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## **Value-adding in Forestry at the Farm and Community Level**

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### **ABSTRACT**

Subsistence farmers have long recognized the importance of trees as a source of many goods, services and amenities. However, central to tree growing activities should be the development of opportunities for farmers to generate and improve their income by value adding. A variety of value-adding activities are undertaken in small-scale forestry in Leyte. This includes production of fuelwood, charcoal, lumber, furniture and novelty items. By increasing forestry revenue, value-adding encourages smallholders to plant more trees. Community forestry, as an alternative to individually owned forestry, allows smallholders to work together to increase productivity and creates opportunities for value adding. Since smallholders lack resources and other needed technical knowledge, the role of support organizations such as the Department of Environment and Natural Resources (DENR) and Department of Trade and Industry (DTI) are crucial for value-adding. These agencies can help smallholders in the processing of papers to make the venture legal and in establishing market linkage for the product that they will produce.

Keywords: value-adding; smallholder forestry; product diversification; fuelwood; cooperatives.

### **INTRODUCTION**

This paper discusses opportunities for landholders to add value not only to their farmland but as well to the timber and other forest products that they produce. For livelihood and environmental reasons, it is imperative for researchers, development workers and policy-makers to think of alternatives and activities that would ultimately encourage farmers to plant more trees. One important activity is the development of small-scale forestry enterprises and processing of timber into other wood products that command high prices. However, the market of these products must also be assured. Support organizations can play a much needed role in this context, especially in linking, establishing of markets, and helping in the design and attainment of quality standards of the products.

This paper reviews some issues in carrying out forestry activities that can make the investment more profitable. The information presented here has been drawn from literature and observations made in Leyte. It is hoped that the issues presented here will spur discussions and serve as an input in planning the future research direction of the ACIAR Smallholder Forestry Project in Leyte.

### **FACTORS LIMITING THE SUCCESS OF SMALL FARMER'S TREE GROWING ACTIVITIES**

Landholders and especially small-scale farmers have long recognized the importance of trees. It is clear to them that forests and plantations provide a wide array of goods and services. Trees are a source of materials for housing construction, fuelwood for cooking, and revenue from product sales. Nevertheless, tree growing still seems not attractive or lucrative in the eyes of many landholders. Tree growing for most of them provides a long-term lump-sum source of revenue while they need immediate cash to support a living. Like any investment, planted trees require sacrificing current consumption of goods and services (Adams and Efransjah, 2001). Also, the capital investment enterprise of tree growing is inherently more risky than any alternatives because of the length of the tree growing process (Taylor and Fortson, 1991). This issue can also be the reason why so few trees can be found on most farms in Leyte. Other factors limiting the success of small farmers' tree growing activities can be identified as follows:

*Limited area of land.* With only small landholdings, farmers place priority on planting agricultural crops rather than trees. According to FAO (1989), tree crops could have a negative impact on household food security. They not only compete for nutrients, light, and water but also occupy space displacing agricultural crops, which are the major source of food and cash for the family. It is for this reason that trees planted by farmers in Leyte are found only on farm borders and near houses, and that fruit trees are the dominant type.

*Availability of planting materials.* Farmers have poor information on where to access high-quality planting materials. That is why the species that they actually grow are not necessarily the species that they prefer (Lawrence, 1998). They only plant what is available, especially those provided free of cost.

*Lack of technical know-how.* Farmers typically have a poor understanding of seed and seedling culture as well as tending trees (especially on exotic species). A common observation on small tree farms is the use of incorrect spacing and improper silvicultural practices. Trees are just simply pruned leaving long stubs and sometimes with bark slough-off. This could result to slow growth and poor health and consequently poor harvest.

*Insecure market.* Farmers in general, grow just enough trees to meet household demands for lumber and fuelwood. Lack of a marketable surplus is compounded by the difficulty in transporting forest products to market due to a

poor road network and the burden of processing approval documents for use and transport.

