSP/PNG, the majority of organizational support came from FSP/USA and in particular USAID and this grant, for support of the office operations and Country Director's salary and benefits. These funds kept the office open and an FSP presence in PNG during a transition

period and allowed for a time of planning and writing proposals to develop alternative programs of support. Donor funding for PNG, particularly in the Forestry and Environment sectors, and particularly from Australia, started to increase rapidly about this same time along with global concerns for conservation of PNG's bio-diversity and forest resources, and FSP/PNG found itself expanding into programs more rapidly than they were able to put administrative and management systems in place.

Slowly, but effectively, FSP/PNG is reorganizing itself to computerize its accounts and set up systems of grant controls and timely reporting. Their biggest difficulty seems to stem from the fact that they are considerably understaffed managerially and administratively, but they are hoping to change this as new grants are written to provide funding for these critical components that provide necessary institutional support to project activities. Funds from this USAID matching grant over the past year have been used mainly as core office operational support to strengthen the institution and keep it functional during this period of transition. It is planned that over the next two years that this grant will provide funds to expand FSP/PNG's human management resources in the critical areas of general administration and forestry. Additionally, some institutional support funding will assist another FSP NGO partner, Village Development Trust (VDT) to expand and professionalize its work in sustainable forest management training (see news release in Appendix A illustrating the kind of impact VDT work is having).

In spite of the organizational problems encountered during this transition stage, FSP/PNG's programs have still expanded in response to the professionalism of its current staff, and the recognition by donors that NGOs will play a critical role in saving PNG forests because they can more effectively reach the land owners and communities. A detailed summary of their forestry and overall programs, and a list of their "matching" funds and projects are included in Appendices B and C.

Much of the FSP/PNG project work is still donor initiated and piecemeal. What FSP/PNG desires and needs is the chance to properly plan a comprehensive and multi-year eco-forestry program that will coordinate much of the current NGO activity in the eco-forestry sector in PNG to

prove that there are viable alternatives to large scale logging by foreign companies. The dilemma is still the same as in SI and Vanuatu, but exponentially expanded because of the size of PNG: government needs the log export revenues to pay for its expenditures, and only the foreign firms have the capital to harvest in large scale terms. FSP/PNG, VDT and other concerned NGOs are running a race against time. The comparatively small scale efforts have a few proven models of sustainably harvested timber using small scale technology that locals can learn to use and can afford to invest in, and that return much greater and sustainable profit margins to the resource owners. However, to expand these into a country wide alternative to large scale logging will take an infusion of much more funding and time. Slowly, perhaps too slowly, donors are realizing this may be an effective alternative. While the NGOs in PNG have been working for ten years promoting "Wokabout" sawmills as alternative technologies, donors are just now willing to provide small funding support to test the waters. Hopefully, it will not be too late.

There is, however, a noticeable impact from the NGO efforts to create an awareness in the communities in general about the negative impacts of large scale logging. A news article taken from the "PNG Business" newspaper (see Appendix D) illustrates the influence of a new pressure group composed of resource owners advocating government logging controls.

## **SOLOMON ISLANDS**

In the first year of this grant, USAID funds were only allocated to FSP/HQ and the PNG country office. In year two, this grant provided institutional support to the FSP/Solomon Islands office and Country Director at that time, Mr. Anthony Carmel, to work with the local NGO partner, SOLTRUST, which was concentrating most of its activities in developing an eco-timber industry. Relationships between FSP and SOLTRUST broke down starting in May, 1993, precipitated by FSP's decision not to renew Mr. Carmel's contract because of dissatisfaction in how he was managing



the FSP work program. Although FSP offered to continue to work directly with SOLTRUST management under this grant work program, SOLTRUST hired Mr. Carmel on directly, and it became impossible to negotiate any contract with SOLTRUST. In a last effort to work together with both local NGOs, SOLTRUST was invited by FSP and the evaluation team to participate in the mid-term evaluation and future planning activities. Unfortunately the invitation was turned down. However, SOLTRUST continues their eco-forestry activities focussed on the promotion of small, portable sawmills and marketing of eco-timber exports.

Because of the working problems with SOLTRUST, in the middle of grant year three, FSP started to work again with a former local partner, the Solomon Islands Development Trust (SIDT). FSP had initiated SIDT in early 1980 as a local NGO, and in the ensuing 13 years it had grown considerably and gained a reputation as an effective community development, awareness and non-formal education institution. All of the SIDT work in the forestry sector prior to 1993, had been focussed on anti-logging campaigns and awareness, but SIDT were critically aware that they fell short in providing practical alternatives to communities for the sustainable use of their forest resources. With funds from this grant, FSP was able to hire Dr. John Roughan as the parttime FSP/SI representative to work with SIDT to assist them in the establishment of an Eco-Forestry Unit (EFU). Dr. Roughan was the consultant FSP had hired in 1980 to provide technical assistance to the fledgling SIDT. He was able to attend the FSP International Board meeting in Sydney in February to strategize with the overall FSP partner network, and he and the SIDT Conservation and Development Program Manager, Mr. Robin Connor, participated in the mid-term evaluation and planning sessions. A log frame and implementation plan for SIDT EcoForestry Unit activities were outlined and are now being finalized with additional support from Greenpeace and the UK based Forest Management Foundation (see Appendix E for a program description).

The SIDT work program will begin as soon as appropriate forestry expertise can be recruited. It will focus on providing alternatives to large scale logging for the resource owners by providing technical training in the use of chainsaw mini-mills and sustainable forest management practices

by setting up a training course with a local rural training center. SIDT will also continue the forest and environment awareness work through their mobile extension teams which live in the areas in which they work, and continue to promote non-timber alternatives to using the forests through their Conservation in Development program with the promotion of ideas such as paper-making, marketing of nuts and nut oils, and honey production. A summary description of the SIDT Conservation and Development Program is in Appendix F, including a small pamphlet in the local Pidgin language produced by SIDT entitled "Look After our Forests Well".

NGO forestry work in the Solomon Islands is critically important as it is the only force that is dealing directly with the resource owners and providing them with information and alternatives in order to make educated decisions about the use of their forested lands. The government is fairly unstable (three changes in three years) and is exposed to a lot of pressure to increase logging including: bribes from large scale logging companies to obtain concessions which amount to four times the suggested annual sustainable cut; government over-expenditure and the requirement to earn export dollars; and land owners who only see the chance to make quickly more dollars than they would have hoped to ever see in their lifetimes. At current rates of cutting, a conservative estimate is that the forest resource will be depleted in Solomon Islands within ten years. (See article entitled "The Solomon Islands logging dilemma" in Appendix G).

As in PNG, the turnaround of this situation can be greatly assisted by educating landowners who do not understand the negative side of losing their forest resources, and providing them with acceptable alternatives for income generation.

## VANUATU

The FSP Vanuatu MG program support has been vested in the FSP/Vanuatu country office for the past two years (grant years 2&3), particularly partial support for the County Director and other administrative staff and office support costs, as well as some direct funding for the eco-forestry program . This funding support has assisted FSP/Vanuatu to develop core eco-forestry activities under their Community and Environmental Forestry (CEF) program that are almost entirely supported by matching funds raised independently by FSP/Vanuatu and the FSP/UK office. The core donors for the eco-forestry activities is the European Union (EU) (formerly European Commission) which supports a five year grant of more than US\$500,000 total, and World Wildlife Fund International/ODA.

The CEF program this year has seen another expansion of staff and activities under the direction of Stephen Wyatt as the Project Manager. In addition to the Project Manager, last year the project employed a local Community Forestry/ Environmental Trainer and a Mechanic/Chainsaw Trainer. This year 3 new local positions were recruited: an Environmental Officer, a local counterpart Forester, and a female officer in charge of business training and women in forestry issues.

The CEF program has a local advisory board which is comprised of representatives from the National Planning Office, the Department of Local Government, the Environment Unit, the Department of Forestry, FSP and several local NGOs including the Vanuatu National Council of Women, the Vanuatu Association of NGOs, the Farm Support Association, and the Canadian technical assistance agency, CUSO.

The aim of this program is, **"to make accessible to the rural economic sector of Vanuatu, the means by which they can effectively participate in the management of their own forest resources."** The approach is two dimensional: to advance community awareness and understanding about forest issues in order to make educated decisions about the management of their resources; and to provide individuals and communities with technical training and assistance if they want to sustainable harvest their

timber resources. Chainsawmills are now the technology of preference for the program, having handed over the responsibility for the larger portable or "wokabout" sawmills to the Department of Forests at their request, and after an internal evaluation showed that the smaller sawmilling technology was more appropriate for the fledgling local industry in Vanuatu.

The CEF team works mainly in response to requests from communities to provide information, technical assistance and training. Over the past year they have conducted 10 formal workshops of 2-3 week duration, training over 109 people in 6 islands in small-scale timber production, appropriate forestry techniques and basic environmental science. A fee of approximately US\$30.00 is charged to each individual participant at these workshops. Other non-formal sessions include public meetings on environmental awareness which employ techniques to create public interest such as video shows, drama, demonstrations, discussions and debates. A detailed annual donor report on this program, written by the Project Manager, is included in Appendix K in its entirety.

FSP/Vanuatu is the only NGO working with communities exclusively in the forestry sector. As in SI and PNG, they are able to keep the sustainable logging issues to the forefront of public agendas as a viable and sustainable alternative to large scale logging by foreign firms.

The FSP/Vanuatu office has also grown considerably in the past year. In January, 1994, Kathy Fry moved to a fulltime regional position and Karen Preston moved from the Assistant position to Country Director. Hannington Alatoa, a ni-Vanuatu with previous experience as the Vanuatu Government's Director of Social Development and six years as Regional Director of the Commonwealth Youth Program for the South Pacific joined the FSP/Vanuatu team in September as the Assistant Country Director. The Accountant's position has been localized and overall the staff has doubled, from a total of 12 to the current 24 (not counting regional project staff who work in Vanuatu). A list of staff and the organizational chart showing other country programs can be found in Appendices H and I.

While the future plan for FSP/Vanuatu is to evolve from an FSP/USA project office to a local NGO with its own Board of Directors, it is also helping to establish other local NGOs where there are development gaps and needs. The Vanuatu Rural Development and Training Centres' Association (VRDTCA) is an FSP spin-off NGO that shares office space with FSP/Vanuatu. It carries out joint programs with CEF in establishing chainsawmill programs at rural training centers for both community training and income generation for the school. FSP/Vanuatu is also helping the formation of a new environmental NGO called the Vanuatu Environmental Organization (VEO) that can broaden and expand the community based environmental education that CEF initiated.

In addition to carrying out the project assessment in PNG and SI for the Regional Office, and participation on the Evaluation Team, the CEF Project Manager, Mr. Steve Wyatt, has written several articles on request, including: *From Rough Sawn to High Quality in Vanuatu - Using Chainsawmills to Export Timber Doors* - published in the "Pacific Islands Forests & Trees", and *Can Small Sawmills Save the Forests? a Vanuatu Case Study* - published in the "Pacific Economic Bulletin". He has also produced papers for several workshops, such as *Small Scale Timber Production in Vanuatu* produced for a WWF Conference in Australia this year. For interested readers, all of these reports are contained in the appendices of the FSP/Vanuatu program report included in this report as Appendix K.

## **CONCLUSION**

FSP has been involved with small scale sawmilling projects since 1983 when we provided the first *Wokabaut Somil* with USAID OPG funding to our NGO partner in PNG to initiate landowner training in the technology of sawmill operation and forestry management. In PNG the technology was initially perceived as a vehicle to open a new sector for rural enterprise. FSP transferred the concept to Solomon Islands in 1986 as a new model for cyclone rehabilitation - people providing their own timber for reconstruction by utilizing fallen trees. In 1988, FSP was invited by

the Vanuatu government to transfer the same technology, this time as a means of engaging rural entrepreneurs in the downstream processing of timber products.

However, as logging pressures and Pacific environmental awareness grew in intensity, the small scale sawmill technology became, for FSP and its NGO partners, a viable alternative to the destructive, large scale logging associated with foreign owned firms with large capital investments. Environmental awareness and sustainable land use management training components were added to the extension training carried out by FSP and its partners, and many other NGOs joined the campaign to give rural resource owners a choice in how they could choose to utilize their forests. While the NGO efforts are small and not necessarily united, their collective work is starting to have an impact. There is more and more evidence now of landowners taking a stand and not allowing logging companies to take their trees.

To create a new, rural, and locally run industry such as small scale sawmilling has the potential to be, takes time and money to teach people and to set up infrastructures for downstream processing and marketing. There have been successes with cash cropping and fisheries, so it should also be possible in the forestry sectors where people have much more reliance on and connection with the resource because they live within it. The reality of the dilemma, however, is still there: Governments need the large export revenues generated by large scale logging to pay their debts now; logging companies are seldom interested in the long term commitment to downstream processing within a country to create employment; and some resource owners will be driven by greed and still sell out to the short term cash over sustainable profits and hard work. To the credit of organizations with influence and bi-lateral aid donors to Pacific Island Governments like AIDAB, ODA, UNDP and EU, they are now becoming more interested in this potential model, and are beginning to allocate funds and technical assistance to give it a trial. The potential is there and the battle is not without problems, but it will take careful planning, cooperation and coordination to make it happen in the right way. (See the special issue of the "Forest Research Institute Newsletter" on the *Wokabout Somil* in Appendix J).

Although the funds are not large in this grant, particularly when divided for support of three countries and FSP/HQ, for the past three years they have provided essential and core funding to FSP and its partners to remain an active participant in the ecoforestry campaign. The "Environmental Action Plan" produced with support of the US Forest Service for this grant is still the overall guide for matching program funds. In Vanuatu and PNG, the USAID funds have been multiplied by FSP partners at least 10 times, but even that has not even been enough to complete the task that FSP and its partners hope to achieve. Although evidence of impact is starting to appear, sometimes the work to date seems minimal compared to the huge task ahead in trying to stop the destruction of Melanesian forests.

***Report written by:  
Kathy Fry, FSP Regional Director***

## APPENDIX A:

### Village Development Trust

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PAPUA NEW GUINEA  
PHONE/FAX: (675) 42-4824

News Release  
November 29, 1994

For Immediate Release

## Rain Forest Saved as Logging Company is Stopped in its Tracks

The efforts of Village Development Trust (VDT) and its partners to protect Papua New Guinea's priceless rain forests and the fragile habitat of its people has scored a recent victory. In a peaceful confrontation VDT, the Yekora tribe and their Provincial Government representative joined forces and met face-to-face with PNG Forest Products Pty Ltd. in the village of Sapa on November 26th. The local timber company, endeavouring to begin logging more than 100,000 hectares of virgin rain forest in the area met with a defiant "no" from the villagers. Sapa is located in the Huon Gulf approximately 130 km south of Lae, in Papua New Guinea's Morobe province.

Mr. Sobe Gam the Provincial Government member for the area said, "As long as I am the member of the Morobe subdistrict I will ensure that no large scale mining and logging activities enter here unless it can be clearly shown that it benefits the general community population."

A spokesman for Yekora tribe, Eric Gurupa said "the Landowner Company which PNG Forest Products has presented at this meeting as representing the community, in fact only represents a few privileged elites who are using the ignorance of their own people to log the forests for personal gain." The meeting was organized and sponsored by PNG Forest Products who provided free food and transportation to villagers that attended. Gurupa presented a resolution, that was subsequently passed, dissolving the Landowner Company and referring the entire matter back to the villagers for further discussion.

VDT's Executive Director Sasa Zibe accompanied the group on the invitation of Mr. Gam and his constituents. Zibe, a forester, has for the last 6 years spearheaded VDT's work of educating village communities on eco-forestry issues and practices. VDT also supports and trains those interested in harvesting their forests on an environmentally sustainable basis. "This is a typical situation" said Zibe, "of the timber company (PNG Forest Products) instigating the setting up of an illegal landowner company claiming that it represents the traditional landowners of the community." 98% of the land in Papua New Guinea is traditionally owned by the village communities of the country. Zibe goes on to say "by utilising these underhanded tactics and presenting only one side of the story village communities throughout the country are being manipulated into destroying their forests for present and future generations."

Villagers at the meeting also called for an awareness campaign. They want a further explanation of Landowner Companies, the options of harvesting the timber in a way that does not destroy the forest, and the economic benefits available to them.

CONTACT: SASA ZIBE, EXECUTIVE DIRECTOR  
VILLAGE DEVELOPMENT TRUST



APPENDIX B:

**The Foundation of the Peoples of the  
South Pacific, Papua New Guinea, Inc.  
(FSP/PNG)**

**Programme Summary**

The Foundation of the Peoples of the South Pacific,  
Papua New Guinea, Inc. (FSP/PNG)  
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Revised: August 1994

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**FOUNDATION OF THE PEOPLES OF THE SOUTH PACIFIC  
PAPUA NEW GUINEA INC.**

**PROGRAM SUMMARY**

**I. FSP/PNG BACKGROUND**

The Foundation of the Peoples of the South Pacific, Papua New Guinea, Inc. (FSP/PNG) is a local, private, non-profit organization based in Port Moresby. FSP/PNG was originally a branch office of the Foundation for the Peoples of the South Pacific, Inc. (FSP) whose headquarters are in the USA. FSP/PNG was legally registered in February of 1993 but has had defacto independence with its own Board of Directors since February 1992. FSP/PNG's Board consists of one Director from each of the four regions of PNG, with one at large Director. All Directors are from Papua New Guinea. FSP/PNG has been 100% self funded since 1991.

FSP/PNG is an independent member of The Foundation of the Peoples of the South Pacific International (FSPI). The Foundation has four metropolitan members -- Australia, Canada, the United States, and the United Kingdom--which provide support for in-country affiliates in six Pacific Island nations: Fiji, Kiribati, Papua New Guinea, Tonga, Western Samoa and Vanuatu.

FSP/PNG independently and in partnership with its FSPI metropolitan affiliates has been working in rural and community development in the less developed areas of Papua New Guinea since 1965. FSP/PNG projects have ranged from fisheries, agriculture, renewable energy, rural water supply, appropriate technology, environmental protection and conservation to health, education, and small-scale village-based industry development. As stated in FSP/PNG's Constitution, Objective 1, FSP/PNG will:

*"Promote environmentally and economically sustainable integral human development in Papua New Guinea."*

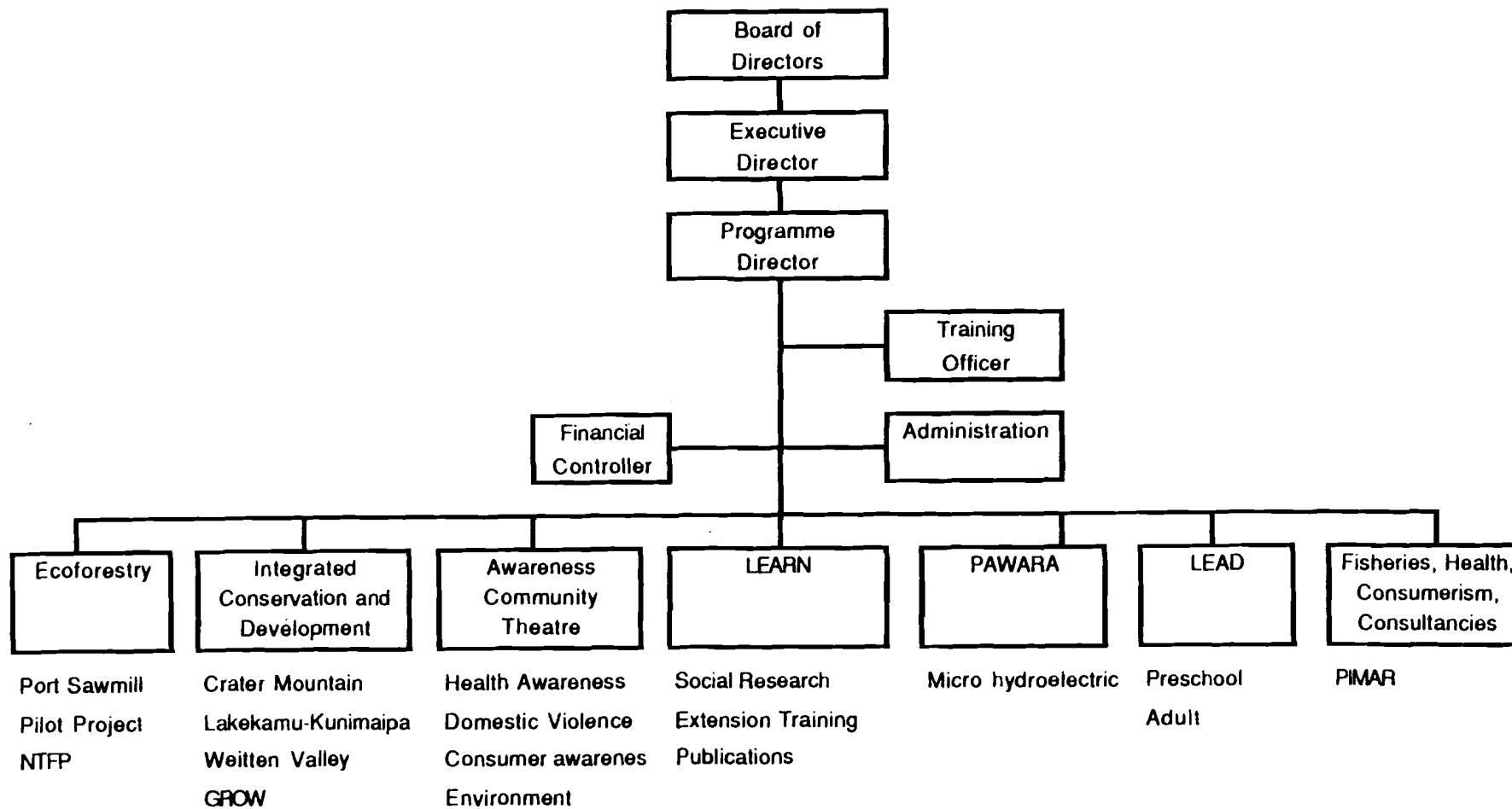
FSP/PNG has a wide of range of research, project development, management and implementation experience. This has involved liaison with Government agencies, private sector, NGOs and community groups. Government Departments have utilized FSP/PNG's experience and network in the NGO community to assist in the development and implementation of partnership programs.

FSP/PNG is active nationwide in PNG. Through its programs FSP/PNG has established a network of communication with local, provincial and national NGOs, involved in all levels of development, from community based projects to national programs.

FSP/PNG has a long history of institution building in Papua New Guinea. In this work we have actively supported organisations such as South Pacific Appropriate Technology Foundation (SPATF), Village Development Trust (VDT), and Grassroots Opportunities for Work (GROW). FSP/PNG's Constitution states in Objective #2 that FSP/PNG will:

*"Support and seek funds for Programs, projects and institutions in Papua New Guinea which promote sustainable development and self reliance."*

## The Foundation of the Peoples of the South Pacific, PNG INC.



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# The Foundation of the Peoples of the South Pacific International Network

## *Independent Organisations*

FSP/PNG

FSP/Fiji

*FSP/USA  
Field Offices*

Kiribati  
Vanuatu  
Solomon Is.  
Tonga

FSP  
International

## *Metropolitan Affiliates*

FSP  
Australia

FSP  
United Kingdom

FSP  
USA

FSP  
Canada

3

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## **2. ECOFORESTRY PROGRAMME**

The Ecoforestry Program utilizes a variety of low-impact approaches to the sustainable utilization of tropical forests in Papua New Guinea. FSP/PNG recognizes the need to balance development with the preservation of terrestrial and marine habitats of high biodiversity or conservation value with the need for rural people to generate income. The Ecoforestry Program seeks to do this through the sustainable utilization of forest resources. This program focuses on the development of Eco-enterprises that are sustainable, renewable, and low-impact.

Through the controlled use of village-based portable sawmills, FSP/PNG seeks to provide an economically viable, environmentally sound alternative to industrial logging and assist rural landowners in the development of sustainable and economically viable enterprises. FSP/PNG works in partnership with Village Development Trust(VDT), Forest Research Institute(FRI), National Forest Authority(NFA), Department of Environment and Conservation(DEC), Wau Ecology Institute(WEI) and many other local and international organizations in the implementation of this Program.

FSP/PNG is working toward the establishment of independent Ecotimber Monitoring Agency(EcoMA). The development of this independent agency will be in partnership with the GOPNG, international "green" certification bodies such as the Forest Stewardship Council(FSC), Smart Wood(RAN), Green Cross, Private Sector, VDT, FSP/PNG and other local and international NGOs.

The primary objectives of the Ecoforestry program are listed below:

### **Research**

- Review, research, and redesign of Sustained Yield Management silviculture systems conforming to international standards, and appropriate to village-level use in PNG.
- Establish base-line data concerning present private forest management and small-scale forest exploitation in Papua New Guinea.

### **Extension/Training**

- Develop a national outreach network with the capacity to run training programs, research silviculture systems, and carry out sustainable forestry extension. The Program also seeks to develop the institutional capacity of other provincial level partner NGOs and private sector to provide similar services at a local level.
- On-going development of training manuals, and training programs to be used by portable sawmill (PS) owners, NGOs and National and Provincial Forestry Department Staff, conforming to international standards but appropriate for village use. Improve standards of training for PS owners and Forestry Extension Staff.
- Initiation and assistance in development of national extension services to support portable sawmill operators, involving NGOs, private sector, universities, and Government line Ministries.

### **Industry Development and Marketing**

- Development of the Ecoforestry Program and Ecotimber industry in ways supportive of other programs involving sustainable use of non-timber forest resources for the diversification of a communities economic base.

- Development of infrastructure to support an Ecotimber export industry, including central certification, quality control, drying, storage, treatment, shipping and marketing.
- Development of internationally accepted standards for Ecotimber, and establishment of the Ecowood stamp accepted by overseas markets as certifying sustainability harvested PNG timber.
- Establishment of international marketing channels for PNG Ecotimber, and promotion in international markets of lesser-known PNG hardwood species.
- Assist and encourage PNG Government in the design of policies and legislation to monitor and control environmental impact, raise revenues and support development of a National infrastructure necessary for the establishment of an Ecotimber industry.
- Access international and local forestry and environmental institutions to provide advice and assistance to all aspects of the Ecotimber industry.

### **Ecotimber Monitoring and Certification**

- Develop an independent monitoring body in cooperation with the Government of PNG(GOPNG), international “green” certification bodies, local and international NGOs, universities and private sector companies to certify sustainably- harvested Ecotimber and resultant value-added products.
- Develop a system of monitoring that is both practical and workable under PNG conditions but is accepted internationally as ensuring sustainability of products produced.

### **Non-Timber Forest Products development**

- Develop a database of traditional non-timber uses of rainforest flora and fauna.
- Identify and develop Non-timber forest products with marketing potential.

## **2.1 Ecoforestry Programme Projects and Activities**

### **2.1.1 Ecoforestry Action Committee**

As the Ecotimber program grew it soon became apparent that it would be necessary to bring together expertise in a wide range of fields to work with FSP/PNG, our partner NGOs, the GOPNG and the private sector to design what the Ecotimber industry was going to need to ensure it’s economic, environmental and social viability. To assist FSP/PNG and our partners in this endeavor the Ecoforestry Action Committee was formed.

#### **Objectives:**

- To assist in the access of funds and technical assistance for the implementation of the “Assessment and Design of an Ecotimber Industry in PNG” and “Nationwide Survey of Portable Sawmills in PNG” Projects. These two projects are outlined in the sections following.
- To act as a liaison between the GOPNG, Donors, National Forest and Conservation Action Program(NFCAP) Steering Committee, and FSP/PNG to ensure coordination of program activities and funding sources.
- To ensure funded program activities under the auspices of the EAC are implemented as planned.

#### EAC Members:

- \* Chairman: Forestry Advisor of the UNDP/World Bank Technical Support Project (TSP) to the PNG NFCAP.
- \* National Forest Authority (NFA)
- \* Forest Research Institute (FRI)
- \* Department of Environment and Conservation (DEC)
- \* Department of Finance and Planning (DFP)
- \* Village Development Trust (VDT)
- \* Foundation of the Peoples of the South Pacific International (FSPI)
- \* Foundation of the Peoples of the South Pacific, PNG (FSP/PNG)

#### 2.1.2 Nationwide Survey of Portable Sawmills Project:

This project is Phase One of the greater "Assessment and Design of an Ecotimber Industry in PNG" project further explained in section A.7. This survey is necessary to provide baseline data on the present state of the industry in PNG. FSP/PNG trained two Government Forestry Officers from each Province to carry out the survey. The survey looked at the social, economic and environmental impacts of portable sawmills. It is intended that this project will encourage the development of a national Ecotimber Sawmillers Association (EcoSA). Greenpeace International is funding a portion of this Survey through the "FSP/PNG-Greenpeace Portable Sawmill Social/Economic Impacts Assessment and Recommendations" Project.

#### Objectives:

- To conduct a nationwide survey of existing portable sawmill operations in PNG culminating in a report of the present state of the industry.
- To enable Provincial Forestry Officers (PFO's) to identify, locate and maintain contact with portable sawmill operators in their respective provinces.
- To establish baseline data for further studies into the various aspects of a portable sawmill based timber industry.
- To provide information and data in support of the "Assessment and Design of an Ecotimber Industry in PNG" project.
- To assist Government authorities to draw up appropriate Policy guidelines for proper management and control of portable sawmill based timber industry in PNG.
- To assist in the development of an Ecotimber Sawmillers Association (EcoSA) in PNG.

**Project Status:** Project in progress. Field work completed. Data is being compiled and analysed. Publication to be completed by late 1994.

#### 2.1.3 Assessment and Design of an Ecotimber Industry in Papua New Guinea" Project:

This project was developed to assist FSP/PNG, the Government of Papua New Guinea, and our partners to design a cohesive, coordinated "work plan" for the development, implementation and management of an Ecotimber / Community Forestry industry in PNG. This project will research and design develop plans for all aspects of this new industry including social sustainability.



## Objectives:

- To review, research, and redesign silvicultural systems for portable sawmilling and conduct an assessment of the environmental and social impacts of models of portable sawmill silviculture in relation to each other and to industrial forestry.
- To design the infrastructure to support an Ecotimber industry, including quality control, storage, transport, treatment, drying, market requirements and outlets.
- To undertake research into international marketing channels for PNG Ecotimber and promotion in international markets of lesser-known PNG hardwood species.
- To design an independent monitoring body in PNG to certify sustainably harvested Ecotimber for export. This would involve the development of internationally accepted standards for Ecotimber, and establishment of the Ecowood stamp accepted by overseas markets as certifying sustainably harvested PNG timber.
- To assist and encourage the PNG Government in the design of legislation to monitor and control the environmental impact of portable and semi-portable sawmill use.
- To develop the Ecotimber industry in line with Government resource management and development plans and appropriate ministries, and support other programs involving sustainable use of non-timber forest resources to diversify the community economic base.
- To design ongoing research and monitoring programs for portable sawmill forestry operations in collaboration with other forestry research programs such as those being developed by the Forestry Research Institute (FRI) in Lae and the combined Department of Forest and International Tropical Timber Organization (ITTO) EESTRU Project.
- Formation of an outline for a Ecotimba Sawmillers Association (EcoSA).

### Planned Project Partners and Contributors:

- National Forest Authority, Departments of: Environment and Conservation, Trade and Industry, Finance and Planning and the Forest Research Institute.
- Local NGOs
- Private Sector: Masurina, Ulutao Estates.
- International NGOs: Conservation International (CI), Greenpeace International, Rainforest Information Centre(RIC), Rainforest Action Network(RAN), South Pacific Regional Environment Program(SPREP), Wildlife Conservation Society (WCS), World Wide Fund for Nature(WWF), and others as required.
- International Green Certification Bodies: Green Cross, Smart Wood(Rainforest Alliance), Forest Management Council, and others as required.
- International Private Sector: Ecological Trading Company(ETC), B&Q(UK), Ecotimber Co.(USA) etc.

**Project Status:** Project has received full Government of Papua New Guinea backing. Project is presently being designed based on data gathered through the Nationwide Survey of Portable Sawmills.

### **2.1.4 FSP/PNG-Greenpeace Portable Sawmill Social/Economic Impact Assessment and Recommendations Project:**

The goal of the project is to assess the social impact on landowner communities in PNG from introduction and use of portable sawmill technologies. The audit will analyze the situation and experience of a number of local communities, as a representative selection of the more than 500 communities using portable sawmills.

In particular, the audit will examine the ways in which the introduction, training, use, control, monitoring, and sharing of benefits have been handled in different communities. This project will look at how the sawmills have been integrated with traditional community decision making institutions.

On the basis of the research and analysis, recommendations will be made on the best ways to integrate the use of portable sawmills within communities in order to maintain social cohesion and conserve or promote equity; i.e. the sharing of costs and benefits, and institutional structures that are most likely to maintain ecologically sustainable forest management regimes. These recommendations will be of a general nature. Specific recommendations for improving the situations in sites visited will also be given if relevant.

It is envisaged that this information will be used to improve training workshops associated with portable sawmills, develop national legislation concerning portable sawmills, develop international criteria for defining socially and ecologically sustainable timber, and develop policies for Greenpeace International concerning portable sawmills.

**Project Status:** Project to be carried out cooperatively with the "Nationwide Survey of Portable Sawmills in PNG" Project. The Project is funded by Greenpeace International.

### **2.1.5 FLORA CONSERVATION PROJECT**

The Flora Conservation Project (FCP) is designed to promote the protection of Papua New Guinea's rich floral diversity through the development of a genetic resource bank for endangered/rare plant species; an export market for laboratory propagated (CITES approved) PNG orchids, and other plants species; village-based horticultural farms; and existing "plant banks" --small village-based orchid/ornamental horticulture farms. Project developed and managed in partnership with FRI and DEC. This is the first NGO led initiative to be accepted as an official NFCAP(National Forest and Conservation Action Program) project. FCP is being developed under the umbrella of the Flora Conservation Committee(FCC).

#### **Objectives:**

- To establish a genetic resource bank for endangered/rare plant species initially focusing on but not limited to orchids, rhododendrons and begonias.
- To provide laboratory conditions for research support carried out by Government Institutions, private researchers, and other research and conservation organizations.
- To encourage the Government to enforce the ban on export of wild-collected orchids in line with CITES.
- To develop an export market for laboratory propagated (CITES approved) PNG orchids, and other plants species, including project developed hybrids with partial income arising from sale of these returned to support conservation activities for other PNG species.
- To assist the development of village-based horticultural farms to sell cut-flowers on the domestic market to nearby hotels, restaurants, florists.
- To support existing "plant banks" --small village-based orchid farms-to preserve threatened species in the wild in PNG and the creation of new ones, through training, marketing support and the reintroduction of plant species.
- Support the Forestry Research Institute(FRI) in their efforts to research and catalogue the different ornamental horticulture species endemic to PNG.

**Project Partners:**

- Forest Research Institute
- Departments of Environment and Conservation, Trade and Industry, Forests
- Gahavasuka Provincial Park (Goroka, Eastern Highlands Province)

**Project Status:** Seeking donor support

### **2.1.6 PNG NON-TIMBER FOREST PRODUCT RESEARCH PROJECT**

Non-timber forest products have been the mainstay of the traditional economies of Melanesia. However their current input into to the subsistence and cash economies of modern Melanesia has been little recognized. This project seeks to develop a database on Non-Timber Forest Products (NTFP's) in Papua New Guinea; to examine the opportunities for the development of further NTFP's; and to explore marketing opportunities for identified NTFP's.

#### **Objectives**

- To conduct consultations with a range of representative communities in forest use.
- To produce a comprehensive database of non-timber products available from the forests of Papua New Guinea.
- To review the current and potential extent of national and export trade in these products and recommend strategies for further product development and marketing.
- To produce a comprehensive and accessible report in book form for community and policy use.

**Project Status:** Project funded by AIDAB through project partner Australian Foundation for the Peoples of the South Pacific(AFSP). The University of Papua New Guinea(UPNG) will be the main research partner for this project in PNG. Project due to start in May 1993. Projected duration of 18 months.

## **3. INTEGRATED CONSERVATION AND DEVELOPMENT (ICAD)**

Integrated Conservation and Development employs a strategy of establishing direct linkages between conservation of natural resources and an increase in the socio-economic well-being of landowners. The ICAD concept attempts to provide landowners with environmentally sustainable alternatives for income generation.

### **3.1 Crater Mountain ICAD Project**

The Crater Mountain Wildlife Management Area encompasses approximately 2,700 square kilometers and ranges from lowland rainforest on the Purari River (850 meters) to montane cloud forest on the slopes of Crater Mountain (2100 meters). A diverse collection of flora and fauna indicate that the Crater biota is very species rich and as such constitutes a natural resource of national importance. Approximately 2,500 Gimi speaking people occupy the northern half of the WMA and are concentrated around the villages of Ubaigubi, Herowana and Maimaifu. The southern half of the WMA is owned by the approximately 500 Pawaiian people who occupy the village of Haia. (political districts).

The principle economic enterprises being experimented with in the CMICAD project are a system of research facilities and services for scientists and an ecotourism business targeted at village visits or more rigorous trekking excursions to unique natural history sites. In addition, supplementary economic activity is being sought.

This now includes the production and sale of traditional artifacts. The project also seeks to identify other non-timber forest products (NTFP) which may be appropriate for sustainable use under extraction.

For each economic enterprise, agencies will work with landowners to a) design and develop the product, b) draw up a business plan, c) identify markets and determine means of marketing the product and d) provide education and training for community-based enterprise management.

**Project Status:** Ongoing. Present and past Donors: Biodiversity Support Program, MacArthur Foundation, Wildlife Conservation Society, Conservation International.

### **3.2 Lakekamu - Kunimaipa Basin ICAD Project**

This project is based on a design similar to the Crater Mountain ICAD Project. FSP/PNG is working in collaboration with Conservation International, the WAU Ecology Institute of PNG and the landowners of the Lakekamu-Kunimaipa river basin to establish a rainforest research center and a network of tourist lodges along a hiking track between the research center and the WAU Ecology Institute. The conservation area spans 1700 km<sup>2</sup>.

**Project Status:** Ongoing but requires much greater donor support for full implementation. Present donors: Biodiversity Support Program, Conservation International

### **3.3 Weitten Valley ICAD Project**

FSP/PNG has been chosen as the NGO partner to the Department of Environment and Conservation in its experimental 5-year integrated conservation and development (ICAD) project in southern New Ireland. This is an evolving project. FSP's initial role is to hire three people to carry out a Rapid Rural Appraisal (8 month position), landowner awareness (12 months), and an alternative income survey (4 months). Based on information gathered by these and other studies, an implementation plan will be developed for the area.

**Funding Status:** Funded by UN Global Environmental Facility

### **3.4 GROW Project**

GROW is a facilitative project designed to provide rural communities with access to information concerning sustainable agriculture and its linkage to nutrition. GROW concentrates on the training of couples or single women with great emphasis put on supporting the family unit. GROW is presently working in Madang Province.

#### **Project Partners**

- \* Madang Council of Women
- \* Madang Provincial Department of Primary Industry
- \* U.S. Peace Corps
- \* National Volunteer Service(NVS)

**Project Status:** On-going. Present and past Donors: UNIFEM, CODEL, USAID, AIDAB, Jersey Aid, Canada Fund, CEBEMO. Seeking further donor support.

## **4. PAWARA PROGRAM**

### **4.1 Micro-hydroelectric Project**

PAWARA is a combination of two pidgin words Pawa and Wara meaning electric power and water. The purpose of PAWARA is to provide an integrated development program of electrification and allied water supply to selected rural communities. The target populations per site range from 100 to 1500. The targeted range of electrical power to be supplied will range from 5 to 30 Kw with an anticipated average requirement of 10 Kw. The design phase for this program will be carried out in late 1992(see B). FSP/PNG is working closely with the Department of Energy Development(DED) in the development of this program.

#### Objectives:

- Promote and support rural electrification and allied water supply in selected rural communities over the four regions.
- Source and disseminate appropriate sustainable rural electrification and water storage / filtration / distribution technologies for these provinces.
- Research, design and develop appropriate renewable energy and water supply technologies.
- Assist the establishment of indigenous commercial manufacturing, installation and maintenance service organisations.
- Recruit and train the required National personnel for implementation of the above activities.
- Integrate PAWARA Program development with National / Provincial rural energy priorities, policies and programs.

Under this programme FSP/PNG has recruited three national engineers (Civil, Mechanical, and Electrical) who will be placed in a three year on-the-job training programme. Training will cover the preparation of feasibility studies, design of micro-hydroelectric systems, and installation and maintenance training.

**PROJECT STATUS:** On-going. **Partners:** Department of Energy Development.  
**Donor:** GTZ

## **5. AWARENESS COMMUNITY THEATRE (ACT) PROGRAM**

Through the use of Theatre, the ACT Program promotes awareness of Environmental, Health, Social and Developmental issues of concern in rural and urban communities. ACT has developed a nationwide network of trained local and provincial theatre groups capable of disseminating information, in the local language, on specific subjects to identified target audiences. ACT presently has a membership of 21 theatre groups from 17 of the 19 Provinces in PNG. ACT is presently running awareness and training programs on environmental and health issues concerning industrial logging and alternatives, careless land burning, AIDS, primary health care, family planning, domestic violence, and general election issues.

In PNG, the majority of its' four million inhabitants, speaking 800+ languages, still live at the subsistence level; their villages are often isolated and living conditions primitive. The difficulty and cost of reaching such diverse and isolated groups with appropriate awareness programs, can easily be imagined. Fortunately PNG has a rich and prized theatrical tradition. Popular Theatre can be used to convey messages and information that could not be transmitted in any other way. For example, women use this medium to highlight problems and needs without the danger of community condemnation or spousal retaliation.

Most of the ACT member theatre groups are community based. Living and working in the communities they're serving. This closeness allows these groups to easily adapt scripts and dramas to local conditions and languages. The flow of drama and script ideas is two way with other groups benefiting from the ideas and activities of others. All scripts and dramas of a technical nature are submitted for approval to the appropriate Government Department. Provincial Line Department personnel are invited to accompany the theatre groups to answer technical questions that may be asked by the audience after a performance. Evaluation forms are filled out after each performance.

