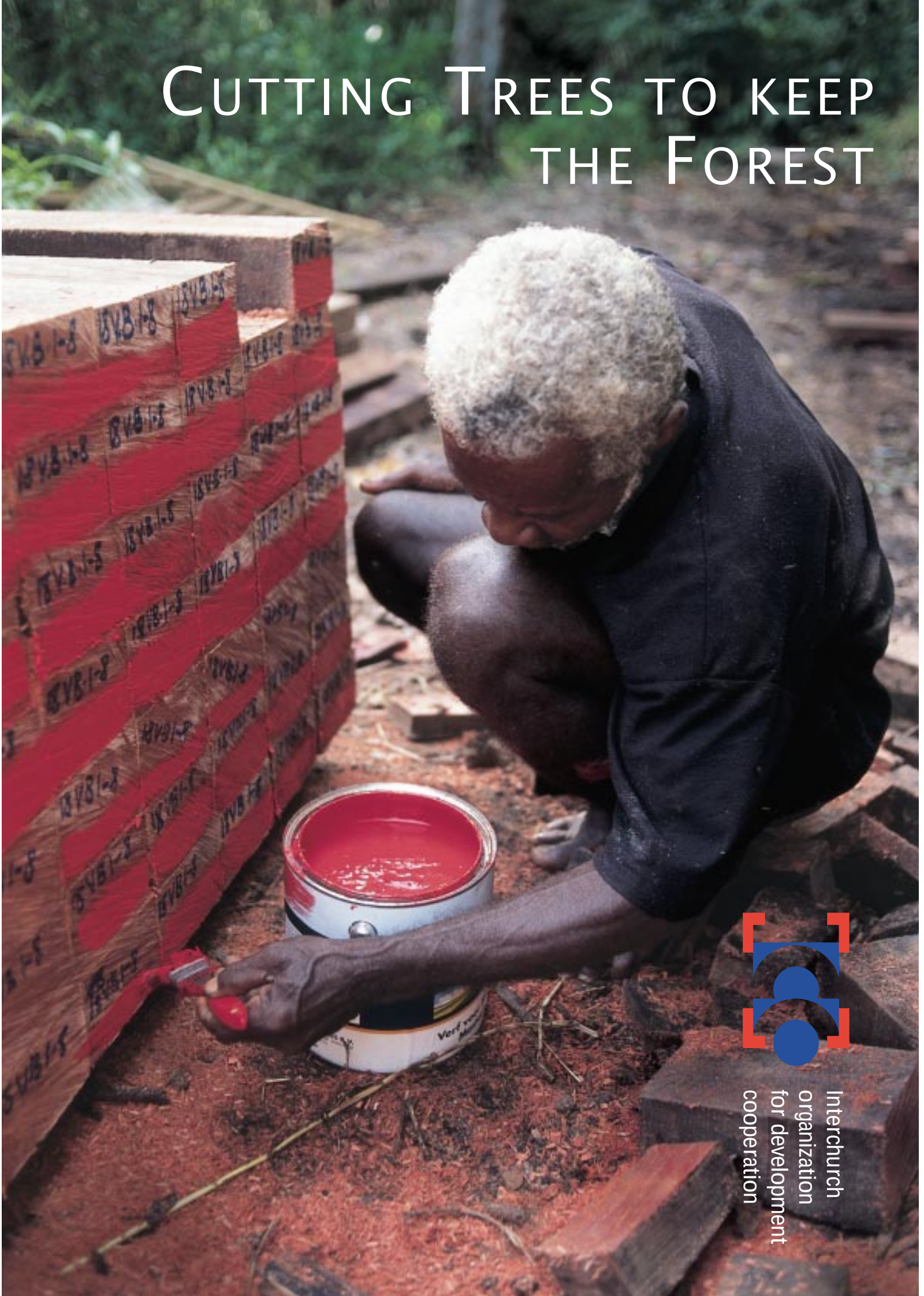
Cutting Trees to keep the Forest



Interchurch organization for development cooperation

Portable sawmill in action Solomon Islands Leona

Portable sawmill in action: a huge log is sawn into timber by a circular saw that is mounted on a framework Solomon Islands Leona

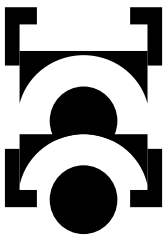
Rabaul, Papua New Guinea, 22-28 September 1996

Organized and funded by the
Interchurch organization
for development co-operation ICCO,
The Netherlands, in co-operation with the Pacific
Heritage Foundation (PHF), Papua New Guinea

CUTTING TREES
TO KEEP THE FOREST

An Overview of Lessons Learned from
Community-Based Sustainable
Forestry Programs with emphasis

on the production and marketing of Timber



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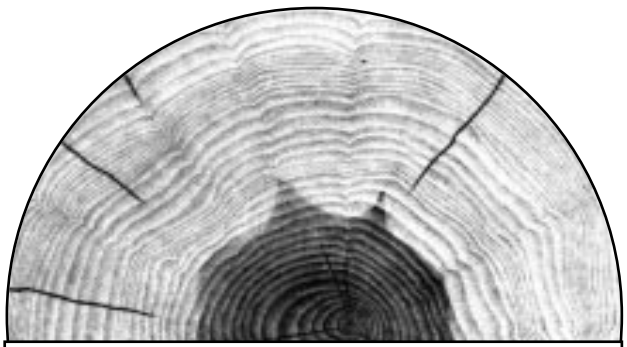
1. The purpose of this brochure

Since the early 1990's, ICCO's Sustainable Forest Use Program has aimed to assist local non-governmental organizations (NGO's) in the development of community-based alternatives to destructive forest exploitation (See page 18 [1] and [2] in the reading list). An important part of this program is the support of a number of community-based forestry programs in the Pacific and South America (see the map). Hopefully similar activities will also be supported in West Africa in the near future. ICCO is not the only organisation supporting community-based forestry programs with the focus on timber production. The Dutch Ministry of Development Co-operation and the European Union co-financing program, for example, have provided funding to a number of ICCO's partner organizations, while the delegation of the European Union in Papua New Guinea is implementing the Islands Region Environmental & Community Development (IRECD) Program.



1. About ICCO

ICCO, the Interchurch organization for development co-operation of the Netherlands, is one of four Dutch co-financing organizations which receive funds from the Dutch Ministry of Development Co-operation to support development projects all over the world. ICCO has its roots in the Dutch Protestant Church but aims to co-operate with any organization that shares its aim to ban poverty and injustice. Projects supported by ICCO cover a variety of areas such as agriculture, health care, education, and forestry, but also issues such as democratisation, good governance and women,s rights. In its work, ICCO places much emphasis on establishing long-term collaborative relationships with non-governmental organizations active in developing countries and on the institutional development of these organizations.

BOX 1

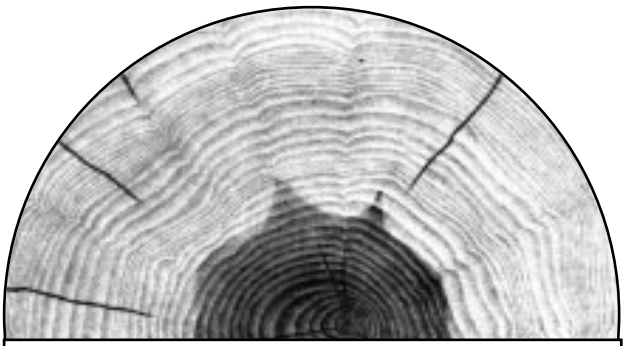
In 1998, ICCO and the Dutch Department of Foreign Affairs commissioned an evaluation of ICCO's Sustainable Forest Use (SFU) Program with an emphasis on two of its eco-forestry ventures in the Pacific (See page 18 [3] in the reading list). The experiences to-date show that the development of production and trade links for tropical timber, based on principles of fair-trade and environmental sustainability, is far from easy and profitable due to the complex interplay of socio-political, organizational, technical and financial factors. Lessons learned, however, also suggest that this type of program may provide communities with a viable alternative to large-scale logging. This brochure is a result of the evaluation, which revealed the need to compile an overview of some of the practical experiences that ICCO and its partner organisations have had with the community-based production and marketing of timber. Primary target group of this brochure is project leaders of NGO's who consider starting or have started a similar initiative. Also, the brochure may be useful for funding agencies and other organisations active in the field of natural resource management and community development. The analysis is limited to programs which focus on timber production and marketing, while it is at the same time recognised that timber production and marketing is only one of the activities in a (broader) community development program. The pretension is not to present a complete picture of the subject but ICCO hopes to pin-point some of the most crucial issues, and questions, which need to be considered in order to make sustainable forest programs more successful.

'The brochure will also be one of the inputs for the 'Sustainable Forest Use' Workshop which will be organised by ICCO and the Village Development Trust in March 2000 in Papua New Guinea.'

Due to the fact that ICCO started its support activities in the Pacific and due to the scope of the mentioned evaluation, this brochure may be somewhat biased towards experiences in the Pacific. However, this brochure may still provide a useful and practical overview of some of the opportunities and challenges that characterise this type of project. In this brochure, the use of the word "program" refers to the eco-forestry programs run by the executing NGO's that assist local people living in the forested areas in setting up community-based eco-forestry "projects". Usually a program consists of a number of village projects.

Why community-based sustainable forestry programs?