*Misconceptions about exotics.* Some misconceptions arise which discourage the growing of particular species that are often suitable for the sites available. For example, Yemane (*Gmelina arborea*) is believed to make the soil acidic, and cause drying of creeks and rivers. Although farmers may be uncertain about the logic of this (mis)information, it can strongly discourage planting of this fast-growing tree species.

In the context of these impediments, value-adding has the potential to increase the financial returns from smallholder forestry, and hence warrants support from public agencies and non-government organizations (NGOs).

## **PROCESSING AND MARKETING OF TIMBER AND OTHER FOREST PRODUCTS IN LEYTE**

Rural location and nature characterize the market for most timber and other forest products in Leyte. These markets are predominantly for low-cost products, demand for which changes seasonally with fluctuations in rural incomes and activities (FAO, 1987). Some of the more widely used products are now reviewed.

### **Fuelwood and Charcoal**

In most rural areas in Leyte, there is no formal market for fuelwood and charcoal, especially when people have access to forest resources. People just gather available materials for cooking purposes. Trading exists only in nearby towns where there is an established market for these products. Where transportation is available, local traders usually exist, buying the bulk of fuelwood and charcoal to cater for the demands of various types of urban consumers. Fuelwood and charcoal may also be brought to the consumer directly by the farmer, or may be sold through retailers. In the latter case, the local trader buys the material in bulk from farmers and sells it on to the retailer. On the average, the price of charcoal per sack is PhP 100, and when retailed the consumer can buy in either 5 or 10 pesos packs. The volume sold depends on the type of consumer. Obviously, barbecue stand owners and lechon (roasted pig) sellers consumes more than ordinary households. Figure 1 illustrates the flow of forest products from the point of origin to the final consumer.

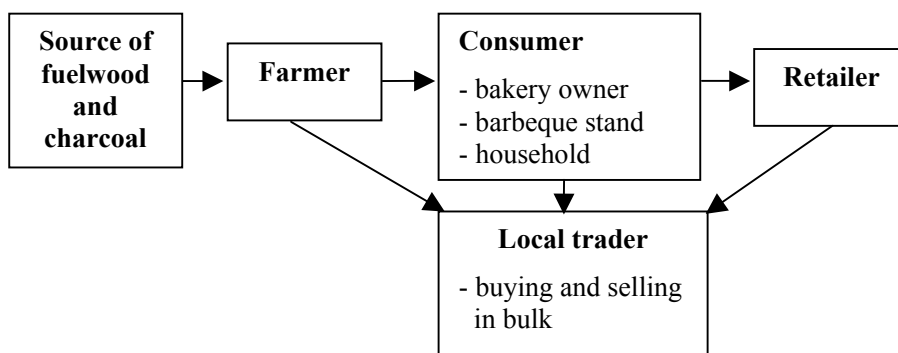


Figure 1. Flow of fuelwood and charcoal from the source to consumers

### **Furniture Items**

Manufacturers of furniture items can be found in many rural areas in Leyte, although individual markets are small and localized because of poor road condition and high transportation cost. The market is mainly for job orders for single items of which product specification varies from order to order. In some cases, manufacturers display their products in nearby towns during market days. Examples of these furniture items are the sala sets, dividers and beds, which are usually made of bamboo. Though some producers operate without a permit, they continue to operate because the DENR and local officials are lenient about the manufacture and marketing of furniture products.

### **Lumber**

There are two types of lumber trading in Leyte. One can be considered legal, where lumber is bought from lumber dealers in towns who has a permit to operate secured from the DENR. However, in other cases, particularly those near forestlands, people order their wood needs such as lumber from timber poachers available on site or in a nearby barangay. Even at the risk of confiscation and apprehension, people still purchase items from this source because of the greatly reduced price. Distance and high transportation cost also account for this scenario.

Processing of lumber usually takes place in the timberland (public land). Felling of trees and conversion into smaller dimensions (as ordered) are carried out with the use of a chainsaw. Minor log transport is done manually by many people who are paid on a board-feet basis. This activity serves as a source of employment in the barangay with many involved in the transport of lumber.