In ACT's 1992 AIDS Awareness Program the network performed 330+ dramas to 84,000+ people throughout Papua New Guinea. FSP/PNG was asked by the Department of Health(STD/AIDS Unit) to carry out its AIDS awareness campaign. FSP/PNG Program also worked closely with WHO, Provincial theatre groups, Provincial Councils of Women, and Provincial Departments of Health, other NGO's, and the Theatre Health Education Committee(see below for further explanation of this committee) on this Program. FSP/PNG is also a member on the NGO Sub Committee on AIDS of the National AIDS Committee.

### **Objectives:**

- To promote the development of a nationwide network of trained Provincial and local theatre groups capable of professionally disseminating information, in the local language, to identified target audiences.
- To bring the urban and rural people of PNG a better understanding of issues that affect their lives.
- To learn from the target audiences what they perceive are the real issues and adapt these and possible solutions to a theatrical form for presentation.
- To help people understand what they need to do to improve the quality of their lives, what are the resources at hand or available elsewhere, and how they can utilize these resources in a sustainable manner.
- To provide the National and Provincial Government Line Departments, other NGOs, and the private sector with an appropriate vehicle for the dissemination of information to urban, urban and rural audiences.

### **5.1 Awareness on Domestic Violence against Women**

This AIDAB funded project aims to disseminate information and increase awareness about women issues that affect the daily lives of the people in Western Highlands Province, Papua New Guinea (PNG). Focus will be given on violence against women as this is a fundamental obstacle against the advancement of the majority of women in PNG. This project is designed to educate women and men in rural and urban communities of Western Highlands, Papua New Guinea on the problems of violence against women looking into causes and effects.

This intensive campaign will be conducting ten (10) multimedia workshops in all of the five districts of Western Highlands Province. Drama will be the main vehicle by which this project will be executed but other components such as slides, comics, role plays and informal conversation by health extension workers would be included in the workshops. Focus will be given on how to change men's violent behaviour towards women. Equal participation by both women and men is a key factor.

**PROJECT STATUS:** On-going. Donor: AIDAB

### **5.2 Health Awareness Awareness Campaign**

This project aims to increase the opportunity to gain simple health knowledge available today to protect the health and growth of children in Papua New Guinea (PNG). This intensive health awareness campaign would be conveyed using community based theatre

groups and by conducting 100 multi media health awareness and material production workshops. The programme will provide 50 workshops on Safe motherhood and Child growth and 50 workshops on Immunization, Diarrhea and Pneumonia for parents and youth groups. The programme would create awareness on all five issues by using local theatre groups to perform dramas in 75 schools and for the general public. The pilot areas for this program are Milne Bay Province, Central Province, Eastern Highlands Province, New Ireland Province and West Sepik (Sandaun) Province.

Awareness Community Theatre (ACT) Network Programme, an initiative of The Foundation of the Peoples of the South Pacific Inc. Papua New Guinea (FSP/PNG), will be the vehicle by which this program will be executed. ACT using its 21 theatre affiliates, with technical assistance from Department of Health, PNG and UNICEF/PNG would provide awareness on basic health information which could save more than 100 lives per week, in the most inaccessible areas of PNG.

**PROJECT STATUS:** On-going. **Partners:** Donor: ODA

#### **6. PACIFIC ISLANDS MARINE RESOURCES PROJECT**

PIMAR is a two-year project designed to strengthen the Fishing Industry Association of PNG, develop access to export markets for deep water tuna, and provide training to long-line fishermen.

**Project Status:** On-going. **Donor:** USAID

#### **7. LEARNING, EXTENSION, AND RESOURCE NETWORKING PROGRAMME (LEARN)**

The LEARN Programme became a part of the Foundation of the South Pacific, PNG, programme structure in 1994. It's primary objective is to facilitate extension work between project implementing agencies and their clients. Particular attention is paid toward involving clients in problem solving processes.

To date, the LEARN programme has conducted a social research course for engineers, provided extension training for government employees in running workshops, facilitated small-business workshops for integrated conservation and development projects in rural areas, performed advisory roles for university research students, and created an introductory manual for individuals considering beginning a cottage industry using non-timber forest products.

In addition to providing and facilitating educational services for other organisations, LEARN provides extension services for FSP/PNG employees through a weekly inservice session. Also, LEARN works with FSP/PNG management to provide scholarships for its employees who would like to earn a grade twelve education.

#### **8. LITERACY EDUCATION and AWARENESS DEVELOPMENT (LEAD) PROGRAM**

This program aims to increase the opportunities for literacy for women and children by establishing a Literacy Training Program to assist with the development of community based Women's Literacy Programs and Tok Ples (vernacular) Pre-schools. At present FSP/PNG is working in partnership with the Southern Highlands Literacy and Awareness Association, a provincial NGO, to expand their program of training in the remoter areas of the *Southern Highlands*. In *Simbu Province* we are assisting our regional office to develop a program of training with the help of local theatre groups. The program will provide training for adult literacy teachers, pre-school teachers and material producers.

The Training Workshops will train community and/or Church nominated people to teach literacy to women and children in their own local community. The training will include sessions on material production which will enable the community literacy programs to produce their own materials.

In a literacy program, the needs and interests of the community can be incorporated into the programs so that the material for Tok Ples Pre-school classes can draw on the surroundings; while in teaching literacy to adults, a number of issues of social importance can be used as a vehicle for literacy education. Literacy education can strengthen local traditions by contributing to the continued usage of local languages, and enhancing community identity.

### Objectives

- To raise awareness about the importance and benefits of literacy.
- To increase the opportunities for women and children to learn to read and write in their own language.
- To run 3 training workshops for Pre-school teachers in each of the target areas.
- To run 3 training workshops for Adult literacy teachers in each of the target areas.
- To run 3 training workshops for Material Producers in each of the target areas.
- To provide follow up visits to Pre-schools on a regular basis and encourage cooperation and support between neighboring Pre-schools.
- To promote and support the development of area networks of groups involved in literacy and awareness to work together for literacy education.

In addition, FSP/PNG is researching a more proactive program for the settlement areas of the National Capital District where the lack of services and the presence of hundreds of different language groups calls for different approaches.

**Program Status:** Preliminary contact and training taken place. Project seeking donor support. Funding provided by Department of Village Services and Provincial Affairs

## **9 WOMEN'S HEALTH EDUCATION AND TRAINING PROJECT**

This three part project in Simbu Province will cover Family Planning Education and Training; Nutrition Education and Training; and HIV AIDS Education and Awareness. The activities taking place in each of the three parts are as follows:

### 9.1 Family Planning:

- Conduct six Family Planning Workshops for Women and youth groups at the village level. Workshops to be conducted with the Officer-In-Charge(OIC) of the six District Health centres. Conduct a provincial workshop on family planning for District Maternal Child Health(MCH) staff, Community Health Workers(CHW), and Rural Aidpost Orderlies(RAPO).
- Patrol into remote areas to carry out family planning awareness education at the village level. The project will utilize an existing local theatre group to perform 50 live family planning dramas. Other media such as video and posters will also be used.
- Conduct family planning education activities at seven Provincial High Schools.



- Conduct monthly radio programs on family planning. Use radio to inform general public about upcoming family planning education activities in each district.

## 9.2 Nutrition Education:

- Conduct a Provincial Nutrition Workshop for the seven district community health workers and health educators.
- Conduct nutrition education dramas for women and community groups in concert with the Mount Wilhelm Drama Group. Performances to be accompanied by video presentation and discussion. Drama venues to include identified primary and provincial High Schools.

## 9.3 AIDS Education and Awareness

- In cooperation with the Mount Wilhelm Theatre group this project will conduct a series of AIDS Awareness dramas to target villages, women's, and youth groups.
- Conduct 20 AIDS dramas for identified institutions and target groups such as the Police, Prisons, truck drivers and prostitutes.
- Present fortnightly radio spots on local radio station.
- Distribute AIDS awareness posters and materials to target audiences.

**Program Status:** Project funded by AIDAB.

## **10. CONSULTANCIES**

FSP/PNG provides consultants for a wide range of issues. FSPI's 29 years experience in the South Pacific and PNG, and our extensive international affiliate network enables us to provide focused technical and social expertise unparalleled in the region. Below are four examples of consultancies carried out by FSP/PNG.

### **10.1 WATER SUPPLY DEVELOPMENT IN MINE-AFFECTED RURAL POPULATIONS IN PAPUA NEW GUINEA**

Often mining companies (and other agencies) have to replace a water supply affected by the companies activities due to village relocation, water quality impact, etc. The Bureau of Water Resources of the Department of Environment and Conservation has to ensure that the replacement of water supplies is adequate for the needs of the villagers. Recognizing that village needs are complex and need to include complex social and cultural values as well as physical needs. To this end the following objectives were set for this project.

#### **Objectives:**

- Survey of present water quality standards used in and outside of PNG in regards to mine-affected areas.
- Survey and evaluation of water quality standards being employed by CRA on Misima Island.
- Development of a "checklist" of issues that should be addressed in the design and installation of relevant water supply systems as well as a basic "philosophy" of design for these systems.

**Consultancy Status:** Consultancy finished and accepted by the Bureau of Water Resources, DEC.

## **10.2 TECHNICAL ASSISTANCE FOR FISHERIES AND COASTAL RESOURCE MANAGEMENT AND DEVELOPMENT.**

Funding Agency: Asian Development Bank -FSP/PNG was the local partner for Agrodev and covered the Coastal fisheries component. David Vosseler through FSP/PNG was the consultant responsible for the Coastal Fisheries component of this Consultancy. The MERMAID(Marine Economic Resource Management Approaches to Integrated Development) Program was developed through this Consultancy. This Consultancy was designed to do the following:

### **Objectives:**

- An evaluation of ongoing and past developments, and review studies and management systems involving fisheries and coastal resource utilization highlighting the lessons learned from past development activities. Analysis of the existing policies, development objectives, and incentives for domestic and foreign investment and formulation of a medium-term program based on the analysis for specific set of development strategies to meet the potential economic growth of the sector. This analysis for the coastal areas will involve participation of counterparts from each of the 14 concerned coastal provinces and the national agencies.
- Based on feasible investments, formulation of an overall development program to include policy and institutional realignment and financial arrangements required to assure sustainable development of coastal fisheries and other coastal resources that can be implemented in the medium term to increase the economic benefits to the people and the country.

**Project Status:** Consultancy finished in 1991.

## **10.3 USAID PROFITABLE ENVIRONMENTAL PROTECTION (PEP) PROGRAM**

FSP/PNG carried out an initial Consultancy research to support USAID's proposal to encourage the development of environmentally sound, small-scale enterprises that provide income-generating opportunities to landowners. The PEP program recognizes the need to find a balance between sustainable development for landowners and preserving areas of high biodiversity or conservation value.

### **Objectives:**

- Survey of NGO and donor organizations in PNG and their activities relevant to PEP.
- Preliminary identification of potential PEP projects to examine in a Collection and analysis of data on the environment, economy, legal , and government systems of Papua New Guinea relevant Project Identification Document.

**Consultancy Status:** USAID approved program funding, Program started in 1992 under FSPUSA management.

FOUNDATION OF THE PEOPLES OF THE SOUTH PACIFIC, PAPUA NEW GUINEA, INC.

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ACT	Awareness Community Theatre
AFSP	Australian Foundation for the Peoples of the South Pacific. Inc.
AIDAB	Australian International Development Assistance Bureau
AIDS	Auto Immune Deficiency Syndrome
AMB	Area Management Body(MERMAID Program)
APACE	Appropriate Technology and Community Environment
ATDI	Appropriate Technology Development Institute
BEST	Business Enterprise Support Team
CCJPD	Catholic Commission for Justice, Peace, and Development
CEBEMO	Catholic Organization for Development Co-operation The Netherlands (english translation)
CHW	Community Health Worker(s)
CI	Conservation International
CITES	Convention on the International Trade in Endangered Species
CODEL	Co-operation in Development
CRA	Conzinc Rio-Tinto Australia
DEC	Department of Environment and Conservation
DED	Department of Energy Development
DFP	Department of Finance and Planning
DOH	Department of Health
EAC	Ecoforestry Action Committee
EC	European Community
EcoMA	Ecotimber Monitoring Agency
EcoSA	Ecotimba Somila's Association
EESTRU	Economically Ecologically & Socially Sustainable Tropical Rainforest Use
ETC	Ecological Trading Company
FARM	Farming Areas Resource Management
FAO	Food and Agriculture Organization
FCC	Flora Conservation Committee
FCP	Flora Conservation Project
FRI	Forest Research Institute
FSC	Forest Stewardship Council
FSP	The Foundation for the Peoples of the South Pacific, Inc.(FSPUSA)
FSP/PNG	Foundation of the Peoples of the South Pacific, PNG Inc.
FSPI	Foundation of the Peoples of the South Pacific International Inc.
GEF	Global Environment Facility
GO	Government
GOPNG	Government of Papua New Guinea
GROW	Grassroots Opportunities for Work
ICAD	Integrated Conservation And Development
IIED	International Institute for Environment and Development
IMCC	Interamerican Management Consulting Corporation
ITTO	International Tropical Timber Organization
LEAD	Literacy Education and Awareness Development (Program)
MARC	Market Access for Regional Competitiveness
MCC	Melanesian Council of Churches
MCH	Maternal Child Health
MERMAID	Marine Economic Resource Management Approaches to Integrated Development
NANGO	National Alliance of Non Government Organizations
NCD	National Capital District
NCDIC	National Capital District Interim Commission
NFA	National Forest Authority
NFCAP	National Forest and Conservation Action Program
NFS	National Forest Service
NGO	Non Government Organization

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NVS	National Volunteer Service
ODA	Overseas Development Assistance(UK)
OIC	Officer-In-Charge
OIDA	Office of International Development Assistance
PAWARA	Pawa & Wara(Power & Water)
PEP	Profitable Environmental Protection
PFO	Provincial Forestry Officer
PMD	Program Management Division(Ecotimber Program)
PMU	Program Management Unit(MERMAID Program)
PNG Trust	Papua New Guinea Integral Human Development Trust
PS	Portable Sawmill
RAN	Rainforest Action Network
RAPO	Rural Aid Post Orderly(ies)
RCFPNG	Research and Conservation Foundation Papua New Guinea(RCF)
RIC	Rainforest Information Center
SPATF	South Pacific Appropriate Technology Foundation
SPREP	South Pacific Regional Environment Program
STD	Sexually Transmitted Disease
THEC	Theatre Health Education Committee
TST	Technical Support Team(UNDP/World Bank)
TSP	Technical Support Program(UNDP/World Bank)
TU	Training Unit(MERMAID Program)
UNDP	United Nations Development Program
UNESCO	United Nations Education, Science & Cultural Organization
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
UNITECH	University of Technology(Lae)
UPNG	University of Papua New Guinea
USAID	United States Agency for International Development
VDT	Village Development Trust
WACC	World Association for Christian Communication
WCI	Wildlife Conservation International
WEI	Wau Ecology Institute
WHO	World Health Organization
WID	Women In Development
WMA	Wildlife Management Area
WS	Wokabaut Somil
WWF(I)	World Wide Fund for Nature(International)

YEAR	PROJECT	DONOR	AMOUNT	TERM	REMARKS
1992	Social audit	Greenpeace	10000	6 months	Will start after Sawmill surv
1992	Ecoforestry programme	MacArthur Foundation	120000	3 years	Beginning May 1992
1993	Nationwide Portable sawmill Survey	PNG Forest Authority	153000	12 months	Report being finalized
1993	Woodlark Is Ecoenterprise Survey	ODA British High Com	17156.68	3 months	Completed
1993	Forest Stewardship Council Country Study	FSC International, USA	13370	6 months	Completed
1993	Nontimber Forest products database	AIDAB	70020	12 months	Ends September 1994
1993	IMCC Strengthening Forest Based enterpris	USAID	5000		
1994	Central Province Pilot Ecoforestry	AIDAB	70020	12 months	Ends April 1995
<b>TOTAL US\$</b>			<b>458566.68</b>		

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Wokabaut sawmill - the most enterprising way to earn a living



□ Wokabaut sawmill has become the most enterprising and common way to earn a living in the highlands. Photo: Alphonse Pu.

APPENDIX D:

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# Neville awaits loggers' doomsday

by RUDOLF AYU

PNG LOGGERS have predicted doom for the PNG forestry sector, hoping to gain the government's attention but this has failed and the battle will not stop there.

Despite calls by various resource owners' association for a round-table discussion on the controversial National Forestry Development Guidelines, the Minister for Forests, Tim Neville, has made it clear that he will not be drawn into further discussions.

However, Mr Neville has indicated that he will postpone the implementation date to April 1. But the Forest Resource Owners Association has indicated that it will also postpone its date to shut down logging operation unless the guidelines are reviewed.

Mr Neville said in a statement last month that the new revenue system approved by Cabinet last year will be implemented this month without any changes. A few days before the implementation date, the minister gave the new date as April 1.

However, Mr Neville said in a statement last month that the new revenue system approved by cabinet last year will be implemented this month without any changes.

For the loggers, this announcement will continue the battle which might not stop by the end of the year. Logging crisis was predicted last year by the Forest



□ Tim Neville

Resource Owners Association (FROA), the group formed by various landowner associations from all over PNG.

Outsiders had even predicted that the conflict will not end this year and Mr Neville has not given any sign of backing down from his decision.

The first resource owners who are likely to take immediate actions this month against the minister's decision will be the West New Britain Forest Resource Owners Association (WNBFRFA).

At last year's meeting attended by resources owners from all corners of the country, the WNBFRFA issued a warning call for the complete shut down of the logging operations and this was agreed upon by representatives from other centres.

This year, the FROA has spent a lot of money in media campaigns highlighting the dangers and the likely impact of the new Forestry Guidelines.

In support of this campaign, the WNBFRFA also said that it will close all 20 concession logging operations starting

this month if Mr Neville doesn't come to a round table discussion over the Forestry Guidelines.

"If this attitude continues in the next four weeks, the minister will have to be held responsible for the serious repercussions when all operations cease," the WNBFRFA president, Peter Harold said in a media statement.

"The landowners unanimously demanded for a shut down to all operations. Apart from meetings we have held with leaders and landowners in the New Guinea Island region, we have also had similar consultations with representatives of resource owners from both the Southern and Momase regions," Mr Harold added.

He claimed that the above group have all fully supported the initiative taken by WNBFRFA in this issue.

However, so far, only one group in the Momase region has indicated that it will take similar actions if Mr Neville tries to implement the Forestry Guidelines this month.

Following threatening calls from WNBFRFA for a complete shutdown in logging operations, resource owners group in West Sepik province also indicated their support to close logging activities in the area.

Logging operations in West New Britain alone contributes over one-third of all logging operations in the country, of which Stettin Bay Lumber Company is the largest in the country.

The conflict has already affected the overseas market, according to Forest Industries Association secretary, Jim Belford. He said inconsistencies in government administration has already caused buyers to be cautious about dealing with PNG.

However, the PNG Forest Authority (PNGFA) maintained that the delays in export which were blamed on the government, were caused by the below market pricing charged by loggers.

While dismissing claims that the minister was damaging the industry's reputation and causing delays in shipping PNG logs, the PNGFA said the delay in granting raw log export permits was because the minister has been carefully examining all log export applications.

However, the conflict has taken another twist as an overseas shipping cartel has indicated that it is not too happy with the situation.

It was reported that a Japanese shipping cartel and association of steamship companies has threatened to stop its members' log vessels from calling into PNG if the long delays that their ships encounter continue without improvement.

The cartel, the Nanyozal Freight Agreement, gave notice of its intentions in a letter of complaint to the Japan Lumber Importers' Association about the average demurrage in PNG of over two weeks.

"If this situation continues,

the amount of demurrage is so big, we will be forced to consider stopping vessels sent to Papua New Guinea," the shipping cartel said.

But Mr Neville still sees that the costs were not comparable to the amount of logs PNG has exported in the past years. He therefore stressed downstream processing while also revealing investigations of 'gross anomalies'.

A statement from his office said the findings of the recent investigations had forced the Minister to refuse "a dozen" export applications from logging companies which resulted in an increase in log prices between K5 and K40 per cubic metre.

In 1992, over 97.5 per cent of all log exports from PNG were under the control of foreign owned companies. The export of raw logs is a privilege granted by government licences, according to PNGFA.

Mr Neville also warned logging companies which did not comply with a direction to provide him with plans for "downstream processing" operations must be prepared to "pack up and leave the country."

The PNGFA said the government is prepared to provide a secure timber supply to developers who submit well thought out downstream processing proposals and the industry has been given a deadline of the July 31 to come up with sound feasibility studies, or the government will withdraw existing raw log export privileges.

# : 269 Mon 10 Oct 94 6:18

By: dspratt@peg.UUCP

To: All

Re: TO BE OR NOT TO BE?

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@MSGID: 90:900/901 00002709

@REPLYTO 90:900/901 UUCP

@REPLYADDR dspratt@peg.UUCP

@PID GIGO+ sn 110 at pactok vsn 0.99w32

From: dspratt@peg.UUCP

Date: 09 Oct 94 20:18 AES

@Message-Id: <465667199@dspratt.peg.pegasus.oz.au>

@Sender: Notesfile to Usenet Gateway <notes@peg.apc.org>

\*\*\*\*\*  
From 'FrontLine' newspaper, September 1994  
\*\*\*\*\*

TO BE OR NOT TO BE?

Herb Thompson ponders the question of rainforests in Papua  
New Guinea.

Recently Papua New Guinea (PNG) has drawn much media  
attention; the continuing Bougainville crisis, the  
unconstitutional actions of former Prime Minister Wingti, and  
economic growth 14.5 per cent in 1993. 'This rate of growth,'  
boasted Wingti, 'matched that of the tiger economies of East  
Asia.'

The rapid increase in economic growth was built on a number  
of factors, all resource-based. First, there was a sprint by  
investors in exploration, mining and export of the country's  
natural resources (oil, copper and gold). Second, there was a  
significant rebound in commodity prices important to PNG such as  
coffee and cocoa. And finally, the value of log exports nearly  
tripled. It is this last component of economic growth --  
tropical rainforest log exports -- that must be addressed. The  
simple, unexpurgated fact is that the tropical rainforests of PNG  
are being logged unsustainably. This is true even though other  
resources continue to provide crucial governmental revenues and  
foreign exchange.

Of concern is that the rate of economic growth achieved in 1993  
will definitely collapse in 1994. Estimates range from those of  
the United Nations forecasting growth of less than one per cent,  
to those of the Australian-based Asia/Pacific Economics Group,  
which expects negative growth. The investment boom has slumped;  
expected benefits from new gold-mining ventures such as Lihir  
have been put on hold; foreign reserves are falling rapidly due  
to government borrowings abroad; the budget deficit has ballooned

BEST AVAILABLE COPY

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from one per cent to six per cent of GDP between 1989 and 1993; and most enterprises in the country are operating at less than three-quarters capacity, with little expectation for growth during the rest of this century. Of most concern is that these circumstances will necessarily lead to a short-run development/growth strategy to increase the export of rainforest logs rather than to stop the depletion of this important national resource.

According to PNG Forest Authority records, logs valued at more than \$A600 million were exported in 1993 with only \$A8.5 million paid out as a premium to landowners. The 1993 value amounts to an increase of \$A400 million over 1992, largely reflecting an increase in international prices for round South Sea logs. The average price per log shipped (FOB), increased from \$A100 in January 1992 to \$A300 in July 1993. The volume of logs cut increased from 2 million cubic metres in 1992 to 2.7 million cubic metres in 1993. Sixty per cent of these round logs were sent to Japan and the remainder to Korea, Taiwan, Hong Kong, India, Thailand, China, Philippines and Malaysia. Many of the logs shipped to other countries were trans-shipped to Japan, following manipulation of prices on route. Manipulation of prices by shippers occurs to maximize profits in those countries with the lowest rate of company taxes, and viceversa.

There are two points at issue. First, no member of any organization, from the Individual and Community Right Advocacy Forum in PNG (a non-government organization) to the World Bank, would argue that the present level of logging is sustainable. The PNG National Research Institute estimates a sustainable harvest of tropical wood would exist with a maximum cut of about 800,000 cubic metres annually. Second, since royalties and premiums are fixed agreements set on a per log basis, most of the PNG landowners have gained nothing from the 200 per cent increase in export value. Valuable potential benefits for future generations are being lost as the rainforest disappears. This loss continues even though the present generation of Papua New Guineans are gaining a dribble of benefits for what is arguably one of the world's most important and increasingly scarce resources.

In 1990 the World Bank carried out a Tropical Forestry Action Plan Review. Of what was noted to be unsustainable logging practices, it was stated that: (1) by the year 2000 AD, the consequences of not reducing rates of deforestation throughout the world will be severe; (2) half of the developing world will have no fuelwood; forest dwellers and their cultures will disappear; 10 to 20 per cent of the earth's plant and animal species will have become extinct; there will be widespread degradation of watersheds, increasing the potential of 'natural disasters'; soil degradation will increase with consequent land and food losses; and the potential economic benefits to the

people of poor countries will have been lost for generations.

This World Bank Report found that very little had changed since the inauguration in 1987 of the judicial Commission of Inquiry into Aspects of the Forestry Industry. The chair of this commission, Judge Thomas Barnett, reported widespread malfeasance, widespread environmental and social damage, and a lack of proper economic returns either to the state or landowners. During the course of the inquiry there was an assassination attempt on Judge Barnett during which he was stabbed. With one eye on economic growth and the other on the valuable resource base, members of the government have been slow to respond. Other than heaps of paper work, which itself must have used up a good chunk of rainforest, little change can be noted.

In May 1994, the new Forests Minister Tim Neville announced a wide range of measures including strict quotas on log exports, increases in royalty payments and a full review of every timber operation in the country (none of which can be enforced). Since the announcement, police are investigating two attempts to shoot the minister, and press rumours indicate that he has a \$50,000 price on his head.

During the same month the company Dominance Resources, which is harvesting logs on New Hanover Island, New Ireland Province, was accused of having not have paid any money into a trust account for the landowners in spite of an agreement and court order to do so. Since the court order the company has made at least six shipments worth several million dollars in export earnings.

In June of this year an arsonist attack burned out the interior of the Forestry Department headquarters. An independent fire investigator brought from Australia determined that the fire had begun in several areas of the building at the same time. The fire destroyed tens of thousands of documents, plans, maps and records. It is estimated they will take years to replace at a cost of \$A30 million. That means that a forestry inventory is presently non-existent. This, according to the general manager of the Department, Conrad Smith, will disrupt their ability to manage the forests on a long-term basis.

Finally, in July it was reported in the 'Times of PNG' that two villages in the Gulf Province, Petoe and Uaripi, are threatening violence if court action does not go their way. The Chinese logging company, Shinshei Enterprise, is allegedly destroying their communities by using a government road to transport the logs through the middle of their villages. Villagers say the trucks are operated recklessly, threatening their lives and property. They want the road rerouted. The managing director of the company argued that it is a matter between the company and

the government and he has all the necessary permits. Shinshei has offered to help relocate the villages by providing building materials!

Without conflict, the nexus between economic growth and environmental destruction is difficult to break.

\*\* Herb Thompson teaches economics at Murdoch University.

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FRONTLINE newspaper is published monthly in Melbourne, Australia by a number of trade unions, with support from community organisations, and is distributed free of charge throughout the labour movement and through community groups.  
FRONTLINE  
71 Cromwell St, Collingwood 3066 Australia  
\* Tel 613 - 419 000 \* Fax 613 - 416 1303  
\* email peg:dspratt  
\* Subscriptions \$A10 for ten issues, to above address.  
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\* Origin: Pactok: (90:900/901)  
SEEN-BY: 612/100 675/100 677/100 678/100 101 104 105 106 107 108 109 679/100  
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## APPENDIX E:

### S.I.D.T. ECOFORESTRY PROGRAM

#### **Objectives**

- To develop the technical and administrative capacity within SIDT to establish and maintain a program of activities in support of Solomon Island landowners who wish to engage in the sustainable exploitation of their timber and other forest resources;
- To work with other agencies and NGOs to establish and support projects and programs that contribute to the building of institutional and infrastructural capacity to support an environmentally sound timber industry.

#### **Background**

The Solomon Islands Development Trust has been working in environment and development education with villagers throughout the Solomons for more than a decade.

#### **Capacity Building**

Currently, SIDT lacks any established technical expertise in forestry practice. The Conservation In Development program, established in 1992, has been developing some projects for the sustainable utilisation of non-timber forest products within landowner conservation areas, but has stopped short of promoting timber harvest within their pilot project area. The new Ecoforestry Unit proposed here would establish in-house technical expertise in sustainable forest management and in the education and training of landowners in issues relating to the exploitation of forest resources. The activities of this unit could soon extend to providing advice and possibly financial services to landowners embarking on projects to sustainably harvest timber and other resources from their forests. The unit will also be in a position to collaborate with other agencies to establish projects which will contribute to an overall strategy for the sustainable production and marketing of the high value timber resources of the Solomon Islands. Such an "eco-timber" export industry will require several co-ordinated infrastructural components which will need to be established over the next few years. One of the first requirements is in the education and training of those landowners taking up small scale timber milling on their own land, in the principles and practice of sustainable forest management. Hence it is proposed that an initial project be co-ordinated by the Ecoforestry Unit, immediately following the recruitment of staff, to establish an ecoforestry training program at the Komuniboli Rural Training Centre.

#### **Establishment of the Ecoforestry Unit**

The establishment phase for the new unit will entail the employment of two new staff at SIDT. These will be an Administrative Officer and a Forester. These staff will require office

space and equipment, and some training is likely to be necessary in specific skills as well as in SIDT institutional culture. During the initial months, the staff will be expected to establish contact and relationships with key individuals and institutions active in forestry and natural resources education, as well as with other SIDT programs and NGOs. An information resource base will be established representing existing knowledge and case histories in sustainable forest management, as well as detailed information on non-sustainable forestry in the Solomon Islands and the rest of Melanesia.

From the outset, the new staff will also be expected to vigorously pursue the establishment of the Komuniboli RTC Ecoforestry Training Program.

### An Initial Project: Sustainable Forestry Training in Solomon Islands

#### Project Objectives

To develop a working program of sustainable forestry training in conjunction with a local NGO training centre currently specialising in chainsaw milling training in the Solomon Islands. The community in which the training centre is based will work with the SIDT Forester and an Ecoforestry Advisor, initially through a process of establishing a sustainable forestry management system for their own resources. From this experience they, with technical assistance from an educationalist, will develop and test a residential training course in Sustainable Forest Management, which will thereafter become integrated with the centre's technical training course in chainsaw timber milling.

#### Background and Justification

Chainsaw and wokaboat sawmilling has been gaining popularity with local landowners throughout Melanesia for at least a decade. The attractions for local people are control over the utilisation of their own resources, meaningful occupation in the money economy, availability of sawn timber for their own use, and income from sales of timber. The proliferation of chainsaw and other portable sawmills has been fuelled by external agencies wishing to support alternatives to large scale industrial logging of the region's rain forests. Very large numbers of chainsaw mills have been, and continue to be, sold in the Solomons.

The impact of chainsaw milling at a local level varies, particularly with proximity to ready markets for timber. The infrastructure to support market access from more remote areas is being put in place by local businesses keen to supply the demand for timber locally and from an increasing number of overseas companies looking for supplies of "sustainable" timber. Many of these operators are prepared to equate "sustainable" with "cut by landowners or with a portable mill" for marketing purposes. The demand for training in the use of chainsaw mills in the Solomons is at an all time high as donors financing mills require some training to

be completed by recipients, and local people want to learn the skills that may bring them cash employment.

The leading trainer in chainsaw milling in the Solomons is the Komuniboli Rural Training Centre (RTC), based in East Guadalcanal. Teams from Komuniboli train groups of new chainsaw owners at their training centre, and at many other of the 24 RTCs throughout the Solomons. The principal of Komuniboli RTC, Sosimo Kuki, has been concerned for some years that he and his people do not have the knowledge to manage their own forest remnant for sustainability, and further, that they cannot offer what he sees as essential guidance in this regard to the trainees taking up timber milling. Attempts have been made in the past to address this need, notably by the Rainforest Information Centre-FSP program for sustainable forestry. This program produced a simplified guide to forest management which gave a set of rules to follow for sustainability. It seems that not enough training accompanied this approach to allow the Komuniboli people to understand and implement the system.

Further work has been carried out at Komuniboli by the SIDT Conservation In Development (CID) program. Two workshops of several days duration were conducted during 1993 involving Provincial forestry staff and SIDT people. Aspects covered included basic concepts in sustainability and forest ecology, the formulation of principles and goals for the community's projects, concepts and practical skills training in forest inventory, timber volume estimation and efficiency calculations, costs estimation, and pricing.

These workshops made an impression on both the Komuniboli group and members of the wider community who attended. However, we believe that for effective retention and utilisation of information and training, a longer term approach must be adopted. Low literacy levels contribute to difficulties as material must be reiterated and presented from different points of view before it is properly understood and retained. Another major factor in the viability of sustainable forestry is the institutional capacity of the community to sustain the disciplines necessary to co-ordinate and control individual behaviour within the group. In times of rapid change to lifestyles, with individuals moving into the money economy, this is extremely difficult for communities. We believe that support is required for structural stabilisation of many communities before sustainable resource utilisation is possible.

The requirements of the Komuniboli RTC for support and training are beyond the capacity and the operational brief of the CID program. Sosimo Kuki believes that sustainable forestry management training of villagers will require a three month residential course to be developed by his centre. This would include the three weeks of technical training in saw mill operation given in current courses. Discussions with Sosimo Kuki, FSP forester Steve Wyatt, and the New Zealand NGO Volunteer Service Abroad (VSA) has yielded the following draft proposal.

## Project Activities

- 1 Review and study existing sustainable forestry programs, small scale milling operations, and training methods throughout Melanesia.
- 2 In conjunction with the Komumiboli RTC, formulate an approach to sustainable forestry within the context of chainsaw milling operations.
- 3 Work closely and continuously with the Komumiboli community to restructure and stabilise their community institutional framework in a form that is capable of implementing sustainable forestry management.
- 4 Train community members in sustainable forestry concepts and operations, and assist them in the planning and implementation of a management program for their forest.
- 5 Work with staff of the Komumiboli RTC to develop an extended residential training course, to enable the Centre to provide training and support for other communities and individuals in sustainable forest management, and train KRTC staff to effectively teach the course.
- 6 Trial and evaluate the training course through at least two full iterations before the production of printed documentation of the programmed lessons. Extend the evaluation of the course to the monitoring of resulting forestry activity initiated by trainees.
- 7 Extend and communicate the methods developed, and the knowledge and experience gained at Komumiboli throughout Melanesia, working with groups such as FSP Vanuatu and Village Development Trust in PNG.

## Personnel

Ecoforestry Advisor: It is proposed that AVA and VSA are asked to recruit a professional forester, possibly a recent graduate with a strong interest in sustainability and environment issues. This person would be employed under the standard conditions for volunteers, and this will require candidates to be committed as financial rewards are considerably below professional levels.

The Forestry Advisor would initially tour PNG, Solomon Islands, and Vanuatu, and possibly Fiji, to conduct the review of the sector outlined in Activity 1 above. They would thereafter be based at Komumiboli and/or Honiara with the objective of working closely with Komumiboli RTC on activities 2 to 5 above. This phase is expected to take from six to twelve months, and could involve assistance from short term consultants, and involvement of Government forestry officers. Following this, activity six will take the Advisor to other

training sites in Melanesia to communicate experiences and help with establishment of similar programs.

### Administration and Support

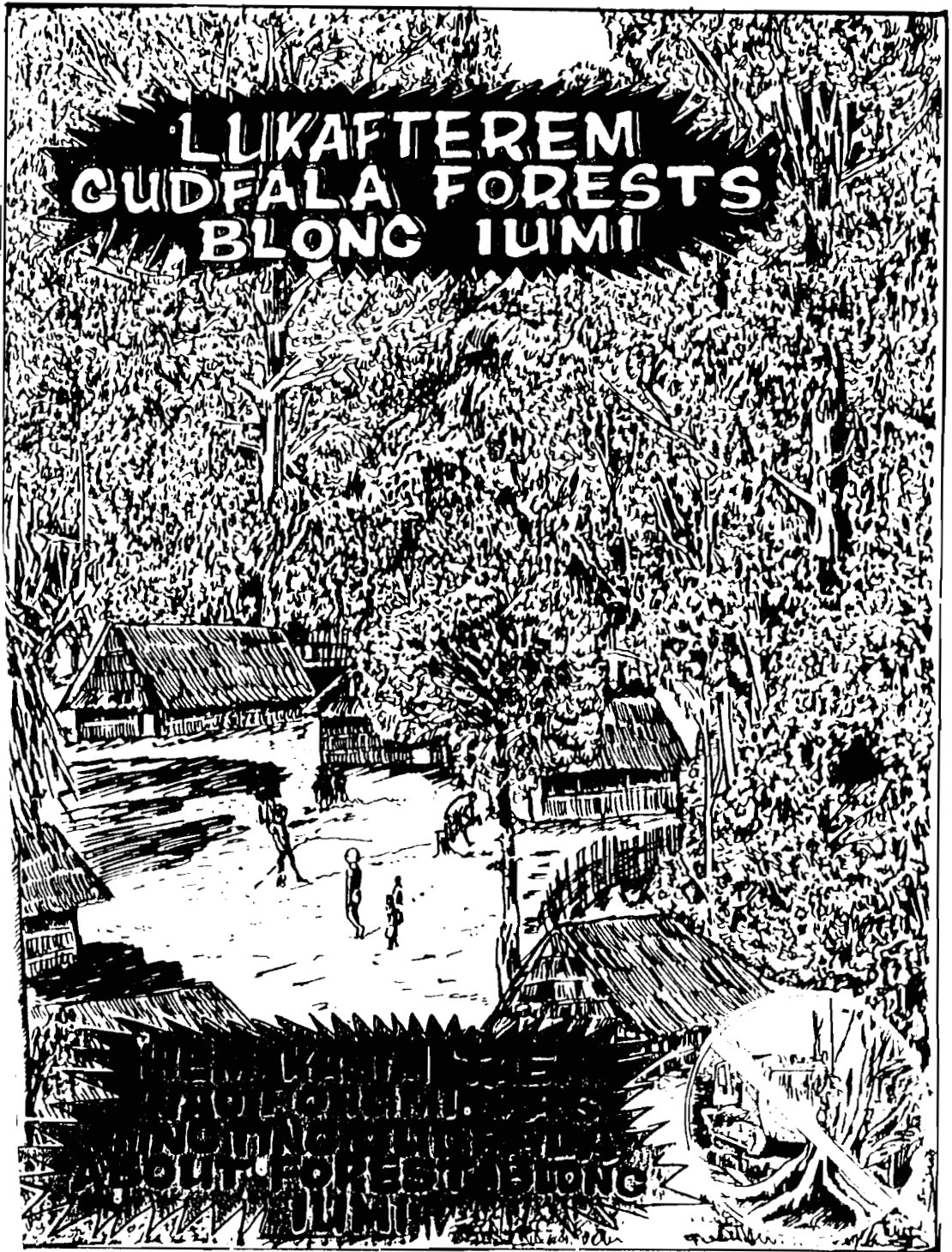
The SIDT Ecoforestry Unit will provide logistical and administrative support, including facilities for the Advisor for report writing and telecommunications, travel arrangements, and materials supply. Full financial accounting and reporting for the project will be carried out by the Ecoforestry Unit AO supported by other SIDT administrative staff. Monthly written reports from all project staff will be submitted to the AO who will prepare quarterly project and Unit reports for SIDT management and funders.

### Expected Outcomes

The major objective of the project is to establish a viable on-going training program in sustainable forest management with the major training institution providing chainsaw milling training in the Solomon Islands. This objective is expected to be achieved within the two year life of the proposed project. Additional benefits expected from this project include assistance to regional efforts to establish village based sustainable forest management through consultation and sharing experiences during the development work, and through the direct participation of the Forestry Advisor in other programs in Melanesia immediately following the completion of the Solomon Islands objectives. Training materials will also be produced by the project which will be directly applicable at other sites in the region, and comprehensive workbook will be published detailing the full experience of the Advisor and the views of the participating people and agencies regarding the project.



APPENDIX F:



This booklet was produced in March 1993 by the Solomon Islands Development Trust. It is a pijin translation of parts of the text of the report **A Protected Forest System for the Solomon Islands** produced by the Maruia Society from New Zealand. The report publishes the results of a national forests survey carried out in 1990, which was funded by the Australian National Parks and Wildlife Service. The survey was supported by the International Council for Bird Preservation, Solomon Islands Development Trust, Conservation International, and the Maruia Society. Copies of the report and further copies of this booklet can be obtained from:

**Conservation In Development Programme  
Solomon Islands Development Trust  
PO Box 147  
HONIARA**

## INTRODAKSON

Forest long Solomon Aelans hemi helpem pipol long olketa aelan ia fo plande taosen iia long saed long kaikai, kaleko, haos, kanu an meresin. Olketa tri i holem graon strong, kipim wata klia, an kipim olketa rif helti tumas. Forest hem helpem kalsa blong pipol grou, an hem protektem tambu ples.

Bat tudei samfala stat fo wari abaot olketa ples ia nao. Forest blong Solomon Aelans hemi stat fo go daon nao. Samfala rison blong diswan hemi olsem: populeisin hem stat fo kamap bikfala, an iumi nidim gaden moa fo fidim olketa pipol. Olketa mekem plandesin moa olsem. Narafala rison forest hem go go daon hemi disfala login wea olketa ovasis kambani olketa duim, and taem olketa no keaful, wea olketa iusim senso for login, hemi olsem tu.

Disfala smol buk hemi garem samfala toktok long pijin wea hemi stap long wanfala ripot, nem blong hem: "A Protected Forest System for the Solomon Islands". Ripot hem blong sevei wea Maruia Sosacti blong Niu Zilan, weitem Solomon Islands Development Trust an International Council for Bird Preservation olketa duim long 1990 long Solomon Aelans.

Sevei ia hem luk luk long wei fo lukaftarem samfala eria fo no spoelem long login, katem timba o mekem gaden, bat livim fo fiusa blong pipol blong Solomon Aelans. Ripot hemi askem Gavman blong Solomon Aelans an olketa ovasis kandre fo helpem lan-ona wea olketa wiling fo no spoelem forest blong olketa. Forest hem barava impoten samting long Solomon Aelans an hem no let tumas iet, iumi stil garem sans fo seivem.