People living in the world's remaining tropical rainforests are caught between, on one hand, the need for income to pay school fees, purchase medicine and modern consumer goods and, on the other, the difficulty of participating in the market economy. Often local communities lack the skills, experience and capital to exploit their natural resources themselves, and either convert their land to agricultural purposes or sell their forest resources to money-bidding timber companies. These companies log the forest, provide a little money and jobs, and then disappear. Once the companies are gone, rural communities lose logging as a source of jobs and income, and also have to do deal with a severely degraded subsistence base. Industrial logging, thus, not only destroys the rainforests, but also further impoverishes an already poor population.



2. Balancing four forms of sustainability:

Four forms of sustainability can be distinguished in community-based eco-forestry projects on the basis of their market orientation, natural resource management and local communities.

• Economic sustainability: Do the financial benefits of the project outweigh the costs? Can the project compete with regular trade products of a similar nature?

• Ecological sustainability: Do the activities take place in a manner and at a level that allows the environment to regenerate?

• Social sustainability: Do the communities have the right to harvest resources, and is there sufficient authority and unity within the group to take and enforce management decisions?

• Organizational sustainability: Do the NGO's have the capacity to enable them to maintain the required level of management, at this time or in the future?

These types of sustainability are often in contradiction with each other. Short-term economic motives, for example, may harm ecological requirements, but a lack of economic incentives may affect the willingness of the community to undertake such activities and lead to conflicts. Obviously unsustainable harvesting practices also lead to the collapse of the initiative. Only where all four types of sustainability are balanced together does a community-based sustainable forestry program achieve long-term stability.

BOX 2

The reason why community-based sustainable forestry programs have caught the attention of NGO's organisations and donors alike is, that this type of program is a means to prevent both the impoverishment of communities and the degradation of their environment. Community-based timber projects have a number of important advantages over more destructive forms of forest exploitation, such as:

- the traditional subsistence base remains intact, which allows communities to continue their traditional livelihood practices and preserves the rainforest;

- they provide communities with an indefinite - rather than a short-term - source of jobs and income;

- local people remain in control of the resources that they depend on;

- they generate raw sawn timber in sizes suitable for the construction of improved housing and community infrastructure and;
- as people develop the technical, financial and organizational skills to run their forestry business, they may also use these skills and the income gained from sawmilling in the development of other activities.

Community-based projects, however advantageous, are based on the premise that communities possess, or manage to acquire, the right to harvest and manage local resources. In the Pacific, a number of countries recognise traditional community rights to land and resources, but in many instances, especially in South America, communities simply do not own land and natural resources.

An Overview of this Brochure

Following this introduction, the brochure takes a look at the different development and business strategies that have been followed within community-based forestry programs, the skills that are needed in their execution and the way in which agencies and NGO's have linked up with communities. Local communities stand at the heart of the sustainable-timber concept, as they are both the beneficiaries of these projects as well as the main producers of timber. Special attention needs to be given to the way in which communities are selected and to the inclusion of the whole of the community rather than a select group.
The third section discusses timber production, marketing, forest management and certification issues, and will argue that production decisions have to be geared towards the markets that are being served. Without an analysis of the requirements of these markets it becomes difficult to produce a product that meets the needs of the end-user.
The fourth section looks at issues of financial sustainability and the basic economic data, which need to be collected, to drive management and production decisions.
The fifth and final section provides an overview of lessons-learned, recommendations for further reading and a number of useful addresses.

2. Communities and Business

Different approaches

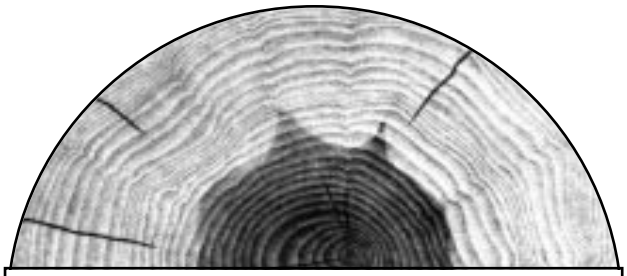
Although the aim to prevent large scale logging lies at the heart of all community-based forestry programs, one can make a distinction between (1) programs which regard eco-forestry as part of a wider process of community development and (2) programs which focus on the business aspects of the forestry program with less emphasis on the social aspects of community development. The different approaches are usually a result of the way in which programs have been initiated and have different advantages and disadvantages. Finally a third approach is the specialisation approach.

(1) The (broader) community development approach:

In many countries, NGO's build long-term relationships with local communities through the use of Participatory Rural Appraisal (PRA) techniques. Depending on the needs of local people, the resulting community-development programs may undertake joint activities in the areas of economic and social development. In places where both income generation and the loss of forest are perceived as issues of importance, sustainable-timber programs are an interesting means to address community problems in an integrated manner. Such a broad, community-oriented approach has the advantage that it is driven by the needs, perception and motivation of the local population; that it emphasises self-reliance and participation by marginalised groups; and that it is generally characterised by a slow and incremental approach to development. This approach has the disadvantage that it usually forces NGO and communities to spread their efforts over a range of different social and economic activities, requiring a large range of skills and relying on long-term subsidies for the continuation of the program.

(2) The business approach:

A second approach is more business focused and generally develops when a donor concerned with poverty and environmental degradation assists an NGO, or sets up a separate project agency, with the aim to develop the community-based production of timber for the export market. This development is characterised by a drive towards high production volumes and the build up of stocks, heavy investment in the transfer of skills and generally places less emphasis on the social aspects of community development. The main advantage of the drive towards the production of export quality timber lies in its highly specialised approach. Rather than being involved with all aspects of development, the executing body offers interested communities the opportunity to participate in this one activity within the terms of the program. The strict focus and the attempt to achieve financial sustainability, in general, means that local communities have to cope with a rapid pace of technical and organizational change, often leading to considerable stress within, and between, the executing agency and the participating communities.



3 The large variety of skills involved in community-based forestry programs

If the executing NGO takes on all of the associated community development, credit provision, and, timber production, processing and marketing activities, it needs a wide range of skills in the following areas:

Community development workers that have the ability to take communities through a joint decision-making process with the use of PRA and social survey techniques, while making an effort to include marginalised groups.

Managers with expertise in strategic planning, capable to analyse the capacities and limitations of their organization, and assess opportunities and risks in the organizations environment. They need to take decisions on what the organization will do itself and, where activities can be left to other parties who are better qualified to do the job, developing strategic alliances with those parties.

Small-scale business development experts that are able to communicate the workings of the market economy, the principles behind cash flows, profits, loans and interest, depreciation and repayment and that are able to assess the opportunities for business development within the communities. Training in bookkeeping, the use of bank accounts, and, the management of work schedules and wage payments, are important aspects of their work.

Foresters and mechanics that are able to translate national forest laws and sustainability regulations into 'rules of thumb' applicable to forest users on a day-to-day basis. They, also, need to be able to organise the administrative side of certification procedures. In addition, one needs people that are able to maintain saws of various types, general-purpose vehicles and other equipment.

Yard management and marketing expertise that are familiar with the organization of a timber yard and the types of timber coming through. Grading skills, stock keeping, air-drying procedures, fumigation, and the administration needed to keep track of stocks and to prepare international shipments, are part and parcel of the job. The more the program is focused on the export market, the more important knowledge and understanding of the end market, and its requirements, become.

Lawyers who are able to provide legal advise and assistance in obtaining resource use rights, fighting conflicts, with for example logging companies, who can incorporate landowner groups, participate in awareness and educational campaigns, and train people as para-legal agents.

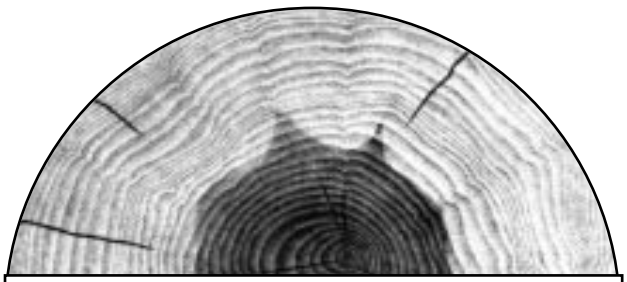
Other: Some programs have special women's officers aiming to include women in their work. A number of programs provide awareness on issues ranging from, environmental management to public health and legal rights, to land and resources issues.

BOX 3

(3) The specialisation approach:
As a result of the complexity of community-based forestry programs and the wide range of skills necessary for implementation (Box 3) there is an increasing interest in cooperation between specialised technical and financial institutions, and the executing development organizations. In this model NGO's work with communities because that is what they are good at, while commercial timber buyers handle the purchase, processing and marketing of the timber. Similarly, banks could provide credit, while the national forest services and the certifying organizations could be responsible for overseeing forest management. Although such specialisation is not always possible, the aim is to enter into co-operative relations with specialised organizations wherever possible, instead of concentrating all activities within one organization. This may be a fruitful strategy to consider.

An additional advantage with such a specialisation approach stems from the nature of the different roles that need to be played vis-à-vis the communities. On one hand, programs involved in community-based timber production tend to play a "social role" by providing information, support and training to local communities, and on the other hand, they often assume the role of business partner by purchasing timber from local communities. These roles are not always compatible. It may, for example, be confusing to local communities that the program supports their venture on one hand, while at the same time refuses to pay higher prices. It may, thus, be better for the program to separate its social and community-supporting role from its business role, by maintaining two separate components. Another possibility, in line with the fore mentioned specialisation approach, is not to assume a business role at all, as communities sell their timber to a professional dealer, obtain credit from banks and receive development and technical support from the NGO.