### **OPPORTUNITIES FOR VALUE-ADDING**

Central to the promotion of tree growing activity should be the development of alternatives for farmers to generate income. Various opportunities arise for

landholders to add value to timber and other forest products at the plantation site in order to enhance profitability of forestry investments (Figure 2.) A farmer should not only look at increasing production but also at the possibility of value-adding in order to satisfy family needs.

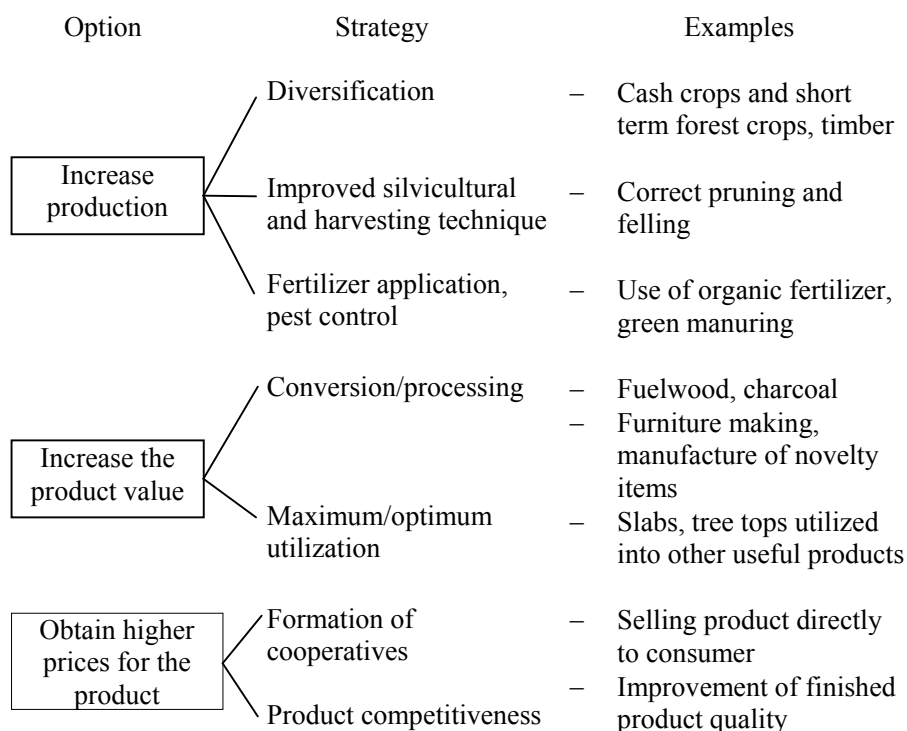


Figure 2. Opportunities for landholders to increase farm income

### Product Diversification as a Means of Increasing Output

Instead of planting a long-term forestry crop alone, farmers have the opportunity to plant other crops that will satisfy family needs not only for timber and other forest products but also for food. Agricultural crops, which are sources of immediate income, are best integrated into the tree-based system while trees are still young. The arrangement of these plants in the agroforestry system depends on the spatial and temporal requirements of these crops. Examples of species that can grow under shade are yam, gabi and pineapple.

Farmers can also plant short-term forestry crops. Ipil-ipil (*Leucaena leucocephala*) for example, is a fast growing species that can be harvested in a short period for fuelwood. Bamboo can also be integrated because of its short rotation and variety of uses for the farmers. It is also suggested that tree growers have to acquire skills for proper silvicultural practices for trees on farms. It has

been observed that most tree growers improperly prune trees or even conduct thinning without any attempt to gain additional value for the thinned trees such as cutting them into short lengths for sale. Farm production can also be enhanced through application of green manure available on farms.

### **Increasing Product Value Through Conversion and Processing**

Smallholders will be encouraged to plant more trees if they can earn more cash from the tree venture. This, however, can only be achieved if farmers have access to processing plants for planted trees and are able to secure markets of their products. Processing and selling of tree products would enable smallholders to generate cash income to buy food and to make savings for the benefit of their families. Some of the possible products that farmers can produce include lumber, tables, dividers, sala sets, chairs, doors, turned-bowls, boxes and crates (for vegetables and dried fish) and novelty items (e.g. spoon and fork, lechon tray).