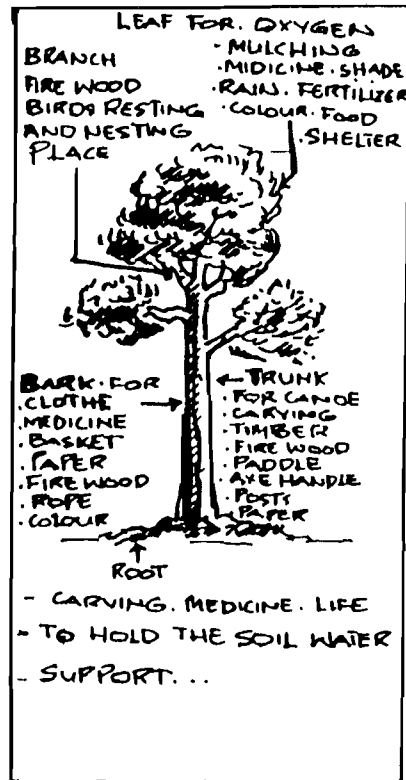
## FOREST AN KASTOM

Forest hem garem plande deferen wei fo helpem pipol long Solomon Aelan long laef wea olketa stap long hem evri dei. Hem givim kaikai long olketa weitem samfala samting fo wakem haos, kanu, an meresin, weitem samfala samting wea iu save tingim.

Hem helpem graon fo stap strong an hem kipim olketa wata an olketa ravis samting wea hem stat kam long bus.

Forest hem kipim gudfala olketa tambu ples, wea olketa mak melewan bus wea pipol i onam. Forest hemi kipim tu memori blong olketa kam bifo, olsem iumi save herem long kastom stori.

Plande taosen iia nao evri samting long bus i helpem pipol blong Solomon Aelan fo kamap gudfala. Hao man hemi stap weitem forest, hem somaot gud tingting blong hem long wei wea hem lukaotem gudfala, weitem samfala deferen samting an samfala samting long bus wea hem save iusim.



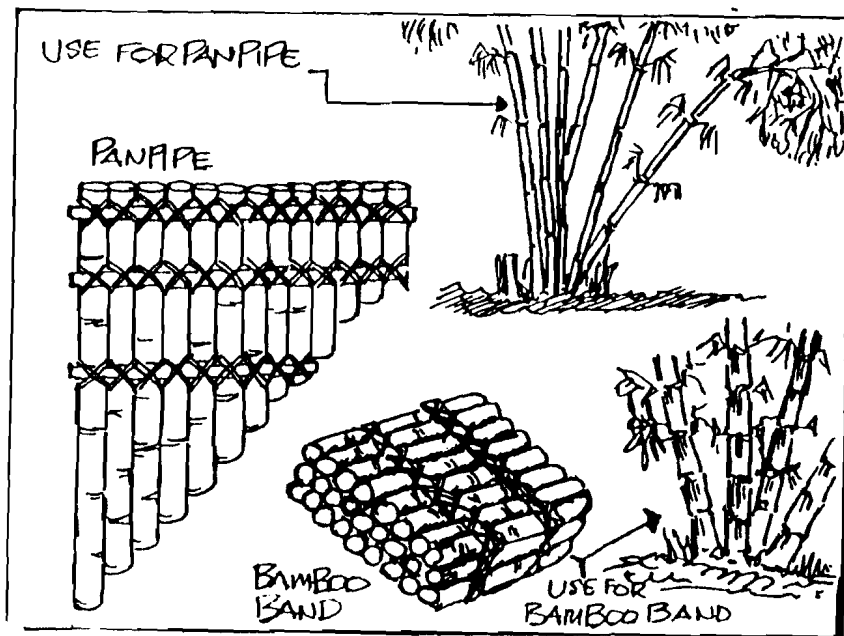
## FOREST HEM RISOSIS

Olketa man wea save raetem disfala ripot, olketa faende-maot olsem wan handred an naentin (119) deferen kaen lokol tri nao hem gud fo givim kaikai long pipol long Solomon,

wea olketa stap long olketa vilij. Siksti fo (64) deferen kaen tri wea hem save helpem pipol long saed long agrikalsa. Tri hundred an tetin (313) tri nao hem gud fo mekem timba, fiul, weitem ples fo rest an fo samfala samting fo iusim long kastom olsem fo wakem kaving.

**Samfala samting moa olsem:**

Sosa fo putem kaikai insaet,  
 Spia weitem basket an mat,  
 Samting pikinini save plei weitem,  
 Lif fo korongisim kaikai,  
 Handol blong tul o brum,  
 Oela wea hemi smel gudfala,  
 Meresin fo poesinim fis,  
 Meresin fo kilim smol ans,  
 Glu for kanu,  
 Kandol, an dac fo mekem kaleko luk gudfala,  
 Samting fo pleim musik, olsem bambu.



Wan hundred an foti tri (143) deferen kaen tri nao olketa pipol long vilij faendemaot wea olketa save iusim fo kiurem sikinis, olsem: leprosi, kof, poesin long baet blong snek, bon wea hemi brek, olketa boela weitem man wea hemi no toalet gud, maleria, olketa worm, an kaen sik wea spit save kamaot long maos blong man.

Forest, olketa iusim tumas tu fo hantem pigpig, olketa posum an olketa bed weitem samfala kaen samting wea hemi save givim gud kaikai long olketa pipol long vilij. Fo adem go moa weitem olketa, lan-ona i iusim risos blong forest olsem wanfala samting blong olketa, fo faendem seleni long diskaen wei wea olketa selem timba blong olketa go long ovasis kambani, o katem an smutim tri seleva weitem woka-baot soamil or senso. Samfala iusim stik fo mekem kaving, mekem fanitsa, kanu, an olketa sip foa selem.

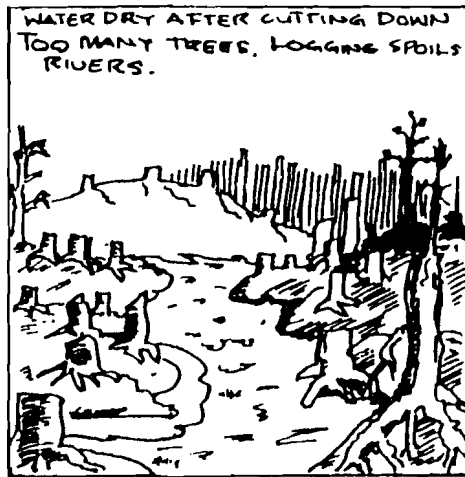
Samfala taem, olketa pipol i mekem nomoa olketa samting wea olketa save selem. Olketa samting ia nao hem olsem: ngali nat, olketa pisin, olketa pigpig weitem fis long wata. Olketa forest weitem olketa rif, i helpem tumas plande



pipol iung Solomon Aelan, bikos long olketa samting ia nao, pipol save garem seleni fo mitim nids blong olketa, olsem fo peim skul fi weitem saet long medikol an sios, weitem transport an olketa samting wea olketa lackem long stoa.

## FOREST AN GRAON

Forest hemi duim wanfala bikfala waka wea hemi lukaftarem graon an helpem pipol blong iumi long Solomon, long evri samting olketa lackem. Forest hemi lukaftarem an holem strong graon fo hem no roladaon long wata, taem wata hemi ran.



Olketa pipol long Ruavatu i ripotem samfala smol wata blong olketa i draeap taem olketa katem aot olketa tri long saet wata. Taem rut blong tri hem kasem graon, hemi save tekem kam wata wea i stap insaet graon antap long graon. Sapos iu katem olketa tri long saet wata blong iu i finis, baebae no eni wata save stap moa. Wata blong iu save drac-ap nomoa, bikos olketa tri wea i stap givim shed long wata i dae finis, so no eni wata bae i stap moa nao. Sapos forest hemi no help fo lukaftarem graon, baebae graon hemi nogud go moa, winim wei wea hem save helpem man long olketa samting fo hem iusim.

Olketa pipol long Makira i faendemaot olketa samting wea olketa plandem long gaden, hemi go-go daon bihaen olketa pipol i katem daon bus wea hemi stap raonem.

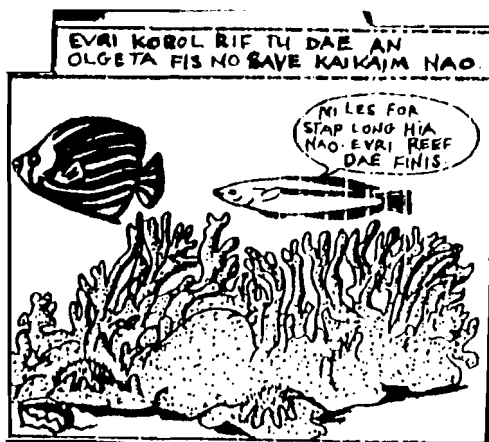
# FOREST WEITEM OLKETA RIF

Saentis i lukluk long olketa narafala kandre, i som olsem diskaen wei wea olketa save spoelem

graon an katem olketa tri hemi wanfala no gudfala wei, wea hem save spoelem olketa laef blong narafala samting wea olketa stap long sem ples.

Olketa korol nao i holem botom rif. Taem olketa i dae, plande long olketa narafala animol wea olketa save kam o save kaikai long olketa korol, bae dae tu. Diskaen hemi save katemdaon olketa gudfala samting wea i stap long rif, an go-go evriwan olketa save finis.

Hemi save tekem plande iia fo olketa samting wea hem no gud fo gud baek moa, an olketa bikfala samting insaet rif save tekem samfala iia moa winim laef blong man fo olketa save kamap moa. Bihaen wanfala raf si hemi spoelem olketa korol rif long Gret Beria Rif (long Ostreilia) hem tekem toti faef (35) iia fo olketa samting wea hem no gud fo grou baek moa. Hem luk olsem olketa samting wea hem no gud insaed korol rif save stap fo wanfala genereisin fo grou baek moa.



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## MANGGURU FOREST

Olketa mangguru tri i duim wanfala bik waka tu, long diskaen wei wea ravis hemi no save kam kolsap long soa an olketa save satem win an raf si fo no spoelem olketa soa. Olketa mangguru save holemap enikaen ravis wea hemi kam from graon.

Wanfala gudfala samting abaotem mangguru tri, hem gar-em gudfala timba fo wakem haos, weitem olketa faca wud, weitem meresin fo wakem kala. Iumi save wakem kaikai tu long olketa frut blong mangguru tri. Diskaen kaikai olsem koa.

Enikaen smol fis nomoa save kaikai melewan long rut blong olketa tri. Bihaen taem olketa grou bikfala, olketa jes muv go insaet dip si, olketa krab an selfis save stap tu melewan long olketa mangguru tri.



Olketa stadi wea i go-gohed long olketa narafala kandre hem som olsem siksti (60) go kasem eiti (80) presen deferen kaen smolfala an bikfala fis save iusim olketa samting wea i stap long mangguru, wea hemi save go falom samfala pat long wei wea olketa lukaftarem smol mamu wea olketa save iusim fising fo bonito. Bonito hemi bikfala samting blong Solomon Aelan long saed long seleni.

Long olketa taem i go finis pipol save katem olketa manguru tri long gudfala wei an diswan hem no spoelem, bat samfala ples long Saot Ist Eisia, olketa barava spoelem nao long diskaen wei wea olketa katemaot evri tri long manguru.

## HAO FO LUKAFTAREM RISOSIS

Olketa pipol i stap long vilij i duim finis samfala wei fo lukaftarem gudfala olketa risosis, an hao fo tekem olketa risosis.

Samfala wei nao olsem: Pipol long vilij save mekem tambu long olketa ples fo lising an olketa ta save stopem olketa deferen pipol fo no iusim olketa tambu ples, an olketa animol blong olketa.



Santaem hem had tumas fo lan-ona fo kontrolem lan blong hem an saet blong kastom, bikos saet blong seleni hem go goap tumas nao, so olketa lan-ona i faendem hat lelebet fo tekem seleni. Lan-ona hem stat fo selem olketa tri blong hem fo timba, fo lelebet inkam fo helpem nid blong hem.

Olsem tudei, iumi pipol long Solomon Aelan mas lukluk gud long saet blong kastom an lan blong iumi: hao fo iusim olketa risosis blong iumi an kipim tu lan an si blong iumi. Olketa niufala wei wea iumi garem distaem fo waka, i barava mekem olketa kastom wei fo kontrol hemi go daon. Kaen wei olsem, gan fo sutim bed, daeving long naet fo toetel, an senso fo katem timba.

Eksampol wea olketa no iusim gud risosis blong olketa, iumi save lukim long Malaita. Iumi save gud nao long samfala pipol long Langalanga, long wei wea olketa save gud long fising an hao fo wakem sip. Olketa pipol long Langalanga stat fo iusim ravis timba fo kanu. Staka naes timba olsem arakoko, baulo, and dalo, hem go finis. Distaem olketa wakem kanu long dafo, fai, o alita. Olketa timba ia, hem soft an hem save mekem staka wata fo kam insaed an hem isi fo sun hem brekem. Olketa forest raonem Langalanga distaem olketa tanem long bik planteison nao, an login, an gaden



tu. Olketa no plenem gudfala falom nid blong man onam lan.

Long Ngatokae an long Not Malaita, olketa nating lukaftarem gud nomoa forest risosis blong olketa. Diskaen wei olketa mas meksua long fiusa genereisin blong Solomon Aelan save iusim olketa gud samting long lan blong olketa

an risosis blong olketa. Barava niufala wei fo kontrolem risosis long Solomon Aelan nao, baebac hemi kamaot an ademap go moa long olketa gudfala aedia blong kastom iumi garem distaem, an hemi no diskaen wei wea iumi putem olketa niufala wei fo go wantaem.

Dis kaen SASTEINABEL DEVELOPMEN long risosis hem olsem: sapos olketa garem bik eria long forest. Olketa mas tingting gud hao fo iusim. Sapos olketa katem evri tri distaem, bac olketa no garem eni tri fo iusim long fiusa, bikos tri hem tekem taem fo grou back. Wan gudfala wei fo iusim forest blong iu, hem olsem. Katem tri long lelebet eria



nomoa, fo hem save grou bihaen. Taem iu katem olketa tri go kasem baek long sem eria, bae iu save iusim baek moa bikos dat taem bae olketa tri ia hem bik nao. Long dat wei, hem seivem seleni an hem seivem fo nid blong famili. Bihaen taem iu dae, olketa pikinini blong iu, save iusim forest behaen. Long dat wei bae hem seivem laef blong forest an nid

blong pipol insaed long vilij.

Forest hemi som weitem plande laef samting wea hemi stap raon long hem olsem olketa wata, olketa gaden an rif. Forest hemi wanfala samting wea hemi stap an laef seleva - wanfala EKO-SISTEM. Insaet EKO-SISTEM hem garem olketa plant weitem animol wea i stap tugeta long wanfala eria, weitem olketa samting wea i no garem laef. Olketa samting, olsem ston wea forest hemi grou ovarem, weitem graon an klaemet. Wanfala eksampol long diswan iumi save lukim long wei wea olketa bed i stap tugeta weitem olketa tri, an evriwan i stap nomoa long sem forest- hemi minim EKO-SISTEM.

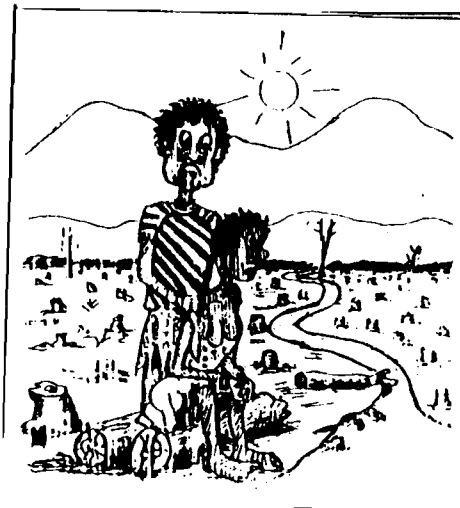
Samfala bed i duim bikfala waka fo spredem olketa sid blong tri long olketa deferen ples insaed long forest, olsem wei wea hemi isi fo groum tri long forest blong iumi. Stadi long Rennell blong Docta Jared Diamond hemi som olsem wan hundred an siks (106) deferen kaen plant nao hemi faendem. Eiti fala (80) long olketa sid ia olketa bed nao i spredem, an olketa flaen fokis i spredem fotin fala (14). Hem barava klia fo gud, olsem olketa bed nao i pleim wanfala big pat long wei wea olketa stap tugeta weitem forest. Sapos

olketa bed i no stap, bacbae olketa tri iumi iusim fo timba, bae i no plande tu.

## TIMBA HAVESTING

Login hemi wanfala wei wea hem katem daon namba blong olketa tri insaet long forest. Plande long olketa lan-ona i laekem login fo gohed long lan blong olketa, bikos olketa laekem developmen weitem samfala seleni. Login hem wanfala gud samting sapos olketa iusim olketa tri long gudfala wei wea hemi save helpem olketa lanona an kandre. Plande nogud samting nao save hapen long lan, bihaen olketa i bin katem olketa tri insaet long forest risosis blong olketa. Bae hemi tekem staka taem moa fo olketa smol tri fo grou back an olsem wata insaet long forest bae i drae, an olsem olketa smolfala animol insaet forest bae i dae tu from olketa i spoelem ples blong olketa insaet long forest, an olsem tu EKO-SISTEM i distroe finis.

Diskaen wei iumi katem plande long olketa log nao hemi wanfala problem wea hemi kosim olketa forest fo go-go daon. Hemi luk olsem hem wanfala pat long developmen, wea iumi iusim nomoa fo tekem seleni. Distacem lelebet long olketa



wei fo kontrolem login nomoa i stap. Olketa i bin spoelem finis nao plande samting long lan from katem log. Long naetin eiti eit (1988) Anul Ripot blong For-estri Divison hemi sei: insaet fifitin (15) iia bac-bae iumi no garem olketa forest, sapos iumi no kontrolem gudfala forest blong iumi.

Solomon Aelan mas no kan lukluk long hem seleva no-moa, bat mas tingting long fiusa genereisin blong hem.

## GADEN

Diskaen wei fo wakem gaden wea pipol save iusim, i barava no klia nao distaem, bikos plande pipol i kamap moa, abaotem twelf taosen (12,000) ekstra evri iia, olsem inkris long populeisin baebae kamap moa.



Pipol baebae iusim nao olketa saed hil an graon wea hemi no save givim kaikai. Long olketa ples wea plande pipol i stap long hem, graon wea olketa no save iusim fo sevenfala go kasem twentifala (7-20) iia, pipol save iusim nomoa long lelebet taem, olsem wanfala go kasem tufala (1-2) iia. Dis-kaen hem save spoelem graon an no eni gud samting save kamaot long graon.

Pipol long olketa vilij mas save gud long olketa wei fo lukaotem kaikai an olketa kastom wei fo wakem gaden. Bifoa kam long Marovo Lagun pipol save hao fo plandem taro long sem ples nomoa. Olketa save hao fo fidim graon fo hem no go-go daon. Distaem, no staka pipol long Marovo Lagun save hao fo duim dis kaen gadening ia. Olketa stat fo foge-tem ol kaen wei blong olketa.

Evri kandre long wol mas plen fo wakem gudfala gaden long disfala taem wea populeisin i go-goap.

# BARAVA WEI FO LUKAFTAREM OLKETA FOREST

Taem blong iumi tudei, hemi olsem plande long olketa kandre insaed Pasifik i luksave long barava wei fo kipim gudfala olketa forest an olketa namba wan plant an olketa animol, wea i stap insaet long forest.

Wanfala bikfala problem wea hemi save spoelem forest an iumi pipol tu, hemi olsem: Samfala taem iumi no save, hao nao fo kontrolem forest blong iumi from spoelem olketa animol, bed, an laef blong forest blong iumi. Katem olketa bikfala an smolfala tri long forest blong iumi, save spoelem staka smol laef neitsa wea olketa stap insaet forest.

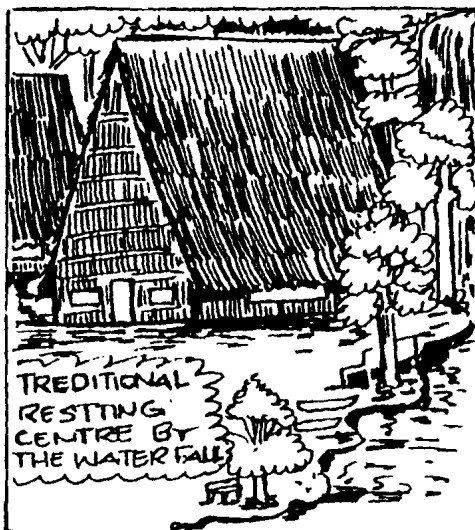
So fo kipim forest gudfala, iumi sei no katem evri tri blong iumi. Long samfala eria, iumi no katem forest olowe, diswan hemi wanfala PROTEKTED ERIA. Long narafala eria iumi iusim lelebet nomoa an bac forest hemi fitim fo grou baek strong an helti weitem olketa bed an evri samting insaed long hem. Diswei iumi garem sans fo iusim forest moa long fiusa.



## DEVELOPMEN

Evri ples long Solomon Aelan olketa iusim samfala risosis long lan an sol wata fo mekem seleni blong olketa. Sapos olketa mekem samfala PROTEKTED ERIA nao, baebae olketa no winim seleni long login long disfala eria nomoa. Bat, olketa garem gudfala wata saplae, helti rif, graon hem no foldaon, baebae olketa tekem samfala samting from forest wea hem no tekem bik tri ia, an bae olketa garem sans fo mekem seleni from neitsa tuarisim.

Bikos nomoa login bae kam long lan wea pipol protektem olketa baebae no save garem seleni kuiktaem olsem olketa bae garem from login kambani. No mata olsem, samfala pipol from diferan kandre tu garem lelebet help from disfala eria wea pipol protektem (olsem: ea from tri, an meresin). Bikos hem



olsem pipol long ovasis tu, save givim samfala eid o seleni fo helpem pipol wea tingling fo protektem lan an forest blong olketa.

Baebae samfala kandre save givim olketa developmen eid fo helpem olketa pipol long vilij fo mekem wanfala plen long risosis blong olketa, an fo wakem wata saplae an klinik weitem meresin, an samfala samting wea pipol i nidim. Olsem, olketa helpem pipol fo mekem plen fo smol bisnis projek, olsem wakem fanisa, an tuarisim wea i stap long vilij, weitem olketa gaed an olketa haos wea gest baebae stap long hem.



## TUARISIM

Solomon Aelan hemi garem samfala eria long lan, si an olketa forest wea i luk gudfala tumas. Samfala tuaris olketa laek fo lukim long diskaen forest an si. Diswan olketa kolem long NEITSA TUARISIM.



Diskaen long tuarisim i interest long kalsa blong olketa pipol. Solomon Aelan i nidim fo garem olketa PROTEKTED ERIA wea hem garem samfala tri, an gras, an bed, an garem wata long hem, fo luk grin an naes, weitem samfala ples fo res wea hemi save bringim kam olketa pipol olova long wol.

Plande long olketa kaen waka olsem i kamap nao long samfala eria blong iumi, fo bildemap kandre blong iumi. Sapos iumi lukluk long samfala kandre olsem Niu Zilan wea olketa lokol Maori pipol nao i duim samfala saet blong tuarisim. Long Niu Zilan wan long olketa pipol long Tuhoe Traeb, tuaris olsem tu, tri o faevfala dei, save go wokabaot fo lukluk nomoa long bus, o olketa save go hanting. Taem olketa tuaris i stap long dea, olketa save mitim pipol blong Maori an stap weitem olketa. Olketa tuaris save kaikaim nomoa kaikai blong olketa pipol long Maori, an sem taem olketa save herem kastom stori blong lan ia wea olketa Tuhoe Traeb i stap long hem. Nao go-go blong olketa tuaris i no plande tumas, an diswan hem no spoelem kalsa blong pipol ia.

Long Taveuni, wanfala ples long Fiji, olketa vilij lan-ona i lukaftarem gudfala olketa bus blong olketa. Gavman blong

Niu Zilan hemi helpem olketa fo putem wanfala NAITSA TUARISIM trail long dea. Insaed long iia naentin naeti (1990), wan taosen (1000) pipol nao save kam kasem o visit-im ples ia (Bouma Forest Pak).

## **LAS SAMTING**

Forest hemi wanfala impoten samting blong iumi long Solomon Aelans. Distaem staka forest hemi stat fo go-go finis kuiktaem. Olketa forest wea iumi garem distaem, bae-bae olketa i stap olsem wanfala memori long Solomon Aelans. Fiusa blong Solomon Aelans bae-bae i no garem eni forest, sapos iumi developem kandre blong iumi weitem timba an bik planteison fo go-go hed nomoa.

Iumi nid fo garem samfala gud tingting abaot, wanem gud samting long forest wea iumi laek fo kipim, an hao nao iumi iusim forest bat no spoelem.

Iumi nid fo faendem wei fo developmen wea hemi waka long saet long forest an no waka fo spoelem forest. Hemi olsem sasteinabel developmen. Eksampol long sasteinabel developmen hemi olsem taem iumi iusim senso fo katem samfala tri long forest bat no katem evri tri. Narafala eksampol hemi wea iumi no katem tri long saed long riva fo kipim wata klia an gud fo dringim. Narafala pat long sastenebil developmen hem fo protektem samfala eria long forest and no katem eni tri long dea. Diswei iumi kipim samfala spesol eria wea forest hemi helli tumas an wea evri kaen tri an bed an animol, olketa stap insaet long hem.

Diswei, iumi garem samfala gud samting long saet long developmen, an iumi garem evri gud samting long forest olsem.

*Sapos iumi lukaftarem gudfala forest blong iumi, bihaen olketa forest save lukaftarem iumi.*

**THE SOLOMON ISLANDS DEVELOPMENT TRUST**  
**CONSERVATION IN DEVELOPMENT PROGRAMME**

*Programme Summary*  
*August 1993*

### Summary

The Conservation In Development (CID) Programme has been established by the Solomon Islands Development Trust (SIDT) with assistance from a partnership between the Maruia Society in New Zealand, and the Washington based Conservation International, and with financial support from the MacArthur Foundation. The CID programme is working for the conservation of biodiversity in the Solomon Islands by supporting customary land owners in their development and implementation of village land and resource management plans, which include both protected forest areas and cash earning sustainable development activities. Using the report of the 1990 Maruia Society survey, *A Protected Forest System for the Solomon Islands* (Lees 1990), as a basis for selecting pilot project areas, the programme is working with land owners who are interested in establishing protected areas on their forest land. Initial pilot projects have been established on the islands of Makira and Malaita. Programme activities include conservation education, development and strengthening of resource management methods and planning, and establishment of village based sustainable development projects, including business enterprises with assistance in export marketing to maximise benefits to land owners. Both socio-economic and biological monitoring are given high priority by the programme. At the same time, relationships with other NGOs and government institutions are being built. The central Government Ministry of Natural Resources has given encouragement to the programme, and efforts are being made to involve Ministry staff in field work and training. Legal support for the management plans and protected areas will be encouraged firstly at provincial level, and later in national legislation.

### The Solomon Islands Setting

The Solomons is a group of islands of mixed volcanic and continental origin on the edge of the Pacific plate, with a total land area of 28,369 sq km. This is an important region for biodiversity, and is unique in its vivid demonstration of the principles of island bio-geography, particularly in the endemic bird fauna. The Solomons gained independence from Britain in 1978, and the Constitution recognises customary tenure over 87% of all land by the indigenous occupiers. Solomon Islanders are shifting cultivators by tradition, and some 80% of the population of around 350,000 lives largely by subsistence using this farming method. This does not constitute a threat to biodiversity in most areas as population densities are generally low, averaging 11.6 inhabitants per sq km overall. The major threat to the forests of the Solomons is from commer-

cial logging by foreign companies. This is proceeding rapidly, with only weak central government regulation and enforcement. The CID programme is attempting to provide an alternative path for communities who recognise the value of keeping their forests, but do require some means to earn cash incomes.

### SIDT Structure

The Solomon Islands Development Trust is a non-profit indigenous NGO which has been working in non-formal development education in the Solomon Islands for more than 10 years. A staff of around twenty in Honiara, including a publications unit, supports more than two hundred field personnel. SIDT has eleven field centres, each employing one full time field officer and one training officer. The remaining field staff work a maximum of ten days per

month for SIDT as mobile team members (MTMs), touring their local villages, running meetings and workshops covering a variety of development issues. Main programme areas are resource management awareness, rights of land owners when dealing with logging companies, rural water supply and sanitation, waste disposal, nutrition, fighting malaria and AIDS, and disaster awareness. The CID programme provides a vehicle for the extension of SIDT's resource management awareness work into elaboration of practical sustainable development planning.

### The CID Approach

The starting point for the CID programme is the need to establish a representative system of biodiversity protection in the Solomon Islands. This is an urgent problem given the rapid deforestation currently occurring through industrial logging. As most land is held in customary ownership, it is these customary land owners that have the power to choose to log

or to protect their forests. Working on the assumption that most logging is agreed to by land owners in order to gain cash income, the CID programme recognises that proposals for owners to protect forests must necessarily address this same need for cash. Responses to this need must be socially, economically, and environmentally sustainable.

The challenge is to engage land owning communities in a process of planned sustainable development which delivers real benefits, and at the same time gains protection of significant biodiversity values for the long term. A key issue in this work is to forge strong links between development benefits delivered and real gains in environmental protection.

The CID programme is founded on the experiences of others in similar projects in other parts of the world over the last ten years, referred to in the resulting literature\* as Integrated Conservation and Development Projects (ICDPs). The lessons of this experience are summarised in the box below.

#### Lessons from ICDPs around the World:

- *Because the methodology is new, ICDPs involve risk and uncertainty;*
- *Project design should clearly outline research questions, hypothesised relationships between factors, and assumptions underlying project rationale in order that these may be tested during project implementation;*
- *The project should establish an effective monitoring and evaluation system, including collection and analysis of baseline data;*
- *Local participants must perceive development activities as incentives for sustainable management of resources, the ultimate goal of the project. Therefore it is important that a high proportion of benefits go to those who pay the costs: local resource users;*
- *The failure to involve projected beneficiaries as partners in all phases of project implementation, from design to evaluation, has consistently led to disappointing results;*
- *Different members of communities have different status and access to resources. This diversity, particularly as differentiated by gender, must be identified and taken into account in the design of projects;*
- *Conflict between stakeholders may necessitate a move to emphasise process over technical aspects of projects. Planners need to pay as much attention to "how we are getting there" as to "where we are going;"*
- *Local and traditional knowledge, institutions and belief systems are important. Local knowledge of environment and resources is often very detailed, and this existing knowledge can provide the most rapid access to information for planning. By understanding that their knowledge is valued, local people's confidence in projects can increase;*
- *Local stewardship of resources and management of the project should be maximised, and this needs to be supported by a network extending from local NGOs to government and international organisations;*
- *The policy environment within which the project operates needs examination. Some economic, agricultural, natural resources, or other policies may be working against the objectives of the project. An enabling policy environment needs to be encouraged through interaction with government.*

[\*Source: The above points are adapted from Brown & Wyckoff-Baird 1992. See also Wells & Brandon 1992]

## Working With Communities

A programme of community visits and field work by CID team members and SIDT field staff has commenced at selected sites, and is following a general pattern developed for the programme as outlined below.

- First contact with villages is made with organised meetings lasting about 3-4 hours. This is supplemented with informal talking with village leaders and others. Efforts are made to involve all sectors of the community at all stages of the process. The objective of these initial visits is to present the results of the 1990 survey, with particular emphasis on the information specific to the local area (e.g. endemic species and special habitat types). Where villages had been visited in 1990 by the survey team, the return of this information is particularly significant to villagers, but everywhere the information is welcomed and often stimulates lengthy discussion.
- During subsequent visits to each village, further community meetings are held to introduce and explain the CID programme, with the emphasis always on the decision making power of the villagers, assuring them that the programme will not proceed at all without their agreement and participation, and that their input is vital to the process.
- After communities have had time to assimilate and discuss the CID ideas, and have preferably made a response on their own initiative asking the team to visit again, another visit is arranged at which time more details about how the programme might proceed in the area are discussed. This covers the procedure and organisation of the initial phase of data collection, where the CID/SIDT team and advisers stay in the area for an extended period to conduct a socio-economic monitoring base-line survey, and a rural appraisal exercise to assess natural resources and community needs. At this stage communities are asked to make a decision about whether they wish the programme to proceed to this next phase, and to make a positive commitment to participating in this time consuming task. It is made clear that they are only committing to the next stage in the process at this point.
- The initial data collection phase is carried out using a variety of techniques to assemble a socio-economic profile of the community. Specific indicators are sampled to yield a base-line data set to be used in monitoring the impact of the project on the community. In addition, data is collected to provide a picture of the current state and trends in land and resource ownership, use, and availability. An assessment is also made of the perceived needs of the community and potential for development of services, perception of conservation issues, and the structure of community institutions and their relationships with outside influences such as local and central government.
- Preliminary analysis of the results of this initial data collection is followed by further site visits for presentation and discussion of results and options for resource management and development projects. This is a phase of expanding horizons and the speed with which the community moves through this will vary widely dependent on enthusiasm, how problems and opportunities are perceived, understanding of and trust in the objectives of the project, and so on. Once the community members have developed a range of options and discussed the issues involved, their priorities, and how they might organise to achieve potential goals, the project can move to a more formal planning stage.
- Participatory development of a village resource management plan proceeds as a continuation and extension of the workshops used to examine the results of the survey and develop options. During this phase the villagers start to make planning decisions about their priority needs and goals for development and for conservation of resources. Decisions are recorded and displayed by way of charts as workshops proceed, allowing time for clarification and consensus. These decisions are then included in a planning document. They might include: a set of goal statements for the community; proposals for enterprise development projects and improvements in community services; protected area designations and other land use zoning; rules for hunting, tree felling, gardening, and protection of water supply areas; provision for biological study and monitoring,

and for conservation education.

- The implementation of the plan should proceed according to a timetable set in the planning stage. The community is encouraged to allocate responsibilities for the advancement of aspects of the programme to individuals or groups. Each project area may be subject to more planning and costing where relevant before being implemented. Some projects are led by the CID team or SIDT mobile teams, such as conservation education and biological monitoring, while many activities are carried out entirely by community members, with SIDT staff taking a monitoring and/or advisory role only.
- Monitoring of biological and socio-economic parameters is carried out periodically, as is evaluation of the impacts and effectiveness of the overall programme. As soon as possible after the owners of the bulk of a proposal area have committed to participate in the programme, an intensive biological survey of the area is carried out. This provides the baseline data for subsequent monitoring of the effectiveness of environmental protection and management.
- Once a plan has been prepared and implementation started, if land owners are willing to seek recognition and legal sanction of their protected areas and management plans, this will be pursued at both provincial and central government level.

The above sequential framework is viewed as a guideline in the sense that, in particular cases, some steps may become blended together and elements shifted in the sequence. For example, cash earning enterprise projects may be initiated earlier in the sequence. Other steps or exercises may be added to the above framework. For example, where proposal areas are large, meetings or workshops may be held where all land owners from the area are represented for discussions of programme objectives and concepts, and the standardisation of some of the rules over protected areas remote from village sites. This should help to avoid conflicts at boundaries where different sets of rules operate on each side, and contribute substantially to people's sense of owner-

ship, unity of purpose, and enthusiasm for the project.

### Makira Project Site

Initial CID pilot project sites were selected as a result of the information collected during the 1990 Maruia Society survey. The design criteria for the reserve proposals in the survey report included biological, ecological and land-form representativeness on local and regional levels, and the degree of interest shown by land owners in forest protection. Efforts were made in the design stage to avoid conflict over areas where commitment to other land uses such as agricultural development or logging had been made or were likely. These criteria diverge somewhat from the degree-of-threat approach used to prioritise conservation effort elsewhere.

The initial major pilot project site chosen for the CID programme is on Makira Island, referred to as the Bauro Highlands area by Lees (1990). This area of approximately 600 square kilometres of forest contains some 32 villages, and includes a complete ecocline from sea to range-top cloud forest and back down to sea level on the opposite coast. The coastal strip on the North-eastern side has been excluded due to extensive forest clearance and cultivation of coconut and cocoa, and likely further agricultural development in the near future. The boundaries of the proposed protected area follow the watersheds encompassing the Warihito and Ravo river catchments on the North-east side of the island, cutting across the rivers on the 200m contour as they approach the coast. In the south-west the boundary follows the coast itself. Referred to locally as the weather coast, this area's annual rainfall of up to 12,000 mm is one of the highest in the world.

### Progress to Date

The settlements of landowner groups within the Makira site are geographically divided into several clusters. Initially the two main clusters on the North-eastern side of the proposal area have been approached. These consist of 4 - 5 villages each, have been taken through the initial stages, and are currently engaged in the data gathering phase; that is the

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collection of socio-economic monitoring baseline data, and appraisal of natural and human resources for planning. Concurrently, other communities are being introduced to the programme for the first time by SIDT mobile team workshops. MTMs trained during the first appraisals and surveys will then conduct them with these newly initiated communities. It is hoped that all communities in the proposal area can be involved with the programme before the end of 1994.

### Initial Response

Responses to the programme on Makira have been very positive. Largely due to previous work by SIDT, villagers are aware of the negative impacts of large scale logging, and are very keen to explore alternative activities that are more in tune with their traditional sustainable use of the forest. The emphasis of the CID team in discussions is on the protection of forest from extensive clearance, enhancing resource management, and on offering support to the community in the development of cash earning projects, by providing assistance with ideas, technical expertise, training, and product marketing. Community leaders are particularly keen to establish projects that will provide work for their young men who tend to move to urban centres for stimulation, despite generally being unable to find employment. Resource management issues such as the introduction of rifles in bird hunting have been recognised and highlighted in discussions as requiring attention.

### **Balai Project Site**

This site has been selected for attention by the CID programme because of the initiative shown by the community in establishing their own development projects, and their interest in providing protection for a small but significant area of primary forest in central Malaita. SIDT has been involved with the community for some time in encouraging them to proceed with their development plans. Current projects include reforestation of previously logged land with local timber tree species, experimental gardens, the building of a residential training centre for village workshops, and the establishment of a forest conservation area.

The approach of the programme here is to move along side the project and assess how CID might be of assistance to the community. This initially suggested that a planning and assessment workshop may be useful to the community in establishing goals and setting priorities. This workshop was successful in introducing planning methods and concepts, and in gathering and examining information, including information about the community, their resources, their history, and their perceptions of their problems and some potential solutions.

The programme's involvement at Balai will continue as support for a process initiated internally by the community itself. The CID team will respond to requests for further help with planning and problem solving within the framework of priorities established by the community. In parallel, assessment of and planning for the protection of the forest conservation area will be advanced.

### **Komuniboli Project**

By way of institutional support, the CID programme has initiated a project involving a community in East Guadalcanal that has established a Rural Training Centre in their village. One of the centre's main programmes has been in providing training in small scale chainsaw milling of timber. The community has also been exploiting their own small forested area for timber for about ten years. They became concerned that they did not know whether their operations were sustainable, and requested help from the CID programme in management of their operation. A longer term ambition of the group is, after establishing a working model of sustainable forest management, to be able to incorporate the knowledge and understanding gained into their own training programme for landowners involved in chainsaw and wokabaot saw milling.

The CID workshops have introduced the concepts of ecologically sustainable timber harvesting and management planning. The community have developed a set of principles and goal statements for their project, identified the components of the project, and assigned responsibilities for their management. They have started a fundamental reform of their organi-

sational structure for operating the saws so as to improve the incentives for efficient utilisation of trees, better harvest planning and practice, and better financial returns to the community as resource owners. The Komuniboli people are building their own sustainable harvest plan from an understanding of the principles involved, knowledge of their own resources, and the recommendations of both foresters and conservationists.

### **Enterprise Development Projects**

It is basic to the SIDT approach that all development projects at village level should contribute to the community's ability to organise and take control of their lives. The other objective of encouraging small enterprise development in participating communities is to enhance cash income. The three most promising enterprise activities evaluated by the programme to date are: production of ngali nut oil; bee keeping; and eco-tourism.

A feasibility study for village based ngali nut oil production on Makira has been carried out and an initial project will be established during the 1993-94 fruiting season. Bee keeping has been successfully established as a village based enterprise activity in many parts of the Solomons already, with equipment manufacture and marketing already in place. Honey production is a year round activity in the Solomons and so may be used as a secondary development to supplement the seasonal ngali nut projects. Eco-tourism in the Makira project area is to be pilot tested during 1994. A cautious initial approach is being taken to this option as (a) the tourism market is complex and very competitive; and (b) there is considerable potential for severe impact on isolated communities hosting tourists, particularly in large numbers.

Other enterprise possibilities being evaluated currently are: paper making, utilisation of sago palm nuts, reef products, eco-timber production, and butterfly farming.

### **Community Services Development**

The development of community services such as water supplies, medical clinics, schools, and even roads may be identified by communities as priority problems during assessment.

There are various approaches that may be taken to the organisation and financing of such projects to improve services. They might involve any or a combination of Central Government agencies, Provincial Government, Area Councils, private contractors, NGOs, outside funding agencies, and community enterprise and self help. In very isolated areas where little chance of developing cash earning enterprises is apparent, funding might be arranged or directly provided by the CID programme for services development, in exchange for a contractual commitment by the community to protect areas of forest under agreed rules for a particular period.

### **Resource Conservation and Environmental Management**

The discussions of problems and opportunities can range over a large number of resource management issues. Common areas of concern include: agricultural methods, bird and animal hunting, timber harvest, firewood supplies, land use planning for gardening and plantations, protection of water supply catchments, soil conservation, protected area management, supplies of non-timber forest products for traditional house building, crafts, and medicine, and local social institutions for management and compliance. The CID approach to this wide range of potential issues is to initially focus on the planning and management process in an attempt to build local capacity to work through problems and find appropriate solutions. Ability to assess the need for outside technical assistance and the means of accessing such help are important issues here. The presence of SIDT MTMs in the villages and surrounding areas will be a key factor in empowering village people to take control of their own development.

### **Conservation Education**

This component aims to: (a) increase people's awareness of the value of natural resources and ecological processes; (b) show people what threatens the well-being of their environment and how they can contribute to its improved management; (c) motivate them to change their behaviour in a way that leads to improved environmental management (Brown & Wyckoff-



Baird 1992). This part of the programme will also work to support and strengthen traditional environmental knowledge and management practices where they are appropriate to community goals.