Working with Communities
Whatever the approach taken, the question: what constitutes a logical "producer group" under local circumstances and how to assess the motivation for participation of that producer group is important. Part of the answer can be obtained by using social surveys to outline community structures and the social divisions on basis of ethnicity, clan-structure or religion that play a role in forming stable production groups (See Box 4). Similarly, the motivation to manage resources and develop an eco-timber project and a range of other initiatives may be gauged through the use of PRA techniques. (For an excellent description of step-by-step approach to the development of community-based projects see page 18 [5] in the reading list).



4. Defining the "community":

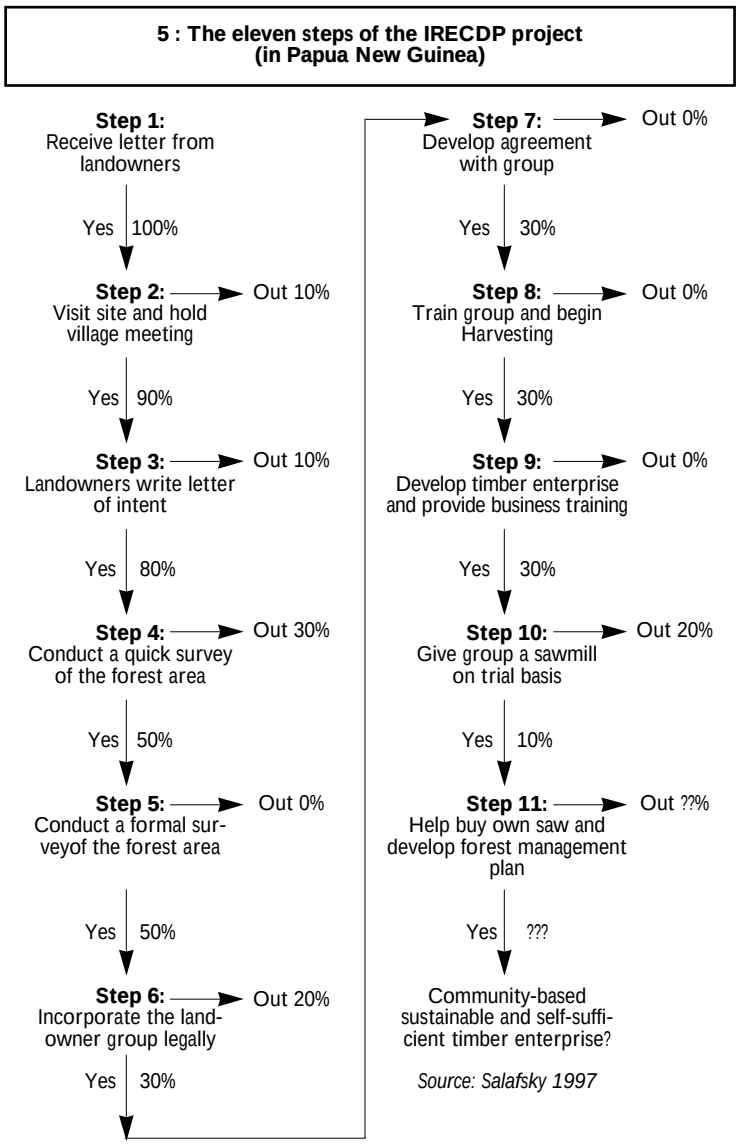
The social entities, which constitute a viable 'community' and timber-producing group, vary from place to place. In some cases villages may appear relative homogenous entities. Very often, however, this is not the case as villages are differentiated on basis of ethnicity, tribal affiliation, land ownership and religion, and decisions are made within these separate groups rather than within the 'village' as a whole. A few examples from the field:

The Pacific Heritage Foundation in Papua New Guinea started work with communities in the form of villages. Later, however, the NGO decided that it would be better to work with clan groups as the willingness to co-operate is larger within the clan than between clans. In addition, the risk of conflicts is smaller as land ownership and clan membership are congruent.

In the Solomons Islands, the Solomon Western Islands Fair Trade (SWIFT) project was an initiative of the United Church, which provided the institutional basis for the cooperation of various groups of people. The production of timber, however, is based on family groups, as each extended family takes responsibility for its own forest area.

BOX 4

It may be preferable however, not to create a situation where an NGO enters a village with the idea of setting up a sawmilling project, but to provide demonstrations which allow communities themselves to express an interest in this type of venture. As people define for themselves who is in and who is out, this enhances social cohesion and reduces the risk of conflicts. In addition, it may be advisable to expect groups to make an effort before they can take part in the program, as only motivated communities will take the initiative and make the effort to pursue the eco-forestry option. The IRECD Program in Papua New Guinea, for example, uses a series of eleven (!) steps before a sawmill is established within a local clan group (see Box 5 and [4] in the reading list). Only those communities, with sufficient forest resources, that are willing to go through all of these steps are thought to have the unity, decision-making capability and the motivation to take part in the program. This strict self-selection mechanism leads to only one in ten of the communities, initially expressing an interest, buying their own sawmill. Lowering the threshold for communities to take part, in practice, leads to situations where group conflicts and a lack of motivation, inhibit the development of a viable enterprise, at great expense to the program and the community itself.



BOX 5

Women and sustainable forestry projects

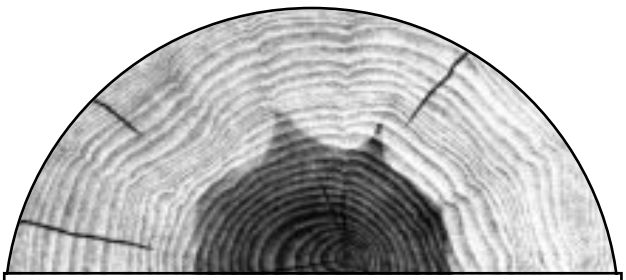
While a process of self-selection may lead to more stable and motivated enterprises, such a strategy may constitute a problem to donors and executing NGO's, as they tend to lead to the exclusion of women from participation in the timber projects. Technical labour, such as saw milling, is generally seen as men's work, while women are expected to look after the household and the fields, and are kept busy rearing children. Men still predominantly make decisions in many communities around the world, while in many societies women only acquire access to natural resources through their husband. Trying to include women in forestry projects means taking a moral standpoint which goes against the grain of many societies and which may cause resistance. As there are no quick fixes to including women in such projects many programs have focused on the technical and managerial aspects of sawmilling, consciously or unconsciously, accepting that they are dealing with only half of the community. These programs are, usually, run by men, giving communities the idea that the program is primarily intended to support men. Although increasing gender equality requires a difficult and long-term process of socio-economic change, timber programs can act as 'agents-of-change' and follow a number of strategies to include women into their activities:

- It is important is that the NGO, from the beginning, makes an effort to include women in the definition and prioritisation of community problems, in the decision-making processes and in the design and execution of resulting activities. It is much harder to get women involved in activities that have been monopolised by men than to include them from the start.
  A gender analysis (which differentiates problems, interests and the expected results of a project intervention between men and women) should also be part of one of the first stages of the program.

- The program should be conscious of the image it projects. By training women within the projects, employing them as staff, they provide a role model for other women.

- The program should actively study and discuss, with villagers, the options of integrating women in field activities. Women may not be allowed to use the sawmill, but can be included in the work of carrying timber. Possibly women can be trained in certain maintenance or processing tasks, or in a few cases, separate womenís groups, may actually be able to take on the whole activity.

- A final possibility is to try and link other activities with sawmilling. In Papua New Guinea, for example, projects have trained women how to bake buns, which were sold to workers on the sawmill, thus generating spin-off activities within the communities.



6 : Spreading the benefits within participating communities

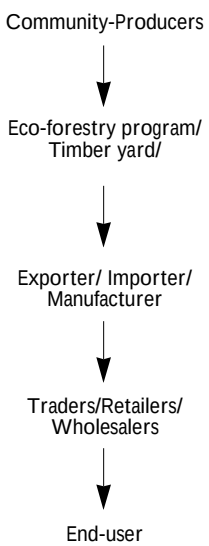
To many donors the distribution of the opportunities and income that result from their projects is as important as the fact that communities increase their disposable incomes. Although experience suggests that all enterprise development will lead to a certain increase in socio-economic differentiation, an important aim is to spread the benefits of such projects throughout the community as much as possible. Projects, however, can exert only limited influence over the way in which communities distribute the proceeds and benefits of these projects, but can try to influence the community by ensuring maximum transparency in their dealings with communities. By clearly stipulating loans, prices, wages, work schedules and conditions, and by making sure that most people know what money is being earned, spent and paid out, the chances of foul play are minimised. Many projects in Papua New Guinea, for example, make a point of ensuring that the whole community has access to all the information. With such transparency people can at least stake their claim to proceeds from the sawmilling or to the right to work on the mill. Similarly, the skills associated with business development, the use of bank accounts, the principles behind loans, interest and depreciation, ought to be transferred to more than one or two people within the community.

BOX 6

3. Timber Marketing and Production Issues

One of the main lessons learned from sustainable forestry programs (with emphasis on timber production and marketing) in which ICCO has been involved, concerns a systematic underestimation of the complexity of tropical timber as a product and the importance of the market in shaping production, processing and marketing operations. It is often hard for NGO's and communities to come to terms with the fact that, ultimately, the end-users in some faraway country determine what type of product is acceptable. A basic understanding of the market that one tries to serve, however, constitutes the foundation for many aspects of the program and is one of the main issues in the development of marketing, production and development strategies.