Most Filipinos since time immemorial have placed a premium on native species such as Narra (*Pterocarpus indicus*), Molave (*Vitex parviflora*) and Tindalo (*Azelia rhomboidae*) for furniture-making. This is evidenced by the tables, chairs and other items that can be found in old houses from antique collectors. These species are notable for their high finish quality as a result of the arrangement of their wood grain. Since the cutting of these species is currently banned, the production of similar items using the common reforestation species such as Mahogany (*Swietenia macrophylla*), Gmelina and some Australian tree species is a distinct possibility. This, however, requires training of growers to achieve a high quality timber and comparable wood products.

To identify which value-adding activities in forestry are viable and competitive at a small scale, and have the potential for continued growth, it is suggested that the following criteria be used (FAO, 1987):

- the demand potential for the products is high;
- technology is available which permits achievement of low average unit production cost;
- productivity of labor can be increased;
- management capabilities and technology are sound;
- existence of raw materials is assured throughout the planning horizon; and
- market prospects are strong.

Development of forestry processing enterprises to augment farmers' incomes is not an easy task and involves consideration of a number of constraints. FAO (1989) enumerated constraints to development of small-scale forestry enterprises:

- Insecure markets due to low rural incomes, seasonality of production, poor market information, lack of access to urban markets and external competition;

- Raw material shortages, often compounded by wasteful processing, restrictive regulations, poor distribution systems, and lack of working capital;
- Lack of access to appropriate technology in the form of suitable tools and equipment with which to improve productivity;
- Shortage of finance, in particular working capital;
- Managerial weakness, which serve to worsen all the other problems; and
- Lack of organization of the enterprises in a manner which enables them to make effective use of available support services.

Where illegal logging is viewed as a problem, national forestry departments can be expected to have reservations about value adding. This can increase the profitability of illegal logging, and at the same time make identification of the source of timber (as plantation or native forest) more difficult. There is also the risk of downgrading the value of timber, e.g. making charcoal out of high-quality furniture species.

#### **Role of Support Organizations**

Considering that there is no definite market for the above-mentioned products in rural areas in Leyte, there is a great need of establishing linkages with furniture dealers and display centers in towns and even in cities. Government agencies such as the Department of Trade and Industry (DTI) and National Economic Development Authority (NEDA), and some NGOs can help farmers' small-scale enterprises with better markets initially in terms of market information and later in the actual movements of products as well as inputs. These institutions may also help farmers in terms of support infrastructure including training, product design and testing, and marketing and financial assistance. The DENR can also help farmers and farmer organizations through facilitation of document preparation, especially for the harvesting and transporting of raw and finished wood products.

#### **Importance of Cooperatives**

The importance of cooperatives must not be overlooked in small-scale forestry, especially when value-adding activity is involved. These organizations can seek support from funding institutions for the procurement of appropriate tools for the chosen enterprise. They may also arrange training and skills development for some wood-working activities. Furthermore, cooperatives can buy products from individual farmers, and in turn sell them directly to buyers. In this way, the middlemen who usually capture the profits can be eliminated.

#### **Need for Information Systems**

In the process of developing a small-scale forest processing enterprise, a sustained resource supply must be available so that there will be continuous production of forest goods. Having a database of all smallholders engaged in tree plantations, a manufacturer can be assured of a constant supply of raw materials.

According to Banana (1996), it is important to have an organized information system to help individual producers organize production and distribution, determine appropriate prices, select markets, follow supply and demand and promote merchandize. If this happens, farmers will be encouraged to plant more trees.

### CONCLUDING COMMENTS

Value-adding can increase the financial returns from smallholder forestry and provide employment opportunities. A wide variety of furniture and other items can be produced. Various impediments to further processing of farm and community-grown timber are apparent in Leyte province, but nevertheless substantial value-adding takes place. Various measures may be implemented to encourage further forestry value-adding activities.

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