### **Institutional Strengthening and Building Co-operation**

The capacity of local institutions, both at village level and beyond, to sustain projects into the future is a critical issue for long term success of the programme. Individual village communities must be able to co-ordinate their management plans internally, but they must also have access to and the support of NGOs and government agencies, and be able to co-operate with other communities within the project area and from other projects. Current institutions at all these levels require strengthening and support in order to be able to sustain projects. In addition, trust and co-operation must be built up between groups, particularly between government agencies and NGOs, and between communities. The programme is currently attempting to build foundations for these relationships among the stakeholders.

Specific projects to build institutional capacity are also being undertaken. The

Komuniboli project is one such exercise. Co-operative programmes with other NGOs are underway, particularly in the area of conservation education. Relationships are also being built between the programme and government departments such as Environment and Conservation, Forestry, and Agriculture. It is hoped that these relationships can facilitate mutual understanding of issues, and in particular the importance of biodiversity conservation, and might contribute to the co-ordination of policies across departments, a key issue in enabling sustainable development.

Finally, the programme intends to eventually seek legal recognition for the large protected areas created through the merger of local village initiatives. The resulting entities will not be national parks, but will consist of large areas under a regime of zoned management. Within these, it is expected that large contiguous areas of forest will enjoy a high degree of protection. Ideally the whole of a particular project area will be able to be recognised by statute as a class of protected area being under ecologically sustainable management, and the zoning into areas of different uses and levels of protection could be recognised by the registration of plans at national or provincial government level.

### **Conclusion**

The recently established Conservation In Development programme is an ambitious long term commitment by SIDT to integrating conservation and development. New projects are being established, and existing initiatives assisted to increase their sustainability, with the aim of effectively increasing biodiversity protection in the Solomons. The methods used by the programme are derived from the experience of other so called ICDPs around the world, but the process is still largely experimental, and in any case needs to be adapted to particular circumstances at each site. In order that the experiences of the programme may be shared, every attempt is being made to keep comprehensive records of progress, and monitoring of both social and environmental parameters is given a high priority by the programme.

In the long run, the success of the programme will depend on the commitment of individuals and the strength of the institutions that support them. An enabling policy environment at all levels of government and co-operation among government agencies and between government and NGOs such as SIDT will be necessary for the sustainability of these projects. At village level, local institutions need to be strengthened and supported so as to be able to engage whole communities in co-ordinated efforts to develop within the limits of environmental sustainability. Local people will need to adapt and take on new ideas and methods, but at the same time, traditional knowledge, management, and systems of land and resource tenure, will continue to occupy a central place in Solomon Islanders' relationships with the environment.

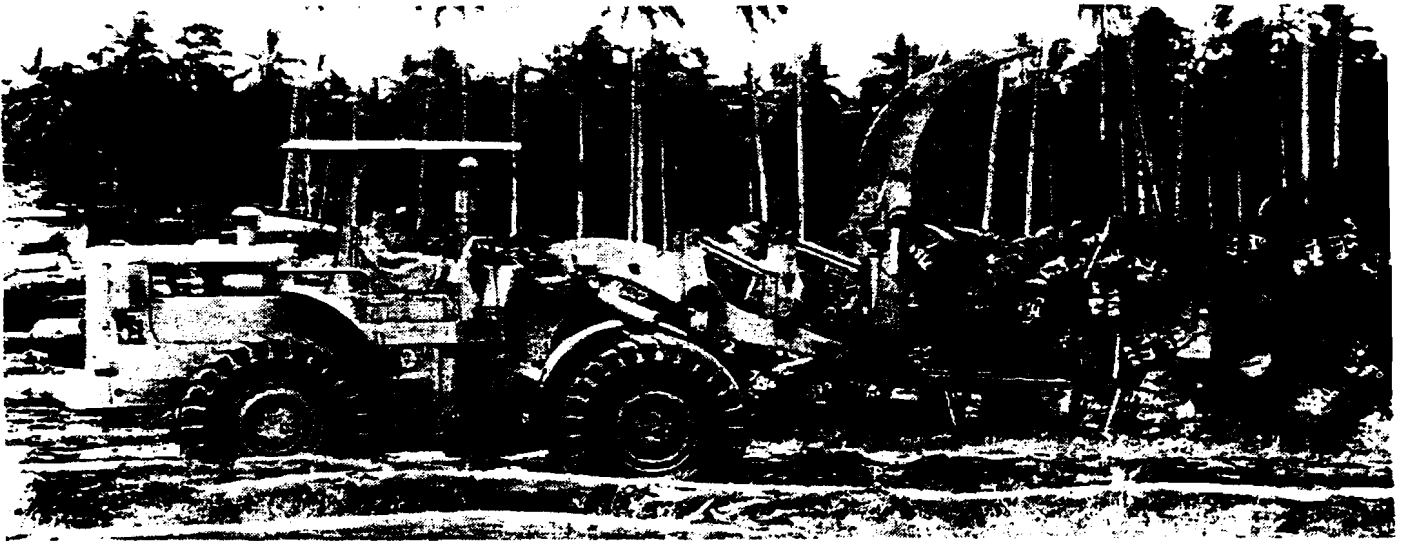
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# The Solomon Islands logging dilemma



Bob Patten AOS

Loading raw logs: for export to Japan. Makira, Solomon Islands

By Roman Grynberg

FOR three years now the Solomon Islands foreign exchange reserves have hovered between two weeks and 1.5 months import cover. The population has been increasing at a rate of 3.5 per cent per annum and successive governments have been spending and creating massive government deficits. In many ways the country looks like it is on the verge of bankruptcy.

However, if one looks at the 1992 growth figures then you would think that what we were looking is one of the newly emerging economic giants of Asia. In 1992 the growth rate of the Solomon Islands real GDP was an astounding 8.2 per cent. This is among the highest and most surprising rate of growth of any economy in the Pacific and only trailed the growth rate in Papua New Guinea which was booming from the massive increase in oil exports. However the growth figure is illusionary and is a perfect illustration of everything that is wrong with the way some economists use GDP as a measure of country's wealth and national success. The principle reason the Solomon Islands was able to achieve so dramatic a rate of growth was because in that year it virtually doubled its log exports at the very time when the

log prices were going through the roof. The problem is of course that the 600,000 cubic metres of logs exported in 1992 was twice what the nation's forests can possibly sustain even in the medium term. What Solomon Islands is doing, is destroying its forest resource, which will be exhausted conservatively in 10 years if the current rate of logging is continued. The danger of course is that the current high rate of log exports may not necessarily continue at its present levels. Many of the logging firms operating in the Solomon Islands are currently harvesting logs at well below the rate which their permits allow. Previous Solomon Island governments have granted logging firms a staggering 1.3 million cu.m. per annum of exportable quota by November 1992. This is over four times what is estimated to be the maximum sustainable yield of 300,000 cu.m.

The hopeless dependence of the Solomon Islands on the environmentally unsustainable export of logs has not escaped the donor nations. Australia, in particular has poured substantial amounts of aid into helping the Solomon Islands to come to grips with the many issues in the forest sector. The Timber Control Unit established by AIDAB to assist the Solomon Islands government is one of the most concrete examples in the

region of an apparently genuine commitment to something, more than platitudes about sustainable growth in the resource sector. Australia is by no means alone in commenting on the situation existing in the Solomon Islands. One can barely open a report without being accosted by the issue of forestry.

Now that the Solomon Islands has embarked upon this course of action it is extremely difficult to get off. In 1991 Solomon islands exported only 298,000 cu.m. which is pretty close to sustainable. But in 1992 this figure virtually doubled. At about the time volumes started to increase there was also an increase in export prices which peaked in the middles of 1993. If the Solomon Islands were in 1994 to return to exporting the same volume of logs that it was selling in 1991, namely to sustainable levels, and prices were to decline then the nation's foreign exchange reserves would be seriously threatened. In the last quarter of 1993 foreign exchange reserves were enough to cover 1.1 months of imports which while low by any standard is a marked improvement over the situation in the middle of 1992 when it only had two weeks foreign exchange reserves.

In part the predicament of the Solomon Islands is created by the government. In

small open economies like those that exist in the South Pacific the source of foreign exchange reserve depletion is almost invariably government over-spending. The reason is that the average citizen normally earns foreign exchange from selling his labour to produce copra cocoa, palm oil etc or by selling these products himself. He cannot spend more foreign exchange than he earns. Governments, and the Solomon Islands government in

particular, are not so constrained. Over the last few years the government has had massive deficits that most economists agree are in part the cause of the massive foreign exchange draw down.

And here the knot twists again. The argument of the proponents of structural adjustment is that if the government would just impose spending cuts on the public service there would be less pressure on the forestry sector to generate tax and export earnings. True, but this

donors were offering the money to government and not to the ministers themselves.

There is nothing that is more likely to generate quick money for a minister than granting a logging permit and it is for this reason that new governments, strapped for cash after the high cost of elections will issue large numbers of logging permits. And that is why the moratoria on new logging permits called by these governments are so shallow and generally last for such a short period of time.

But there is one further heresy that must be committed before we understand why what the IMF is about to do will actually cause an increase in logging despite protestations to the contrary. The fact is that it is not just the logging companies that are corrupt in offering bribes and ministers and senior public servants for accepting or soliciting them. Neither could destroy the forests and perpetrate these crimes if there were not a substantial number of people in the village who did not want logging. Regrettably some of the strongest advocates of logging are rural people who have never in their lives had an opportunity to earn the large sums of money that can be made from stripping their forests of logs.



**Downtown Honiara:** the average citizen cannot spend more foreign exchange than he earns

The new government of Billy Hilu has promised to rectify the situation and has said on several occasions that it intends to bring in the International Monetary Fund (IMF) to prepare a structural adjustment program for the economy. In almost every government office you walk into you find articles on structural adjustment.

The bureaucrats are boning up on the new meaning and dimension of austerity (read poverty).

Once the IMF does set up a structural adjustment program (SAP) what will happen? The normal SAP is one where the country is forced, among other things, to devalue the currency, cut government spending, often in social sectors, liberalise trade and facilitate the development of exports.

And that is the rub. The Solomon Islands will test the very nettle of the IMF and its sister organisation the World Bank because logs and not fish are now the Solomon Islands biggest exports and if there is to be export driven growth then the obvious area will be logs. The problem is of course is that the IMF and the World Bank claim that their policies are now 'environmentally friendly' and they are greening at the edges, so to

explaination fails to come to grips with the real dynamics of logging in Melanesia. What drives countries like Solomon islands to expand logging to such levels and for Vanuatu with its desperately small forest resource to seriously reconsider allowing Asian logging companies back, has little to do with the size of the public service or anything quite that large or quite that public.

To explain what is going on in logging requires committing a few, by now small, heresies. The problem is that what underlies the logging industry is greed, pure personal greed at a very personal level. The IMF, for whatever else they are or are not, they are not fools. Over the decades some forest ministers in the Pacific as well as their colleagues in cabinet have grown rich on bribes and kickbacks from logging companies which were given logging permits. This has already been well documented in the Barnett enquiry in PNG.

It is because logging generates cash flow so quickly and is generally so profitable that loggers have no problem offering quite substantial bribes to ministers and public servants. It may be for this reason that the Tropical Forestry Action Plan in PNG was such a pathetic failure in causing any change in forest policy despite attempts by the donors to offer massive loans to introduce change in the forest sector. The problem with such attempted reforms was that the

In order for the Solomon Islands logging industry to operate on a sustained yield basis it is necessary to re-afforest about 10,000-15,000 hectares per annum. This is an enormous amount of land and landowners would in all likelihood not accept it because it would mean that they would not be able to use their land until the next log harvest. The fact is that the logging companies in both the Solomons, Vanuatu and PNG will gladly point at the landowners as the very reason why they are mining the forests and simply unable to re-afforest. Until such time as the governments and donors find a way to financially induce landowners to conserve rather than destroy forests then the forests of Melanesian have no future.

Once the IMF and the Solomon Island government agree to an austerity package then it will have its own microeconomic logic. Even if the IMF do put clear limits on the quantity of legal log exports as a condition for a SAP loan there is nothing they can conceivably do to enforce the limit because, as is reportedly happening now in PNG logs will no longer be undervalued or under-measured they will simply be loaded onto boats totally unrecorded and effectively stolen.

The austerity (read poverty) that normally accompanies a SAP creates its own pressures because it normally hits high income public servants and politicians. For many of them their response will almost certainly be to increase legally or otherwise the number of



**Billy Hilly:** *promises to rectify the situation*

logging permits in order to increase their personal income. While the IMF can impose structural adjustment on the government it cannot change the structure and nature of Melanesian society where landowners have enormous power and where political power must be used with a great deal of financial largesse.

It would appear that there is only one way in which the rape of the forests will cease but this requires giving up of national sovereignty in the area of forests. In a newly independent developing country this is the greatest heresy of all but it is not one without precedent. Almost without comment, PNG recently signed an agreement with the famous Swiss firm Societe General de Surveillance to takeover the regulation and control of PNG log exports and the collection of revenues. The company is justifiably famous because what it sells is Swiss administration. Its takeover of the monstrously corrupt Indonesian customs service is well known. But what it is an admission that Wingti, like the biblical Lot was unable to find ten honest men to run his forestry service. What Wingti has effectively said is that a part of the government is so corrupt that it must be run by foreigners. This is surely heresy but also remarkable honesty in a newly independent developing country. Billy Hilly may not be far behind Wingti.

On January 21 in the Solomon Islands' parliament, the Minister of Natural Resources Ezekiel Alebua assured members that a ban on log export was being implemented. He said the Solomon Islands government is sure to experience a substantial loss on revenue collected from log export. He said that the loss would be around 50 to 70 per cent of the country's log export earnings annually.

Alebua revealed that between June and December this year major logging operations in Solomon Islands will be expected to stop. He said since the Hilly government came to office, it had

approved two logging licences, 40 timber milling licences and 15 saw milling and export licences. However, he could not reveal the number of logging companies already operating in the country under the approval of the previous government.

Alebua added that the industry is being restructured, saying companies have been very co-operative. He said although the restructuring exercise is quite expensive, aid donors are willing to financially assist in the transition process.

The economic crisis in the Solomon Islands, and irrespective of the apparent outward signs of prosperity in Honiara

caused by the logging boom it is precisely that. The crisis in the Solomons will be one of the most important tests of the IMF's newly supposed environmental consciousness. Within the region few appreciate how important globally the case of Solomon Islands must be to the IMF's credibility as being in the slightest concerned with the environmental implications of its policies. If its policies result in further environmental degradation then environmental groups will hold up the case for the next decade. It will be difficult for the IMF to live down even though the nature of society is the culprit rather than its economic policemen. □

**STAFF RESOURCES: FSP/VANUATU & REGIONAL OFFICES**

as at December 1, 1994

NAME	POSITION	NATIONALITY	QUALIFICATIONS	FSP YEARS	OTHER EXPERIENCE
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**ADMINISTRATION (CONSORTIUM)**

Karen Preston	Country Director	American	MA-Intercultural Mgmt.	3	3 yrs FSP CD/ACD; 3 yrs PCV Tanzania; mechanical engineer
Hannington Alatoa	Assistant Director	ni-Vanuatu	BA - Sociology/Human Geo	0	6 yrs Regional Director Commonwealth Youth Programme
Simon Toka	Accountant/Computer Trnr.	ni-Vanuatu	Business Studies Diploma	.5	5 yrs accounting experience in private sector and government
Emmie Nivou	Fiscal Officer	ni-Vanuatu	HS Form III	8	10 yrs as rural business trainer & office finance/admin
Mary Loughman	Administrative Officer	ni-Vanuatu	HS Class 6	1	4 yrs experience as typist/computer operator
Winnie Savoa	Receptionist	ni-Vanuatu	HS Form IV	3	trainee typist/office worker

**MATERNAL/CHILD HEALTH PROJECT**

Anne Devine	Health Program Advisor	American	MPH/MCH + BS Nursing	4	14 yrs nursing exp including 4 yrs CS mgmt. Haiti
Toulei Sope	Proj.Mgr/Ambrym-Tanna	ni-Vanuatu	Nursing Diploma	3	21 years working as Registered Nurse in Vanuatu with DOH
Estella Korisa	Trainer/Tanna	ni-Vanuatu	Nursing Certificate	2	11 years as general nurse, midwife, public/community health
Agustine Bule	Project Manager-Santo	ni-Vanuatu	Community Health Certif.	.5	17 years as nurse; 12 years in District Supervisory position
Joylon Rose	Health Trainer (VSO)	British	MS Health Education	.5	HIV/AIDS training; health promotion; IEC

**VANUATU RURAL DEV. & TRAINING CENTRES' ASSOCIATION**

George Jonathan	Project Mgr	ni-Vanuatu	BA Education/Admin	1	Teacher; Non-Formal Education; Training
Helen Michele	Women's Coord.	ni-Vanuatu	Community Education Cert	.5	4 yrs community development; 4 years national women's coord.
Elinrose Solomon	Project Officer	ni-Vanuatu	High School	.5	Women's development training work
Nellie Olul	STD/AIDS Coordinator	ni-Vanuatu	Nursing Diploma	.5	16 years nursing including 2 yrs National Family Health Coord.
Ann David	Curriculum Specialist (VSO)	British	Secondary Education Cert	0	17 years as teacher, community worker and trainer

**COMMUNITY AND ENVIRONMENTAL FORESTRY PROJECT**

Stephen Wyatt	Project Mgr.-Forester	Australian	BS-Forestry	1	9 years NSW Forestry Commission
Jacques Yakan	Environment Trainer	ni-Vanuatu	Agric. Diploma	4	Agriculture Extension worker
David Richards	Mechanic-Sawmill trainer	ni-Vanuatu	Tech. Diploma	1	Mechanic, sawmill operator
Hanson Kalo	Women's Forestry/Business Officer	ni-Vanuatu	Business Studies	.5	Women's small business development experience
Charles Vatu	Environmental Officer	ni-Vanuatu	Environmental Studies	.5	Environmental Education
Feke Pedro	Forestry Officer	ni-Vanuatu	Forestry Certificate	.5	Community forestry & extension

**COCOA IMPROVEMENT PROJECT**

Alick Daniel	Comm.Dev. Specialist	ni-Vanuatu	Youth Certificate	.5	youth and community development worker
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**SUSTAINABLE DEVELOPMENT NETWORK PROJECT**

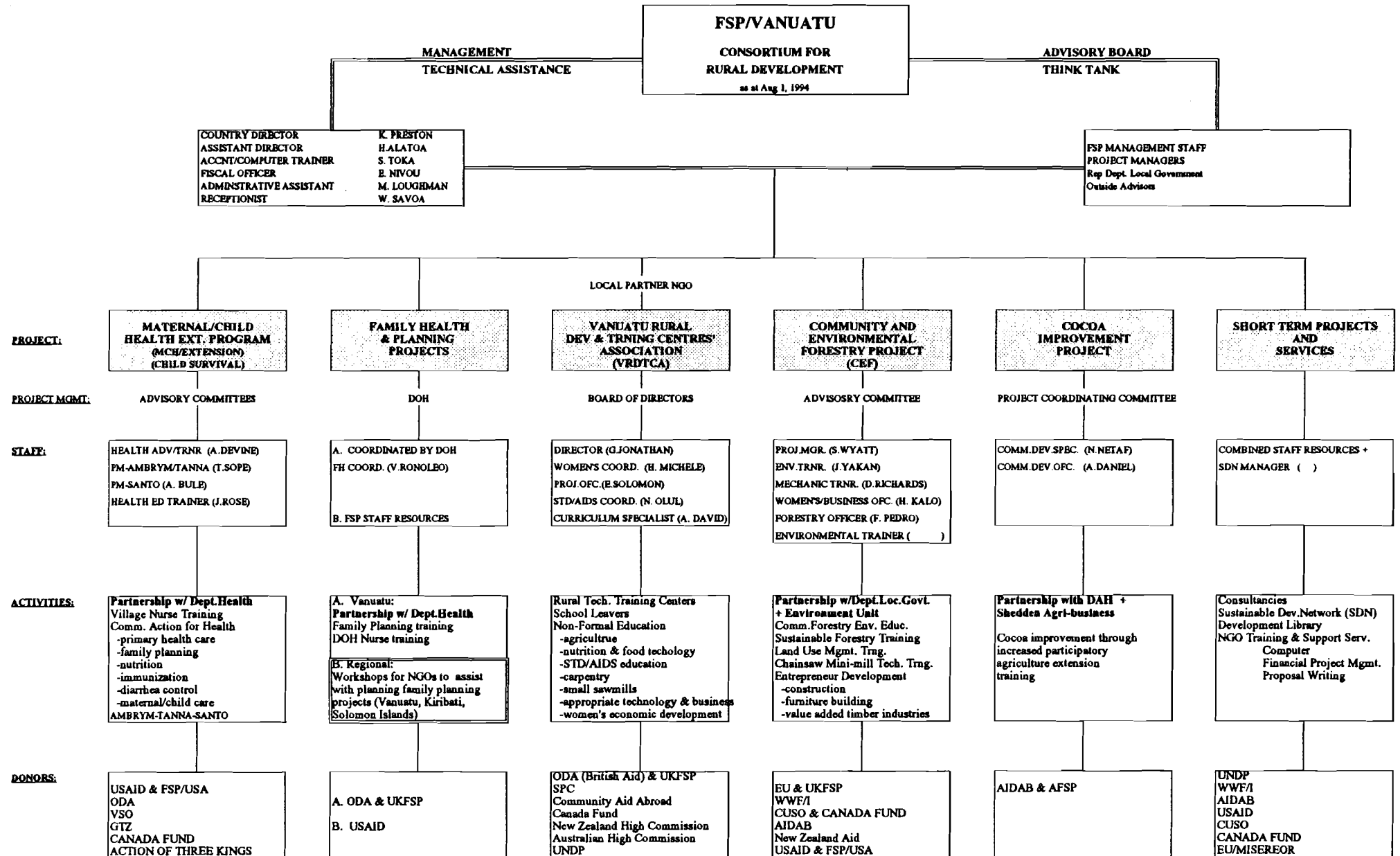
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**PRIMARY SCHOOL REHABILITATION PROJECT**

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# ORGANIZATIONAL CHART FOR FSP COUNTRY AND REGIONAL OFFICES IN VANUATU



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Volume 1 Issue 6

ISSN 1021-9412

April 1994

## SPECIAL ISSUE - WOKABOUT SOMIL

### Guest Editorial - PORTABLE SAWMILLS: THEIR PLACE IN THE UTILIZATION OF PNG'S FOREST RESOURCES

In many parts of the world small portable sawmills have now almost completely replaced manual methods of cutting up logs using hand tools such as the pit saw, axe and adze. Changes have been most rapid over the past 40 years for the development of light, powerful petrol engines has greatly improved their portability and enabled designs to be more flexible.

Currently available units are based on one of three general patterns. The first is simply a chainsaw with a special cutting chain and guide mounted on the bar, the second is a circular saw attached to an engine and mounted on two wheels so that the operator can push the blade through the log laying on the ground; the third has the engine with either a circular or band saw blade, set up so that it can be pulled along a frame set up over the log. The popular *Wokabout Somil* is a variant of the latter type.

It should be noted that all portable mills are designed so that the log is sawn while laying on the ground; the saw blade moves along the log. In a conventional sawmill the log is moved past a fixed saw. The moving saw blade design enables the weight of portable sawmills to be reduced for



here is no need to have a strong rigid carriage to move the log. However, moving the saw along the log introduces some other design problems. The major one is rigidity for any lateral movement of the saw causes changes in the cross sectional shape of the piece of timber being cut. Variations in width

and thickness, especially within a single piece of sawn timber, may have a very important influence on lumber value.

Although small portable sawmills have been used in many countries to convert logs to sawn timber, their use has generally been limited and their output specialised. For instance they are often used by farmers to cut up some of their own trees for lumber to construct farm buildings. They are also seen in very isolated areas where the transport costs of commercial lumber would be prohibitive. In Australia they are occasionally used in open forests to produce large sawn pieces for which some dimensional variability is acceptable (such as fence posts and railway sleepers).

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Published with financial support from UNESCO.

Note: The views expressed in this special issue of the Newsletter are not necessarily those of the Forest Research Institute, National Forest Authority or the National Government.



In PNG their use has been widely promoted as a viable alternative to conventional sawmilling activities. They are seen as being less environmentally damaging hence they can be used for timber harvesting without causing the soil disturbance created by conventional logging during roading and snagging operations. They are also thought to be more compatible with the forest ownership patterns prevailing in PNG and the limited financial resources available to landowners. Superficially they appear to offer greater financial returns to landowners than they could otherwise achieve by selling logs.

Unfortunately proponents often overlook factors such as the knowledge and skill necessary to set up, operate and service the portable mill and to sell the output. The sustainable management of the stand being harvested cannot be undertaken without silvicultural skills and operators may require external assistance.

In the past debates about the role of portable sawmills in PNG were rather academic as operational data were virtually non-existent. However over the past few years, a large number have been set up in our forests. Promises of economic panacea and the approach that "if it's small it must be beautiful" should now be tempered by experience.

To a large degree, progress towards achieving their optimal use will depend on our ability to collate and analyse the available data and develop innovative solutions to the technical, economic and social problems which are revealed.

In the interests of promoting further debate, this edition contains a selection of papers providing additional background on the use of portable sawmills in PNG.

Dr Geoff Stocker  
Director, PNG FRI

## NATIONWIDE PORTABLE SAWMILL SURVEY - INTERIM REPORT

Y.A. Bun\*

### INTRODUCTION

A nationwide survey of Portable Sawmills was conducted in March 1993 by the Foundation of the Peoples of the South Pacific PNG Inc. (FSP/PNG). It was funded by the National Government through the National Forest Authority.

The survey is part of a proposal to assess the value and design of ecotimber industry for PNG.

The project is overseen by the Ecoforestry Action Committee, a consulting/steering committee under the umbrella of National Forestry and Conservation Action Plan (NFCAP).

### METHODS

The objectives were to provide the baseline data for further work. The survey was to identify the ownership and location of the mills as that was an obvious problem faced by almost all the Provincial Forestry Offices. The survey questionnaires were designed to include aspects of environmental, social and forestry matters.

Four days were spent at the Forest Research Institute, Lae, training two Forestry Officers from each Province to conduct the survey.

All provinces sent representatives except for North Solomons, Oro and Southern Highlands. The latter two provinces were briefed and given questionnaires to enable them to carry out the survey.

### Field Survey Output

Despite not meeting the deadline of December 1993 to submit final reports, the first sixteen provinces did manage to get their reports completed except for Oro and Madang.

Province	No. of Portable Sawmills
1. Central	12
2. Gulf	15
3. Western	14
4. Milne Bay	14
5. New Ireland	74
6. East New Britain	6
7. West New Britain	7
8. East Sepik	35
9. Eastern Highlands	21
10. Western Highlands	11
11. Southern Highlands	22
12. Enga	7
13. Simbu	29
14. Morobe	41
15. Manus	25
16. Sandaun	16
17. Oro	*
18. Madang	*
19. North Solomons	Not covered

\* No reply

### DISCUSSION

The nationwide portable sawmill survey is the first of its kind. It examines a possible fundamental shift in the direction of the timber industry in PNG where the local people want to take charge. The trend appears to be that more landowners are wanting to develop their own forest resources instead of selling off wholesale to the foreign controlled logging companies. The current data once analyzed could also give policy direction pertaining to the portable sawmilling industry in PNG.

Several factors have resulted in still incomplete survey results.

\* Project Coordinator, FSP/PNG

The second and third slice of funds for undertaking the field survey were delayed and not released as scheduled. Consequently this led to delays in receiving reports and additional costs.

Most officers were unsure about their future in the new Forest Service and therefore have not given the task the required priority.

[A report on the full analysis of the survey will be published separately by FSP/PNG].

## PNG FRI REVIEW

An external review of the administration and research activities was ordered by the National Forest Board. It was completed and approved in March 1994.

The purpose of the Institute is now defined as being "To provide scientific basis for the management of Papua New Guinea's forests".

Staff are now being appointed to develop the revised research programme which will place high priority on the collection of the data needed for sustainable forest management.

## EXPERIENCES WITH *WOKABOUT SOMIL* (MOBILE SAWMILL) IN PAPUA NEW GUINEA - PROSPECTS AND PROBLEMS\*

Adapted from Jim Mamun and Chawi Konabe\*\*

### INTRODUCTION

The timber industry in Papua New Guinea started with the introduction of sawmills which produced timbers mainly for local consumption while very small volume of high grade timber was exported to Australia. Export of logs was not in existence at all until in the early 1980's where this was encouraged.

Currently, there are at least 45 permanent sawmills but their capacity has been very much reduced to supply only for urban requirements with very small quantity being exported. Although there have been significant developments in the log export industry over the years, the last six years have seen reduction in processed export products. For example, in 1991, 1.4 million cubic metres of logs were exported while only 3,380 cubic metres of sawntimbers were exported in the same year (Anon, 1991).

Although the industry was benefiting from exporting logs, much of the harvested timber was wasted as reject logs that did not meet the export requirements, and others were left as a result of improper harvesting. This resource is owned by the landowner and to ensure that it is fully utilized, the *wokabout somil* was created, which would ensure that this resource is not wasted but can be milled and utilized for housing in the village and/or marketed for additional

income.

There is also an acute shortage of sawn timbers in most rural areas. Recognizing the fact that imported small-scale sawmills were expensive, training and spare parts were difficult to obtain, and in response to the potentially catastrophic effects which industrial logging practises are already having on diminishing tropical rainforest resources, the South Pacific Appropriate Technology Foundation (SPATF) assisted in the development of a small portable sawmill in 1983. This portable sawmill is locally manufactured with the trade name *WOKABOUT SOMIL* (mobile sawmill in melanesian pidgin).

Using imported and locally assembled components, Village Equipment Suppliers (VES) which is a non-governmental organization, manufactured the portable sawmill. Since May 1990, NatEquip Pty Ltd has been the sole producer and distributor of the *wokabout somil*. Currently, a complete package is sold at approximately US\$10,000 which include two weeks training in operation and management, initial installation and demonstration and accessories.

The basic principle behind the development of the *wokabout sawmill* was to:

- (a) take the saw to the trees;
- (b) utilize harvesting residues and export rejects;

\*Paper prepared for the 1992 Heads of Forestry Meeting, Apia, Western Samoa, 21-25 Sept. 1992.

\*\*Senior Research Officer, Wood Processing and Deputy Director, PNG Forest Research Institute, Lae.



Pallets - finished product manufactured from timber sawn by a Wokabout Somil in Morobe.

- (c) minimize environmental hazards; and
- (d) encourage landowner participation in forest management.

Once dismantled into different parts, the *wokabout somil* can be carried by four men or be transported in a canoe or small utility truck. Since it is carried to the log and only sawntimber is taken from the forest, it causes minimum damage to the forest environment.

The demand for *wokabout somil* has steadily increased and currently, at least 500 mills have been sold in PNG alone. However, because of technical problems, less than half of the mills are operational. In PNG, where business opportunities are abundant, landowners expect high returns on their investment in *wokabout somils*. Unfortunately many landowners spent all their savings and failed miserably while a few have been successful in fulfilling their ambitions.

#### SOCIO-ECONOMIC EXPECTATIONS AND REALITIES

The socio-economic expectation from owning a *wokabout somil* was that it would bring employment and economic prosperity to landowners

and rural communities. The product from the *wokabout somil* was to assist the community in improving their standard of living by building suitable houses while the excess timber can be sold for additional income. Rural employment was to be boosted with benefits from operations flowing directly to the rural population.

The *wokabout somil* has an average output of one cubic metre per day of eight working hours. This allows a gross daily profit of about US\$100 where the initial cost price of the mill can be recovered after about 100 days of operation.

Furthermore, with an average sawntimber export price of US\$450 per cubic metre compared to US\$150 per cubic metre for log, domestic processing using *wokabout somil* was expected to increase returns to the forestry sector by three fold (Unwin, 1986)\*.

In spite of some problems, the introduction of *wokabout somil* has seen an increase in grassroot employment in rural communities and availability of sawntimber to many rural people at a reasonable and affordable price. The *wokabout somil* owned by community groups have

provided timber for construction of schools, churches and health posts. Spin-off businesses like sell of sawdust to chicken farms, charcoal manufacture from offcuts, and pallet factory have flourished (Wint and Davies, 1990). Village youths in the vicinity of *wokabout somil*, who were once considered by village elders as would-be-gangsters, have found something to occupy their time (Padua and Mamun, 1991).

The *wokabout somil* owned and operated by a family member group from a village only 10 km from Lae is an example of a success story. Their *wokabout somil*, which was bought in 1987, is still in operation due to the available technical advice from Morobe Provincial Government and the manufacturer. The group has consistently achieved an average recovery rate of more than 55 percent and a daily production capacity in excess of two cubic metres. The Company is a reliable supplier of cheap sawntimber to the community and sells good quality timber at Lae open market where it competes with sawntimber from traditional large sawmills. A pallet factory, a chicken farm with 600 layers and a village trade store have been established as associated businesses (Padua and Mamun, 1991).

In appreciation for bringing development and prosperity to the community, the electorate elected the male family leader to the provincial assembly where he holds a position of a Provincial Minister. In a country where an average of 20 candidates compete for a single vacant seat in a provincial or national assembly, the election to such a "prestigious" position could be seen as the highest honour to bestow a man who has

\*This seems to be a misconception. About two cubic metres of log is required to produce one cubic metre of sawntimber, hence the price of log is doubled. So the expected return from domestic processing will only increase by 1.5 or even lower considering the production costs.

brought "peace and prosperity" to a community by successfully operating a *wokabout somil*.

Despite known successes, many *wokabout somils* have ceased operations because monetary returns are either not realized or misappropriated which contributes to dislocation of family units or youth groups. This is a common scenario of poor managerial practice. Markets for end products are also not easy to obtain although they are sold cheaply. Regular supply and availability of end products are not always reliable.

- Further to the economic disadvantages, land disputes also contribute to the downfall of many *wokabout somil* operations.

**ENVIRONMENTAL ISSUES**

The *wokabout somil* was also expected to offer an advantage over large scale sawmills where sustainable forest development was desired. Because of its mobility and portability, it would avoid skidding and hauling of logs. This process causes destruction to the undergrowth, soil compaction, erosion and other environmentally undesirable impacts.

- A few cases have been observed whereby severe disturbances resulted in the absence of undergrowth. These observations revealed that the felled logs are manhandled when using ropes and winches to pull them to the mill site. Sometimes the felling is carried out on slopes and the logs are rolled down and again manhandled to the mill. In some cases, felling is done around catchment or watershed areas and near road sides. The concepts of selective logging and environmental care are not understood by the *wokabout somil* operators, simply because they are not been informed and trained in these fields.

**TECHNICAL PROBLEMS**  
**Design**

A basic *wokabout somil* is shown on the right. Early models use an 18-horse

power engine. This is under powered and a new 25-horse power engine should be developed. The use of high-powered engine would allow increase of sawteeth on the blades from the present number of 6 to at least 12 which would allow sawing of good quality timber. However, even now the quality of sawntimber from the *wokabout somil* is still poor with excessive scratching and teeth marks. A further problem, the locally manufactured carriage track is not properly fabricated because of ineffective quality control. In particular, there are problems with the locally fabricated horizontal and vertical bars being rigid enough to withstand the weight of the frame track and the carriage. There is also a further problem caused by poor welding, as the four track joints are not well aligned. They are frequently twisted and cause the sawblades to be deflected.

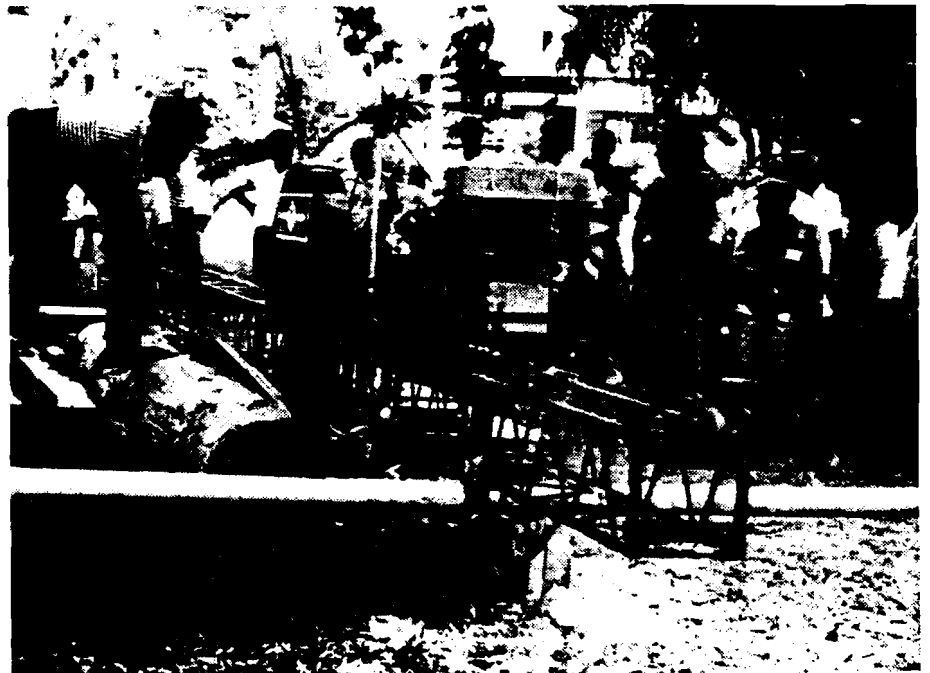
However, despite these technical problems, the *wokabout somil* is capable of producing one cubic metre of timber per day at 45 percent recovery with very little breakdowns if operators follow the standard

recommended installation and operation procedures.

**Installation and Operation**

As a mobile sawmill, the *wokabout somil* is usually dismantled and transported to be erected at log site. A typical installation takes about one hour to be completed by four workers including a trained operator.

The installation and operation process can be an exhaustive task especially for a rural operator not used to modern technology. The PBW principle is hardly applied by many operators who consider it as a waste of time. Misalignment of horizontal bars, frame track and sawblade is a common practice. Some operators do not even appear to know how to use the spirit level guage to check alignment. Logs of different hardness are sawn with the same carriage feed speed and invariably blunt sawteeth and poor adjustment of side clearance. Routine maintenance of *wokabout somil* is done with set of tools supplied with a purchase of *wokabout somil*. The manufacturer, NatEquip stocks a fair quantity of essential spare parts but due to limited operational



A typical *wokabout somil* being operated for demonstration at the PNG Forest Research Institute.

capital, it finds it difficult to meet demand and cases have been observed when some mills closed down for months for lack of spare parts. In some cases, it was not possible to find a capable technician to replace spare part even when it was available.

The Operator's Manual outlines a daily, weekly and monthly maintenance schedules and procedures expected to minimize incidence of breakdowns if well implemented. As an example, a blunt tooth is sharpened using the 12-volt battery-operated grinder which is charged by means of cable leads to the battery of the *wokabout somil*. Grinding is achieved by a touch of the cutting face of the tooth. Some of the widely abused maintenance schedules are sharpening the back of the tooth instead of the cutting face, use of improper adjustment of V-belt and operating the engine below the required minimum oil level. These are mostly due to the inadequate training of operators.

*Wokabout somils* donated by local politicians to community groups were the most affected. Subsequently it is common to find such mills broken down after only few months in operation. Few others have not been in operation at all for lack of trained operators.

#### CO-OPERATION

At the moment there is very little co-operation amongst those involved in the *wokabout somil* industry. The SPATF, a non-governmental organization which initiated the *wokabout somil* concept appears to operate in isolation with no apparent contact with the National Forest Authority or any of its institutions. The latter is criticized for being only interested in the large foreign-owned sawmills. Sentiments expressed by some owners indicate that NatEquip as a private company, may be more profit oriented than ensuring quality of their products. The manufacturer often used to contract agents to do the training on an *ad hoc* basis because the Timber Industry

Training College lacked the manpower to do the training. However, in 1993 the college introduced a 3-weeks course on Small Sawmills Management which is hoped to continue every year.

The course is mainly offered for forestry officers, industry supervisors working with small sawmills, and owners or potential owners of small sawmill projects. This training course is conducted with inputs from the National Forest Authority (Morobe), FRI, Provincial Departments of Commerce and Labour, VDT, NatEquip and K.K. Kingston.

#### CONCLUSION AND RECOMMENDATIONS

Some of the expectations that greeted the introduction of *wokabout somil* into PNG almost a decade ago have been realized although some socio-economic, ecological, environmental and technical problems still confront the industry. From the owners and operators point of view, the single most serious problem which has rendered some of them insolvent, is how to install, operate and maintain a *wokabout somil* successfully for increased productivity. The following are some recommendations that are to be considered to enhance the *wokabout somil* industry.

1. The current operators' training course of two weeks duration is inadequate and should be upgraded to at least an 8-week practical course to be conducted by a *Wokabout Somil* Advisory Centre (WSAC) in association with the manufacturer.
2. *Wokabout somils* should only be sold or given to operators who have successfully completed training on the operations of the mill as mentioned in (1).
3. The content of the Operator's Manual written in English should be translated into a suitable medium, for

example, pidgin to ensure it is understood by those using the mill.

4. Monitoring and control of *wokabout somils* should be effected by appropriate legislation.
5. Maintenance and availability of parts should be improved.
6. The design of the mill should be improved to reduce wastage and increase productivity.

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### NEW APPOINTMENT

PNG Forest Research Institute welcomes its new Director, Dr Geoff Stocker, who replaces Dr Prem Srivastava. Dr Stocker was previously the Professor and Head of Forestry Department at PNG University of Technology between 1990 and 1993. Prior to his appointment he worked as a tropical forest consultant and also undertook research in rainforest ecology and management in north Queensland for the CSIRO.

## IMPROVING EFFICIENCY AND RETURNS FROM MOBILE SAWMILLING IN PAPUA NEW GUINEA

A.I. Padua\*

### INTRODUCTION

Portable Sawmilling or "Wokabout Somil" is being seen as a source of goods and services for self-supporting average Papua New Guineans. It has been documented (e.g. Padua 1991) that after 6-12 months of operations, some *wokabout somil* operators have acquired another unit, have built new houses or repaired old ones, and/or ventured into other commercial enterprises.

Since its inception in 1983 the promotion of *wokabout somil* as a commercial entity has been vigorous, with the sale of more than 600 units locally and within the neighbouring Pacific Island nations. However, it is estimated that only about 50% are in operation at this stage. This has been attributed to two fundamental problems: lack of backup services (spare parts etc) and lack of specialized training (Anon 1993).