7: The trade chain



BOX 7

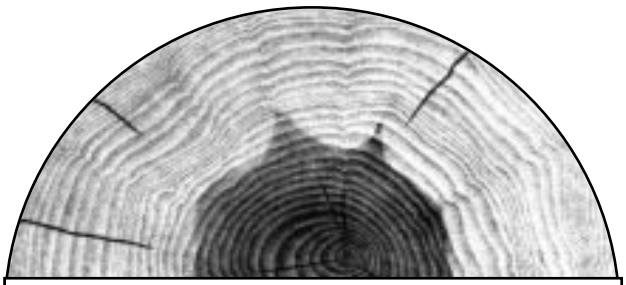
The trade chain for tropical timber

Sustainable forestry programs, directly or indirectly, deal with all aspects of the trade chain, which runs from the cutting of trees, via processing, transporting and trading activities, to the final users of tropical timber. These users can either be located in the same country or may live on the other side of the world. Where timber moves in one direction, money flows in the other, as every value-adding service has to be paid for. By producing timber, local people living in the rainforest gain access to income, while, by delivering support services, the forestry program enables the communities to sell their timber. If all goes well, part of the proceeds from forestry activities can be used to support other welfare enhancing activities wit-

hin the participating communities. In practice, most eco-forestry programs have focused on the production and processing aspects of the trade chain first, only later looking thoroughly at the questions of how and where to sell their timber. An important question is whether the program intends to produce primarily for local markets, for export markets or for both. This choice, to a large extent, determines which species of tree one can cut, which sizes and quality have to be provided, how much investment capital is needed, and whether the program needs to aim for environmental certification. Whatever the strategy, an important issue in many of these programs is that from the start one has to continuously ask oneself what is it that the end-users want and how can we best cater to their needs?

Local versus export marketing

Production for the local market has the advantage that local consumers know the various tree species that are cut and it is relatively easy to get information on the required sizes and the prices that can be expected. In addition, it is generally possible to sell timber of a lower quality and in smaller volumes on the local market, while certification of environmental aspects is usually not required. As a result, the costs and investments needed for basic processing, transportation, and marketing for the local market are much lower. Production for the export market has the advantage that prices for quality timber of certain premium species lie at a considerably higher level than prices on local markets, but it is much more difficult because the required volumes are large and the quality demands very high. Only the best timber, free from defects and meeting very precise specifications, is suitable for exportation. The timber production of portable sawmills in Papua New Guinea may contain only 40% of exportable species and of that only 50% may be of the right size and quality. In this case it would not be, either, ecologically sustainable or make business sense for a community based enterprise to cut solely for the export market. Local prices may also vary sharply between regions. In addition, certification, storage and transport costs for export timber are high, time and money expenditure on communication, customs, insurance and the like is considerable, yet the risk that containers are rejected or that the price is docked, if the timber does not meet the required standards, is real. In general, the level of expertise needed to produce adequate volumes of timber, the training of communities in technical and business skills and the development of a sustainable forest management regime suggest that it is better to start slowly and with simple products. Once the program and communities have become good at producing a steady flow of quality timber for local markets, the move into the high investment and high-risk business of export marketing, processing and retailing can be considered. Even when producing for local markets, serious consideration should be given to finding a local commercial partner for the marketing of timber for the reasons outlined above. In the case of export marketing, finding such a partner for marketing and processing operations is vital, as experience shows that timber is a complex product, with low margins, requiring substantial technical and marketing expertise.



8 : Influencing the market

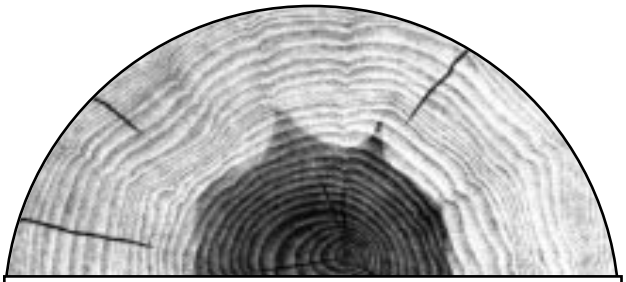
Although 'the market' determines the requirements which the final product needs to meet, it is still possible to influence the end-user. The Dutch environmental movement, for example, pressures lower municipal authorities, churches, and do-it-yourself firms to purchase certified timber from sustainable sources. This campaign has led to increasing numbers of consumers looking for alternative sources of timber, which, in turn, has led to a reduction in the volumes of tropical timber sold on the Dutch market. This is forcing a number of mainstream timber companies to search for FSC certified sources of timber. In this campaign the first volumes of FSC certified timber from the SWIFT project in the Solomon Islands has played an important role. The project showed that it was possible to make available sustainable produced timber from community sources. Through the testing and certification of six Pacific timber species in 1996, SWIFT and ICCO have contributed to the acceptation of 6 lesser known Pacific timber species in the Dutch market. These tests allow builders, suspicious of unknown species, to compare their qualities with that of better known species and provide them with hard guarantees as to the characteristics of the timber. In general, potential buyers should first be made comfortable with the new species by emphasising their similarity with those already in use before highlighting the aspects of sustainability and fair-trade.

BOX 8

FSC certification or not?

An additional requirement, that may need to be met when choosing for the export market, is that of obtaining environmental certification from the Forest Stewardship Council (FSC) or comparable standards. The FSC is an international organization of NGO's and timber producers which has developed standards, for the sustainable management of forest resources, and producers meeting those standards, can be certified. At present, FSC seems to be, world wide, the most accepted standard. FSC-certified timber may receive prices some 10-15 % higher in certain markets. Obtaining certification, however, is an expensive and complex process, which requires high standards of forest management and control. In many community-

based projects FSC certification requires additional subsidisation, as the expense of certification of small community-based enterprises does no weigh up against the price premium received. One way of reducing costs is to obtain group certification, whereby the supporting organization holds the certificate and guarantees the sustainability of the forest practices of the affiliated communities (See Box 9 and 10). The development of large industrial timber concessions along FSC guidelines, will in the near future, mean community-sources can no longer distinguish themselves from other sources of sustainable timber, possibly necessitating the development of a fair-trade certificate for timber from community-based sources.



9 : The FSC certification process: an overview

The Forest Stewardship Council (FSC) has granted a number of certifying organizations the right to assess timber concessions on their compliance with its guidelines. These organizations take applicants through the certification process that covers both the aspects of production and forest management, as well as, the transfer of timber through the marketing chain. Both are needed to guarantee end-users that the timber has, indeed, come from sustainable managed forest concessions. The certifying process consists of a number of steps:

- The initial application by the program is followed by a pre-assessment visit by the certifying organization. During the pre-assessment visit the certifying organization will confirm the projectís location, forest area and boundaries. It also maps the chain of custody and gives advise as to which aspects of the production process need to be improved.
- This is followed by a full assessment visit that consists of a detailed evaluation of all forest management, production and marketing practices. If the project meets all FSC standards, it is certified for a period of 5-6 years.
- Once certified the program is subject to regular surveillance visits to ensure continued compliance with FSC regulations. If flaws are detected these must be amended within a stipulated period of time.

Costs of certification, by an independent certifyer (e.g. SGS), may amount to between US$ 20,000 - 40,000 for the assessment phase (= first two steps above) leading to the certificate. The yearly recurring costs, 1 or 2 surveillance visits (to keep the certificate), may amount to between US$ 5,000 (one visit) and 10,000 (two visits). Further variance depends on the forest area, number of producers and the complexity of organization. These are indicative figures, which vary according to circumstances.

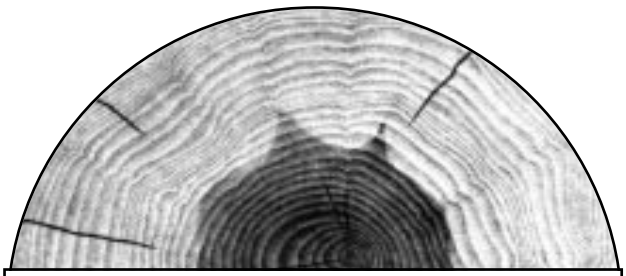
BOX 9

FSC certification, however, is no substitute for quality and service. There is a persistent idea in some community-based forestry programs that the demand for certified timber is so high in western countries that any timber with a FSC certificate will easily sell, regardless of quality, species and supply. This is unfortunately far from true. Only FSC timber which meets all the requirements in terms of species, size, quality and volume will find a market, as end-users and traders accord much more value to the quality of the product than to its environmentally friendly or fair-trade nature. A marketing policy based on exporting low-quality timber, with an FSC certificate, is a recipe for financial disaster.

Tree selection and forest management

Timber production aims to convert standing and living trees into well-dried quality timber of specified sizes. Whereas large-scale logging companies simply take the trees that they want and in the process damage most trees left behind, community-based sustainable forestry projects aim to cut trees selectively in the interest of long term economic and ecological sustainability. It requires intensive training to select the best trees for harvesting, fell them in a manner which minimises damage to the trunk as well as to surrounding trees, and to cut them up with a minimum of waste and effort. Usually the men involved in the village-based projects work in groups of six to eight and jointly decide which trees to fell and how and where to drop them. The most important considerations in selection are location, species, size and shape.

Most countries have detailed forest-legislation and codes of conduct, which generally prohibit felling on steep slopes, inundated land or within the vicinity of waterways. It is essential to make sure that the communities responsible for cutting know these rules and know how to apply them. Apart from the official forest regulations, the selection of trees is also dependent on the distance from the last milling site and the species of the remaining trees. This to minimise impact on forest composition and cover. Another aspect of location is the need to drop a tree in the exact required position. This is not only important to minimise damage to remaining trees but also makes a lot of difference to the amount of work needed for on-the-spot-processing afterwards and, thus, for productivity and profitability. Similar forest rules as those to location apply to the size, species and shape of trees cut. Most forest laws stipulate a minimum diameter beneath which trees may not be cut, while it makes little economic sense to cut a tree of a species for which there is little demand, with a crooked shape or of less than minimum size.



10 : Forest management in the SWIFT and IRECD projects.

The Solomon Western Islands Fair Trade (SWIFT) project aimed to achieve FSC certification as quickly as possible and devised an intensive forest inventory system in which potential harvesting areas were mapped and divided in one hectare blocks. In each of these blocks the mature (>60 cm diameter at breast height) trees were counted, their species determined and mapped, and those to be felled marked. Within a period of 5 years it is allowed to cut between 0 and 4 mature trees (which is estimated to be 10-20% of the harvest volume) per hectare, depending on the density of mature trees in the one hectare block. This constitutes a rather cumbersome forest management process. The project, however, was successful in limiting the burden of certification by applying for a so-called 'Green Umbrella' group certification, which meant that the SWIFT organization was allowed to monitor and guarantee the FSC standards of its individual producers. SWIFT was one of the first to export FSC certified timber from community sources to Europe.

The Islands Regional Environmental and Community Development Program (IRECDP) funded by the European Union in Papua New Guinea also makes use of forest inventory and management plans, but aims to keep them as simple as possible. It uses natural boundaries to distinguish one area from the other and registers the species and number of trees but does not draw them into maps. It then simply gives its forest producers three ërules of thumbí: 1) They can only cut the largest trees (> 60-70 centimetres diameter at breast height). 2) If they can see a mature seed tree of the same species from the tree that they intend to cut then they are allowed to take it, if not, they have to move on. 3) Not more then three trees can be felled in the same gap. This simple system proved strict enough to warrant FSC group certification.

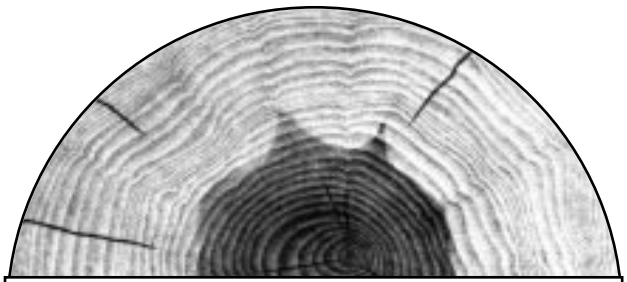
BOX 10

The decisions on felling described above can be organised on a more systematic basis in a forest management plan which designates the areas suitable for cutting, the amount of trees of various species within those areas and the levels of harvesting and canopy disturbance allowed within sustainability limits. The development of a forest management plan is mandatory for FSC certification but can be highly technical and administrative in nature, making it difficult to explain to illiterate local producers. It is therefore important to condense technical procedures and decisions into a number of rules of thumb, which can be applied in a simple way by local producers without the constant need for supervision on the part of the program (See Box 10).

Felling, cutting, transportation, grading, stacking and drying

Bringing down a tree in the desired direction, while keeping an eye on the safety of the foresters, is a specialist job. In many cases, it is already during this first step in the long process towards the end product that damag to the timber is done. Many trunks are split or fall in a location where they are difficult to retrieve. Large-scale operators drag tree trunks out of the forest, seriously damaging the remaining trees and compacting the soil. There are strict rules to the maximum of such skidding trails acceptable in any concession working under FSC principles. All programs supported by ICCO cut the trees into smaller planks on the spot, after which they transport the sawn planks and beams out of the forest by a variety of means (See box 11).

BOX 11



Box 11: Transportation troubles

Transportation from the forest to the roadside or timber yard proves to be a major burden in many projects. Raw sawn timber is heavy due to its moisture content and the forest area often inaccessible, forcing projects to find ways of transportation, which are appropriate to local circumstances:

* In projects in Papua New Guinea and the Solomon Islands timber is carried out of the bush on a plank by plank basis to the nearest road or waterway and then picked up from there. In some cases women have taken on this task, providing them with a source of income, from these projects, as well.

* The Pacific Heritage Foundation and the IRECD Program in Papua New Guinea are looking at using small four wheel drive tractors and both programmes are studying (or have studied) the use of water buffalo and motorised canoes.

* The SWIFT program in the Solomons Islands, covering a range of islands with deep lagoons, had a purpose built landing craft constructed to collect timber from the beaches.

The main technologies used, for on the spot cutting, are chainsaws and portable sawmills. Chainsaws have the advantage of being relatively cheap, requiring little investment and being needed anyway. A team of trained men, equipped with a set of chainsaws and winches, spare parts and fuel can start work. Estimates for the weekly production that can be achieved, with a chainsaw lie, between 1.5 and 2.5 cubic meters per week. Cutting lumber with a handheld chainsaw, however, is not easy and the need to compensate for inaccuracies leads to a substantial loss of timber. Irregular sawn timber may also lead to problems with drying and processing further down the line. Mounting the chainsaw onto a so-called ìAlaskan Mill frameî, gives more stability in sawing and thus produces much better results. Important requirements are that the chainsaw is well maintained and sharpened and that its handler is skilled and experienced. Chainsaws, however, produce a result that is always less than that of portable sawmills.

Portable sawmills are extensively used in Papua New Guinea and locally known as a ìwalkabout sawmillî, because a team of men can take it apart and carry it through the bush. This is a much more sophisticated piece of equipment, which consists of a large frame with a circular saw blade and engine running along it along the length of the log. The blade tilts, under an angle of 90 degrees, allowing it to make both vertical and horizontal cuts. This allows the cutting of high quality planks and timber in the exact required sizes and reduces losses and problems, with drying and processing, further down the line. Production with this type of saw is estimated at between 3 and 5 cubic metres per week, depending on the terrain and tree species. The disadvantages of this type of equipment are the high cost needed for the initial investment and the extra requirements in terms of maintenance.

BOX 12

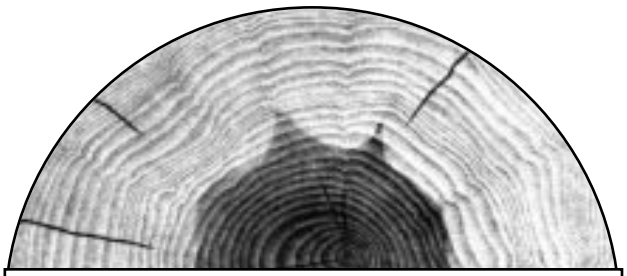
Whatever saw one uses, it is of importance that the sawmill operators aim to take the largest possible volume of saleable timber from the log. This so-called recovery rate, the percentage of the felled tree that remains in the form of cut lumber after sawing, varies widely and is dependent on the equipment used, the skills of the sawmill operator and the size and quality of the log. Recovery rates for chainsaws lie at 30-40%, while portable sawmills generally do better at an average of about 40-60%, depending on the skills and experience of the producer groups. Actual log recovery may be 10-15% higher when one includes off-cuts, stickering timber and firewood. Seemingly minor issues, such as the size of the lumber cut in the forest, may have large implications for the sale of timber and the profitability of the project. For example, in the first phase of the SWIFT project in the Solomons Islands community groups were instructed to cut timber in imperial measures (inches). The Dutch market however, to which the project was exporting its timber, uses a metric system (centimetres). This meant that timber measured in imperial measures had to be sawn into metric sizes leading to large losses. Only when the producers were trained to use metric measurements did they produce timber in sizes suitable for the Dutch market. Lowering wastage, through training of project staff and producers, is an important means to improve the profitability of sawmilling operations and reduce the impact on forest cover.

Once the lumber has been cut, it needs to be stacked in such a way that it dries thoroughly and can be easily transported. Some timbers can remain in the forest for some time, without losing quality, other species need to be stacked upright and brought under shelter as soon as possible. At the yard, the timber needs to be stacked under shelter with the cut timber separated by stickers to allow the timber to dry in an even-handed manner. The time needed, for air-drying, ranges from several weeks to as much as 18 months depending on the species, the size

12 : advantages and disadvantages of two types of saw

	Chainsaw with Alaskan Mill Frame	*Portable sawmill*
Advantages	Cheap (purchase approx. US$ 2,000)	High quality timber
	Easy to maintain	Reasonable recovery rate at about 40-60%
	Highly portable	Productivity of 3-5 cubic metres/week
Disadvantages	Relatively low recovery rate of about 30-40%	High investment (approx. US$ 14,000)
	Irregularities common	Portability requires 6-8 men
	Productivity of 1.5 ñ 2.5 cubic metres/week	Relatively high maintenance requirement.

of the lumber and the climate. Drying is important as timber may develop defects such as warps, cracks and splits in the process. The drying process allows the yard to distinguish between low and high quality export timber, as only the latter can be exported abroad, while timber with small defects may still fetch money on the local market or can be used by local communities for house building. Transporting raw (not sufficiently dried) timber is risky, as it is likely to suffer from rot and fungi in the container. The importer usually rejects below-quality shipments, at great cost to the supplier, as the full costs for production and shipping have already been made. More importantly, repeated failure to meet the quality standards required by the importer will lead to a loss of contracts.