This paper discusses some problems which exist in the mobile sawmill industry that need to be evaluated. It makes recommendations which may improve the technical efficiency and maximise returns from mobile sawmill operations in Papua New Guinea.

### PROBLEMS

Problem areas which need to be thoroughly examined include:

(1) Lack of proper legislation to control and monitor *wokabout somil* operations. Many users are operating illegally without any guidelines under the guise of landowning individuals, clans and/or groups. What is needed now is a programme which will be supportive of the national conservation and resource management plan.

(2) Neglect of mobile sawmill industry is widespread. Techniques to improve the profitability and productivity of sawmills are being adopted by the competitors (large scale sawmill operators). These techniques can also be successfully applied to *wokabout somils*.

(3) Unsuitability of concepts and techniques employed. These should be developed from the working experiences of the nationals because it may be applicable anywhere in the country in both old and new sawmills, high and low technology sawmills, and large and small sawmills.

(4) Lack of in-depth training of operators. The most important resource that receives less attention is the human resource which the whole industry depends upon. Skills, tools and equipments used will be reflected in the output. Hence the human resource should have in-depth training and better equipped to be more productive. What makes critical differences is the sawmill owner, managers and supervisors who must recognise when the people need improved tools, methods and training to operate more profitably and to be more productive.

### SOLUTIONS

#### Increasing Returns from Portable Sawmill Operations

(1) PNG Forest Authority (PNGFA) might control the sale of *wokabout somils*. Individuals or groups should register before acquisition and operation, so that the PNGFA can monitor these activities. This will be useful in providing advice and also to



The only damage to the forest is the initial clearing for the installation and sawdust from the operation.

clamp down on illegal logging and sawmilling activities financed by foreign owned companies.

(2) Every province should have a qualified and committed provincial sawmill officer to monitor the activities of sawmilling industry, especially that of the *wokabout somil*.

(3) All sawmillers must be required to submit their monthly log input and scaling, timber output tally sheet production report, and the daily production report to ensure that the percentage of recovery and utilization and volume of logs harvested can be verified.

(4) A sawmiller who is intending to export timber, bundled or containerized

\* PNG Forest Research Institute, Lae.

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must first sought approval from the PNGFA for a permit to load or transport.

Before any shipment the PNGFA lumber inspector should cross-check the grade of lumber species and volume against the export tally sheet submitted by the sawmill.

(5) The concept of quality control must be emphasized in all aspects of sawmilling as high quality gives high returns.

#### Improving Technical Efficiency

(1) Personnel to be recruited to operate the equipment must have proper and in-depth training from a recognised institution prior to being employed. The management should also increase the awareness among its employees regarding their roles.

(2) Conduct or establish an effective maintenance programme to keep the machine in the best possible condition. Routine lubrication and inspection on a regular basis may lead to identification and rectifying of faults which may lead to sudden unexpected failures.

(3) Wherever possible involve operators in decisions affecting their machines to get them motivated as they are familiar with the daily operations of the units.

(4) Develop a system, e.g. down time recording, that can be used to monitor the performance of the key machine of the sawmill. The frequency, duration and the cause of machine stoppage should be accurately recorded. The information feedback should be used to identify areas for improved management action. For example, if a high downtime exists due to machinery breakdown, this indicates a need for a better machinery oriented maintenance programme.

(5) Conduct correct and proper on-the-job training in all aspect of sawmilling, most probably in highly skilled Saw Doctoring.

The Saw Doctor's role in the sawmill has often being described as saying the saw shop is the heart of the sawmill operation. Saw Doctoring must be correct and the importance of this service must be recognized either by the sawmill owner or the management to maintain the optimum performance expected from the sawmill.

(6) Safety measures - whenever possible safety and safe working practices should be emphasized at all times. Training programmes should always stress the importance of safety. A high level of productivity will result from a safe working environment.

#### CONCLUSION

The demand for *wokabout somil* in Papua New Guinea is high, and if properly managed and operated, they can be a very profitable village-level business indeed. However, to attain the expected level of performance and benefits from mobile sawmill, an effective training and backup service need to be in place, and proper legislation and guidelines are needed to control and monitor the mobile sawmill industry in the country.

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## BAININGS ALTERNATIVE TO DESTRUCTIVE LOGGING

[Adapted from: Peter Niesi, Post Courier 29 Nov. 1993, p. 20]

A Bainings Eco-Forestry Project in East New Britain Province which has been logging and processing timber for the past 15 months is proving that export incomes 400 per cent higher than current sales of equivalent volume of log exports is possible (see footnote p.11 10).

The project is a *wokabout somil* operation which was initiated by the Pacific Heritage Foundation. The project has strong principles relating to environmental conservation and ensures that the landowners cultural and traditional values are not destroyed.

In March 1992, the Foundation organised finance for the Arubum villagers located in the Sinivit/Gaulim government community so that they can purchase their own transportable saw (*wokabout somil*) which would be operated under the villagers control and management but adhering to the Foundation's guidelines.

A visit to the site in November 1993 revealed that the noticeable destruction initially was the entry road which weaved through basically undisturbed rainforest. At the actual site, there was the typical logging sight and

sawmillings mess but the size of the area was only that of about two basketball courts.

According to Mr Max Henderson, a forerunner in the Foundation's formation, the project is one of their pilot projects to demonstrate an alternative to export logging which he described as "a short-cut to disaster."

Mr Henderson has protested against the "multitude of errors, deceits and malpractices" that have been the mark of logging and timber industries in PNG for at least the past 20 years. "There has

been no apparent result of this protest, nor was there any visible result after the completion of the Barnet Enquiry into the malpractices in the forest industry."

He continued, "Instead of throwing stones, we decided that we would prove that there is a viable, beneficial and far less destructive method of timber harvesting, and hope that others would learn from the examples."

The Foundation, established in June 1992 whose current charter members are, Mr Yati Bun, Mr Lukis Romaso, Mr Philip Holzknrecht, Mr Kamung Matrus and Mr Henderson, then searched out organisations to support them. These include: the Ecological Trading Company, the Forest Management Foundation - both of United Kingdom, the Forest Stewardship Council of USA, the Foundation of the Peoples of the South Pacific and various environmental groups in Europe, USA and Australia.

With the direct and indirect aid of these organisations, the Foundation established exports market for sawn timber which will be channelled through the Ulutawa estates - which is managed by Mr Henderson.

According to a report compiled by Mr

Henderson, 50 per cent of the sawn timber from the project has been exported while the balance was sold on the local market.

Furthermore, there are plans already in place for a British retailer to have products from the projects timber on the store's shelves before the year ends.

"When the shipment of finished products commences, the export income will be 400 per cent higher than would result from the sale of the equivalent volume of export in log form."\*

"In addition, instead of perhaps only 10 percent of that export income remaining in PNG, virtually 100 per cent will remain in PNG," said Mr Henderson.

"Equally important, the money is being spread over a much wider base and the landowners will receive much higher returns and will physically be more involved, and will effectively control their own heritage."

The project, currently being operated near the Rapamarina River, has a total harvest of about 150 trees for the last 15 months.



Breakdowns can occur frequently if operational and daily maintenance procedures are not followed.

\*This is also a misconception; the export income could be only 200% or less. See footnote on page 4.

## THE FOREST STEWARDSHIP COUNCIL

### Background

A diverse group of environmental organisations, human rights groups, indigenous people's organisations, concerned people from forest industries and governments, representatives from community forestry, and forest products certification organisations met in March of 1992. This "Founding Group" proposed the creation of the Forest Stewardship Council.

### Aims of the Forest Stewardship Council

The goal of the Forest Stewardship Council is ambitious - to set a worldwide standard for good forest management by promoting widely recognised and respected **Principles of Good Forest Management**. The FSC will spearhead the application of these **Principles** through an **Accreditation Program** for claims that forest products come from well managed forests - temperate, tropical, and boreal.

Growing public awareness of forest destruction and over-harvesting has led consumers to demand that their purchases of wood and other forest products will not contribute to this destruction but rather help to secure forest resources for the future. In response to this demand, certification and self-certification programs have proliferated. The assurance that companies adhere to **FSC Principles** and that their claims are monitored will help to provide guidance for buyers.

Certification programs can apply voluntarily to the **Accreditation Program** to gain the right to use the **FSC** name in their labels. The **FSC** will assess these requests based on the program's adherence both to the global **FSC Principles** (which are accompanied by more detailed **Criteria**) and to detailed local standards evaluated and approved by **FSC**.

The **FSC** will promote the **Principles of Good Forest Management** in other ways as well. An **Education Program** will foster a broad understanding among the general public of components of a well-managed forest and the importance of conservation efforts at home to sustain forest resources for the future.

The **FSC** also intends to provide guidance to policy-makers developing legislation that helps to sustain forest resources.

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## RAINFOREST INFORMATION CENTRE BACKS LOCALS FOR TREE FELLING

[Adapted from: Anon. Post Courier 16 Dec. 1993, p. 46]

*Wokabout somiling* is gaining popularity as the best alternative method of extracting trees from the forest with minimum or negligible damages to the environment, while at the same time giving better financial benefits to the landowners than supposedly from royalties and premiums offered by foreign logging companies.

This extract from the Post Courier [December 16 1993, p 46] is about the Australian based Rainforest Information Centre (RIC) assisting local landowners to harvest their trees by the less destructive method of *wokabout somiling*.

*Wokabout somils* are among the best tools in the world for "sensitive harvesting of trees", according to RIC. Further, the *wokabout somils* cause less environmental destruction than multi-national loggers and ensure local people get better financial benefits from their logs than what loggers were offering.

"Papua New Guinea contains the last largely intact rainforests in the whole of the South East Asia/Pacific Region," the RIC said in its October newsletter.

Since the RIC began its work in the protection of rainforests in PNG in 1982, it has been apparent that no lasting solution to the incursion of transnational logging and mining companies into the lands of traditional landowners is possible in the absence of benign, sustainable economic alternatives to meet the legitimate development aspirations of tribal village communities.

"Some PNG communities had been able to get hold of a small portable sawmill, the *wokabout somil*, and we noticed that the multi-national loggers were

unable to get a foothold amongst these people because they had a means of utilising their own timber resources and could get a much higher price for the sawn timber that they produced than the loggers were offering for the raw logs."

RIC, funded by the Australian Government agency AIDAB, conducted an ecological audit of *wokabout somils* and found that even the worst-operated *wokabout sawmills* were less environmentally destructive than the best of the large industrial logging operations.

"When accompanied by sound forest management, *wokabout somils* were among the best tools in the world for sensitive harvesting of trees."

A case in point which the RIC pointed out was the Zia tribe of Morobe Province, which in 1991 was about to sign a contract with a logging company which would have allowed the clear felling of about 100,000 acres of virgin rainforest.

The company was "so confident" that its negotiations would succeed had already built a wharf and fuel dump.

However, instead the Zia signed a contract with RIC and a local NGO, Village Development Trust.

The contract stated that RIC would provide Zia with three *wokabout somils*, a boat to get their sawn timber to market, and training in ecological forest management (including sawmilling, log utilisation with minimum waste, tree felling techniques and safety, sawmill mechanics and maintenance, as well as nursery and reforestation techniques).

In exchange, the Zia contracted to allow no logging or mining company onto their land, to abide by the eco-forestry plan drawn up by VDT/RIC, and to equitably share all proceeds from the sale of timber throughout the whole community.

"The sawn timber plan allows careful logging on 1000 acres (about 20 acres over a 50-year rotation) leaving the vast majority of the land untouched." The operation does not require any road construction because the sawmill is carried by four men, assembled around the selected tree, and the sawn timber is carried out of the forest.

Generally, about half the timber sawn by *wokabout somil* is suitable for export while the rest is available for sale in-country and for use by the villagers themselves for constructing permanent houses.

### PNGFRI RESEARCH PRIORITIES

The FRI Research Programmes cover three main areas

- Sustainable Forest Management
- Planted Forests
- Forest Biology

If you would like further details contact the Director on

Tel: (675) 42 4188  
Fax: (675) 42 4357

## WORKSHOPS AND SYMPOSIA 1994

28-31 March 1994. **4th International Conference on Plant Protection in the Tropics.** Kuala Lumpur, Malaysia. Malaysian Plant Protection Society. Contact: The Honorary Secretary, 4th MAPPS ICPPT, c/o Dept. of Plant Protection, Faculty of Agriculture, 43400 UPM Serdang, Selangor, Malaysia. (Attn. Dr Zainal Abidin Mior Ahmad). Fax 603-948 3745.

17-23 April 1994. **3rd Asian Conference on Mycorrhizae: Biology and Technology.** Yogyakarta. Contact: Director, SEAMEO BIOTROP, P.O. Box 17 Bogor, Indonesia. Fax 62-251-326851; or Dr Suhardi, Faculty of Forestry, Gadjah Mada Univ., Bulaksumur, Yogyakarta, Indonesia. Fax 62-274-66 171.

24-30 April 1994. **Minimum Data Requirements for Sustainable Forest Management.** Stellenbosch. Contact: Prof. B. Bredenkamp, Faculty of Forestry, University of Stellenbosch, Private Bag X5018, 7599 Stellenbosch, South Africa. Fax 27-2231-77 3603.

2-7 May 1994. **International Symposium on Biodiversity and Systematics in Tropical Ecosystems.** Bonn. Contact: Biodiversity Symposium, Zoologisches Forschungsinstitut und Museum Alexander König, Adenauerallee 150, 53113 Bonn, Germany. Fax 49-228-216 979.

6-9 June 1994. **SIT'94 - Inventories for Ecosystem Management.** Oregon, USA. Contact: G.Lynd, USDA Forest Service, FIERR, P.O. Box 96090, Washington DC 20090-6090, USA. Fax 1-202-205 1087.

7-10 June 1994. **5th International Symposium on Society and Resource Management.** Contact: Michael J.

Manfredo, Programme Chair, Human Dimensions in Natural Resources Unit, Colorado State University, Fort Collins, Colorado 80523, USA. Fax 1-303-491 2255.

12-14 June 1994. **International Symposium on Recent Advances in Tropical Tree Seed Technology and Planting Stock Production.** Haad-Yai, Thailand. Contact: Symposium Secretariat, AFTSC, Muak-Lek, Saraburi, Thailand. Fax 66-36-341859.

20-24 June 1994. **International Conference on Ecology and Environment.** Drake Bay, Costa Rica. Contact: Celso Vargas, Dept. of Computer Science, Costa Rica Institute of Technology, P.O. Box 159, Cartago, Costa Rica, Central America. Fax 1-506-5153 48.

20-25 June 1994. **International Sustainable Agriculture Conference.** Minneapolis, Minnesota. Contact: Conference Headquarters, 1607 Mount Curve South, Minneapolis, MN 55403. Fax 1-612-374-3757.

5-10 July 1994. **Interforst '94. 7th International Trade Fair for Forestry and Log Timber Technology.** Munich. Contact: Munich Trade Fair Corporation, Messegele, Postfach 121009, D-8000 Munchen 12, Germany. Fax 49-89-510 7506.

24-29 July 1994. **Advanced Technology in Forest Operations: Applied Ecology in Action.** Corvallis. Contact: Dr L. Kellog, Forest Engineering Department, Oregon State University, Corvallis OR 97331-5706, USA. Fax 1-503-737 4316.

20-26 August 1994. **VI International Congress of Ecology.** Manchester. Contact: The Secretary, 6th ICE, Department of Environmental Biology, The University, Manchester M13 9PL, UK.

28 August - 3 September 1994. **Measuring and Monitoring Biodiversity in Tropical and Temperate Forests.** Chiang Mai, Thailand. Contact: Secretariat, Forest Biodiversity Symposium, Royal Forest Department, Silviculture Research Sub-Division, 61 Paholythin Rd, Chauchak, Bangkok, Thailand 10900. Fax 66-2-579 4730.

5-7 September 1994. **Management of Forest Research: Emerging Trends.** Cape Town, South Africa. Contact: A. Tapsen, c/o Forestek, CSIR, P.O. Box 395, Pretoria 0001, South Africa. Fax 27-12-841 2689.

26-30 September 1994. **International Symposium on Resource and Environmental Monitoring.** Rio de Janeiro, Brazil. Contact: INPE, c/o CRI, Av. dos Astronautas 1758, 12227-010 Sao Jose dos Campos, SP-Brazil. Fax 55-123-21 8543.

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APPENDIX K:

# *Community and Environmental Forestry*

## Annual Report

July 1993 to June 1994

Interim Report to UKFSP, European Union,  
World Wide Fund for Nature and Tudor Trust  
for Year 3 of the  
Small Scale Sustainable Forestry Industry for Vanuatu Project



Foundation for the Peoples of the South Pacific  
Port Vila , Vanuatu

**INTERIM REPORT TO UKFSP AND EC  
SMALL SCALE SUSTAINABLE FORESTRY INDUSTRY  
FOR VANUATU**

**Year 3 : July 1 1993 to June 30 1994**

**COMMUNITY AND ENVIRONMENTAL FORESTRY PROJECT  
KOMUNITI ENVAEROMEN MO FORESTRI PROJEK**

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## 1.1 Summary of Project Aims

The aim of the project, as stated in earlier reports, has been to make accessible to the rural economic sector of Vanuatu the means by which they can effectively participate in the management of their own forest resources.

However, as discussed in the previous interim report (Year 2), the Review completed in early 1992 led to the Project Advisory Committee deciding to increase the project's involvement in chainsawmills rather than small sawmills, and to expand activities in environmental education and awareness. This course of action was further developed in early 1993 when the Vanuatu Government instructed the Department of Forestry to take over responsibility for small sawmills (see further discussion under section 1.2.2.3).

As a result of these changes, the advisory committee has revised the goals, objectives and activities for the project. The project's central goal has been restated as

**We want to promote ni-Vanuatu investment and community involvement  
in the sustainable management of Vanuatu's forests and trees.**

This is reflected in the new name for the project "Community and Environmental Forestry". Objectives and activities to reach this goal are included as Appendix 1.

*This report covers the full year July 1993 to June 1994. As such it contains some material which was included in the report for the six months July to December 1993.*

*The format for this narrative report is that required by the European Union as principal donors. Financial reports for the EU and for other donors are provided in the format required by them.*

## 1.2 Progress made with the operation during the period in question

The twelve months from July 1993 to June 1994 have seen a great deal of activity and progress within the project. Staff numbers have doubled to six (half with tertiary qualifications) and have carried out a total of 11 workshops, training courses and awareness programs in 8 different island groups throughout the country. The transfer of the Vanuatu Small Sawmill Program responsibilities to the Department of Forestry in April 1993 has actually been positive in that it has enabled the project to concentrate on other actions that are closer to the original aims. The project Advisory Committee has prepared amended Goals, Objectives and Activities for the project, and these are submitted for consideration and approval by donor agencies.

### 1.2.2 Project Activities

#### 1.2.2.1 Staffing

Contract staff of the project has increased from the three positions identified in the previous report to six. These staff are:

Program Manager	Stephen Wyatt	(Australian)	November 1992
Chainsaw Trainer	David Richard	(ni-Vanuatu)	August 1992
Community Trainer	Jacques Yakan	(ni-Vanuatu)	January 1993
Environment Co-ordinator	Charles Vatu	(ni-Vanuatu)	April 1994
Women's Officer & Business Advisor	Hanson Kalo	(ni-Vanuatu)	June 1994
Forester	Feke Pedro	(ni-Vanuatu)	June 1994

Joel Herbeth, ni-Vanuatu, was temporarily employed for management support and training assistance from October 1993 to April 1994. He was encouraged to apply for the contract positions, and was qualified to do so, but chose to return to Government Service.

Recruiting for the new contract positions was a lengthy process with over 60 applicants. All applications were reviewed by 5 Committee members and the existing staff. Six applicants were selected for interview by a smaller interview committee. The three successful applicants are all very experienced officers (two with overseas tertiary education) who were employed by the Government prior to a lengthy Public Service strike. Their experience and contribution are already being demonstrated. The actual duties for the three positions are slightly different to those advertised (and as stated in the previous interim report), and were amended to best utilise the skills of the most suitable candidates.

The Program Manager will be reviewing development and training needs for all staff. The three original staff all received additional training in chainsawmilling techniques by Volunteer trainers. The Environment Co-ordinator attended a workshop on the Tropical forest Action Program conducted by the FAO in Fiji in May, and a "Train the Trainer" course for all staff will be conducted in August 1994.

Additionally, the program has received assistance from two Volunteer chainsawmill trainers. Mr Chris Taylor from New Zealand provided two weeks of training in Alaskan chainsawmills in November 1993. In April 1994, Mr Chris Lees from British Executive Service Overseas spent 6 weeks here providing additional training in timber milling. Both trainers spent part of their time assisting in conducting training courses in the islands. CEF is very grateful to Mr Taylor and Mr Lees for their contributions, and to BESO for financing.

In other workshops we have utilised short term assistance from other ni-Vanuatu chainsawmill operators, from staff from the National Council of Women (VNCW - an NGO), the Environment Unit (Government) and the Department of Co-operatives & Rural Business (Government).

#### **1.2.1.2 Workshops and Training conducted**

CEF staff have conducted 10 main workshop or training programs during the period, all of which have been away from Port Vila and Efate island. Other shorter activities have also been carried out and a schedule is attached as Appendix 2. As most workshops are of two week duration, this represents almost half the time available to staff, and is regarded as the maximum that can be effectively carried out given the needs of materials preparation, staff training, other project activities and allowing staff to spend time with their families. The recent increase in staff numbers will allow us to run two programs at one time in future, or to rotate staff in and out of Vila while running programs end-to-end.

The main training course conducted by the project has been the Chainsawmill and Environment Course, 6 of which have been held in 6 different islands. This has trained 109 people in small-scale timber production, appropriate forestry techniques and basic environmental considerations. A standard program for this course is attached as Appendix 4, although in practice every course is slightly different to reflect local conditions and requirements. All course participants pay a fee of 3000 vatu (approximately US \$25) to demonstrate their commitment and in recognition of the fact that many are planning to use their chainsaw as a small business. In addition to the formal training, the course programs include public meetings on environmental awareness in other island villages. As the formal training is usually carried out in a single location by one or two staff, other staff use this time to reach the rest of the population who do not attend the training course. These meetings may be daytime or evening, and formats include talks, discussions, demonstrations and video shows. An estimated 3700 people have been involved in these meetings, including special programs for women and school students. To date, no women have received chainsawmill training despite encouragement and waiving of course fee. However, the recruitment of the Woman's Officer, who will also use the chainsaw, should provide a positive role model here and assist in attracting more women.

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Other workshops have addressed forestry and environmental issues requested by particular communities or islands. For example, the workshop at South River in Erromango was held after foreign owned logging companies approached villagers seeking the right to log their land. Land-owners recognised that they did not have the knowledge to deal with this situation, and requested the project to conduct a special workshop about forestry and logging, and to help them decide what response to make. Following this workshop, a number of village landowners decided not to allow large scale logging on their land and are now looking at other options on the future development of their forests. The community has now decided to obtain a chainsawmill and the project is assisting them to prepare management guidelines for this (note that at the time of the last six monthly report the community had not yet made this decision).

The Environmental Awareness Tour to West Ambae, at the request of the community, was the project's first program which did not directly involve the use of sawmills or chainsaws, and as such reflects the broader range of activities that the project is undertaking. A large number of public meetings were held providing general information about environmental issues. Typically, interest was small at the beginning of each meeting, but had changed dramatically by the end, with extra questions frequently extending the meeting beyond the planned time. People expressed their interest in having further workshops to address some of the issues that were raised during this awareness tour.

The Chainsaw and Environment Course in Tongoa was also of particular interest as it is an island with almost no remaining natural forest. Here the chainsawmill component of the course concentrated on the cutting of overmature coconut palms (which cover much of the island) and on salvaging of trees blown over in severe cyclones of the last two years. Public meetings in almost every village identified issues of concern to villages and found that many of these related to the loss of trees. Community leaders are now starting to plan how to overcome this, and have asked the project to help them with further meetings and in training in areas such as small tree nurseries.

In many workshops CEF also provides basic drama training as a means of presenting an environmental message. This is well received by village audiences, and continues to be presented after the team leaves the island and returns to Vila. The Community Trainer has received drama training from "Wan Smol Bag", Vanuatu's community theatre group. To date the most successful drama training has occurred in Tanna, where those who received the training have now formed their own theatre group, come to Vila for further training with Wan Smol Bag, and are now presenting small plays around Tanna. No-one in this group had done any previous drama work.

Project staff also conducted an exhibit and chainsawmill demonstration at the Efate Agricultural Show. This exhibit won third prize, and was especially praised by Custom Chiefs for being the only exhibit at the Show to combine modern thinking (chainsaws and timber) while still stressing the importance of custom (land stewardship, customary authority).



### 1.2.1.3 Other Activities

In September 1993, the Program Manager attended the South Pacific Heads of Forestry meeting in Nadi, Fiji, convened by the FAO South Pacific Forestry Development Program. The theme of this meeting was "Valuing the Forest" and the Program Manager presented a paper entitled "Small Sawmills, Communities and Forest Management in Vanuatu" (see Appendix 9). The meeting addressed issues such as non-timber products, tourism and forest management. Following the meeting the Project Manager was also able to visit the Natural Forest Management Project being implemented by the Fiji-German Forestry Project.

In January 1994, the Program Manager toured Papua New Guinea and Solomon Islands to review the ecoforestry activities of FSP and their partners in those countries, as well as forestry in general. This tour was carried out under USAID funding for FSP eco-forestry programs in the three countries with the main goals of collecting information about these programs and identifying ways in they could benefit from greater co-operation. This review also contributed to the mid-term evaluation of this project (see section 1.2.2.2). The report prepared as this review is attached as Appendix 10.

The "Rainforests are our Business" conference held in Sydney in April 1994, was jointly organised by the World Wide Fund for Nature and the Australian Timber Importers Federation to look at the sustainable management of tropical forests. The conference organisers funded the Program Manager to present a paper to this conference detailing Vanuatu's experiences with small-scale community based timber production (see Appendix 11). The conference was clearly a step towards "eco-certification" of tropical timbers imported into Australia, and looked closely at experiences in New Zealand and Great Britain. A shortened version of part of this paper was subsequently printed in "Pacific Islands Forests and Trees" - the newsletter of the FAO South Pacific Forestry Development Program (see Appendix 12).

In June 1994 the FAO Tropical Forest Action Program (TFAP) conducted a training seminar in Fiji. This was attended by the Environment Co-ordinator representing Vanuatu NGOs, and by three other Government officers. The TFAP process was initiated in Vanuatu several years ago, but then stalled for lack of resources. the Forestry Department now intends to restart the process, and its is hoped that there will be significant community and NGO involvement.

The project was also requested to contribute an article to the Pacific Economic Bulletin in a special issue on sustainable development in the Pacific (December 1993). This paper by the Program Manager is attached as Appendix 13.

## **1.2.2 Project Management**

### **1.2.2.1 Advisory Committee and Program Development**

As stated in the previous report, the take over of small sawmill responsibilities by the Department of Forestry necessitated the preparation of revised activities for the project. This has been undertaken by an Advisory Committee comprising the original VSSP committee, plus additional NGO representation. Membership includes : Department of Forestry, Department of Local Government, Environment Unit, and National Planning Office from Government; the Development Bank (a statutory authority); Farm Support Association, CUSO (Canadian NGO), Nasonal Kommuniti Development Trust, Vanuatu National Council of Women, Vanuatu Association of NGOs, and FSP (all NGOs). Comment has also been sought from NGOs outside Vanuatu such as WWF/I in Sydney.

The committee was deliberately expanded for this to enable the greatest range of views to be included while preparing revised goals, objectives and activities. The process has followed the approaches of participatory project planning with representatives of different stakeholders, and also with the opportunities to trial activities and approaches during field workshops. This process was slower than expected (the Year 2 report optimistically stated end-July 1993), however the interest and commitment of these groups to the project should result in good community support, and will optimise the sustainability of the project in the future.

The Advisory Committee has now completed the revised goal, objectives and activities (see Appendix 1), and these are now submitted to donors for approval.

### **1.2.2.2 Project Evaluation**

In May 1994 an independent evaluation of the project was carried out by a team led by Mr Len Newell, Pacific Islands Forester for the US Forest Service. FSP receives an funding from USAID (US Agency for International Development) for institutional strengthening of eco-forestry programs in the three Melanesian countries of PNG, Solomon Islands and Vanuatu. This funding is for a period of five years, and a mid-term evaluation was required by USAID.

As this is a regional program the evaluation followed the unusual format of each country program being reviewed by program staff from the other two countries, with Mr Newell as team leader ensuring equity and independence. The team spent a week in PNG, four days in Solomon Islands, and then four days looking at the CEF program in Vanuatu. This was followed by three days of workshop to discuss the findings and identify ways in which programs could be improved and how the USAID funding could best be used to facilitate this. Specific needs, activities and performance indicators were identified for each country.

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The CEF project in Vanuatu was identified as the most successful of the three FSP programs, although several concerns were raised. Primary amongst these was the absence of effective forest management procedures for chainsawmills. This has also been a concern to project staff (see section 1.4 in the report for July -December 1993) and was a major reason for recruiting an additional forester. Several other issues were identified by the evaluation and a summary is included as Appendix 5. The evaluation was discussed at length by the Advisory Committee during June 1994, and its recommendations incorporated into the revised Goals, Objectives and Activities. In particular, the decision to concentrate on a limited number of sites as a way of further developing forest management and of monitoring effectiveness of training has arisen from the recommendations of the evaluation.

### 1.2.2.3 Situation with the Department of Forestry

Previous reports have discussed the situation with the Department of Forestry involving the transfer of the Vanuatu Small Sawmill Project (VSSP) from FSP to the Department. A detailed discussion of this situation is included as Appendix 6.

The report for the six months July to December 1993 foreshadowed an improved situation during 1994, and this has in fact eventuated. The Department of Forestry, under a new Director, is again an active member of the CEF Advisory Committee, and acknowledges the new role that the project has undertaken. Department and CEF staff have worked together on several field trips and workshops. The strength of this new relationship is best demonstrated by a joint paper by the Department and FSP outlining the conflict and its resolution. This paper is to be presented to the South Pacific Heads of Forestry meeting in Fiji in July 1994, and is attached as Appendix 7.

### 1.2.2.4 Financial Summary

Funding and expenditure from external donors during the period July 1993 to June 1994 is summarized below (all figures in vatu):

	Euro. Union	WWF	NZHC	Tudor	Total	%
Personnel	2,410,645	2,859,259	0	0	5,269,904	53
- FSP/Van admin	0	0	69,000	0	69,000	1
Training	828,060	112,750	108,230	399,795	1,448,835	15
Travel	290,275	0	0	0	290,275	3
Equipment	(1,338,496)	0	0	2,030,312	691,816	7
Space	567,053	0	0	0	567,053	6
Other Costs	1,555,391	0	1905	3,600	1,558,991	15
<b>TOTAL</b>	<b>4,312,928</b>	<b>2,972,009</b>	<b>179,135</b>	<b>2,433,707</b>	<b>9,895,874</b>	
% of total	44 %	30 %	1 %	25 %	100%	
British pounds (@ 175 vt)	24,645	16,983	1,024	13,907	56,548	

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The major funder is the European Union who are providing 356,649 ECU (approximately 47,940,000 vt) over the five years July 1991 to June 1996. Of this total, 18,508,688 vt or 39 % has been spent to date. However, during most of the first eighteen months of this period there was only one employee and a low level of activities. This has changed over the last eighteen months as the project has become fully staffed and carrying out more activities.

Additional funding during this time has been provided by British ODA, through the World Wide Fund for Nature (WWF), who have provided two grants of 21,000 pounds each for salaries, and will be providing an additional two grants of this amount. Tudor Trust, a British charity trust, have also provided two grants of 16,000 pounds, initially for equipment and then for the environmental awareness and community programs. It is anticipated that they also will continue to support the program. The New Zealand High Commission is funding chainsawmill training for Rural Training Centres with a small grant through the Vanuatu Rural Development and Training Centres Association (VRDTCA).

FSP/Vanuatu has only deducted administration costs from one grant during the period as they have been able to meet these costs from other funds. However, a number of FSP Consortium costs (shared by all FSP projects) have been included in project line items.

Local "in-kind" contributions have been calculated at 5.8 million vatu, comprising 234,750 vt in training course fees and extensive support from individuals, villages, communities, local councils, NGOs and government. The initial project proposal included the purchase of small sawmills as a local contribution, however since the transfer of VSSP to the Department of Forests this activity, together with several others, has not been included in "in-kind" calculations.

A more detailed statement of funding support and spending over the entire life of the project (since 1990) is provided in Appendix 8.

### 1.2.3 Other Issues

#### **1.2.3.1 Chainsawmills and Small Sawmills**

As reported previously, the project has changed its technological focus from small sawmills, such as the Wokabout Somil and the TimberSaw, to chainsawmills. This change is due to both the recommendations of the 1992 Review, and the Department of Forestry's assumption of responsibility for small sawmills.

Observations during the review noted that a number of small sawmills were operating at much less than their nominal capacity. Discussions with operators and communities revealed that this was related to difficulties with both management and technology. In particular, several sawmill operations did not really have the interest or demand to run a full-time timber business. Instead, they really appeared to want to be able to produce sawn timber only for a particular community need. Others had the desire to run a business, but lacked the experience in timber cutting, in maintenance of equipment, in business management, or in some other aspect of the operation.

In order to avoid similar situations in the future, the VSSP Committee adopted a policy requiring prospective small sawmill owners to have successfully operated a chainsawmill business for a period of six months. It was intended that this would allow prospective sawmillers to gain experience with a smaller and easier piece of equipment. Additionally, it was likely that at least some operators would decide that a chainsawmill met their needs, thereby pre-empting the decision to buy a small sawmill.

The second major reason for promoting chainsawmills rather than small sawmills lies in the nature of the forests of Vanuatu. Vanuatu's forest resources are much smaller than those in PNG or Solomon Islands, while control of land generally rests with individuals and families, rather than with villages or clans. This means that the area of forest that is controlled by the sawmill owner will usually be too small to allow for sustainable forestry on this land alone. Sawmill owner/operators (whether individual, family or community) are therefore forced to access the forests of another group, which can lead to land disputes and inter-group jealousies. Chainsawmills, being smaller and with lower production, require less forest area to operate sustainably. Their lower cost means that operators do not have to produce timber continuously in order to repay a bank loan, but instead they tend to use the chainsawmill only when there is a special need for timber, or for cash. Rural ni-Vanuatu attitudes to business tend to follow this kind of part-time "as needed" approach, rather than 8 hours a day, 5 days a week.

After the Department of Forestry assumed all responsibility for small sawmill operations, FSP advised all small sawmill operators that henceforth they should approach the DoF for repair and support services. Unfortunately, the Department has been unable to do this due to an absence of both funding and staff. Although FSP had been directed to cease its involvement with small sawmills, the committee felt strongly that the small sawmills established under VSSP could not be abandoned without support. Accordingly, FSP has continued to provide spare parts if requested by island sawmillers although staff have not travelled to carry out repairs or additional training on small sawmills.

Project staff are aware that a number of small sawmills established under VSSP have now ceased to operate. It appears that these failures are due to marketing problems, lack of support, and/or a simple lack of interest in continuing the sawmill business. However, there is no definite knowledge of the reasons for failure as CEF staff have been instructed not to do any further work with the small sawmills, and the Department of Forestry has not had the resources to do so. We hope to be able to conduct a review of the status of small sawmills in Vanuatu in the coming year with the agreement of the new Director of Forestry.

### **1.2.3.2 Forestry Situation in Vanuatu**

The background to the original VSSP proposal included the fact that Vanuatu was facing the prospect of large scale logging by foreign owned logging companies, and that small sawmilling would be an option that would allow timber production in Vanuatu's forests while giving better and more sustainable returns to landowners and the Government. This was reflected in statements in the Second National Development Plan.

Large scale logging by Asian companies has become increasingly likely during the past period with one company commencing logging on the island of Erromango. A long standing ban on log exports was revoked during 1993 and a number of logging licences were issued. However, in June 1994 the Prime Minister acted to again ban export of round logs and to cancel licences pending a general review. Landowners and the Government are still concerned to be able to identify options for forestry development that will provide maximum benefits.

### **1.3 Difficulties and/or delays during the period in question**

As discussed elsewhere there have been several areas of difficulty and delay during the current period, although these have not stopped the activities of the project.

Firstly, the situation with the Department of Forestry has been discussed in section 1.2.2.3, and in Appendix 6. While this has caused some difficulties and delays, it has in fact lead to a stronger project, concentrating on the true aim of better and more sustainable forest management, rather than on a purely technological focus.

Secondly, the development of new goals, objectives and activities has taken significantly longer than was initially expected, as noted in section 1.2.2.1. However, the delay can be attributed to the process which is being used to develop this, and has resulted in a well developed activity schedule, with a high level of support from government, NGOs and communities.

The third area of delays has been in the need to recruit extra staff, and the fact that two of the three new positions did not commence until June. This is reflected in the inability to meet some of the short term targets set during the last report, as noted below. As all positions are now filled, the project now has the expertise to meet it's goals and objectives, and the staff numbers to allow it to undertake several activities concurrently.

It is important to note that even though there have been difficulties with the DoF, and delays in redefining activities, the on-ground work of the project has continued. In fact this has enabled the trialing of new approaches, in turn feeding this experience back into the development of objectives and activities.

#### **1.3.1 Achievement of Short-term Targets for Year 3 - second half**

The previous interim report contained 8 short-term targets for completion during the six months January to June 1994. The status of these targets is as follows:

##### **1 Complete Goals, Objectives and Activities** *Target Achieved*

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- 2 Deliver 4 Chainsawmill and Environment Courses**  
Only 3 of the 4 courses were delivered. Problems on Erromango in March forced the postponement of that course into April, resulting in flow-on delays for other courses.  
*Target predominantly achieved*
- 3 Deliver 3 specialist workshops**  
Only 2 workshops, 1 major and 1 minor, were conducted as the new Environment Co-ordinator did not start until April, and was involved in overseas training in June.  
*Target predominantly achieved*
- 4 Produce a newsletter**  
Not carried out due to the delay in starting new staff, and the need to concentrate on higher priorities.  
*Target carried forward to next Year*
- 5 Be involved with 3 local groups**  
The LLLI Community group in Tanna (August 1993) have continued to be involved in environment and drama activities, and regularly seek further assistance from the project. In southern Erromango, a loose community group centred around the Vetumit Rural Training Centre is obtaining a chainsawmill, and the project will continue to work with them to develop forest management. Following from the Tongoa workshop, custom chiefs and local government staff are interested in reforestation programs. This interest is also spreading to other islands in the Shepherds island group, and the project is planning other workshops in this area.  
*Target achieved*
- 6 Identify location for chainsawmill management pilot program**  
This has been selected as South River in southern Erromango. Following from the program evaluation, other pilot sites will also be identified in the near future.  
*Target achieved*
- 7 Prepare Issues Paper on forest management**  
This paper has not been prepared due to higher priority commitments for the Program Manager. In fact, many of the considerations that would be contained in such a paper have been set out in various of the presentations referred to in section 1.2.1.3. This paper will be prepared during the coming year.  
*Target achieved in part, and carried forward to next year*
- 8 Identify women's roles**  
This was delayed until the recruitment of the Women's Officer, and will now be a priority for her.  
*Target carried forward to next year*

#### 1.4 Continuing Activities (1994 - 1996)

Following from the program evaluation carried out in May, the next year will see action to address some of the recommendations made, as well as the continuation of current activities. The main priority areas will be: developing forest management; carrying out more follow-up work of both chainsawmill and general awareness programs; and researching women's roles in forestry and the environment.

During the coming twelve months CEF will be attempting to develop an appropriate model for forest management involving chainsawmills. This will initially be in the South River Erromango site, but will hopefully occur in other locations as well. An initial planning workshop has already been set for August, and this will be followed by purchase of a chainsawmill (if such is still desired by the community), and other training or workshops as requested. This planning workshop will be following the general procedures of Community Development through approaches such as PRA (Participatory Rural Appraisal), and will be borrowing from the experience of similar projects in Solomon Islands (the Conservation in Development project of the Solomon Islands Development Trust). We envisage that development of a forest management plan will be a lengthy process as the community gains more information, and further refines their views on management of the forest. We are co-operating with the Vanuatu Rural Development and Training Centres Association (VRDTCA) to place a Peace Corps Volunteer at the Vetumit Training Centre both as a teacher and to assist in facilitating the development of this plan. This process will be documented, and it is hoped that a management plan of some form (but not final) will exist by the end of the twelve months.

Other project activities will continue to include chainsawmill training and support and environmental education and awareness as at present. The new staff members will enable two teams to deliver different workshops in different islands, or to come together for a major workshop on various themes: for example a Chainsawmill & Environment workshop in one area, and Environmental Education elsewhere (this is planned for a workshop in Santo in July). However, we will be decreasing the number of such courses so as to devote more resources to follow-up of previous programs, and to the development of forest management. We expect that chainsawmill training will continue to be greatly sought after by rural ni-Vanuatu, but that we will not be able to meet the demand for this service given current limitations on the project.

The position of Women's Officer, and the involvement of National Council of Women, is specifically aimed at ensuring that the activities of the project are effective in meeting the needs of rural women. Some observers have noted that ni-Vanuatu women are probably more aware of the importance of the environment than are the men, but in the past little has been done to address this. As our Womens' Officer does not have previous experience or education in environmental issues she has been nominated to attend a 5 week course in Australia on "Women and Environment Management". The Women's Officer will allow CEF to develop further understanding of the role of women in environmental issues, and to provide education and/or training specific to their needs. She should also provide rural women with a valuable role model for involvement in community decision making on resource and environmental issues, and in the use of technology such as chainsaws.

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The project will also be aiming to encourage and support the formation of small groups concerned with forestry and environmental issues in rural areas. As noted in section 1.3.1. several such groups have already started in response to some of the project's environmental workshops. Support will take the form of newsletters, information sharing and networking, and additional workshops / training if requested. The project will also provide skills support to other NGO's, such as VNCW or Nasonal Kommuniti Development Trust, as required.

We also hope to be able to "wrap-up" the VSSP component of the project's activities by reviewing the status of the small sawmills introduced into Vanuatu during the term of FSP's implementation of VSSP. This review will establish the number of sawmills still operating and will identify any needs that these mills may have. It will also look at those mills which have ceased operating, or operate on an infrequent basis, and attempt to determine the reasons for this. The review should provide useful information to the Department of Forestry in its supervision of small sawmills in Vanuatu, and also to others who may be interested in small sawmilling in Vanuatu or elsewhere.