13 : The main export quality and bundling requirements

The quality requirements needed for export timber can be divided in three sections 1) the quality of the timber, 2) processing and 3) the packaging:

The main wood quality requirements are:

Wane, sap and heart free;
Limited knots (depending on the application);
No cracks, compression failures and splits or borer holes.

The main requirements for processed timber are:

Straight sawn and no diamonding, twist, spring, or bowing;
The thinnest spot of the piece has the required cutting size and miscuts are not allowed
Moisture content and fumigation in line with the requirements of the importer;

The packaging requirements should always follow the specifications of the importer but in general are:

Stickers must all be of the same thickness and free from insects;
Sticker interval as per contract and in exact vertical lines, with straps to run along the stickers;
One thickness and length per strapped bundle.

Source: Van den Berg: 'Report to ICCO' 1997

BOX 13

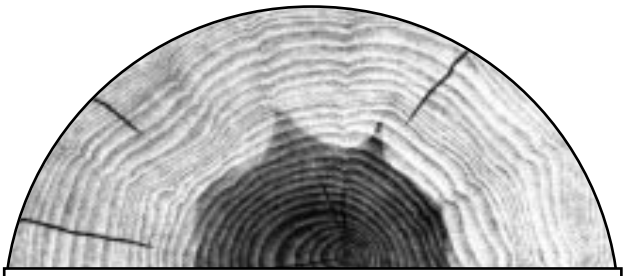
Even when the program is able to produce good quality timber, many forestry projects suffer from the fact that the volumes produced are small, while the variability in sizes and species is high. This means that in order to deliver the large volumes of uniform sizes and species required by the international market, forestry projects need to organise their production strategically. In the first place, they need to have a substantial number of producers in order to guarantee a minimum level of supply. When one sawmill breaks down, another may start again, when a third community is busy with other things than sawmilling, the fourth may work long hours. The second strategy is to build up sizeable stocks. This requires a large investment as timber is an expensive product and it takes a long time to generate a quality product in large volumes. A common marketing facility accumulating volume from different projects would be another option, though possible major constraints could include the costs of repeated handling and transport.

Going into downstream processing?

The value of the raw sawn timber that arrives at the wharf is small compared to the prices paid at the end of the trade chain for the finished product. Usually the raw material bought from primary producers in developing countries makes up some 10-15 % of the value of the end product. Most of the value is added during the remainder of the processing and trade chain through activities such as further drying, sizing, planing, moulding, marketing and transportation, which to a large extent take place in the developed countries. It, thus, appears attractive to enter into downstream processing beyond basic drying and fumigation, as quickly as possible, in order to capture this added value. The problem with these activities, however, is that they are highly technical, require considerable expertise and very large investments.

BOX 14

The required amounts of money and skills are usually absent within the organizations that are developing community-based forestry programs. Very few NGO's, are sufficiently equipped to develop proposals, provide training and awareness and support community initiatives, and become experts in tree felling, sawmill maintenance, forest management and the international marketing and processing of tropical timber. The international timber business is highly competitive and the profit margins in downstream processing are small, even for specialised firms dealing with very large volumes of timber. For starting programs, it is a risky strategy to take on all aspects of timber production, certification, processing and marketing at once. Experience suggests, that it is better to focus on co-operating with communities and producing sufficient volumes of an acceptable quality, while leaving the handling and marketing of timber to commercial partners with extensive experience, in line with the earlier mentioned specialisation approach. (See [6] in the reading list for 20 down-to-earth lessons in community-based enterprise development).



14 : The SWIFT HOUT BV Experience

Between 1996 and 1998 the SWIFT project had tried to enter the Dutch market for tropical timber on its own. In 1996, with the support of ICCO, the Solomon Islands project established a separate marketing outlet in the Netherlands under the name SWIFT HOUT BV. The purchase of a timber yard was funded by a bank loan with the aim to sell the timber produced in the Solomons Islands on the Dutch market. The basic assumption, underlying this move, was that FSC timber would command very high prices on the Dutch market.

This assumption led SWIFT HOUT BV to believe that it would be able to make such a substantial profit that it could cover its own costs while offering the best possible price to producers in the Solomons Islands. A sizeable volume of timber was shipped to the Netherlands in the next two years but sales lagged far behind expectations. The quality of the timber proved to be well below the requirements of the Dutch markets, while Pacific species were relatively unknown in the Netherlands hence constraining the timber sales. In the beginning of 1998 the yard had a sizeable stock of timber but had also run into such debts that the United Church had to decide to phase SWIFT HOUT BV out during 1998. Still, without the lessons learned from the SWIFT Hout experience, SWIFT Solomons would not have been able to directly deal with the professional traders, in the same way, as it does now. SWIFT Solomons now sells its timber directly from the Solomon Islands to professional traders in the Netherlands. Longer-term agreements with these traders are being developed.

4. Aiming for financial sustainability

For some time the idea was that these operations would be so profitable that they could easily become financially self-sufficient or could be used to fund other development and/or conservation activities. This idea stemmed from optimistic business plans but has not been borne out in reality. Not a single community-based eco-forestry project known to ICCO can do without subsidy at this stage. If this had not been the case, private firms would probably have already adopted the concept. Those private dealers, that are seeking to develop tropical FSC timber concessions, do so on a much larger scale and still have to invest heavily and cope with losses for extended periods of time. The reasons why private firms are making these investments are not based on expectations of immediate profit but stem from a combination of notions of corporate environmental responsibility and the strategic aim to optimally benefit from future changes in consumer demand.

In financial terms eco-forestry programs can be regarded as two interlinked enterprises. In the first place there is the timber-producing community, in the second place the timber yard which purchases the raw timber and following selection, stocking, drying and fumigation, sells it on local or export markets. In order for the program to be financially viable, both of these enterprises need to be profitable in their own right. If not, producers will stop cutting trees and the timber yard will go bankrupt. In assessing viability it is, thus, useful to split the different production and marketing activities up into two cost centres. A third cost centre consists of the community-support activities of the NGO or project agency. These will probably have to be subsidised for extended periods of time, as the timber marketing activities of community-based forestry programs, until now, do not generate sufficient profits to cover support services as well.
Below will be discussed:

1) Financial viability for timber producing communities;
2) Cost recovery for the timber yard;
3) Credit provision in sustainable forestry programs.

Financial viability for timber producing communities
Assessing the cost structure of local timber producing communities, under existing costs and prices, provides information on a number of issues:

* Whether community-based forestry operations are sufficiently profitable to be able to repay the loans for the purchase of equipment and whether profits can be generated for other community-based development and conservation activities;

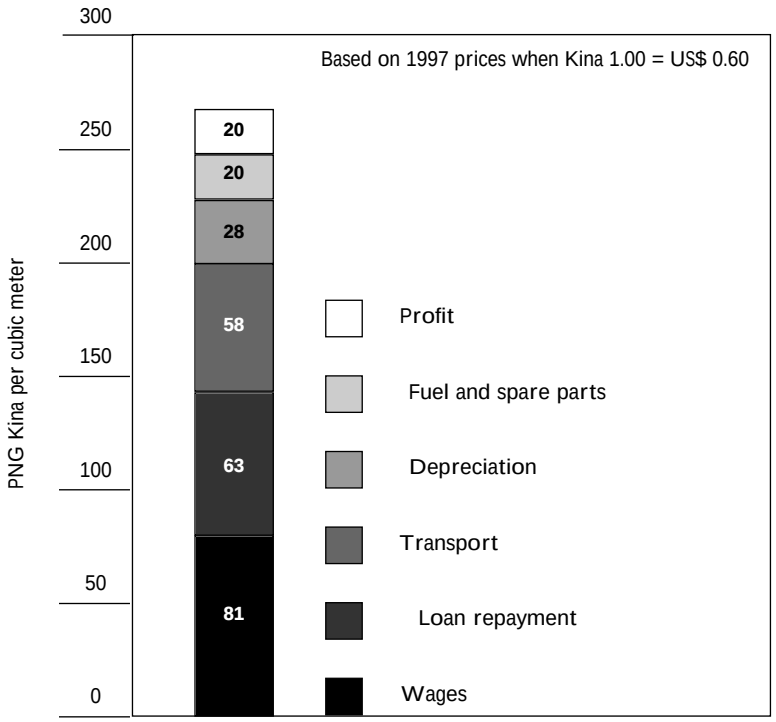
* Whether the wages earned with eco-forestry operations are comparable to the earnings derived from other income-generating activities; and

* What level of production needs to be reached in order to break-even.

Financial viability can simply be regarded as the ability to keep the business solvent with incomes higher than expenditures resulting in a positive cash flow. Given the high levels of capital investment, as well as organization and training required in these types of projects and their difficult technical, managerial, and financial structure, this is far from self-evident. Financial viability begins with achieving the minimum productivity required and minimising waste.

15 : Cost structure of community-based timber production using a portable sawmill:

This example from Papua New Guinea is based on the assumptions that 1) The equipment, consisting of a portable sawmill and two chainsaws, is valued at a total of 27,000 Kina. The loan for the purchase of this equipment is interest-free, while the costs of training & extension work are also subsidised (by the project). 2) The community produces for the local market and the price received for rough sawn timber at a local timber yard stands at an average of 270 Kina per cubic meter. 3) The expected production of saleable timber amounts to 144 cubic metres per year. 4) Salary costs stand at an average of 81 Kina per cubic metre. 5) The villagers repay their loan in three years at a cost of 63 Kina per cubic metre. 6) Transport costs are estimated at 58 Kina per cubic meter. 7) An annual sum of 15 percent of the total value of the purchase, 4,050 Kina, or 28 Kina per cubic metre, is set aside for depreciation. 8) The operating expenses including petrol, the purchase of spare parts and the cost of repairs stand at 20 Kina per cubic meter. 9) Profits amount to 20 Kina per cubic metre in the first 3 years, thereafter, profits may amount to 83 Kina as by then the loan will be fully repaid.



BOX 15

The analysis of box 15, for example, shows that a Papua New Guinean community using a portable sawmill and producing less than 10 cubic meters of saleable timber per month runs into financial trouble in the longer run. Only a production of 120 cubic meters per year allows for break-even under the described cost structure. For the chainsaw this comes to 60 m3/year. The problem is that many village projects do not achieve the minimum production of about 2.5 cubic metres of sold timber per week. The reasons, for the amount of time the sawmill is not used, are due to competing economic activities, cultural obligations, breakdowns and conflicts. The sales records kept by village projects are often an underestimate of actual production due to the fact that as much as 25 to 50 percent of the produced timber may be used or sold locally. A lack of financial viability does not have to be immediately visible on the ground. Communities can defer their loan repayments and provisions for replacement and maintenance for quite some time. Whether they are able to do so largely depends on the mechanisms that the various programs use to retrieve their loans and the repayment, investment and replacement strategies of local sawmill managers. In some cases the money is used for investment in other activities such as a truck which in turn may become a source of jobs and income. As a result organising the retrieval of loans in order to safeguard the continuation of sawmilling operations, has become an issue of importance in a number of community-based projects.

The required forest areas for financial break-even and ecological sustainability of the operation can be calculated as follows. Basic assumptions are the generally accepted sustainable production of 1 cubic meter per hectare per year and a 35% recovery rate for the chainsaw and a 50% recovery rate for the sawmill. The minimum forest area required to provide the annual amount of timber (60 m3/yr for chainsaw and 120 m3/yr for a sawmill) on a sustainable basis would come to approximately 170 ha for the chainsaw and almost 240 ha for a portable sawmill.

Cost recovery for the timber yard

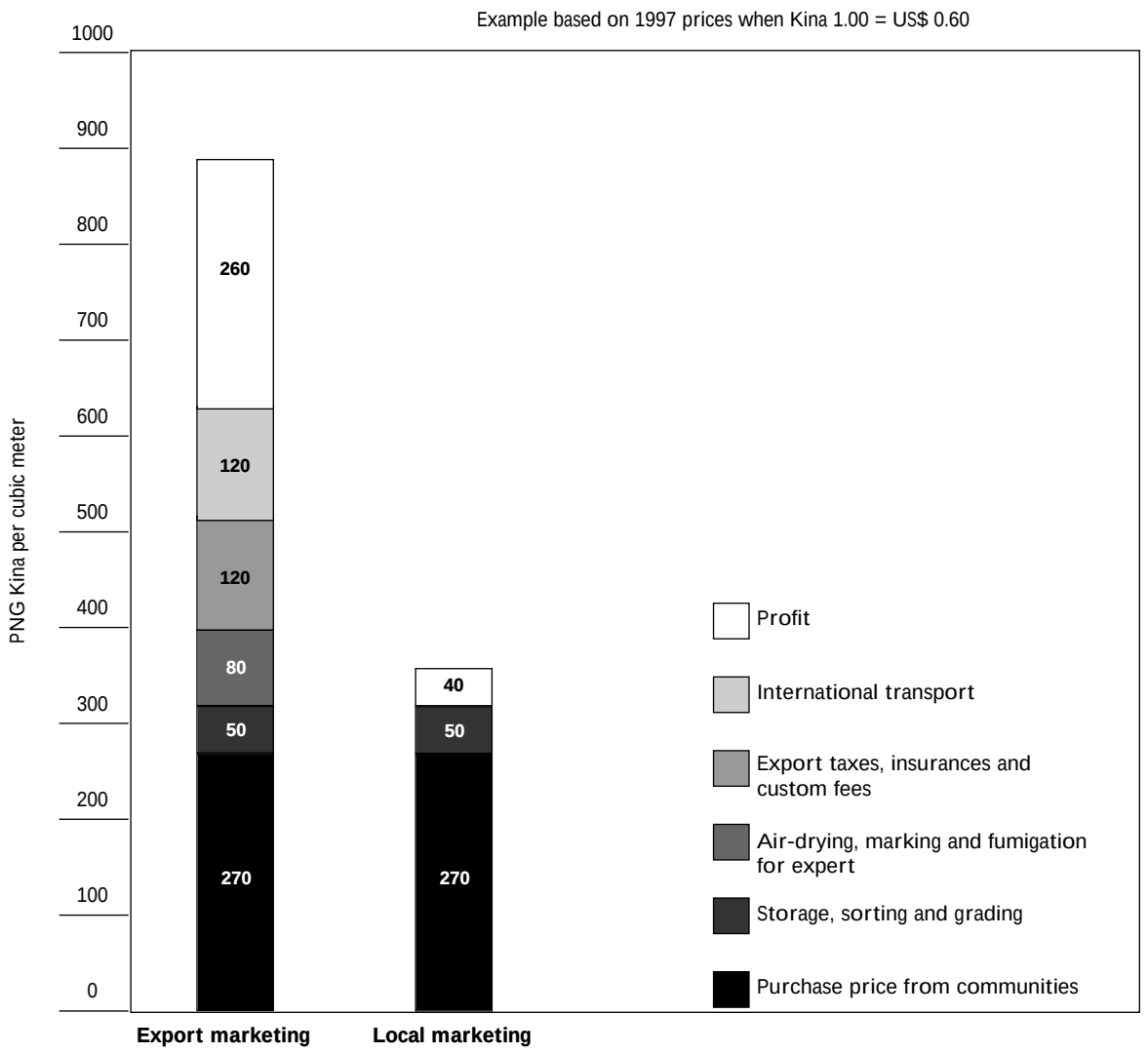
For many NGO's and donors, profitability is not the first interest when it comes to supporting community-based forestry programs. These programs have an aim to impro-

ve the situation of people living in and around forests and to reduce the incentive to agree to large-scale, more destructive, forms of logging. However, in the long term, the timber marketing activities should be funded through the commercial activities employed on the yard. These activities include the purchase of timber from the communities, its selection, drying, fumigation, transportation and sale on the local and export markets. The example given in box 16 shows how the potential profits from export marketing are much larger than those obtained through local marketing. However, it should be noted that, the price differential is usually only for premium species of a specific size and quality. If we assume one week's worth of timber production, 2.5 cubic meter, from a portable sawmill in Papua New Guinea. It may be worth only 750 Kina, when sold on the local market, but it may contain 40% of exportable species and of that, only 50% may be of the right size and quality (a total of 0.5 cubic meters). It would not be ecologically sustainable or make business sense for a community-based enterprise to cut solely for the export market. It should also be remembered that local prices vary sharply between regions, for example, a cubic meter of mixed hardwoods can vary in cost, between 220 Kina and 600 Kina, within Papua New Guinea.

BOX 16

16 : Cost structure of export and local marketing: an example from Papua New Guinea.

The main assumptions are that 1) the yard purchases timber from the producing communities at 270 Kina per cubic meter, and grades the timber on export potential. The below export-quality remainder is destined for the local market and sold at 360 Kina per cubic meter, at a profit of 40 Kina per cubic meter. The export timber is air-dried, marked and fumigated and finally shipped to a western buyer. The costs for treatment, export costs and insurance as well as transport are given in the figure below. The final result is a delivery price of 900 Kina and a profit of 260 Kina per cubic meter.



Given this difference it appears, at present, that a timber yard (i.e. the marketing activities) will not be able to cover its costs from local marketing alone. As the potential to make a profit increases the further one enters into downstream processing activities, it seems justified for sustainable forestry programs to move into the export market in the longer term. At the same time one should realise that the required investments, the technical expertise and market knowledge required for export marketing are considerably higher than that needed for local marketing. This suggests that projects should start by focussing on dealing with communities, aiming to increase production until a steady flow of timber is achieved and by helping to find a commercial partner who can take responsibility for the export marketing of the final product. Only when programs and communities have gained experience in the production, transportation and drying of timber and have taken time to assess the best export options for their product, should they consider export marketing by seeking co-operative arrangements with mainstream companies. Inexperienced and comparatively small community-based forestry programs, with all the additional costs and requirements that result from the fair-trade and ecologically sustainable nature of their production regimes, are not able to compete with the highly specialised timber businesses that dominate the timber market in western countries.