#### **1.4.1 Short-term Targets - Year 4**

In order to assist in planning the years activities, and in monitoring achievements, the following short-term targets are tentatively identified for the period July to December 1994. These are based on program planning discussions to date, but could be changed as objectives and activities are finalised.

- \* Carry out a planning workshop with South River community, and act on the outcomes of this. Develop an initial plan by June 1995.
- \* Identify another two locations for pilot programs in forest and tree management. Commence activities in these locations by June 1995.
- \* Carry out follow up visits in all locations covered by chainsaw training prior to December 1993.
- \* Prepare a review of small sawmills established during VSSP, subject to Director of Forestry.
- \* Prepare an Issues Paper on forest management.
- \* Commence identification and documentation of women's roles in environment and forestry.
- \* Deliver 3 integrated chainsawmill / environmental education workshops.
- \* Deliver 3 workshops on other specialist subjects as requested.
- \* Produce a newsletter on CEF activities, and environmental & forestry issues.
- \* Be involved with 5 local groups addressing environment/forestry issues.

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Report prepared by

Stephen Wyatt  
Program Manager  
July 31st 1994

## APPENDICES

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### Major Reports

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11	Small Scale Timber Production in Vanuatu Presentation to "Rainforests are our Business", Sydney April 1994 66
12	From Rough Sawn to High Quality in Vanuatu Article in "South Pacific Forests and Trees", June 1994 71
13	Can Small Sawmills save the Forests? A Vanuatu Case Study Pacific Economic Bulletin, Vol 8, No 2, December 1993 73

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## APPENDIX 1

### Community and Environmental Forestry Kommuniti, Envaeronmen mo Forestri

#### Goals, Objectives and Activities

Goal *adopted 5th November 1993*

**We want to promote ni-Vanuatu investment and community involvement in the sustainable management of Vanuatu's forests and trees.**

Objectives *adopted 16th March 1994*

- 1 To assist communities and individuals in achieving better management of their forests, trees and other components of the environment, whether they are involved in timber harvesting or not.
- 2 To encourage ni-Vanuatu currently involved in small-scale timber cutting to adopt sustainable forest management practices.
- 3 To encourage the use of small-scale technology for timber harvesting as an alternative to large-scale operations, providing that:
  - \* sustainable forest management techniques are used, appropriate to the nature of the operation;
  - \* operations are economically viable and are safe for the users.
- 4 To provide support to other organisations, both local and national, involved in activities that have an impact upon these goals and objectives.
- 5 To ensure that women's issues and roles are appropriately integrated in all activities.

All these objectives are based on assisting ni-Vanuatu communities and organisations to achieve their own goals and benefitting their communities.

Activities to achieve these objectives will initially be on a limited number of sites, then to be extended throughout Vanuatu as possible.

## 1 Forestry and Environmental Awareness and Education

Primarily aimed at objective 1, but also involved with the forestry and environmental components of the chainsawmill program. Program will have several aspects:

Community awareness activities will usually take the form of short (half-day) public meetings in villages to provide general environmental information and opportunities for discussion of issues of local concern. When a chainsaw (or other) course is being conducted in the vicinity, then this course will be used as a focus for the meeting to assist in generating interest. Additionally, staff will attempt to identify likely local issues before the meeting in order to have necessary information available. Meeting methods will include talks, group exercises and discussions, and videos.

Further community awareness will be carried out through other media such as newsletters, press and radio. This will often be in conjunction with other organisations.

Workshops and training courses will also be organised on specific topics of interest to a particular community (assuming that the program has knowledge of this topic). Possibilities could include : discussion of options for timber harvesting; tree nursery and/or replanting techniques; or local environmental problems. Such workshops or courses would be likely to take a week to allow sufficient time to develop an understanding of the issue and prepare a plan of action if desired.

Specific activities will be prepared for school students, again in conjunction with other organisations.

Drama will be used as a tool to help environmental education. Where possible, and usually during 1 or 2 week workshops, basic drama training will be provided to allow a local group to perform a drama with an environmental message. The drama is usually presented at the closing of the workshop. This group is also encouraged to perform their play at other occasions after the end of the workshop. Drama is a very powerful tool for generating awareness, and also continues to work after the project team has left the location.

The program will also encourage the formation of local groups interested in or concerned with forestry and environmental issues. This will occur through identifying interested individuals during meetings and elsewhere, suggesting a group and follow-up with provision of more information, encouragement and support. Such groups can assist the sustainability of these environmental awareness activities, can work to control/monitor timber harvesting (either small or large scale), may identify other issues of concern to the community, and can serve as a contact point for further follow up.

## **Forestry and Environmental Awareness and Education**

- 1.1 Village awareness
  - identification of likely issues & concerns
  - talks, videos, exercises and discussions
  - follow-up
- 1.2 Other publicity and information
  - preparation of materials
  - liaison with other organisations
- 1.3 Specialist workshops and training
  - promotion of service
  - collection and preparation of necessary information
  - presentation of workshop
  - liaison with other organisations
- 1.4 School program
  - talks and exercises suitable for students of different ages
  - liaison with Education Department and the Environment Unit
- 1.5 Drama
  - provide basic drama training
  - develop script outlines suitable for use by groups
  - develop & distribute songs & stories on environmental theme
  - encourage trained groups to continue presenting their plays
    - work in conjunction with Wan Smol Bag
- 1.6 Assist formation of local environmental groups
  - identify interested individuals
  - encourage formation of a group
  - provide follow-up and support (see 5 below)

## 2 Forest Management Activities

Objectives 1, 2 and 3 all refer to Forest Management. This includes the full range of activities relating to maintenance of the forest while using it for various benefits - or even deciding to leave it unused. This includes such "obvious" activities as resource inventories, control of logging, tree planting, and removal of vines from young seedlings. It also includes less apparent actions such as discussion and planning, customary actions to maintain (or remove) forest, gardening, and management of non-timber products such as nuts, black palm or natangora. Within the context of CEF, forest management is specifically not limited to control of logging by chainsawmills or small sawmills, although staff currently have greater experience in these areas. CEF will concentrate on management of natural forests, rather than on plantation forests.

CEF will approach forest management planning from the basis of the community, recognising that landowners have the rights to determine management of their land. Management will therefore be initially based on a process of awareness, education and consensus decision making. Skills training, implementation and formalisation of management should follow. Planning for forest management can be set out in extensive written documentation (as is normal in Australia), or may take the form of traditional or customary ways of controlling activities in the forest. The program will attempt to trial several different approaches to combining traditional forest management practices, with newer techniques and information. This will require the establishment of several pilot projects with communities interested in forest management.

### 2.1 Forest Management Pilot Areas

- identify areas
- discussion and planning with community
- awareness and education
- community development through local institutions, chiefs and other groups
- training
- monitoring

### 2.2 Forest Management - Other Areas

- tree size limits for logging
- tree selection
- care of selected trees / removal of unwanted trees
- enrichment planting

### 2.3 Standards for Forest Management

- development of appropriate standards
- monitoring and advice procedures
- reporting, extension and information sharing

### 3 Agro-forestry, Reforestation and Tree Planting

Objective 1, and the Program Goal, are not limited only to forests, but also extend to trees in whatever situation. This can include trees planted for food production such as fruit and nuts; trees planted in association with gardens to improve soil or similar uses; trees for specific purposes such as timber production or canoe making; and many others. CEF will aim to promote tree planting in general in all these areas, working to interest local landowners in planting trees on their land, and in assisting them to do so. Staff have experience in agriculture as well as forestry, but will work very closely with other organisations such as Departments of Agriculture and Forestry, the Farm Support Association and private enterprises such as The Kava Store. CEF will aim to complement the activities of these organisations, not to duplicate them.

In some parts of Vanuatu the great majority of forest has been cleared, especially for coconut plantation and/or grazing. In some cases, such as Tongoa and North Pentecost, this appears to have contributed to drying up of water supplies. In such cases, and wherever CEF assistance is sought, the program will promote small scale reforestation and tree planting. In most cases, the program will concentrate on indigenous species, rather than exotics, particularly multi-purpose trees which can provide uses such as food, Nitrogen fixation, or composting as well as timber. Local trees are more likely to be acceptable to communities as they are familiar with the trees and their uses, as opposed to exotics which are unknown, even though they may be a "better" tree.

Activities will comprise awareness and education about the roles and importance of trees; training in matters such as small tree nurseries; assistance in selecting choosing trees for replanting programs; and providing information about marketing of products such as nuts. It is not intended that the program be a source of funds for groups or communities wishing to undertake tree planting programs, but it would be appropriate for the program to assist communities to find this funding from other sources if possible.

#### 3.1 Agro-forestry

- collect information on trees for agroforestry
- provision of information in awareness and education programs
- close co-operation with other organisations
- information about marketing opportunities

#### 3.2 Tree Planting and Reforestation

- education about role of trees in the environment
- promotion of tree planting
- exercises to assist people to identify locally important tree species
- tree planting
  - transplanting of wild seedlings
  - planting of seedlings from nurseries

#### 3.3 Village Tree Nurseries

- appropriate methods for small scale nurseries in villages
- training courses
- advice and assistance in establishing nurseries
- assistance in finding funding if appropriate

#### 4 Small-scale Technology - Chainsawmills

Chainsawmills are aimed at objectives 2 and 3. Chainsaws are well established and widespread in Vanuatu (unlike small sawmills). Ownership of milling attachments, especially the Granberg Minimill, is also substantial, although these are only being used for timber production in a small way, apparently due to the absence of any form of training or support. A large proportion (probably of the order of 50%) of the chainsaws in the country are non-working, and owners express a desire to learn how to use and maintain their chainsaws.

The chainsawmill program will aim to provide training to encourage sustainable timber production from existing and new chainsawmills. It is expected ~~that~~ chainsawmills currently not being used, or used only slightly, will be used more in the future, and that additional chainsawmills will be purchased and brought into production. This program will also aim at people not currently using their chainsaws, providing training in both chainsaw operation and in sustainable forestry.

It is to be expected that this program will increase the number of operational chainsaws in Vanuatu, and the number of trees cut locally. However, as forestry training and environmental awareness (for both the operator and the community) is incorporated in the chainsaw training, the result should be an improvement in forest management and environmental protection. The development of workable models of forest management (section 2) will be critical here. If a majority of operators and communities do not adopt environmentally acceptable practices then this strategy may be regarded as having failed.

Support of chainsawmills will be limited to operators who have received training by CEF, or who show a standard of operations, particularly in forest management, which is equal to the training standard. Provision of this support will allow CEF to maintain links with operators, and to monitor the effectiveness of their forest management.



## **Small-scale Technology - Chainsawmills**

- 4.1 **Promotion of Chainsawmill timber production**
  - among existing chainsawmill owners
  - among those communities considering large scale logging
  - among others
- 4.2 **Promotion of Chainsaw training**
  - among existing chainsaw owners
  - among others
- 4.3 **Development of Forest Management**
  - pilot areas
  - tree selection and size limits
  - forest management standards and monitoring
- 4.4 **Provision of training**
  - chainsaw
  - chainsawmill
  - forestry and environment
  - first aid
  - business aspects
- 4.5 **Development of monitoring standards**
  - operating standards for chainsawmills
  - monitoring procedures
  - reporting and advice on standards
- 4.6 **Development of community involvement**
  - community education / awareness
  - community planning
  - community control/monitoring of timber harvesting
- 4.7 **Provision of support**
  - technical advice & follow-up visits
  - spare parts & repair service
  - additional training
  - development of local support services
  - development of support for community roles
  - assist in timber marketing
  - support to be restricted to graduates of CEF training courses or others following appropriate forest management

## 5 Support for Communities and Groups / NGOs

This is specifically aimed at Objective 4, but is also essential to all other objectives in order to achieve continuity and sustainability of these objectives. It is also inherent in the footnote to the objectives. Communities could require assistance or support from the program in a number of ways :

- i) communities or villages which request assistance in development or planning of forestry and environmental issues.
- ii) small or island-based groups with interests and activities in environmental or forestry issues, but with very limited resources (other than membership). This would include groups formed under 2.6 above.
- iii) larger or nationally based NGOs requesting assistance or advice on environment or forestry matters.

Assistance to communities will be based on the principles of Community Development - that is assisting communities to identify their own needs and how to achieve these, rather than imposing solutions developed by the program or others. This can be applied formally and intensively in planning sessions such as those for forest management (section 2), or informally as the key to effective group discussions and meetings in awareness and education programs.

CEF will aim to work through existing community structures and institutions where-ever possible and appropriate. This will specifically include chiefs, churches and other local institutions. CEF will also try and promote custom and tradition, especially as it relates to management of the environment.

Support and information will be provided initially through the production of a regular newsletter to assist in sharing ideas and information of interest. This will also assist in providing publicity, and is likely to assist the formation of similar groups in other areas. The program would also provide assistance in forms such as: advice on group organisation; information on specific subjects; field visits by program staff; and special training if requested. It may also be appropriate to arrange some visits within Vanuatu to allow different groups to meet and share information or views. It is not intended that the program should be a source of funds for the activities of small groups or other NGOs. However, it may be appropriate for the program to assist others, especially small groups, to obtain such funding from donors or other sources.

NGOs which may request assistance or advice include the National Council of Women (VNCW), the National Community Development Trust (NKDT), Vanuatu Association of NGOs (VANGO), and possibly church or youth organisations. Such assistance could include conducting workshops or training in forestry or environment subjects, provision of program staff for short periods, or contributing to other NGO's programs and activities. It is likely that such assistance will occur in both directions, with the program also being able to benefit from relationships with these organisations.

## **Support for Communities and Groups / NGOs**

- 5.1 **Community Development**
  - community based planning and programs
  - work through local institutions
  - support of custom and working with chiefs
  
- 5.2 **Liaise with Community Groups**
  - identify other community groups
  - establish ways in which program and group activities are complementary
  
- 5.3 **Newsletter**
  - write / obtain articles
  - involve other NGOs, small groups & government
  - distribute widely
  - seek responses to monitor impact & prepare future editions
  
- 5.4 **Information Service**
  - liaise with government and other providers of information
  - promotion of service
  - act on requests to provide information
  
- 5.5 **Field Visits and Training**
  - liaise with government and others
  - promotion of service
  - field visits
  - workshops and training
  - work in conjunction with Education activities under 2
  
- 5.6 **Group Visits**
  - identify beneficial visits/exchanges by groups (specific goals)
  - organise and conduct
  - require some activities or publicity following from the visit.
  
- 5.7 **Funding Assistance**
  - assist in identifying funding sources
  - training in proposal writing & similar skills

## 6 Women's Activities

Objective 5 specifically addresses the role of women in program activities. It is felt that women, and women's organisations, have a definite role in forestry and the environment. For example, the following activities are commonly the responsibility of women in rural communities and all impact upon the environment :

**gardening** is a cause of forest loss in many areas, but also represents great potential for replanting of trees.

**firewood** collection can become more difficult if forest resources are lost.

**water supply** can be affected by land use decisions such as excessive clearing.

New technologies introduced into rural areas in the past have tended to benefit men rather than women, especially through the provision of a cash income which may be seen as the man's personal money, rather than as family money. This can actively disadvantage women if they are required to work harder in the gardens due to the absence of the men, or if they must find extra cash to pay for foodstuffs, school fees etc.

There is relatively little information available about women and the environment in Vanuatu, and so no detailed activities are presented here. The primary objective of the CEF Woman's Officer will be to research this information and to develop programs and activities.

### 6.1 Women's role

- identify women's roles in forestry and the environment
- workshops & education to develop recognition of these roles
- training in specific areas if requested

### 6.2 Women & Technology

- investigate relevance of chainsaw, or other, technology for women
- develop uses of timber products which can benefit women (eg. cooking stoves using sawdust)
- provide training & support if requested

## APPENDIX 2

### Schedule of Workshops and Activities

July 1993 - June 1994

#### Number of people receiving training

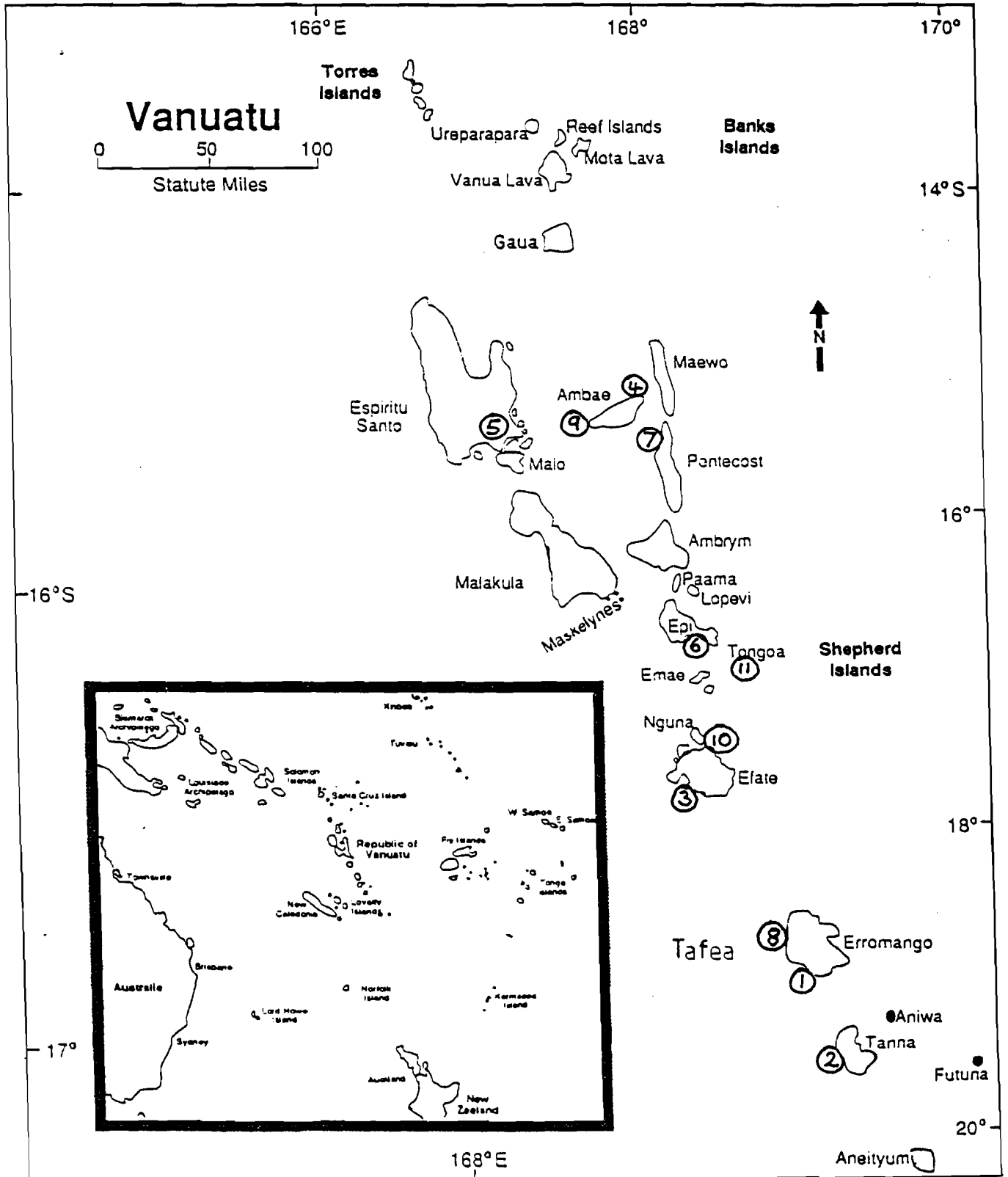
July 1	Workshop on Forestry and Environment (1 week), South River, Erromango 1 week education for 30 people, awareness for 40 people, drama training for 20 people
August 2	Workshop on Environment, Tree Planting and Chainsawmills (1 week), Tanna Chainsawmill training 8 men, drama training 12 people, public meetings 300 people & 200 school students.
September 3	Environment and Forestry exhibit and Chainsawmill demonstration at Efate Agricultural Show Awareness to over 2000 people  Attendance of Program Manager at South Pacific Heads of Forestry meeting in Nadi, Fiji
October 4	Chainsawmill & Environment Workshop (2 weeks), Ambae Chainsawmill training to 14 men Public meetings to 90 people and 100 school students Drama training to 8 young men
5	Chainsawmill & Environment Workshop (2 weeks), Santo Chainsawmill training to 22 men Public meetings to 40 people and 60 school students
November 6	Chainsaw & Environment Workshop (1 week), Epi Chainsaw training to 8 men Public meetings to 40 people and 50 school student
January	Program Manager tour of Papua New Guinea and Solomon Islands ecoforestry programs
February 7	Chainsawmill & Environment Course (2 weeks), North Pentecost Chainsawmill training to 9 men Public meetings with 970 people and 200 school students Women's meeting with 20 women
April 8	Chainsawmill & Environment Course (2 weeks), Erromango Chainsawmill training to 37 men

- 9 Environmental Awareness Tour, West Ambae  
 Public meetings with 280 people and 340 school students  
 Women's meeting with 40 women
- Program Manager to "Rainforests are our Business" seminar in Sydney
- May Evaluation of MEF/MG in PNG, Solomon Islands & Vanuatu
- 10 Environment Awareness meetings with NKDT, North Efate  
 Public meetings with 100 people
- May / June Chainsawmill & Environment Course (2 weeks), Tonga  
 11 Chainsawmill training to 11 men  
 Public meetings with 860 people
- June Environment Co-ordinator to TFAP seminar in Nadi, Fiji

Totals

Chainsawmill training	109
Public Meetings	2720
Women's Meetings	55
School Students	950
Drama training	40
Efate Show promotion	2000 +

**APPENDIX 3**  
**Map of Activity Locations**



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**APPENDIX 4**  
**Chainsawmill & Environment Course -Sample Course Program**

Monday	am	Official Opening, by local dignitaries
	pm	Course Introduction - Walk through the forest, environment issues
Tuesday	am	Introduction to Chainsaws, Chainsaw Safety
	pm	Basic cutting techniques, Chainsaw cleaning
Wednesday	am	Group exercises & discussions on Environment & Forest Management
	pm	Chainsaw maintenance routines
Thursday	am	Forestry techniques, Reforestation, Tree planting exercise
	pm	Chainsaw maintenance
Friday	full	Tree falling techniques, Directional falling, Minimizing damage, Safety, Cross-cutting of fallen trees
Saturday		
Sunday		
Monday	full	Use of Chainsawmill to cut timber, Setting up, Use of mill
Tuesday	am	Calculation of timber volume and prices
	pm	Practice cutting of timber
Wednesday	am	Basic Business management, Book-keeping
	pm	Timber quality, Timber storage and drying
Thursday	am	First Aid
	pm	Practice cutting of timber, repeat of any necessary material
Friday	am	Course evaluation
	pm	Official Closing by local dignitaries

*Note This program will run in parallel with environmental awareness activities in neighbouring areas such as public meetings, school visits, women's meetings and possibly drama training.*



**APPENDIX 5**  
**Summary of Mid-Term Evaluation**  
**MEF / MG**  
Melanesian Eco-Forestry / Matching Grant

Background

FSP has just completed a mid-term evaluation of the eco-forestry (small sawmill) projects in PNG, Solomon Islands and Vanuatu. FSP in the three countries, and at FSP-USA headquarters in Washington, currently receives funding for "Institution Building" under a five-year grant from USAID. Funding is aimed at improving FSP's capacity as an organisation involved in eco-forestry programs, and should "match" program funding raised from other sources. This year, Year 3 under the grant, is the first year in which Vanuatu has been funded.

The Evaluation did not follow the normal approach of an "outside expert coming to tell us what to do". Instead, Len Newell (an experienced forester based in Hawaii) acted as a facilitator to help those involved in the FSP programs in the 3 countries to evaluate their own programs, and to identify how this extra funding can be used to strengthen the programs. Len went first to PNG to meet with the 2 PNG projects (FSP/PNG and Village Development Trust), and a representative from Solomon Islands Development Trust. The team then went to Honiara to look at SIDT's program. Finally they came to Vanuatu to look at CEF's work - going to Santo to look at chainsawmills and Ambae to see Peter Vuta's sawmill. The field inspections were wrapped up with three days of meetings comprising all parties to discuss the future directions for the programs in the three countries.

The final evaluation report covers the observations of the team members in each of the three countries, the conclusions and recommendations arriving from those observations, and the future plans developed during the final meetings. Independence of the evaluation was achieved by having each country section written by team members from the other two countries, and verified by Len Newell as the independent evaluator. Len assisted by Kathy Fry also wrote the general sections of the report. The report will be submitted to USAID through FSP/USA headquarters in Washington.

The evaluation team comprised:

Len Newell	Team Leader	US Forest Service Forester
Yati Bun	FSP/PNG	Director & forester
Sasa Zibe	VDT	Director & forester
John Roughan	SIDT	Director
Robin Connor	SIDT	Natural resources manager
Karen Preston	FSP/Van	Director
Stephen Wyatt	FSP/Van	Forester
Kathy Fry	FSP/USA	Regional Director

The period for the Evaluation was May 9 to 27, 1994, with the period of May 18 to 27 being spent in Vanuatu.

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## Program in Vanuatu

Len Newell, Sasa Zibe and John Roughan arrived in Vanuatu on Wednesday May 18. On Thursday they, Karen Preston and Stephen Wyatt travelled to Santo to inspect a chainsawmill operation near Port Olry. The owner of the mill, Jerome from Port Olry, is cutting hardwoods such as Natora and Bluwota to supply to Santo Joinery where the boards are used to make high quality timber doors for export. The team was also able to inspect the Industrial Forest Plantation project site at Shark Bay and to look at the Forestry Department's research work.

On the Friday, the team flew to West Ambae to the small sawmill established by Peter Vuta in 1990. This mill now only operates occasionally due to shortages of both markets and available forests. We had good discussions with Peter Vuta and with Jerry Weatherall of the Londua Training Centre about the problems of timber cutting in areas where there is only small residual forest, such as in West Ambae and elsewhere in Vanuatu.

On Saturday the team returned to Santo to the Santo Joinery factory. This is probably the most advanced timber processing facility in Vanuatu with drying kilns, multiple planers and a range of joinery machines. They are well placed to purchase rough sawn timber from chainsawmills or small sawmills and turn this into high value products for export and domestic use. Bradley Wood, the manager of the Joinery, is planning a joint venture with three villages in north-west Santo to establish a small sawmill to supply Natora for the Joinery's export market.

On Monday and Tuesday (23rd and 24th) the team held a series of meetings with members of the CEF committee and CEF staff. Those included were Jimmy Jonathan, Jimmy Nipo, Ernest Bani, Job Delessa, Lae Sakita, Aru Mathias, Jacque Yakan, David Richard, Charles Vatu and Stephen Wyatt. On Wednesday Yati Bun and Robin Connor arrived from Port Moresby and Honiara. Thursday and Friday were occupied with meetings to discuss ways in which the three country programs could co-ordinate better together and to determine the use of funds during the remaining two years of the grant.

## Conclusions and Recommendations

The premier recommendation of the evaluation was that the maximum available funds remaining for the final two years should be directed to field activities. This arose from the team's concerns that a large proportion of the grant to date had been spent on institution building in USA headquarters, with relatively little benefit to the field activities. The team also recommended that more funds be directed to PNG (where there is a greater need) than to Solomon Islands or to Vanuatu (where the program is already well funded).

The evaluation found that the CEF program in Vanuatu was the most effective FSP eco-forestry program in the three countries. CEF's links with other NGOs and government were identified as being particularly beneficial. However the team did express concern at the emphasis on cutting technology (chainsaws and sawmills) and the relative lack of forest management activities.

The evaluation made a number of specific recommendations for Vanuatu:

- 1 Allocate resources to forest areas that are at greater risk; eg. Erromango.
- 2 Intensify the focus on forest management, and reduce the emphasis on sawmilling.
- 3 Prepare forest management plans for all communities served.
- 4 Increase frequency of follow up visits.
- 5 Stop working with or supporting any groups that are not following forest management plans.
- 6 Work on utilisation of coconut timber, subject to higher priorities.

As part of the process to plan future use of the MEF/MG funds each country identified specific activities that they would undertake during the next two years, and ways in which completion of these activities could be verified (both the country itself and by the donors). For Vanuatu these activities were divided into "Institution Building" (to improve FSP/Van capabilities) and direct "Ecoforestry" field activities carried out by CEF.

### **Institution Building:**

- Localisation of FSP/Van and preparation of a strategic plan;
- Train project staff & other groups with extra skills for field use;
- Raise additional funds for ecoforestry;

### **Ecoforestry field activities:**

- Develop methods & models of sustainable forest management;
- Technical & training exchanges for staff and others inside and outside Vanuatu;
- Develop monitoring of small sawmill activities (initially chainsawmills).

Personal Comments - S. Wyatt

I believe that the evaluation has been a very beneficial undertaking. The recommendations and ideas from experienced team members from other countries have identified ways in which CEF's activities can be improved. We will also benefit from the opportunity to use MEF/MG funds to send staff to gain experience in other programs (such as SIDT), and to bring staff from these programs to Vanuatu. These benefits work both ways, and we expect that we will be requested to assist other programs in CEF's areas of expertise. Finally, the process of conducting the evaluation ourselves under the guidance of Len Newell as arbiter and facilitator gave everybody greater experience in looking at their programs and in working together. This was undoubtedly a better approach than the conventional "outside expert on a one week visit".

Copies of the Evaluation Report and further information can be obtained from FSP, either to keep or as a loan for reading and return. Please contact Stephen or Karen.

Stephen Wyatt  
CEF Program Manager  
30th June 1994

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## APPENDIX 6

### Situation with the Department of Forestry

The situation with the Vanuatu Small Sawmill Project (VSSP), the Department of Forestry and FSP is best addressed by reviewing the sequence of circumstances since the project evaluation in early 1992. The recommendations from the internal project evaluation included the strong suggestion that the small sawmills (Wokabaut, Timbersaw) were not as appropriate to the forest situation in Vanuatu as were chainsawmills (the reasons for this are discussed further below). After extensive discussions and replanning, the VSSP Committee decided to put more emphasis on the chainsawmills, and to move away from the small sawmill technology, except for those landowners or communities that had previous chainsawmill experience. It was also felt that the previous focus on small sawmills had put too much emphasis (by demand) on the sawmilling activities of VSSP, and not enough on environment education and forest management. Chainsawmills require less service support, and could allow staff to focus on other elements. Additionally, ownership of chainsawmills is more diversified than ownership of small sawmills.

As part of this process, the VSSP Committee postponed the hiring of a new Program Manager until they had finished planning, and could better define the skills that they wanted in this person. The Committee had hoped to hire a ni-Vanuatu or a Pacific Islander, but those who did apply (2 PNG, 1 W Samoa, 1 Fiji) were all sawmillers, and the Committee was adamant that they wanted a forester who could develop the forest management training. An extensive international recruitment process subsequently hired an Australian forester, Stephen Wyatt, as Program Manager.

Shortly after the arrival of the new Program Manager in November 1992, FSP was informed by the Director of Forestry that the Government wanted the DoF to take over the VSSP. This was discussed at length with the VSSP Committee, who unanimously (including the two representatives from the DoF) felt that the project should remain an NGO. This was supported by a letter from the European Delegation in Port Vila stating that the funds were earmarked for NGO use for community forestry development, and could not be transferred to a government project. Shortly afterwards a Cabinet decision was made that VSSP should become the responsibility of the DoF. The Committee strategy was therefore to hand over responsibility for small sawmills, and the project name, to the DoF. The VSSP Committee formally disbanded at this time, although all members expressed their interest in continuing to be informally involved in further work.

The Committee felt that this did not signify the end of the project, as the goals and objectives could still be achieved and as funding was still intact. The technical focus of the project remains the provision of portable sawmilling technology, but using chainsawmills rather than small sawmills. The project continues to work towards the objectives of environmental education, forest management, and portable sawmilling technology, but under a new name - Community and Environmental Forestry (CEF) - which better reflects these objectives. An Advisory Committee, comprising original VSSP members and additional NGO representation, developed a new statement of Goals, Objectives and Activities, and is guiding the program. It is still possible that small sawmills will eventually return to the project, but should this occur it would only be as a component of CEF, rather than as the totality of the project.

## APPENDIX 7

### **VANUATU SMALL-SCALE SAWMILL PROJECT A CASE STUDY IN GOVERNMENT-NGO CONFLICT**

**PRESENTED TO  
THE HEADS OF FORESTRY MEETING  
JULY 18-22, 1994**

by

**Aru Mathias, acting Director  
Department of Forests, Vanuatu  
and  
Stephen Wyatt, Project Manager, Community & Environmental Forestry  
Kathy Fry, Regional Director  
Foundation for the Peoples of the South Pacific (FSP)**

#### **1.0 INTRODUCTION**

This real situation is presented to the HOF meeting as a case study to illustrate some of the philosophical differences that can cause friction between Governments and NGOs. While it is recognized by the writers that these differences should not be stereo-typed and depend independently on individual personalities on both sides, it is felt that the case presents a useful topic for discussion and debate.

The paper was written jointly by Aru Mathias, the acting Director of Forestry/Vanuatu, and by Mr. Stephen Wyatt, FSP Manager for the Community and Environmental Forestry (CEF) project, and Ms. Kathy Fry, FSP Regional Director.

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## 2.0 WHAT HAPPENED: Presentation of the Case Background

In November, 1988, FSP opened an office in Vanuatu, and was shortly thereafter approached by the Vanuatu Department of Forests Forest Utilization Officer to assist with the development of a portable sawmilling industry in Vanautu. The initial DOF interest was to promote local entrepreneurial activity in this sector to supply the larger sawmills producing value-added products for local and export markets. The FSP Country Director had previous experience working with NGO portable sawmill development programs in Papua New Guinea and Solomon Islands, which is why she was approached by DOF.

As a community development NGO, FSP was also concerned about impacts beyond the forestry sector, such as environmental awareness, rural business development, and socio-cultural changes. For this reason, it was agreed that a project management committee be established comprising the Environment Unit, Department of Local Government, National Planning Office, the Development Bank, and other NGOs, in addition to the project partners, DOF and FSP. The Management Committee and project became known as the Vanuatu Small-scale Sawmill Project (VSSP), and was identified as a joint project of DOF and FSP. The Director of Forestry was invited to be the Chairman of the Management Committee, but instead nominated two other representatives from DOF.

Funding for start-up activities came through DOF from the New Zealand High Commission to purchase the first training sawmills, and through FSP from a Canadian donor, CUSO, for project operating costs. The first project manager was a CUSO cooperant who worked within the Department of Forests, with project funding managed by FSP.

FSP subsequently negotiated a grant with the European Commission, now called the European Union (EU) for five years of funding (1992-96) that would provide core operational costs for VSSP. The grant was from an EU NGO community development source of funding, and therefore FSP became the grant holder, not DOF.

Both DOF and FSP recognized the Management Committee as the consensus decision making body for the project and through this structure established the overall aims and objectives. All the decisions were made by the Committee up to this time, and there was little conflict. One situation was a political complaint to the Director of Forestry that VSSP was carrying out training in villages that were considered "opposition". This was causing some conflict between the department and Government. The matter was discussed by the Management Committee which decided that VSSP should work through the Local Government Councils to coordinate village training.

After the first project manager completed his contract, the Committee decided that the remaining staff member should work within the FSP office where there was space to accommodate additional staff. Given this situation, it was recommended that a Memorandum of Understanding between DOF and FSP be drafted by the Management Committee to clarify joint responsibilities to the project.

The draft MOU was submitted to the Director of Forests for approval. In response, the Director replied that DOF intended to take over full responsibility for the project. The Management Committee, including the DOF representatives on the Committee, met and agreed that the present management structure should continue. The project had been working quite well as a collaborative effort so they saw no reason for any change. Additionally, the Committee felt that DOF did not have the capacity either in staff or funds to takeover the activities of VSSP as the grant funds could not be transferred from FSP to Government.

Between 1991 and 1993, the Management Committee invited DOF to discuss this issue, but these meetings never eventuated. Finally, in March of 1993, FSP received a letter from DOF stating that the Council of Ministers had decided that VSSP must transfer to DOF. The Committee attempted, without success, to obtain the rationale for this directive. In the end, the Committee decided that the issue was too sensitive to address, and agreed to hand responsibility for VSSP to DOF. However, funds, staff and other project resources were to remain with FSP as the grant holder.

Accordingly, FSP consulted the donor, EU, about this change in circumstances. EU advised that the grant funds were intended for NGO community development work and therefore should remain with FSP to continue community-focused forestry training. These activities are continuing under a new project and Advisory Committee now called Community and Environmental Forestry (CEF).

### **3.0 WHY IT HAPPENED: Analysis of the Conflict**

The practical objectives of VSSP and the wider role it was going to play in the lives of the rural people, meant that both DOF and FSP were eager to see the project implemented at the earliest opportunity and so the relationship became more active. For both it was a project that could identify with their own organisation's broad policies and goals. However, conflicts emerged after the initial stages of the project which lead to a long standing conflict and bad relationship between FSP and DOF, and the eventual decision by the Council of Ministers.

Some of the main reasons seen as causing this conflict are:

- 1) different perception of roles;
- 2) lack of a clearly defined agreement at the start specifying each organization's role and where the various inputs should be;
- 3) funds allocation and details;
- 4) communication problems;
- 5) political interference.



### 3.1 Different Perception of Roles

With the relationship being between NGO and Government, it was clear that there was bound to be some differences in the way each would like to see the project progress. While both agreed that VSSP would be beneficial to the rural people, each organisation had in mind different implementation roles and methodologies.

As the project created more interest, DOF became concerned with the number of sawmills, the availability of forest resources, and the efficiency of control and monitoring of the sawmills. Although DOF shared the view that VSSP could be an alternative to large scale logging, they were also concerned how the project activities could affect existing logging licences. DOF felt that VSSP did not pay enough attention to these matters.

Major conflict could have been avoided if each organization had initially identified and agreed to their respective and complementary roles in the project.

### 3.2 Lack of Agreement

At the beginning of the project neither organization focused on setting out a written agreement. The importance of this was perhaps over-looked due to the smooth working relationship during project inception. The project was seen as a saviour of the environment and as providing cash-strapped landowners with an alternative to large scale logging. The objectives of the project fit well with the broad aims of both organisations, therefore, no serious thought was given to the possibility of conflict arising at a later stages.

A draft Memorandum of Understanding was written by the Management Committee at a much later stage of the project to reflect changed circumstances. However, because some conflict had already arisen by this time, DOF did not agree to the terms of the MOU. If this MOU had been prepared at the very beginning, these conflicts could probably have been avoided.

### 3.3 Control of funding

Control of funding was an important factor that led to the conflict, especially as the grant was from the EU to FSP. Although both DOF and FSP were on the Management Committee which controlled expenditure, FSP still retained retained final control as the grant holder. This created an imbalance in the partnership. Additionally, expenditures which DOF may have seen as important to project activities could have been overruled by the Management Committee. For example, DOF believed there was a clear need for the purchase of a vehicle at the beginning, but the Management Committee did not agree until much later.

When VSSP was transferred back to the DOF under direction from the Council of Ministers, only the name and responsibilities were transferred, but the grant funds remained with FSP. This left the Department in the very awkward situation of having responsibility without sufficient resources.

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In joint projects, the grant holder usually has to have overall authority and accountability of donor funds, however, potential conflict could be avoided if both parties recognize this and the agreement is clearly documented.

### 3.4 Communication Problems

Communications during the development of the project were very positive with single contact persons in both organisations. However, this did not continue once the project proper was up and running. As more people became involved, communication problems started to arise.

It is now thought that the breakdown originated with a single issue in which strong concerns from DOF were not adequately communicated to the Committee. This initial breakdown then expanded into problems with a range of other issues. It is recognized that individuals -, depending on their reasoning - could be responsible for creating additional communication problems.

In retrospect, the communication problems might have been avoided had DOF been more insistent in presenting its priorities, or if the Management Committee had been more sensitive to the DOF situation.

### 3.5 Political Interference

The major objective of VSSP was to reach as wide a range of the rural population as possible. While not wanting to influence the objectives of the project, DOF, as a government institution, was subject to political influence. This created a conflict for DOF when government wanted to restrict training workshops in certain areas, or determine who had the right to purchase and operate a sawmill. DOF had to try to neutralise these effects and still honor the independence of the Management Committee.

NGOs working with government agencies need to be aware that the latter are subject to political direction. Therefore, NGOs should to be sensitive to this and be prepared to discuss potential conflicts and their resolution before the situation arises.

#### 4.0 THE WAY AHEAD - Resolution of the Conflict

The current situation is that both FSP and DOF recognize that DOF has full responsibility for small-scale sawmills, although it lacks staff and resources to effectively undertake this work. The EU grant funds are now being utilized by the FSP CEF project to continue community forestry and environmental activities. The personalities in both FSP and DOF have since changed, and the present staff are concentrating on increasing dialogue to ensure the absence of conflict.

DOF is recently under new directorship, and a more collaborative relationship is developing between FSP, the CEF project, and DOF. Looking back at the lessons learned during the VSSP conflict, we now want to address ways in which similar situations can be avoided in this new relationship, both between DOF and FSP but also with other agencies.

Before the decision of the Council of Ministers to transfer VSSP to DOF, the VSSP Management Committee had decided that the projects activities needed to extend to the smaller technology of chainsawmills, and to wider environmental / forestry awareness and education. This has continued under CEF with a new set of goals, objectives and activities prepared by the CEF Advisory Committee. This committee currently has representatives from 3 Government departments, the Development Bank and from 4 local and 1 international NGO, in addition to DOF and FSP. The committee allows control of CEF activities to rest with a predominantly local group, thus avoiding the issue of control being seen to be held by either Government or an International NGO.

The lack of a formal agreement, or Memorandum of Understanding, between DOF and FSP was identified as a problem for VSSP. However, we are not aiming to write such an MOU for CEF as the project now has much greater involvement from other government departments or organisations. Instead, we will aim to establish an MOU between the Advisory Committee and FSP as the implementing body, and request all organisations represented on the Committee to endorse both the MOU and the goals, objectives and activities of the project. In this way the Advisory Committee will be able to control the work of the project, and to mediate in any conflict between members of the committee, such as DOF and FSP. In the event of conflict between the Advisory Committee itself and FSP as the implementor, the issues should be referred to the resident EU advisor in Port Vila as the principal donor.