Credit provision in sustainable forestry programs

The initial investments that need to be made for the start-up of this type of program, the purchase of equipment, the build-up of stock and the training of personnel and communities in managerial, technical, bookkeeping, processing and marketing skills, are very large. This applies to the NGO which needs considerable initial investments for the purchase of chainsaws, sawmills and spare-parts. It is also true for the 'business' unit, which needs to build up a costly timber stock and to pre-finance equipment, handling and transport costs. At community level, interested groups need to purchase their own equipment after they have proven to be able to take all the steps necessary for the development of a small forestry enterprise. At present, the costs of a dimension saw, two chainsaws, winches, spare parts and fuel may amount to about US$ 16,000, a huge sum to many communities, which can only be paid from the proceeds of future timber sales. As a result, programs have had to devise ways in which communities could start operations with sawmills that were borrowed from the program or purchased through a loan. The program then gradually recoups its loan from the timber, which the communities sell to the yard. Repaying the loan by withholding a percentage of the income from timber sales, however, has the disadvantage that the program can not deduct loan repayments from timber that is not sold at its timber yard. Village projects can thus avoid or delay repaying their loan by selling on the local market while accumulating revenue from local sales in their community account. In some cases spare parts, oil and petrol are added onto the outstanding loan. This may lead to a situation where the community has quite sizeable savings on one hand and an increasing or stagnant loan with the program on the other. This allows other community investments and increases in wages to be made, at the expense of the repayment, maintenance and replacement of the sawmill, a situation, which obviously threatens the long-term viability of forestry operations.

As a result of these experiences, a number of programs have become increasingly tough, when it comes to dealing with communities, and have replaced the repayment of loans, through a deduction on sales, with fixed monthly repayments. In that way it does not matter where the community sells the timber as the costs of the loan still have to be met. Many programs no longer supply fuel, spare parts and repairs to village projects on credit but only in return for payment. This avoids the loan actually increasing. The sawmill managers are also encouraged to keep cash in reserve to cover unforeseen expenses.

5. An overview of lessons-learned

Based on some of the experiences described in the previous sections the following conclusions can be drawn:

1.Complexity:

NGO's and donors in community-based eco-forestry operations have tended to underestimate the complex nature of these projects. Timber appears a relatively simple product and its production a straightforward process, but the community-based production and marketing of quality timber in sufficient volumes is far from easy and the margins, for the simultaneously ecologically, financially and socially sustainable production of timber, are small. It has also proved to be difficult to introduce business culture and concepts, such as financial and other record keeping, into rural communities, and similarly into NGO's and donors.

2.Management:

Generally there is need for adaptive management at all levels (donor, NGO and community group). Organizational strengthening, capacity building and staff training are crucial areas to be addressed.

3.Business planning:

A business plan is required for all aspects of production and marketing before the start of the program. Such a business plan should outline the focus of the program, the choice of markets, the scale of investments, the need for FSC certification and the type and level of expertise needed. It should, also, analyse the financial viability of community-based timber production, the minimum production required to cover costs, and the level of subsidisation required for community support and timber marketing activities.

4.Explore local markets first:

Experience suggests that it is better to start slowly, become good at producing a steady flow of quality timber at minimum waste for local markets, before moving into the high investment and high risk business of export marketing, processing and retailing.

5.Responsibilities and strategic alliances:
In addition, the business plan needs to outline the responsibilities of the various parties involved. Depending on the circumstances, the program may need to do everything itself in which case its social and business roles merge. It may make sense to divide roles between a ìbusinessî unit responsible for the purchase of timber and the provision of loans and a 'social unitî responsible for training, community development and legal support. However, having to cope with all aspects of the complex timber business may constitute too much of a burden for the program and may also lead to confusion on the part of the communities. Alternatively the program may want, and/or need, to enter into strategic alliances that allow it to focus on supporting communities in their sawmilling and capacity building work (the 'socialî role). A private timber company can then organise the transport, processing and marketing activities and local banks provide credit and recoup loans (the 'businessî role).

6.Knowing the market:
Especially when moving into export markets the design of a clear marketing strategy for the sale of timber, the need to assess the use of local timber species, the sizes needed for delivery and the other quality criteria, prevalent on the targeted markets, are of great importance. Without market knowledge the program will fail to translate the 'needs' of the market into day-to-day production processes in the forest and on the timber yard. In addition the western timber business is highly technical and competitive in nature and has narrow margins of profitability. It makes more sense to build up co-operative buying, processing and retailing arrangements with the mainstream timber sector than trying to duplicate their activities and compete against them.

7.Sustainable forest management:
Forest management training is the basis for a productive, sustainable and safe exploitation of forests and requires a major effort in most programs. Programs should aim to design ërules of thumbí which are as simple as possible in their application, minimising the need for constant supervision, while at the same time safeguarding ecological sustainability. In principle, this is a role that should be fulfilled by national forest services rather than NGO's. Look into the possibility of linking up with state forest services.

8.FSC certification:
FSC certification may help to manage forests in a sustainable fashion and may also provide a small premium of about 10-15% on international market prices. In general, this premium is insufficient to warrant the procedures and expenditures necessary to obtain FSC certification. Cost can, however, be minimised by obtaining Group Certification and FSC certification may help in opening up export markets for the timber from eco-forestry projects. Until the time when certification is needed, programs may develop their own forest management plans to achieve ecologically sound production regimes (See point 4). The development of large industrial timber concessions along FSC guidelines will, in the near future, mean that timber from community-sources can no longer distinguish itself from other sources of sustainable timber, possibly necessitating the development of a fair trade certificate for tropical timber from community-based sources.

9.Productivity:
The relatively low productivity of eco-forestry projects and the small scale of present activities constitutes a potential threat to financial viability and the ability of forest programs to supply export markets. Cash flow and cost-benefit analyses of the community-based activities may be tools, which allow the program, to give producers clear production targets below which viability becomes endangered. The low productivity also warrants further study into the option of up-scaling forest activities by assisting villagers in giving concession to larger companies working on the basis of FSC guidelines.

10.Financial viability:
There is a lack of systematic data on the financial viability of present community-based timber projects. Most indications, however, appear to suggest that these projects need to be subsidised for extended periods of time. It makes sense to treat the production by communities and the support and marketing activities of the forestry program as three separate 'businesses' with separate cash flows, profit margins and subsidy needs. Aiming towards financial viability should start with the communities. If local producer groups achieve sufficiently high levels of production allowing them to pay off their loans, make a profit and potentially save for other community investments, then subsidisation of the program can be restricted to the training and support provided by the program staff and the marketing activities employed at the timber yard. Potentially the latter activities could be covered from the proceeds of exporting timber, if sufficient quality and volumes can be achieved. Community development activities, however, will probably need to be subsidised under the present circumstances.

11.Adding value by timber processing or other products:
Growing evidence shows the necessity to increase value in order to reach financially viable operations. This could materialise through timber processing or through the production and marketing of other forest products. Further exploration of, and research into, such options are necessary.

12.Credit:
The provision of credit, with the idea of recouping the loan by withholding a percentage on the sale of timber, runs into trouble in many projects. The reason is that communities do not sell their timber or sell it elsewhere. It is better to be clear about a monthly repayment schedule and to provide additional services solely against cash payment. Another option is to lend the equipment to the producers instead of providing a loan. Hence the ownership remains with the project until the producer has paid the total purchase costs. A better option would be to have local banks take on the administration of the loan component, though other constraints may arise.

13.Getting communities involved:
The use of PRA and social survey tools may help to assess whether eco-forestry programs are a means to assist communities in solving some of their development problems. It is also worthwhile for eco-forestry programs to let groups express an interest themselves and to take them through an application process in which the community has to go through a number of steps and training sessions before being able to take control over the sawmilling equipment. Many groups will drop out during the application process and one is more likely to deal with communities with a higher level of social cohesion and motivation to engage in this type of activity than when ecoforestry projects are ëimposedí by the program-executing agency.

14.Sufficient and secure forest resources:
Apart from the social aspects of community selection, the project needs to assess, in an early stage, whether there is sufficient forest to make sustainable harvesting possible and what (e.g. legal) steps have to be taken to secure harvesting rights to these resources.

15.Women and forestry development:
The 'self-selection' of participating communities and the technical nature of sawmilling often leads to the exclusion of women from forestry activities. Programs can take several steps to try and include women in their ambit.
1) It should make an effort to involve women in problemanalysis, decisionñmaking and design activities from the start.
2) It should employ women as role models in key positions.
3) It should discuss with villagers the options of including women in certain aspects of timber production process.
4) It may develop additional activities that may benefit from the increased cash available in communities involved in timber production.

16.Money and transparency:
Transparency in money-matters is very important when dealing with communities. A clear and simple bookkeeping system should be put in place with at least two people fully trained in looking after it. Responsibilities, within the business, should be clear and the whole community should be regularly informed on the financial aspects of the enterprise. The same applies to the implementing NGO's and the donors alike.

Further reading

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Community-based forestry projects and programs, funded by ICCO, in which production and marketing of timber takes place, or forms part of a broader program

	Country and name of organization	Started	Forest area in hectares
	Papua New Guinea		
1	Village Development Trust (VDT)	1997	60,000
	Pacific Heritage Foundation (PHF)	1995	160,000
	Solomon Islands		
2	Solomon Western Islands Fair Trade (SWIFT)	1995	35,000
	Solomon Islands Development Trust (SIDT)	1998	20.000
	Brazil		
3	Instituto Socioambiental (ISA)	1995	500,000 (broad program)
	FASE Gurupa (FASE)	1997	100,000 (by the end of 2002)
	Surinam		
4	Stichting Ecologische Producten Suriname (STEPS)	1997	5,000
	Guatemala		
5	Asociacion de Communidades Forestales de Peten (ACOFOP)	2000	430.000 (broad program)

Note: ICCO is funding (or has recently funded) over 70 ecoforestry projects worldwide.There are two types of projects: one dealing with production and marketing of timber and non-timber products, the other active in lobbying, awareness raising and legal issues. The projects shown in this table, are only projects in which the production and marketing of timber takes place on a daily base.

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