Control of the spending was an issue which contributed significantly to the original breakdown between DOF and FSP. As the grant holder FSP can be advised by the CEF Committee, but it must always retain final control of financial matters in order to meet contractual obligations to donors. However, it should be noted that FSP/Vanuatu has never yet vetoed a decision of an advisory committee. If a conflict does arise between FSP and the Advisory Committee over a financial issue then this can be referred to the EU to determine.

It is very important that FSP and DOF, and other agencies, maintain good communications, especially when planning and implementing new activities. This communication can be at high levels, such as meetings of the Directors of DOF and FSP and the Chairman of the Advisory Committee, and at low level meetings between staff of the organisations. Joint field trips, work projects and staff exchanges are also important ways to ensure these low level communications. Meetings, and communications in general, can be either formal or informal depending on the situation, the people involved or the matters to be discussed. It should also be remembered that in Vanuatu some of the best communication can be carried out over a few shells of kava.

A particular difficulty for NGOs is that development work often crosses several sectors, and therefore they have to work with a number of government departments. In the case of CEF there is significant involvement with three departments (Forestry, Environment and Local Government), lesser involvement with a number of others (Planning, Co-ops, Women's Affairs, Agriculture), and links with a Statutory Authority (Development Bank) and several NGOs. In this situation, ensuring good communication can be very time consuming, and there can be a temptation to give it a lower priority. The role of the Advisory Committee is therefore very important as a forum where all of these organisations can meet to discuss project activities, and indeed other matters as well.

Finally it must also be remembered that political issues can also affect the best efforts of departments and NGOs. It is necessary that government recognises that NGOs are independant, and it should be sensitive to this fact when departments are working with NGOs. However, development NGOs, especially International ones, should work within government policies to avoid presenting different or confusing messages. As CEF works with DOF, and other government departments, it must be aware of the political situations that could be created by its work. With a predominantly ni-Vanuatu staff, this sensitivity should be easier to achieve now than in the past. Additionally, the Advisory Committee is also a forum for discussion and advice, and provides contacts for discussing potential political problems before they arise.

VSSP / CEF Budgets  
Expenditure to end June 1994

Donor From : To: Curren. Amount	Completed Grants							On-going Grants				Total Expenditure To Date	% of Total Expenditure
	CUSO Feb 1990 Dec 1990 Vatu	NZHC May 1990 June 1990 Vatu	Canada F. April 1990 Vatu	AIDAB Nov 1990 July 1991 Vatu	Guernsey July 1991 Mar 1992 ECU	WWF-I Mar 1993 May 1994 GBP	Tudor-I Mar 1993 June 1994 GBP	EC July 1991 June 1996 ECU	NZHC Feb 1994 Dec 1994 Vatu	WWF-II June 1994 Nov 1994 GBP	Tudor - II May 1994 Dec 1994 GBP		
				29,996	21,000	15,900	356,649			19,500	16,000		
<b>Total Vatu</b>	<b>2,404,223</b>	<b>581,400</b>	<b>920,000</b>	<b>2,052,883</b>	<b>3,858,298</b>	<b>3,740,520</b>	<b>2,742,591</b>	<b>47,940,759</b>	<b>759,306</b>	<b>3,379,350</b>	<b>2,811,200</b>	<b>71,190,530</b>	
Personnel	924,300	0		692,509	727,258	3,499,938		4,811,038		965,821	0	11,620,864	32
FSP Adm. inc. in Pers.		0		inc. in Pers.	inc. in Pers.			3,681,891	69,000		0	3,750,891	10
Training	197,144	412,385		338,573	681,209	45,000	165,953	1,332,610	108,230	97,750	248,775	3,627,629	10
Travel	266,520	93,015		217,866	78,977			802,582			0	1,458,960	4
Equipment	0	76,000	920,000		1,380,554		2,235,312	1,119,972			0	5,731,838	16
Space	709,883	0		375,017	573,034			1,168,898			0	2,826,832	8
Other	306,376	0		428,918	417,266		62,566	5,591,697	1,905		0	6,808,728	19
UKFSP	0	0			0	195,582	278,760	1,406,694		0		1,881,036	5
<b>TOTAL</b>	<b>2,404,223</b>	<b>581,400</b>	<b>920,000</b>	<b>2,052,883</b>	<b>3,858,298</b>	<b>3,740,520</b>	<b>2,742,591</b>	<b>18,508,688</b>	<b>179,135</b>	<b>1,063,571</b>	<b>248,775</b>	<b>36,300,084</b>	<b>100</b>

NOTES

- 1 EC Personnel costs include 282,914 of FSP admin salaries & housing June - Sept 1992
- 2 WWF-I UKFSP costs paid as a consultancy
- 3 All funding under Matching Grant (USAID) not included as no information available
- 4 Various FSP Consortium expenses are recorded against project line items

CUSO First Prog Man, housing, travel, misc expenses - Feb - Dec 90  
 NZHC First Wokabaut Somill training by PNG trainers - May, June 90  
 Can Fund Purchase of Wokabaut Somill - April 1990  
 AIDAB Salaries, travel etc. Nov 90 - July 91  
 Guernsey Purchase of Timbersaw, General expenses Aug 91 - Mar 92  
 WWF Salaries  
 NZHC Chainsawmill training to Rural training Centres  
 Tudor Training workshops & Equipment (vehicle)

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**APPENDIX 9**  
**Presentation to Heads of Forestry Meeting, Fiji, September 1993**

**SMALL SAWMILLS, COMMUNITIES, AND  
FOREST MANAGEMENT IN VANUATU**

**Stephen Wyatt**  
**Foundation for Peoples of the South Pacific**

The 1992 Heads of Forestry Meeting included a number of papers around the theme of small sawmilling in Pacific Island countries. These papers revealed a number of differences, not only in the technology used and the effects of this technology, but also in the objectives that were seen for small sawmills. This paper will not attempt to repeat material that was adequately covered at the 1992 conference, but will address some of the issues relating to ways in which small sawmills affect forest management by communities, drawing from experience in Vanuatu

It is worthwhile at this stage defining exactly what is a small or portable sawmill. These terms have covered a wide range from large Forestmills driven by an 80 horsepower engine, to handheld chainsaws. Portable sawmills can be divided into three categories:

- i) "Relocatable Sawmills", such as the Forestmill, which can be dismantled in less than a day and transported to a new site by a truck. Such sawmills will usually be located at one site for a number of months, with heavy machinery used to bring logs to the sawmill site.
- ii) "Small Sawmills", such as the Wokabaut Somil, which can be dismantled in less than an hour and carried by hand. These sawmills may be relocated for each and every tree felled, or may remain located at one site for a short period with logs brought to the site using hand powered winches or similiar.
- iii) "Chainsawmills", such as the Alaskan Mill, which consist of a conventional chainsaw mounted on a frame which facilitates accurate timber cutting. Almost without exception, chainsawmills are carried to the tree at the site of felling.

For clarity, this paper will refer to all of the above as being "Portable Sawmills", or will refer to each category separately. Discussion will center on the uses of small sawmills, as these are mainly owned by landowners in rural areas, either individually or on a family/clan or community basis. In Vanuatu, relocatable sawmills are generally business owned, while chainsawmills work at a significantly lower intensity.

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## Objectives of Small Sawmilling Programs

Many South Pacific countries have, or have had, programs to investigate or promote portable sawmills. Generally these countries have been considering the benefits of portable sawmills in rural development. However, in the Melanesian countries of Papua New Guinea, Solomon Islands and Vanuatu, there are two equal, or possibly even greater, goals (Fiji and New Caledonia are sometimes also considered as Melanesian, but have not made the same uses of small sawmills). These have been to reduce the amount of forest logged to provide a given level of income, and to promote better forest management. All three objectives can be dealt with individually:

**1 Encourage non-urban development:** in many South Pacific countries a large majority of the population is located in non-urban areas, and governments aim to foster development in these areas. As forest resources are almost without exception located in rural areas, portable sawmilling has been seen as a means of achieving this development. Portable sawmills may be transported to villages or other rural areas to convert a local timber resource into a saleable commodity, thereby providing employment and expanding the rural economy. The efficiency of this as a means of rural development depends as much on the socio-economic nature of the country as on physical or other factors. Fry & Devoe (1992) supported the use of small sawmills in Vanuatu, whilst Swarup (1992) noted that portable sawmills found it difficult to compete against products from larger sawmills, and therefore were more appropriate in remote areas where there were no alternative means of timber production.

**2 Reduce the level of forest harvesting:** one of the central concepts behind the development of the Wokabaut Somil in Papua New Guinea was that a major cause of deforestation was that forest landowners needed a source of income. Without other commodity products, they were prepared to sell the standing timber on their land to logging companies (frequently foreign owned). If landowners could be provided with a means of cutting the trees themselves, and selling the higher value sawn timber, then it would only be necessary to log a much smaller area of forest to obtain the same level of income.

**3 Promote sustainable long term forest management:** A second consideration of the Wokabaut Somil approach was that landowners involved in producing timber from their forests would have an increased appreciation of the value of these forests. If they were provided with training in sustainable forestry techniques, then they would see that it was in their best interests to manage the forests sustainably.

The extent to which these objectives have been met varies greatly from country to country. However, based on the reports from around the South Pacific, no country has been able to met all of these objectives to their satisfaction.

## The Need for Forest Management

Two of the three objectives outlined above have their origins in considerations of forest management. Despite this, the subject has probably received less attention in relation to portable sawmilling, than have subjects such as the economics of production, or the need for thorough training. Papers presented to 1992 Heads of Forestry meeting covered a number of issues such as technology, training, the economics of portable sawmilling, the role in rural development and the importance of the environment. However, methods of forest management received relatively little discussion. For portable sawmilling in general, and small sawmills in particular, to achieve their objectives, it is important to address the issues of forest management. This requires developing a framework in which sawmilling and timber production can occur, without excessively compromising other values of the forest.

Forest management as practiced by foresters trained in the Western tradition (with its historical origins in Germany in the late Middle Ages), usually involves a large area of forest from which a body of data has been collected. This data enables a series of management strategies to be developed in order to optimise the production of given forest values, such as timber, foodstuffs, water, amenity etc. The strategies are extensively documented and discussed with the forest owners, either private individuals or the public. They are then implemented by professional forest managers who have been empowered with the authority to enforce compliance with these strategies.

The advent of small sawmilling has occurred during a time when Forestry Services in Melanesia have been labouring under shortages of resources, and planning of forest management for these operations has not been widespread. This has led to a number of criticisms of small sawmill programs, and concerns that they could cause exactly those environmental problems which they aim to prevent, ie, increased areas of forest harvested and an absence of sustainable management.

One exception to this shortage of planning has been the Eco-Forestry Management Plan (EMP), prepared for small sawmill users in Papua New Guinea and Solomon Islands by the Rainforest Information Centre (RIC) in Australia (RIC 1992). This uses a basically traditional approach to forest management: defining forest management areas; dividing these into harvesting blocks based on a cutting cycle of up to 50 years; selection of trees for felling based on their light demands; carrying out harvesting under strict controls using a Wokabaut Somil; and re-establishing seedlings in the newly created canopy gaps. The draft EMP was released by RIC in August 1992 following work with Village Development Trust in Lae, and does represent a sound technical basis for forest management with small sawmills. To my knowledge, no reports have yet been released on its implementation. However the traditional approach to forest management is not automatically appropriate for use with small sawmills in Melanesia. Experience in Vanuatu has been that the RIC approach could run into difficulties in several areas, and so the EMP has not been used. It is possible that these difficulties could be overcome by looking once again at the factors which affect forest management in Vanuatu.



## Considerations for Forest Management

**1 Forest Land Ownership and Usage:** in all three Melanesian countries, almost all forested land is held by customary owners, either individually or as members of a family, clan or community. In Vanuatu 100 % of land is under custom ownership, and the Constitution enshrines the rights of landowners on their land. This can, and does, act as a barrier to Government access and control of land, and makes it difficult for the Department of Forestry to have direct control over forest management. Land can be leased, but a maximum term exists of 75 years - which is perhaps just sufficient for forest management

As with most societies which live in close proximity to forests, rural dwellers in Vanuatu obtain a wide range of benefits from the forest. Some of these are of high value, but low intensity, such as the collection of medicinal plants. Others have a significant impact upon the forest such as clearing for gardens, or even felling of large individual trees for special uses, such as canoes. These non-timber values and uses have long been regarded as difficult to quantify, although this attitude is now changing, but they are too important to be ignored. Other papers at this meeting will no doubt discuss methods of quantifying these values, and will relate them to the economic returns available from timber harvesting. However, whatever the quantum of value ascribed to these benefits, there is no doubt that customary landowners view them as important, and therefore they must be included in the forest management process.

Forest landowners and communities thus have both significant legal and customary rights to the forest, and an interest in how it is managed and the benefits it provides. Traditionally, this was enough to grant control of the forest, and such management as was needed, but the development of centralised governments, and forest users that extend across traditional boundaries has caused customary managers to lose a degree of their control. Unfortunately, the paucity of government or other resources restricts the control that can be exercised by these agencies. The importance of the customary landowners in effecting forest management lies not only in their legal rights and their interest, but also in their availability on location to carry out this management.

**2 Community Attitudes and Approaches :** in rural communities where small sawmills are working, there are unfortunately a number of community factors which can make it difficult for small sawmills to either operate effectively, or to result in good forest management. In many locations in Vanuatu, a village or locality is less one community than a collection of small communities, each in some degree of competition with the others. The introduction of a technology with the potential to generate wealth and disturb traditional forest uses, can cause problems if the technology is controlled by one group, and that group wishes to utilise the resources of other groups. This factor has adversely affected small sawmills in the island of Ambae, where religious differences prevailed, and in two locations in Ambrym - political in one case, and the isolation of an individual family in another. It is possible that the too-rapid introduction of this technology has exceeded the ability of the traditional dispute solving mechanisms within the community.

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Experience with ni-Vanuatu villagers demonstrates an impressive knowledge of possible uses and the characteristics of various plants and animals found in the forests, and in other environments. However, this knowledge appears to be limited to the individual species themselves, and frequently does not extend to the interactions between various components of the ecosystem. Additionally, there can be a lack of appreciation of time relationships, such as the length of time for trees to reach a loggable size, or of coconut crabs to attain maturity. Quantification of information can also cause similar problems, with little understanding of the importance attached to numbers in scientific tradition. These factors can limit the understanding of forest management plans which are based on concepts of sustained yield of interacting forest components, over a long period of time. If the customary owners fail to understand the reasons for forest management strategies, then they will be less likely to accept and implement them.

Consultation is a traditional feature of Melanesian life, and essential when determining future actions, and in problem or dispute solving. Forest management must also be addressed within this context. Consultation must extend through all phases: such as discussions about small sawmilling and whether it is appropriate; determination of ownership and the vesting of control; operation of the small sawmill, or of other forest management activities; and on into monitoring. Potentially, these last two are the most important, as it is here that problems are likely to occur, and will have to be resolved. If the initial phases were not carried out with consultation, then parties will be less likely to accept the need for consultation in later activities. In Vanuatu it has been found easy to set up small sawmilling, with great interest and successful training, but problems tend to develop a year or so later. Small sawmills founded as community projects, with traditional discussions and consultations, such as that on Aneityum, have been more successful.

**3 Extent of the Forest:** The forest resources available to villages or communities vary greatly. In Vanuatu, these forest resources are not as great as those in Papua New Guinea or Solomon Islands. Even areas regarded as having more significant forest resources, such as parts of the islands of Santo, Malekula and Erromango, are small and with low standing timber volumes, when compared with Papua New Guinea and Solomon Islands. This means that the limited forest areas are being subjected to greater stresses, and that the area of forest available to a single village is unlikely to be sufficient to enable a small sawmill to operate sustainably on the land controlled by that village (even assuming that all members of the village were prepared to co-operate fully in the operation of the sawmill). RIC (1992) estimated that a village of 300 people implementing their eco-Forestry Management Plan needed 150 ha of forest dedicated to sawmilling, plus other areas for reserves, gardens, watercourse edges and so on. In Vanuatu, lower forest timber volumes would necessitate significantly larger areas.

The limitations of forest area will act to push the sawmill into lands owned by other communities. Hence, the forest to be managed cannot be seen solely as that owned by one family, or one village, but frequently as the forests available to a group of villages. Secondly, the limitations of forest area also lead to the sawmill cutting trees in non-forest areas such as gardens and village areas. This is especially so for the Timbersaw used in Vanuatu as it is heavier than the Wokabaut Somil, and so operators prefer to use transport it by a light truck, carrying it by hand for no more than one or two hundred meters. Remnant trees in such areas have high values for a wide range of uses, frequently having

been left there for a purpose. The demands of the small sawmill for timber can result in these trees being felled.

**4 Knowledge - Silviculture, Timber Uses, Ecology etc. :** One of the considerations for forest management must of course be the level of knowledge about the forests - the silviculture, the uses for timbers, the ecology and other factors. The information in different South Pacific countries varies greatly. Vanuatu, for example, has a new integrated forest and natural resource inventory, but does not have good data or conclusions on the growth rate of trees in the natural forests. Even so, there is more knowledge about the trees than about other components of the eco-system. These deficiencies cause limitations in the effectiveness of any attempts at forest management.

However, even though the need for additional information is acknowledged, there is no doubt that we now have access to much more information than has ever previously been available. The importance therefore, lies both in identifying critical future information needs, and in ensuring that that information which is available is effectively used to further forest management.

**5 Implementation and monitoring :** Once management strategies are determined, then these need to be implemented, with activities and results being monitored in order to assess the effectiveness or otherwise of the strategies. Once again, this relates to the customary landowners. In Vanuatu, and in most other countries, it is unlikely that Government Forestry Services, or Non-Government Organisations (NGOs) will ever have the resources to be able to effect forest management for small scale operations in widely dispersed areas, or be able to enforce compliance with rules or guidelines. In implementing and monitoring, landowners and communities have two main advantages over external agencies: they are available on location and are familiar with the forest; and they have an interest in the uses of the forest. For these advantages to be utilisable, the communities need to understand the scope of the forest management activities, and must have the confidence and ability to implement and monitor. The role of the Forestry Service or the NGO can then be to provide these skills, rather than to undertake the much more onerous task of carrying out the work themselves.

#### Planning for forest management

Arising from these considerations of forest management in Vanuatu, we need to look at what can be done to plan for effective forest management for small sawmilling. This will not be concerned solely with the operations of the sawmill, or even of felling of the timber trees, but must include all the interactions that will arise from the sawmill. In this context the small sawmill should be viewed as only one component of the demands upon the forest, and integrated solutions are necessary. Much of this approach is equally relevant in situations not involving small sawmills.

**1 Community Consultation and Involvement :** Several of the points considered above relate to the role of the community and its involvement in processes, and this will be a key to effective forest management. The RIC approach emphasises extensive discussion and consultation with communities prior to any decision to purchase a small sawmill, and detailed explanation of and training in the EMP. However, consultation should, of necessity, be centered upon discussions leading to the development of management

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strategies. If communities are not involved in deciding the management activities, then it is highly likely that they will not, either understand, or be involved in forest management activities. The result will be a failure to achieve those strategies.

**2 Information ;** For Forest management to succeed the necessary information must be obtained, from local sources such as the villagers themselves, from external sources, and from study of the forest resource. Necessary information would include: areas of forest; the demands that people place upon the forest and how they value the meeting of these demands; species and growth rates; and factors relevant to the operation of the sawmill. However, it should be remembered that the manner in which the information is presented and used is of equal importance in establishing management to the information itself. Thus, large volumes of technical data on growth rates may actually work against good forest management if those who need to use it are not able to understand the information. An example of a solution to this problem is the diameter limit table for Fiji suggested in Mussong (1992), which condenses complex silvicultural data and growth modelling into a simple one page table which can be used by landowners or sawmill workers.

**3 Education ;** Successful forest management will require a significant investment in education - variously of the landowners, those involved in the sawmill, and external individuals or organisations that are facilitating the management process. Initial information gathering with villagers is likely to reveal areas where they need education. This could include subjects such as the ecological inter-actions of the forest, or the effects of logging in both the short and long terms. Additionally, sawmill workers require training in aspects of the sawmilling operation, and the outsiders are likely to gain significant extra information about the uses and demands upon the forest. As previously discussed, information for education must be delivered in ways that are appropriate for those who require it.

**4 Land-Use Determination :** An essential process in providing for forest management should be community based determination of how the available land is to be used. In Vanuatu, land available to one family is almost never sufficient to allow for sustainable timber production using a small sawmill commercially. Hence community or group discussions are necessary to decide what land will be available for sawmill operations, and what will be used in other ways. This does not automatically imply a "reservation" approach of delineating specific areas to be used for single uses, but does require consideration of the future needs of the community. This could result in conclusions that, for example, sawmill sites close to the village be developed for gardens, that those further away be revegetated to maintain forest cover and used for more traditional forest products, and that the steeper slopes should not be logged. Land-use is one aspect of the forest management information that does need to be retained for the future, and therefore should be recorded, such as on a simple pictographic map.

**5 Sawmilling Control :** As the sawmilling operation is such a potentially disruptive procedure, it is important that specific requirements are agreed upon before commencement. This would also apply to any other high-impact activities that were to be undertaken. Requirements for sawmilling could include species of trees to be felled, or retained; size limits for different species; responsibility for replanting of trees and tending of the seedlings; and so on. Such requirements should certainly be recorded, and be available for all concerned with the management of the forest.

**6 Implementation and Monitoring:** As stated above, implementation of forest management will be the responsibility of the community and the customary landowners. As all parties have been involved in discussion and determination of landuses, this will usually lead to community acceptance, and interest in and commitment to management of the forest. Monitoring includes the ongoing checking of the condition of the forest, and identification of any need to make changes to the plans for forest management. Especially important is the role of ensuring compliance with specific rules or guidelines, such as for sawmilling control. As community responsibilities, implementation and monitoring should be in the hands of either a committee with representatives from different parts of the community, or rest with the traditional authority, such as the chiefs. The role of Government or NGOs should be to assist and advise here, rather than to take primary responsibility for implementation or monitoring.

**7 Role of Documentation :** As discussed several times above, all information and documentation should be appropriate to the needs of those responsible for the forest. Most ni-Vanuatu villages traditionally store and communicate information verbally, rather than in writing, although much of the population is literate. Hence, it is possible to document decisions and information, although this should be viewed as an adjunct to the verbal information and the understanding of the community, rather than as a replacement for it.

#### Other Portable Sawmills

Thus far this paper has centered on small sawmills, such as the Wokabout Somil from Papua New Guinea and the Timbersaw from New Zealand, and has not addressed issues relating to relocatable sawmills or chainsawmills.

In Vanuatu, all operational relocatable sawmills are owned by companies, usually with other business interests, and frequently foreign or ex-patriate owned. The scale of the operation requires large machinery and significant investment, and is beyond the reach of almost all rural ni-Vanuatu, either individually or as communities. These operations require the continued role of the Department of Forestry in control and forest management, although many of the considerations outlined above are still most relevant.

Chainsawmills, however, are almost exclusively in the hands of rural communities, but are used primarily for occasional production of sawn timber for specific community or individual needs. To the author's knowledge there are only three chainsawmill operators in Vanuatu who produce sawntimber on a business basis, although only part-time. These, and any other similar operations that commence in the future, should be encouraged to use the same forest management processes as small sawmills.

## Conclusion

During the last decade, small sawmilling, and chainsawmilling, have become increasing important in the forests, and the non-urban economies, of Melanesia. The intention has been that this technology will result in better forest management, and in better lives for the traditional owners of these forests. Small sawmills can assist people to gain a greater understanding of the value of their forests by giving a cash value to the trees. Of course, there are also a wide range of other values in the forest, both cash and otherwise, and these should also receive attention.

However, small sawmills, like any other tool, can be used in a number of ways, and do not automatically deliver the benefits intended. Any program which seeks to promote small sawmills, should also assist communities to understand the full value of their forests, and to manage their forests so as to provide a full range of benefits.

This paper has set out a number of considerations involved in forest management in Vanuatu, and several processes that should assist management of forests subject to small sawmilling. A central element here is that in Vanuatu, as in other Melanesian countries, forest resources are in the hands of traditional owners. Small sawmilling, and chainsawmilling, give these owners the opportunity to benefit from the timber resources in these forests. However, just as these owners have the rights and the benefits, they should also have the responsibility and ability to manage their forests.

This paper attempts to set out a framework of planning for forest management that educates landowners in some of the fundamental issues of forestry. The pressing need in small sawmilling is for good forest management to be promoted to communities - not as a phrase, but as an activity that can, and will, be carried out by the community. These communities have been able to use, and manage, their forests in the past, and have a sense of stewardship of the forest. This needs to be combined with additional information about the forest, its systems, and the ways in which new technologies and demands will impact upon it.

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## APPENDIX 10

### Report on Ecoforestry Co-ordination study

#### Executive Summary

This report covers a study of ecoforestry projects conducted by FSP/USA and its partners in the three Melanesian countries of Papua New Guinea, Solomon Islands and Vanuatu. These projects are all funded independently, but USAID has provided funding to FSP/USA under the Melanesian Ecoforestry Matching Grant (MEF/MG) to develop FSP's capacity in implementing these projects. The study was conducted during three weeks in January 1994 in PNG and Solomon Islands, combined with other information from Vanuatu.

The study has identified a number of major issues that affect the conduct of ecoforestry programs in the three countries, including: the regionality of the FSP MEF/MG program; the different nature of the forest resources in each country; and methods of achieving sustainable forest management. FSP has quite different structures in the three Melanesian countries, each at least partially independent of the other, and this has made a co-ordinated approach difficult. This has been unfortunately exacerbated by a lack of consultation between the countries and FSP/USA headquarters - the grant holders. This consultation and co-operation is especially important as the three countries each require different approaches to ecoforestry - a single method is inappropriate given the differing nature of the forest resources. In particular, models for sustainable forest management still require further development, and this can benefit from the joint experiences of all projects.

The Terms of Reference (Appendix I) for the study included the collection of information about the ecoforestry activities of various FSP programs. This was extended to include programs which are, or have been, funded through FSP, as well as the actual FSP organisations. These "FSP partners" are FSP/PNG, Village Development Trust (PNG), Solomon Islands Development Trust, Soltrust, and FSP/USA (Vanuatu). All partners are currently working on ecoforestry programs, with FSP/PNG and Soltrust having received funding support for staff positions. There are number of ways in which MEF/MG funding can be further used to develop the capacity of FSP partners, especially in co-operation and consultations between staff of different projects.

A number of recommendations for the future of the MEF/MG, and for FSP's ecoforestry programs are offered. Most important of these is that FSP/USA Headquarters, the grant holders, should involve the Melanesian FSP partners in decision making for the MEF/MG. Additionally, FSP partner programs need to carry out further development of models for achieving sustainable forest management in ecoforestry programs. There exists great potential for the MEF/MG to develop FSP's capabilities, and the effectiveness of the ecoforestry programs, if it used to foster consultation and co-operation between all the FSP partners.

This study was conducted by Stephen Wyatt, Manager of the Community and Environmental Forestry project, FSP/USA Vanuatu, January 9th to 29th, 1994.

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## 1 BACKGROUND

Foundation for the Peoples of the South Pacific (FSP) has been involved in ecoforestry projects in Melanesia since 1984. Initially work commenced in PNG, in conjunction with another NGO, with the design and production of the "Wokabaut Somil", and preparation of training programs. The program expanded to Solomon Islands in 1986 through FSP's local partner SOLTRUST, initially introducing 8 Wokabaut Somils to be used for reconstruction following Cyclone Namu. Since that time SOLTRUST has expanded the program and has been seeking to market "ecotimber" as an high-value alternative to existing large-scale logging operations. In 1989 FSP in Vanuatu commenced the Vanuatu Small Sawmill Project in conjunction with the Department of Forestry. All 3 programs have been aimed at facilitating locally owned Wokabaut Somil operations and providing training in sustainable forestry.

In 1990 FSP/USA received funding from USAID for developing FSP's capacity in implementing these ecoforestry projects. This included support of FSP/USA head office, and field staff and activities in PNG, Solomon Islands and Vanuatu. The program was funded for 5 years, commencing August 1991, and is known as the Melanesian Eco-Forestry Matching Grant (MEF/MG). Project documents are held in the USA, and copies are not held in the three countries.

In February and March 1992 a team from the US Forest Service visited the region to conduct a Programmatic Environmental Assessment as a requirement of USAID. They spent 3 weeks in PNG, 1 week in Solomon Islands, and several days in Vanuatu. A significant report was prepared including a number of recommendations for the program, and a schedule of activities to be undertaken. Copies of this report were distributed.

Since the initiation of MEF/MG there have been a number of changes in FSP's regional structure. The FSP office in PNG, which was previously an in-country office of FSP/USA, has now become an independent NGO, Foundation of the Peoples of the South Pacific / PNG, with its own Constitution and Board in PNG. In the Solomon Islands FSP/USA has completed its partnership with SOLTRUST, and terminated the employment of FSP/USA's Country Director who also acted as an officer of SOLTRUST. FSP/USA is now represented in Solomon Islands by the Director of Solomon Islands Development Trust (SIDT), who is partially funded by FSP/USA. These changes in relationships have altered the basis for the regional eco-forestry program.



## **2 MAJOR ISSUES**

### **2.1 Regionality of the FSP MEF/MG Program**

As outlined above, FSP operates in 3 quite different ways in PNG, Solomon Islands and Vanuatu: PNG is an independent NGO, although a member of FSP/International; in the Solomon Islands, there is a country representative of FSP/USA, but no FSP staff or project; while in Vanuatu there is an in-country office of FSP/USA. Staff employed by FSP and working on ecoforestry programs comprise 2 in PNG, 0 in Solomons, and 4 in Vanuatu. Other NGOs involved in ecoforestry and associated with FSP are Village Development Trust in PNG, and SIDT and Kommuniboli Rural Training Centre in the Solomons. It is important to realise that, in relation to MEF/MG, FSP is a grouping of NGOs with similar interests and philosophies, and less a single organisation able to deliver the same program in different countries.

For FSP to achieve its regional ecoforestry objectives, it will be necessary to develop a collaborative approach amongst the various country organisations. To date, project documents have not been available to country offices, nor have details of funding or amounts spent. Field staff are unaware of the nature of MEF/MG, the activities planned under it, and the extent of their involvement in it, and headquarters staff have made very few visits to the field. This has worked against the co-operation necessary to achieve a co-ordinated approach amongst essentially independent organisations.

### **2.2 Country Situations**

Forest resources in the three countries are fairly different, and each requires a different approach to ecoforestry.

PNG is characterised by a large forest resource (in both absolute and per capita terms) and large land masses. It has the capacity to sustainably export large quantities of timber to the world market, and is currently unsustainably exporting much more. The land tenure system is based on customary title held by clans<sup>1</sup>, thus giving potential for unified management (either sustainably or otherwise) of large tracts of land, often tens of thousands of hectares.

Although Solomon Islands forests are smaller, they are still significant on a per capita basis. The country can also sustainably export significant quantities of timber and, as in PNG, current logging is not sustainable and is likely to exhaust supplies in 8 to 10 years. Land tenure is generally similar to PNG (but with many variations), although tracts are rarely as big. Additionally the island nature of the country is different to PNG.

Vanuatu is smaller in all of area, resources and population. Timber cutting is currently close to sustainable limits, with most being consumed domestically. Large scale logging for export is likely to start in the near future. Land tenure is still based on customary title, but is different to PNG and Solomon Islands, as land is held individually, rather than

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<sup>1</sup> Land tenure systems in Melanesia vary greatly, and these comments are only a broad view of the differences occurring in the 3 countries.

on a family or clan basis. Accordingly, it is very difficult to arrange unified management of any significant area of forest.

The following statistics give an indication of the nature and scale of the forest resource in each of the three countries. These figures are not exact, and come from various sources.

	<u>PNG</u>	<u>Solomon Islands</u>	<u>Vanuatu</u>
Gross area (ha)	46,800,000	3,100,000	1,200,000
Population	3,700,000	285,000	140,000
Accessible forests (ha)	15,000,000	997,000	117,000
Accessible forests (m3)	300,000,000	13,270,000	1,140,000
ha per capita	4.0	3.5	0.8
m3 per capita	81	46	8
sust. yield (m3 pa)	3,600,000	300,000	25,000

### 2.3 Forest Management Goals

A primary goal of ecoforestry is to achieve sustainable forest management. All FSP partners believe that this is achievable, although only a relatively small number of existing timber production operations are truly sustainable. There are no accurate figures, although FSP/PNG is currently undertaking a survey of all small sawmills in PNG, and this should provide some interesting information.

Formal Management Plans have been suggested as a means of achieving sustainable forest management, such as that developed by the Rainforest Information Centre. This is basically the "Selective System with Guidelines" referenced in the PEA conducted by the USFS. However, VDT in PNG is finding that villagers frequently have difficulty understanding the technical aspects of the plan, and that it therefore lacks support and is often unworkable. VDT identifies greater training in forestry knowledge and skills as being necessary.

The Bainings ecoforestry project in East New Britain does have a formal management plan covering three villages and an area of about 8000 ha of potentially loggable forest, and appears likely to be successful. However, this project is currently relying on three key ex-patriate workers, and cannot be replicated everywhere.

In Solomon Islands, SOLTRUST was unable to provide details of the effectiveness of their forest management plans, while SIDT is currently beginning two Conservation in Development projects, at least one of which will be centred on ecoforestry.

In Vanuatu, tree harvesting with chainsawmills tends to be of a lower intensity than with small sawmills (chainsawmills may work for only a few days a month), and planning of forest management needs to be appropriate for this.

Although existing sustainable forest management models are not yet as successful as hoped, FSP partners are continuing to develop and trial such models. The combined experience of all FSP partners indicates the following components can assist in achieving these forest management goals:

- community awareness and education
- community involvement in and support of timber harvesting and production
- a forest management framework appropriate to the situation. Formal plans are likely to require intensive support / implementation by people with at least some training or familiarisation with planning
- complete training for sawmill users in application of the technology, basic forestry skills and knowledge, business, planning etc.
- education of the community / landowners in the role of the technology and forest management, and of their rights and responsibilities
- support for the enterprise - spare parts, additional training, advice, centralised buying and/or processing
- support for the community / landowners, especially in monitoring of the operation, and the achievement of their goals

## **2.4 Training**

At present, training and education related to ecoforestry is provided at two levels; short courses of 2 - 4 weeks aimed at providing basic techniques, and full qualification forestry courses of 2, 3 or 4 years. There does not exist anyway in which village people can learn more about their forests and environment, or to have a more thorough education in forest management or timber cutting. A medium length training course, possibly 3 - 6 months, could provide essentially practical skills applicable to ecoforestry, and could prove attractive to communities with forest resources. Kommuniboli Rural Training Centre in the Solomon Islands will be trialing a 3 month course during 1994, with the assistance of SIDT. Mr Max Henderson of the Bainings ecoforestry project (East New Britain, PNG) applied the term "barefoot foresters" to this concept, alluding to the "barefoot doctors" who took basic health care to rural China.

## **2.5 Other Organisations**

FSP and its partners are not the only organisations involved in ecoforestry. In PNG, there are a large number of such organisations, government, non-government and commercial, and an "Ecoforestry Action Committee" has been established to facilitate co-operation between them. Ecoforestry organisations in Vanuatu and Solomon Islands should also be able to benefit in this way.

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## 2.6 Technology

"Ecoforestry" encompasses a range of technologies. Currently this extends from chainsawmills (eg Vanuatu, Kommuniboli RTC), through portable sawmills being manhandled (various sites), to portable sawmills being supported by small bulldozers and reprocessing machinery (eg Bainings). It is conceivable that this range could even expand to include manual techniques for timber cutting at one end, and "high-tech" approaches such as helicopter logging at the other. The essential elements of ecoforestry as currently defined are sustainable management of forest production, and effective control and benefits of this being in the hands of the forest owners.

## 2.7 "Ecotimber"

The term "Ecotimber" is being promoted as a marketing label for timber produced under ecoforestry guidelines, and exported to developed country markets. It is anticipated that this will command a price premium, or that such timber may be the only allowable imports into some countries in the future. Ecotimber is of importance to PNG and Solomon Islands where timber exports are significant, but less so in Vanuatu where forest resources are smaller. It is important to the future sustainability of ecotimber that such timber can be guaranteed to come from sustainably managed forests. In recent years there have been allegations that some ecotimber is in fact not from sustainable sources, while in parts of Asia certification of timber as "sustainably produced" is easy to obtain, regardless of the actual origins of the timber. It would be beneficial to organisations involved in ecoforestry to co-ordinate on defining the standard for "ecotimber" - for example by adopting the guidelines of the Forest Stewardship Council, or developing other guidelines.

## 3 TERMS OF REFERENCE

### 3.1 Collect information on FSP ecoforestry programs

#### PNG

- \* FSP/PNG employs two staff on ecoforestry. Yati Bun has been employed since 1992, initially as ecoforestry program director and subsequently as Executive Director. Amos Ona has been ecoforestry project forester since mid 1993. MEF/MG has contributed to staff salaries over the last two years. The major project recently has been to organise a survey of all portable sawmills in PNG - providing training to government officers and others to do this. A Greenpeace Social Audit will be the next stage of this project. Additionally an ecoforestry pilot project has received funding and will shortly be commencing at a rural community in Central Province. FSP/PNG is not undertaking any ecoforestry training at present. FSP/PNG has chosen to concentrate its ecoforestry activities in Central Province to enable more efficient use of their resources.

- \* **Village Development Trust** is an FSP partner based in Lae in Morobe Province. It was started with the support of FSP/PNG, but is now an independent NGO, receiving funding from UKFSP (via FSP/PNG) and WWF/I among others. VDT has two qualified foresters conducting ecoforestry training courses - standard courses take three weeks, while specialised "refresher" courses are organised at request. All courses cover both timber cutting methods and the basic techniques for sustainable forestry. With the assistance of CUSO and AIDAB, VDT has produced a very complete training manual comprising eight booklets for use in ecoforestry training. Although initially intended as a course syllabus, VDT now feels the manual is too detailed for this, and that it is better used as a reference from which a simpler syllabus can be prepared. This manual is the most valuable ecoforestry training material I have seen, and it should be widely used by all involved in ecoforestry. VDT is also involved in implementing an Integrated Conservation and Development project in the Lasanga area southeast of Lae, in partnership with WWF/I, with two Peace Corps volunteers working on this project.

### **Solomon Islands**

- \* **Solomon Islands Development Trust** is representing FSP/USA in the Solomons, but does not currently have an ecoforestry program. However, their emphasis on community development education work does address environmental and forestry issues, among others. The techniques that SIDT have developed here - community education, theatre, use of local people as trainers and facilitators, and a step-by-step approach to development projects - are of great relevance to ecoforestry programs elsewhere. SIDT is also implementing a Conservation in Development project in association with the New Zealand based Maruia Society. This includes support of the chainsawmill training program conducted by Kommuniboli Rural Training Centre, and its extension into environmental and ecoforestry training. Additionally, the identification of development options for a CID site in Makira may also include ecoforestry, although this is still in the future.
- \* **Soltrust**, FSP/USA's former Solomon Islands partner is hoping to continue with a significant ecoforestry program, using the Wokabaut Somil produced by Iumi Tugetha Holdings Ltd - Soltrust's commercial arm. Soltrust received MEF/MG funding support during 1992/93 which is understood to have been directed to the Executive Director's salary. Soltrust employs five ecoforestry trainers, all with forestry qualifications (at certificate level or higher), conducting training courses of about a month's duration. They are still working on finalising training materials. Soltrust has submitted a funding proposal to the European Union for the establishment of five hundred Wokabaut Somils in Solomon Islands over a period of three years. This proposal has not been supported by the EU, who instead recommended a smaller scale pilot project. This is still under discussion between the EU and Soltrust.

## Vanuatu

- \* **FSP/USA is implementing the Community and Environmental Forestry project.** This project is carrying out environmental and forestry awareness and education work, and providing ecoforestry training based on chainsawmills. FSP had initially based its ecoforestry work on Wokabaut Somils and the TimberSaw - a New Zealand manufactured copy. However, a program review in 1992 recommended greater emphasis on chainsawmills, and in 1993 the Government directed that the Department of Forestry (DoF) take over responsibility for small sawmills - the Wokabaut and the Timbersaw. Since that time, FSP has concentrated on providing ecoforestry training using chainsawmills, and has developed a greater role in environmental awareness and education in villages. The DoF has not continued FSP's work with the small sawmills, and so there is currently no active small sawmill program in Vanuatu (although the Government may return this to FSP in the future).

### 3.2 Development of programs, methods and the PEA

FSP/PNG is committed to developing its ecoforestry pilot program in Central Province, and currently has funding for this. It is likely that they will be working in conjunction with VDT on this, as VDT has greater training experience. This in turn will strengthen FSP/PNG's ability here. Development of the ecoforestry program beyond the existing programs, and the availability of MEF/MG funding for this, has not yet been programmed due to the absence of information at the field level about the MEF/MG grant. This lack of information and understanding, has also restricted the application of the findings of the Programmatic Environmental Assessment.

VDT is currently restricted by funding for its ecoforestry training programs. The training manuals prepared by VDT represent a very valuable resource for all involved in ecoforestry training, and it would be appropriate for MEF/MG to support the wider use availability of this material. VDT committed considerable time in assisting the conduct of the PEA, but feel that they have not received any benefits from MEF/MG. This can be attributed to uncertainty over VDT's relationship to FSP/USA as the grant holder.

In the Solomon Islands, SIDT is not currently undertaking ecoforestry work. However, their involvement with the Kommuniboli RTC, through the CID project, does represent an opportunity to work with other FSP ecoforestry programs. In particular, the 3 month trial course being held at Kommuniboli this year, may be an appropriate model for the non-formal forestry education discussed in section 2.4. The training materials developed by VDT in PNG are also likely to be of great benefit in this training course. Should Kommuniboli RTC and SIDT plan to further develop this style of training, then it would be appropriate to involve FSP partners in PNG and Vanuatu so that they can benefit from this as a trial project. (CEF and SIDT have already undertaken to work together to develop this). SIDT have not previously had access to the PEA (a copy has now been provided by CEF), and so have not considered their program in relationship to it.

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SOLTRUST will continue to develop their ecoforestry program, and to seek funding from other sources. They maintain some contact with SIDT, and others in Solomon Islands, however their concentration on promoting Wokabaut Somils is different to Kommuniboli's work with chainsawmills, and with SIDT's approach. Further involvement of SOLTRUST in MEF/MG will depend upon resolution of the difficulties associated with the termination of FSP/USA's country director (and advisor to SOLTRUST) in the Solomon Islands (see section 1).

In Vanuatu, CEF now has a wider role than was the case when MEF/MG was proposed, or when the PEA was carried out. However, CEF's work with community awareness and education can benefit greatly from the experience of SIDT. Equally so, VDT's ecoforestry training materials and FSP/PNG's survey work can also assist CEF. They will be continuing to develop this role, and the recommendations of the PEA will be implemented where relevant to their new range of activities.

Several areas where the MEF/MG can assist in developing the various country programs are as follows:

- \* further work to develop an effective model for forest management (as discussed in section 2.3), for both small sawmills such as the Wokabaut, and for chainsawmills
- \* a meeting or conference of different country staff involved with ecoforestry, perhaps addressing the above point
- \* strengthening of staff through funding for additional positions, or for training or staff exchange to other partners
- \* further investigation of non-formal education, such as that being done by SIDT and Kommuniboli
- \* arranging for VDT ecoforestry training materials to be available to other FSP partners; possible translation of this into Melanesian Pijin; development of training curricula based on this material
- \* specific requirements for individual country programs

### **3.3 Sustainable forest management**

The importance of sustainable forest management was discussed in section 2.3, and it was noted that there is currently no "perfect" approach to achieving sustainable forestry. The Rainforest Information Centre model, and associated guidelines, attempt to simplify technical aspects of forest management into a specified procedure to be followed by communities/ landholders involved in Wokabaut Somils. This model, referenced by the PEA, is a good approach to providing a method for the technical aspects of forest management. However, it is proving difficult to implement at village levels. This can possibly be attributed to villager unfamiliarity with concepts, ideas and techniques that are integral to any formal documented forest plan; or conversely, to the planner's unfamiliarity with traditional Melanesian forest management practices.

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The Bainings ecoforestry project is approaching sustainability through a formal management plan, and ensuring that there are appropriate personnel to implement this. Although these staff are currently ex-patriate, there is no reason that this could not also be done with locally trained foresters. This model may prove appropriate in areas where a large forest resource can be placed under a single management regime, with a trained forester responsible for implementing the management plan. The forester could be employed by any of: the community/landholders; the sawmilling enterprise; the government; or an NGO.

The ecoforestry pilot project shortly to be initiated by FSP/PNG should also be able to further develop forest management methods, and will have an FSP forester closely involved with all stages of the operation.

It should also be noted that there are probably other trial models of which this author is unaware, especially in PNG where there are a number of other organisations working on ecoforestry. Experiences in other countries, such as Africa or Latin America, may also be useful.

Although no "ideal" approach has yet been identified, staff in most FSP partners have continued to trial and improve approaches to achieving, and ensuring, sustainable forest management. Section 2.3 listed a number of factors that FSP partners have found are important in forest management. The factors involved, and appropriate models of forest management, will no doubt vary between countries and situations. These models need to be further developed, both by the individual partners and their programs, and jointly.

Further improvement of models for sustainable forest management would be an appropriate area for assistance under MEF/MG funding.

### **3.4 Share training materials**

VDT is the only FSP partner organisation with a complete set of training materials. CEF, SIDT and SOLTRUST are in the process of developing and documenting their materials. VDT, CEF and SIDT have all indicated a willingness to share materials with other partners, although it should be noted that CEF, FSP/PNG and SIDT will benefit more from such sharing than will VDT.

Secondment and cross training of staff may prove very beneficial given the areas of expertise that lie within particular programs. For example these include:

FSP/PNG	Survey
VDT	Training materials, small sawmill training, forestry
SIDT	Community development, education and awareness raising
SOLTRUST	Export of "EcoTimber"
CEF	Chainsawmills

At present it is unlikely that any FSP partner could second staff to another, without restricting their own program activities. However, expansion of staff levels within programs (maybe by only 1 or 2) may make this possible.

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### **3.5 Regional Ecoforestry Policy**

It was felt that a regional policy on ecoforestry would be inappropriate at this stage. Such a policy would depend initially on the regional structure for FSP (section 2.1), and the future utilisation of the MEF/MG.

### **3.6 Other ecoforestry organisations**

The main non-FSP-partner organisations contacted during this study were the Pacific Heritage Foundation and its Baining's ecoforestry project in PNG; Development Services Exchange (DSE), the Forestry Division (Timber Control Unit, and Research staff), and the Western Province Government, in Solomon Islands. The Baining's project has been referred to in several places in this report.

DSE acts as a headquarters for a number of NGO's including environmental campaigns and Greenpeace. The Timber Control Unit of the Forestry Division is mainly concentrating on control of large scale logging, and is now developing techniques for involving landholders in control of logging activities on their land. These techniques can also be of assistance in small scale operations. Western Province of the Solomon Islands is the location of much of the large scale logging occurring in the Solomon Islands, and have recently appointed an environmental officer (a Canadian volunteer through CUSO) to address environmental issues and to carry out environmental education and awareness. In Honiara, meetings were also conducted with the Delegation of the European Communities, who are planning to assist with an ecoforestry project in Ysabel Province.

In Vanuatu, there are no other organisations active in ecoforestry, or general forestry and environmental issues. The Department of Forestry does have responsibility for the Vanuatu Small Sawmill Project (formerly with FSP), but is not taking any action here.

A full itinerary and schedule of meetings is included in Appendix II.

### **3.7 Areas included in study**

The locations for the study were expanded to include Rabaul in East New Britain for the purpose of visiting the Bainings project. Other locations were visited as planned.

### **3.8 Reporting**

This report will be submitted to the FSP/USA Regional Director in Port Vila, Vanuatu. Further circulation will be at her discretion.

#### **4 RECOMMENDATIONS**

1 This report be made available to all organisations contacted during this study, and to USAID.

2 FSP/USA Headquarters supply project documentation and funding details to FSP offices in the three countries, and locate project management in the Region.

If not, then FSP/USA Headquarters should make specific arrangements to consult with FSP partners in Melanesia over the future management of the project.

3 FSP/USA and FSP partners in the three countries discuss ways in which MEF/MG can operate, given the different structures of FSP in these countries. In particular, this should include the following issues:

- in Solomon Islands, are both SIDT and SOLTRUST considered as partners in MEF/MG;
- in PNG, is VDT also regarded as a partner independent of FSP/PNG, and does it have access to MEF/MG funding;
- should other NGO's working with FSP partners on ecoforestry projects also have access to MEF/MG funding?

The following recommendations are based on FSP partners in the three countries agreeing on involvement in MEF/MG;

4 Staff from FSP partner ecoforestry projects meet to review the individual FSP ecoforestry programs, and ways in which MEF/MG can assist these.

5 MEF/MG assist in further developing models for sustainable forest management.

6 FSP partners involved in marketing of "ecotimber" should discuss and agree on a standard for this.

7 Possible funding needs include the following:

- All
  - funding for program development
  - regular conferences or meetings
  - sharing of training materials
  - cross-training of staff
- PNG
  - funding for staff position in pilot program
  - funding assistance to VDT
- Sol Is
  - assist in CID project
  - development of environmental education
  - ecoforestry role
- Van
  - assistance to Kommuniboli Training Centre
  - forestry trainer
  - assistance in development of community education

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## Itinerary and Schedules of Meetings

### January

- Sunday 9** Fly Sydney to Port Moresby 0850 - 1320  
Accommodation at Ambers Inn, Boroko  
Chance meeting with Barry Laley of PNG Trust. Discussed VDT's Lasanga Project, and PNG NGO work in general.
- Monday 10** FSP/PNG office  
- Yati Bun (Executive Director) and Amos Ona (Forester) to discuss ecoforestry programs and FSP/PNG's Somil survey.  
- Mark Thompson (Programs Director) to discuss FSP co-ordination.  
Fly Port Moresby - Hoskins - Rabaul 1515 - 1720  
- Aerial views of forests and logging sites  
Meeting: Max Henderson (Director Pacific Heritage Foundation & Bainings Project); Chris Cox (EcoTimber consultant); Lars-Gunnar Blomkvist (SGS Silviconsult).  
Accommodation at Ulatawa Estate, via Rabaul
- Tuesday 11** Inspection of Bainings ecoforestry project area, with Gary Thomas (project field manager), Cox and Blomkvist. Project is sponsored by British firm B&Q, who have contracted SGS Silviconsult to determine whether or not the project complies with sustainable forest management guidelines of the Forest Stewardship Council.
- Wednes. 12** Further discussions with Henderson and Blomkvist on Bainings project and sustainability.  
Fly Rabaul - Lae 1420 - 1530  
Meet Sasa Zibe, Michael Kinneson & Elizabeth Tinson at VDT  
Accommodation with Michael and Elizabeth.
- Thurs. 13** At VDT discussing training manual, forest management, relations with FSP, Lasanga Project. Brief meeting with David Faunt, one of the originators of the Wokabaut Somil.
- Friday 14** Timbersaws PNG sales outlet - Manager Tuk Jasaptong.  
Fly Lae - Port Moresby 1350 - 1435  
Return to FSP/PNG  
- Amos Ona - ecoforestry program  
- Susan Nielson, Elizabeth Asimba - Awareness Community Theatre  
- Mark Thompson - programs and FSP structure  
Accommodation at Ambers Inn
- Sunday 16** Fly Port Moresby - Honiara 1310 - 1620  
Met by John Roughan at Henderson Field  
Chance meeting with Athol and Verity Smith, owners of Dhora Sawmilling in Western Province  
Accommodation at Honiara Hotel

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- Monday 17 Solomon Islands Development Trust  
John Roughan, Robin Connor & Rachel Holbrooke - discussion of SIDT work and preparation of my SI program.  
Phone discussions with  
- Andrew Morton - Timber Control unit  
- Brent Tegler - Environment officer Western province.
- Tuesday 18 Development Services Exchange  
Moses Bariri - The Nature Conservancy - environmental education and awareness programs.  
Brown Saua, Tony Carmel - SOLTRUST - history of SOLTRUST, relations with FSP, ecoforestry.  
Hubert Martnetz - European Union - programs, ecoforestry
- Wednes. 19 Robin Connor - Conservation in Development project  
John Roughan - SIDT objectives, relations with FSP  
Arrangements for tour to Western province.
- Thursd. 20 Eddie Dolaiano - Div Forestry, Timber Control Unit  
Fly Honiara - Seghe - Munda - Barakoma - Gizo 1100 - 1410 delayed  
Accommodation at Gizo Hotel
- Friday 21 Brent Tegler - Environment Officer, Western Province (CUSO) - logging, environmental issues, environmental education programs.  
Patrick Lavery - Public Solicitor (VSO) - legal control of logging operations, landowner education & involvement.
- Monday 24 David Naqu - Timber Control Unit - logging control, arrangement of site inspection.  
Arthur Unusu - Premier, Western Province - logging, environment issues and briefing on situation in Vanuatu.  
Julie Makini - Director, Culture, Tourism, Environment & Women's Affairs, Western province - women's concerns on logging.  
Fly Gizo - Barakoma - Munda 1455 - 1530  
Accommodation at Agnes Lodge
- Tuesday 25 Simon Iputu - Senior Research Officer, Div Forestry - research projects, seed collection, plantation establishment, species trials.  
Inspection Munda arboretum.
- Wednes. 26 Inspection of Kalena Timber Company operation on Rendova Island with David Naqu. KTC operations manager Mr Michael Lam, Korean buyer Kyung-Hoon Lee.
- Thurs. 27 David Naqu and Simon Iputu.  
Fly Munda - Seghe - Honiara 1130 - 1400  
SIDT Andrew Morton - Timber Control Unit - logging issues, forest inventory and growth data, community involvement in logging control.  
Accommodation at Honiara Hotel

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- Friday 28 Ivo Morawski - European Union - ecoforestry, rural training centres  
Brown Saua - SOLTRUST - ecoforestry  
Hire car with Robin Connor and Sosimo Koki to inspect Kommuniboli RTC  
- ecoforestry training centre. Discuss training in chainsawmills, basic  
forestry and environmental matters, and methods of achieving sustainable  
forest management.
- Satur. 29 Fly Honiara - Port Vila 1350 - 1550

**APPENDIX 11**  
**Small Scale Timber Production in Vanuatu**  
**Presentation to "Rainforests are our Business", Sydney, April 1994**

Vanuatu is an island nation located in the South-West Pacific, between Papua New Guinea and Fiji. Culturally it is Melanesian, along with Papua New Guinea, the Solomon Islands and - depending on criteria - New Caledonia and Fiji. Vanuatu's land area is about 1.2 million hectares comprising approximately 80 islands, most of which are volcanic in origin. Originally, these islands were predominantly covered by rainforest, although the structure of this rainforest is less developed than that in PNG and the Solomon Islands - a fact attributed to the greater frequency of cyclones.

Vanuatu's population is about 170,000 and is quite culturally diverse with an estimated 140 languages. Of this population less than 20 % live in urban areas, with the remaining 80 % living in rural villages, usually engaged in subsistence agriculture or "gardening". The Vanuatu Constitution, adopted when the country became independent in 1980, provides that almost all land is held under traditional systems of land tenure and cannot be sold. Investors and developers, and indeed the Government itself, can only lease land for periods of up to 75 years.

Vanuatu's forest resources were recently quantified in a National Forest Inventory (NFI), funded by the Australian Government, and carried out by the Vanuatu Department of Forestry with assistance from the CSIRO and the Queensland Forest Service. This study found an estimated 117,000 ha of natural forest, not all of which is suitable for commercial timber production. There are also some small plantations of exotic species, such as *Pinus caribea* and *Cordia alliodora*, however these have been subject to many problems, and are not currently a commercial resource. According to the NFI, the sustainable yield from the natural forests is 25,000 m<sup>3</sup> per year. Current logging volume is a little over this, the main species being Whitewood (*Endospermum medullosum* - Basswood in PNG - and *Antiaris toxicaria*). Hardwoods such as Natora (*Intsia bijuga* - Kwila in PNG), Tamanu (*Callophylum neo-ebudicum*) and Bluwota (*Pterocarpus indicus* - PNG Rosewood) are also cut in smaller quantities. Currently all logging is sawn in country, with exports of 2269 Tonnes of sawn timber and imports of 4784 m<sup>3</sup> in 1992. However, there are now proposals for new log export operations, the first of these having recently commenced road construction and other works on the southern island of Erromango. The total of all proposals is over 350,000 m<sup>3</sup> per year. This could exhaust the country's natural forests by about the year 2000, coincidentally the date set by the International tropical Timber Organisation as a target for an ecologically sustainable tropical timber trade.

From this brief background there are two main points that have a great influence on utilisation of Vanuatu's tropical forests.

- i) With a sustainable yield of only 25,000 m<sup>3</sup> Vanuatu is not able to sustainably export large quantities of timber. However, there is potential for export of smaller quantities of higher value products, and indeed the volumes available for this could be increased by importing general purpose timbers to substitute for local consumption of high value species.

- ii) As all land is custom owned, sawmillers must negotiate with a number of landowners and plantation establishment requires long term leases. Additionally, the Government Department of Forestry can not actually carry out management of natural forests, but instead works to advise landowners and to control logging operations.

### **Community Involvement**

The issue of land tenure gives landowners, and their communities, a legal right to be involved in the management of their forests. This is perhaps different from other nations where indigenous peoples who live in the forest may have fewer legal rights to use, occupy or control the forests, although they may be regarded as having ethical rights to the forest. However, involvement of landowning (or occupying) communities should not just be a matter of "rights", be they legal or ethical, but also a recognition of their ability to make substantial contributions to effective forest management. In particular, landowners have a wealth of information and experience about the forest, although this may not be in a form which many Western educated forest managers will recognise. Additionally, landowners are of course located in and around the forest and, with their interest, knowledge and experience, are ideally suited to be involved in carrying out forest management activities such as tree planting and silviculture.

There are, of course, a number of difficulties in involving communities in forest management. Extensive knowledge is held by forest owning communities, but this information is rarely complete, and matters such as quantification, time relationships and "hidden" ecological interactions may be missing. It is also important to note that, in Vanuatu, a village is not necessarily a "community of common interest", but frequently suffers from internal divisions and disputes, especially over matters relating to land and resource usage. In these circumstances it can be hard to achieve agreement on objectives or methods of forest management or utilisation.

The Community and Environmental Forestry (CEF) program in Vanuatu aims to "*promote ni-Vanuatu investment and community involvement in the sustainable management of Vanuatu's forests and trees*". The program currently provides training in the use of chainsawmills as a way of producing timber sustainably from the forest, and conducts environmental and forestry awareness meetings and workshops in villages. Chainsawmills, together with small sawmills such as the Wokabaut Somil from PNG, are aimed at providing rural people with a means of realising some of the timber value of their forests whilst remaining in control of operations, receiving benefits and ensuring that their forest is sustainably managed. CEF's experience has been that this is not a miracle solution, but that it can be a viable option for sustainable development. There are a number of important considerations which can assist to achievement of such as goal, or conversely can lead to failure.

- i) Initial planning should involve consultation with all of the community, and applies equally to individual or family businesses and to projects such as those established by Government or NGOs. Traditionally in Vanuatu, new works such as houses or gardens would be preceded by community discussion. However, in recent years it is becoming increasingly common for people to embark on their own private

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developments without community consultation, and this often leads to great friction within the community.

- ii) Appropriate technology and training is essential, whether for chainsawmills, "Wokabout Somil"s or for involvement in commercial logging operations. In Vanuatu small forest areas and individual land holdings mean that a chainsawmill is generally more suitable for small-scale timber production than is a "Wokabout Somil".
- iii) Education and awareness programs in environment and forestry provide valuable information to communities, and individuals, about their forests and environment and the way in which modern technologies and developments will impact upon them. This kind of program should not aim to present all the information, but should instead integrate new information and perspectives with existing knowledge and experience.
- iv) Support is required for communities and individuals involved in forestry, for both technical aspects and community issues such as continued education/training, dispute resolution and environmental monitoring. Such support can be provided through local institutions, NGOs or government bodies.

The considerations presented here are not new or radical, but are similar to the experience of development workers throughout the world. However, they are an essential component of any consideration of ways in which ni-Vanuatu communities can be involved in, and take control of, management of their forest resources.

### **Forest Management**

In Australia, "forest management" usually means activities being carried out by professional forest managers (whether they are called Foresters or Rangers) in accordance with legislation, a Management Plan or some other form of documentation. In Vanuatu, there are shortages of trained people, of necessary resources and of detailed information, and so Australian-style forest management is not necessarily appropriate. However, there are customary land owners and communities with interest and knowledge who are available on site to participate in forest management. The knowledge held by these communities will be different to that held by forestry organisations such as the Department of Forestry and NGOs and so efficient and effective forest management should come from combining the complementary information and abilities of both customary owners and forestry organisations.

Some approaches to small-scale forestry have attempted to achieve effective forest management by preparing simple management plans that can be implemented by custom owners. Unfortunately, experience in Vanuatu in using plans developed by Australian sources has been that these plans are not readily accepted by villagers, and therefore are not implemented by them. Possible reasons for this include insufficient training, lack of support or plans that do not address local needs. However it is also likely that it is the approach to forest management that is in error. This can be demonstrated with two competing statements:

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*Village people have difficulty in understanding formal management plans, and therefore there is a need for intensive education, training and support.*

*Forest management planners have difficulty in understanding customary methods of resource management.*

Vanuatu experience has not yet achieved any "ideal" approach to community based management of small-scale forestry. However, there are elements of customary methods that can be adopted by modern forest managers and planners. These include consensus based decision making, planning allowing for a multitude of uses, and flexibility in responding to differing needs. Under this form of forest management, the role of the "expert" outsider is that of management facilitation and advice, rather than of implementation or monitoring of a plan. Combining customary management techniques with the technical resources and knowledge of modern planning may be seen as the challenge to be met by those involved in rainforest management.

### **Santo Joinery - A Case Study in Small-Scale Timber Exports**

Santo Joinery is a small Vanuatu company which purchases hardwood timbers cut in small quantities by local chainsawmill operators, and converts these into high quality solid wood doors which are then exported to Australia and New Caledonia. It serves as an example of a small-scale industry that can operate within the land tenure system and the limited forest resources of Vanuatu, and still return significant benefits to local communities, the national government, the Australian consumer, and of course the owner of the business.

Santo Joinery is an ex-patriate (Australian) owned company located in Luganville, Vanuatu's second town in the northern island of Espiritu Santo, and has been operating for less than four years. They currently produce plywood doors and mouldings for local use, and about 200 solid timber doors a month for export. Originally, the owners had intended to purchase all of their timber from local sawmillers. However, their demand for hardwoods such as Natora and Rosewood was only 10 to 15 m<sup>3</sup> per month and local sawmillers were reluctant to supply such a small quantity in a market dedicated to softwood (Whitewood). The Joinery therefore bought several chainsawmills to cut their own timber as well as buying from local people who were cutting their own trees with chainsawmills.

In October 1993, the CEF project conducted a chainsawmill training course in Espiritu Santo at the request of local ni-Vanuatu chainsaw operators. The Joinery now buys all its hardwoods from about ten ni-Vanuatu chainsawmill operators, mainly located on Santo but also on other nearby islands. These operators cut trees on their own land, or that of their neighbours, and much of the timber is used for housing, furniture and so on within the villages. The Joinery buys the highest quality timbers and pays prices averaging 40,000 vatu per cubic metre sawn (about AUS \$ 500), well above market rates. Joinery staff also provide assistance to producers in areas such as quality control, maintenance and equipment.

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After purchase, the Joinery air dries the timber for up to a year, depending on species, and then kiln dries down to 10 - 12 % moisture content. The factory employs about 20 staff, all ni-Vanuatu except for the owners and a factory foreman. Individual doors, each requiring about 0.1 m<sup>3</sup> of timber, are sealed in plastic after manufacture to maintain a low moisture content. The factory gate price per door is about \$ 280 for Natora and \$ 250 for Rosewood and are exported to Australia and New Caledonia as full container loads (about 400 doors).

A value-adding operation of this nature has great benefits for Vanuatu and its people. The small chainsawmill operations provide village based employment, cash income and a source of cheap sawn timber for use in housing or other requirements. These operations can be part-time or full-time, thus allowing village workers to attend to other responsibilities such as gardening or traditional duties. The tree felling operations are much less intensive than commercial sawmills, usually with individual trees being selected, often those damaged in cyclones or intended for removal to establish a bush garden. The Joinery itself employs 20 staff, and its presence contributes to the small industrial base of Luganville. Government export duties are set at 5 % of value, or approximately \$ 6,000 for a container of hardwood doors. When compared to alternatives such as log exporting, this type of small scale operation gives higher financial returns per cubic metre to both the landowner and the government. Most importantly it is also sustainable.

## Conclusion

The International Tropical Timber Organisation has set a target of a sustainable tropical timber trade by the year 2000. In Vanuatu there are relatively small forest resources and a very strong traditional approach to ownership of these resources. Small-scale production of rainforest timbers is a way in which ni-Vanuatu landowners and communities can obtain a cash income from their forests and still retain control of their forest management. The case study of Santo Joinery and the local chainsawmills supplying to it demonstrates that this type of industry producing high value products can provide great benefits to all participants. While small-scale production is unlikely to ever be the major component of Vanuatu's timber industry, it is an important means of achieving community involvement, greater benefits and profits and sustainable rainforest management.

## From Rough Sawn to High Quality in Vanuatu - Using chainsaw mills to export timber doors

In Vanuatu's northern island of Espiritu Santo there is a new small industry that is increasing the value of the country's timber exports. What makes this different from other Vanuatu sawmills is that this factory buys rough sawn timber from local people who are using chainsaw mills on the land in and around their villages, and turns this into high quality solid wood doors for export to Australia and New Caledonia. The factory buys only premium grade timbers and pays above normal market prices for sawn timber.

Vanuatu's forest resources are much smaller than that of other Melanesian countries such as PNG and Solomon Islands. In fact, the National Forest Inventory completed in 1993 recommended a sustainable yield of only 25,000 m<sup>3</sup> per year. However, even if Vanuatu does not have the potential



*Natora, Bluwota and Waetwud doors at Santo Joinery in Espiritu Santo*

for sustainable exports of large quantities of timber, it can produce small quantities of high value products, which can also give high returns to landowners and to the government.

Santo joinery is an Australian-owned company located in Luganville, Vanuatu's second largest town in the northern island of Espiritu Santo, and has been operating for less than four years. They currently produce plywood doors and mouldings for local use, and about 200 solid timber doors a month for export. Originally, the owners had intended to purchase all of their timber from local sawmillers. However, their demand for hardwoods such as Natora and Bluwota (*Instia bijuga* and *Pterocarpus indicus*) was only 10 to 15 m<sup>3</sup> per month and local sawmillers were reluctant to supply

*(Cont'd on page 3)*



*Chainsaw operator Samson Moli learning to use a minimill with FSP instructor David Richard, in Espiritu Santo*

the Joinery has bought all of its hardwoods from about ten ni-Vanuatu chainsaw mill operators, mainly located on Santo but also on other nearby islands. These operators cut trees on their own land, or on that of their neighbors, and much of the timber is used for housing, furniture and so on within the villages. The Joinery buys the highest quality timbers and pays prices averaging 40,000 Vatu per cubic metre sawn (about AU\$500), well

quality - correct sizing of timber and absence of defects being the most important.

Training of chainsaw mill operators by Joinery and FSP staff has helped them cut to size (slightly larger than final dimensions to allow for planing) and to identify those pieces of timber that should be sold to the Joinery, and those that should be used for local housing, or for cattle yards. The Joinery is also hoping to set up a portable sawmill in conjunction with villagers on the remote West Coast of Espiritu Santo to further increase their supplies.

Sawmilling with the use of chainsaws is, of course, less technically efficient than with larger sawmills and has higher wastage through saw kerf and generally lower quality; and requires higher inputs of fuel, oil and labour. However, it is also a way in which rural people can control timber cutting on their own land, generating greater benefits for them.

A value-adding operation of this nature has great benefits for Vanuatu and its people. The small chainsaw mill operations provide village-based employment, cash income and a source of cheap sawntimber for use in housing or other requirements. These operations can be part-time or full-time, thus allowing village workers to attend to other responsibilities such as gardening or traditional duties.

The tree felling operations are much less intensive than commercial sawmills, usually with individual trees being selected, often those damaged in cyclones or intended for removal to establish a bush garden. The Joinery provides local employment and contributes to the small industrial base of Luganville. Government export duties are set at 5% of value, or approximately AU\$6,000 for a container of hardwood doors. When compared to alternatives such as log exporting, this type of small scale operation gives higher financial returns per cubic metre to both the landowner and the government. And most importantly it is also sustainable within Vanuatu's small forest resources.

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such a small quantity in a market dominated by local softwoods. In late 1993, the Joinery decided to buy several chainsaws and milling frames to cut their own timber, and supplement this by buying from local people who were cutting their own trees with chainsaw mills.

Chainsaw mills come in several forms, such as the Mini-mill and Alaskan Mills produced in the USA, and the Rip Master manufactured in Australia. All three types initially require a rail or timber board to be attached to the log, and the chainsaw is then mounted in a frame which runs along the rail or board. The Mini-mill and Ripmaster both hold the chainsaw so that it cuts vertically, while the Alaskan Mill cuts horizontally. Chainsaw mills are typically used with chainsaws such as the Husqvarna 288 or the Stihl 085, or larger.

In October 1993, ni-Vanuatu chainsaw operators in Espiritu Santo asked the Foundation for Peoples of the South Pacific (FSP) through the Community and Environmental Forestry project, to conduct a chainsaw and chainsaw mill operators course. Since that course,

above market rates. Joinery staff also provide assistance to producers in areas such as quality control, maintenance and equipment.

After purchase, the Joinery air-dries the timber for up to a year, depending on species, and then kilndries down to 10-12% moisture content. The factory employs about 20 staff, all ni-Vanuatu except for the owners and a factory foreman. Individual doors, each requiring about 0.1 m<sup>3</sup> of timber, are sealed in plastic after manufacture to maintain a low moisture content. The factory gate price per door is about \$280 for Natora and \$250 for rosewood and are exported to Australia and New Caledonia as full container loads (about 400 doors).

Buying rough-sawn timber from a number of small operators does have its difficulties. First is that of maintaining a regular supply from local villagers who frequently operate on an irregular basis. Some operators have emerged as being more reliable, producing larger quantities and adopting a more business-like approach, while others provide small quantities from time to time. A second issue is that of

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## APPENDIX 12

Pacific Economic Bulletin, Vol 8, No 2 December 1993

### Combining Business, Forests and the Environment in Vanuatu

#### Can Small Sawmills Save the Forests ?

*Small sawmills have been promoted in Vanuatu since 1989 as a means of maintaining the forest environment and providing for rural development. This program, along with others in Papua New Guinea and the Solomon Islands, has experienced some difficulties associated with the introduction of new technologies and approaches. However, the experience in Vanuatu indicates that small sawmills can help maintain the forest environment, if they are developed in appropriate ways.*

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Over the last decade or so small sawmilling has been suggested as a means of "saving" tropical forests by allowing them to be logged in an "environmentally friendly" way. In the Melanesian countries of Papua New Guinea, Solomon Islands and Vanuatu forests represent important natural capital. They support businesses and generate revenue, but also provide the daily requirements for many people living traditional lifestyles. These forests are a major source of tropical timbers, with Papua New Guinea expected to export over two million cubic meters of logs during 1993. It is generally agreed that the rates of logging now taking place in Papua New Guinea and Solomon Islands are unsustainable, and this has led to concerns about the future of these forests, and of the economies and lifestyles that are dependant upon them.

As a result of concerns about the environment, and the desire for development, many South Pacific countries have, or have had, programs to investigate or promote portable sawmills. Common objectives for these programs include the following:

**To encourage rural development** by using small sawmills in rural forest areas to convert timber at site, thereby creating additional employment, producing a higher value product, and providing timber products for local requirements.

**To reduce levels of forest harvesting** by enabling landowners and communities to meet their income needs by replacing large area / low value logging, with small area / high value sawmilling.

**To promote sustainable long term forest management** by giving forest owners an increased appreciation of the value of their forests, and providing a way of effective management of these forests.

These objectives have been variously met in part around the Pacific, but portable sawmill programs in general have not achieved all their aims.

## Small Sawmills - Technology and Training

Portable sawmills used in Vanuatu, and elsewhere in Melanesia and the South Pacific, are designed to be able to cut good quality timber at a site in or near the forest. The location of the sawmill, close to the trees, reduces the need for expensive movement of large logs, and instead only the smaller, higher value sawn timber need be transported long distances. This in turn reduces or removes the need for the heavy logging machinery and roads usually required for logging, and the large capital inputs that this entails. Portable sawmills range in size from standard chainsaws, to large machines that must be transported by truck. They can be divided into three basic types:

"Chainsawmills" which involve a chainsaw mounted on a light frame, and are easily carried from tree to tree.

"Small Sawmills", being true sawmills powered by small petrol or diesel engines, which can be carried by hand and relocated at each tree felled, or kept at one site for a week or more with logs being brought to the site by hand powered winches.

"Relocatable Sawmills" require trucks to move them from site to site, and will usually involve heavy machinery bringing logs to the site.

Experience with small sawmills in Vanuatu dates from 1989 using first the "Wokabaut Somil" from Papua New Guinea, and then the "Timbersaw" from New Zealand. This has been promoted by a joint Government / non-Government program, which has provided training and support for ni-Vanuatu (citizens of Vanuatu) who have purchased small sawmills. Sawmill purchasers have variously been individuals, partnerships and communities, and are located in a number of islands throughout the country.<sup>2</sup>

Both the Wokabaut Somil and the Timbersaw comprise two small circular saws (40 cm and 60cm) and an 18 horsepower petrol engine, mounted on a frame that allows these to move along the length of a log. The two saws are mounted so that the two cuts meet at right angles. This arrangement enables the sawmill to produce a length of accurately cut sawn timber each time it passes along the log. The sawmill is equally suitable for both hardwoods and softwoods (although the former are slower to cut), and so is appropriate for working in tropical forests where there is a wide variety of tree species. In practice, hard or durable timber is usually used for in-ground work, while timber from non-durable species is used indoors or similarly. In Papua new guinea some non-durable timbers are chemically treated by small sawmillers, but this does not happen in Vanuatu.

At the beginnings of the Vanuatu program it was realised that training was possibly the most important element of the program. This came from the experience of small sawmills in Papua New Guinea where approximately half of the 600 Wokabaut Somils produced

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<sup>2</sup>The small sawmill program in Vanuatu was initiated by the Department of Forestry and the Foundation for the Peoples of the South Pacific. However, during 1993 the Department took full responsibility for training and supervision of small sawmills, with FSP now providing chainsawmill services and addressing other forest and environment issues.

were non-operational. New sawmill operators in Vanuatu were provided with a short, but intensive, training course covering not only how to cut timber but also how to carry out routine maintenance on their machinery and how to conduct the business aspects of their enterprise. As the goals of the program included sustainable forestry, all sawmill operators also received training in the basic principles of forest management. Equally important was the need to provide support services to small sawmills after the initial training ceased. This included ensuring that sawmillers in outer islands could obtain access to spare parts when necessary, and touring by extension staff to solve any on-site problems and to give any extra training or advice.

The number of small sawmills in Vanuatu (about 12) is much lower than in Papua New Guinea (over 600), but almost all are still operational. This can be attributed, at least in part, to the training and support processes. Even so, experiences in Vanuatu still indicate some problems, and needs for further work on approaches to small sawmilling.

### Business aspects

The current price of a Timbersaw in Vanuatu is approximately 1,800,000 vatu (US \$ 15,000), including tools, supply of spare parts and other establishment and initial operating costs. Various sawmill purchasers have raised this from either personal or family assets, community funds, or through funding from the Development Bank of Vanuatu. In the latter case, the Bank has accepted timber resources as the purchasers equity in the project, in addition to other assets such as a vehicle. The sawmill requires between 4 and 8 operators, and is capable of producing up to two cubic metre of sawn timber a day. However, total timber production from the 9 small sawmill businesses in Vanuatu is under 2,000 cubic metres per annum, mainly for local markets in the islands. Actual production rates, labour, and other expenses are highly variable, depending on factors such as timber conditions, worker skill and experience, and the number of days the sawmill works each week.

Estimates of the profitability of small sawmills also vary greatly. Some promotional materials for Wokabout Somils suggested that the price of the Somil could be paid back in less than a year. USAID (1993) estimated a profit of US \$ 5,400 per year, while others have given an annual profit range from about US \$ 500, to over US \$ 100,000 , depending upon the mills efficiency. Anecdotally, some sawmills in Vanuatu are mechanically operational, and have adequate supplies of labour, fuel, markets and forests, and yet are working at very low rates. This could indicate that the operators feel that the profit is insufficient to compensate for their work.

A recurrent issue with most sawmills in Vanuatu is that of business management. Much of Vanuatu is still based on a non-cash economy, and many sawmill owners have no experience in organising a business of any kind. Their workers usually come from a rural workforce and are not used to working a specified number of hours each day, and repeating the same industrial work each day, and each week. Training programs can and do include basic skills such as work practices, pricing and income / expenditure control, but this cannot hope to produce experienced managers in a matter of weeks, or even months. This issue is not of course limited solely to small sawmills, but is present in many rural business enterprises.

However, observations of the successful small sawmills indicate that they can be profitable, and can either work on a normal business basis, or can adapt to a more Melanesian approach. The most successful small sawmills do have supervision by people with some business or management experience, either as the manager or owner, or as part of a committee overseeing the operation. Identifying these people, and ensuring that they are involved in management, is necessary if a new small sawmill is to be effective.

The second essential factor in assisting sawmills to become and remain profitable is the availability of support services. This includes operators being able to access spare parts, especially when urgently required; additional training being available to help them develop their skills further; and a source of advice of matters as diverse as marketing, mechanical problems and community relations. In Vanuatu, these services can generally only be found in Port Vila, and so an extension service is necessary to make this support available and accessible to operators on remote islands.

Given some of the difficulties in achieving profitable small sawmilling, and the need and expense of training and support services, some observers take the view that small sawmilling is neither efficient nor effective, and that timber production should be retained in large sawmills, that are more technically and economically efficient. However, the social and environmental effects of such operations, especially in Melanesia, are increasingly being seen as unacceptable. Many observers believe that there are many uncounted costs, such as: loss of traditional food sources; degradation of forest, soil and water resources; and social disruption. The goals of small sawmilling, as outlined above, attempt to provide an alternative to this. Small sawmills should therefore be viewed as a way of reducing the extent of large-scale logging (and the reliance upon it in some economies), rather than as a complete replacement.

### Forest Management and Small Sawmills

The introduction of small sawmills into communities and forests should be accompanied by an understanding of the forest and how it can be managed to sustainably produce timber, income and other forest products. However, methods of providing short period training in sustainable forest management are less developed than methods for technical, or even business, skills. Several reviews (eg Wells & Siwatibau 1992, USAID 1993) have noted that further training in the environmental and forest management aspects of small sawmills are required if programs are to meet their objectives.

Difficulties with forest management arise from a large number of sources, and several can be dealt with here. Central to all forest issues in Vanuatu is the matter of land ownership. In Vanuatu, all land is held under custom, or traditional ownership, usually by individuals but sometimes by families or tribes/clans. There are strict limitations on how this land can be transferred, and leases are limited to a maximum of 75 years. This is regarded by some as a major impediment to development, although it also gives the indigenous people a greater degree of control over activities on the land than is possible in some other parts of the world. However, it does act as a barrier to government or other agencies and, for example, restricts the Department of Forestry in taking an active and direct role in forest management.

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As customary landowners are both the traditional and legal managers of the forests, it is necessary for outside agencies to work with them, rather than to impose an external set of rules designed to protect the environment. In fact, landowners have a wealth of knowledge about the forest, are concerned for it, and, equally importantly, are available on site to carry out management activities. However, local knowledge is by no means complete, and is frequently absent on the importance of interactions between components of the forest ecosystem, and of the possible effects that new technologies can have. If this information can be provided, then it is possible that landowners can help small sawmills fulfill their environmental objectives as well as their financial ones.

Inadequate forest knowledge is also a problem in other respects. Forest management agencies still require further research and information about the forest and the environment. For example, Vanuatu has a newly completed, computerised forest inventory, but has very little information on forest growth rates. However, there is now more information available than at any time in the past, and the important decisions are not just what additional information is required, but how all information can best be used, both by agencies and by landowners.

In some small sawmills in Vanuatu there is a conflict between the desire to maximize the financial returns from the sawmill, and the interest in maintaining the condition of the forest. This can lead to excessive felling of trees, failure to replant, and lack of concern for the effects on the environment. It can also cause a division between the owners of the sawmill, and the individuals or community owning the forest. The former are seen as reaping all the benefits of the business, while the latter receive little, and yet their forests are damaged.

The solution apparently lies in the traditional Melanesian approach to consensus and consultation. Sawmills that have been set up as community projects, such as that in Aneityum, or are operated in close conjunction with the landowners, are more successful than those which operate more independently. Community involvement and oversight of the operations of the sawmill can therefore assist in maintaining both the environment and the social structure of the community. In this way the community itself provides the regulation and arbitration that the Department of Forestry would usually provide for larger logging operations.

### Planning for Successful Small Sawmills

The introduction of small sawmills into Vanuatu has benefited from experiences of similar introductions in Papua New Guinea and Solomon Islands, and has proceeded at a slower pace, emphasising the development of training and support structures. This appears to have led to a greater proportion of sawmills operating successfully, although the actual numbers are quite small. However, Vanuatu has also experienced difficulties in areas such as profitability, effective training, and sustainable forest management. This last issue is particularly important as two of the small sawmill goals mentioned above are aimed at maintaining the forest environment.

The experiences in Vanuatu, and the considerations outlined above, point to a number of requirements if small sawmills are to be successful in meeting their goals.

- 1 Small sawmill owners (either individuals or groups) should have some experience in both timber cutting and in business management. Many prospective owners may balk at this requirement, however all indications are that if this is not met, then the business will not succeed. This experience is probably best gained by operating a smaller chainsawmill business, with lower requirements, production rates and overheads.
- 2 Initial planning for a small sawmill must fully involve the local community so as to pre-empt possible misunderstandings or conflicts at later stages. A local committee, or chiefly authority, may be an appropriate way of monitoring the activities of the sawmill so as to maintain environmental standards and ensure a positive presence in the community. Planning should also address what requirements the owners and community has from the forests, and how these can be met.
- 3 Training must be provided to cover all aspects of use of the small sawmill; operational, maintenance, business, and environmental. In most cases this will also require refresher and follow-up work, and training can be designed with this in mind. Follow-up training must also be matched with support services, especially in the supply of spare parts, and in trouble-shooting.
- 4 Environmental and forestry education should be provided to communities affected by the small sawmill. This should assist in reducing environmental problems, whether they arise from the sawmill or from other issues. The formation of a community group concerned with issues such as tree-planting, forestry or the environment can greatly assist in both community education, and in monitoring the work of the small sawmill. Government and non-government agencies can provide valuable support and assistance in this work.
- 5 Management of the forest needs to be addressed through deliberate planning. This requires additional information about the forest, effective presentation and use of this information, and the involvement of the landowners. With training and support, it is likely that the forest owners will be able to carry out most of the activities involved in forest planning and management. Outside agencies are then able to concentrate on advisory and technical support roles, rather than taking primary responsibility for a number of small operations in many locations.

Small sawmills have occasionally been promoted as a miracle solution to over-exploitation of Melanesian forests, and have also been condemned for not meeting these objectives. The reality is that small sawmills are just a tool, and that they may be applied in one fashion to achieve a desired goal, or may be used in other ways, resulting in quite the opposite. Small sawmills definitely have a role to play in the forests and rural communities of Vanuatu, and can assist in achieving the goals outlined earlier. However, as with any new industry, technology or development program, there is a need for an appropriate introduction, and this is not usually a rapid process. The requirements outlined here are drawn from experience in Vanuatu, and elsewhere, and are aimed at

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ensuring small sawmill programs do achieve their goals.

The short answer to the subtitle question is that small sawmills alone cannot save the forest, but that with appropriate development, they can be a tool to help maintain the forest environment.

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