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Tree Planting Progress at Four Community Forestry Sites In Leyte: Some Observations and Lessons Learned

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ABSTRACT

This paper critically reviews tree farming and community forestry in four municipalities in Leyte. It examines problems and issues experienced by the local people in communities with respect to forestry, and makes observations about the progress of tree planting in both community and farm forestry. Field visits and discussions with local people, Local Government Unit (LGU) officials and Department of Environmental and Natural Resources (DENR) personnel were undertaken in each of the four sites. Some lessons are drawn and problems identified with respect to the development of community and farm forestry. Planting progress has been relatively slow at the four sites, and a number of difficulties have been apparent in relation to physical stand performance and property rights of growers. The importance of organizational assistance, livelihood support and availability of seedlings of suitable species is apparent. Regardless of the difficulties, a high level of enthusiasm exists for forestry projects, and the potential community benefits are considerable.

Keywords: tree farming; community forestry.

INTRODUCTION

Since the mid-1990s, community forestry has been the focus of important policy initiatives in the development of non-industrial forestry in the Philippines. The Community-Based Forest Management Program (CBFMP), a government program initiated in 1995 through Executive Order 263, integrates all the people-oriented programs of the (DENR). The program entitles the community, through a Community-Based Forest Management Agreement (CBFMA), to have legal access to occupy, possess, use and develop a substantial area (often several hundred hectares) of forest land and its resources for a period of 25 years, renewable for another 25 years (DENR, 1998). The CBFM program is an attempt

to promote the active participation and commitment of people in communities in sustainable forest management and protection.

Following a one-year Australian Centre for International Agricultural Research (ACIAR) forestry socio-economic study in the Philippines (reported in Harrison and Herbohn, 2000), the current ACIAR Smallholder Forestry Project[1] was developed to examine measures to promote non-industrial forestry development in the Philippines, and commenced in 2001. Three community forestry sites were chosen as case study sites for the project, namely Isabel, Matalom and Babatngon. A fourth site (Inopacan) was added during the project scoping visit to Leyte in February 2001. Discussions were held with local people in communities, and with key personnel at the LGU and DENR offices. Field observations were made on the activities in farm and community forestry at each of the sites visited, providing insights into promotion of smallholder and community forestry in Leyte.

DISCUSSION OF FIELD OBSERVATIONS AT THE FOUR SITES

The following site observations have been based on the involvement of the staff of the College of Forestry, Leyte State University (LSU), with forestry development at the case-study sites, site visits and briefings provided by respective communities, and archival data collected after the visits. The initial intention was to collect information to brief participants in the ACIAR project on possible study sites. However, in the process of collecting the information a number of lessons were learnt and important problems were identified.

Site 1: Isabel (Northwestern Leyte)

Isabel is the project area of two former reforestation projects of DENR. The site also is currently the location of the 'Community-Based Watershed Management Program' (CWMP) which is a collaborative development project spearheaded by the Isabel LGU and other local institutions. LSU is playing a lead role in this project. Isabel is a problem area in terms of a degraded watershed with denuded mountain ranges and has high potential for forest development. Strong linkages with the local government and village leaders had been already established by LSU through the implementation of the CWMP activities.

Isabel is a first-class municipality (a classification based on community income levels) located near Ormoc city, from which its water supply comes. The municipality is relatively well-off due to the presence of an industrial complex

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[1] The initial socio-economic study was carried out as a supplementary investigation to ACIAR project was FST 96/110, titled 'Tree Production Technologies for the Philippines and Tropical Australia'. The current ACIAR project is ASEM/2000/088, titled 'Redevelopment of a Timber Industry following Extensive Land Clearing'. The financial support from ACIAR for this 'smallholder forestry project' is gratefully acknowledged.

producing copper and fertilizer products. Key issues associated with reforestation were identified at a meeting with the Mayor, LGU officials and leaders of other local organizations concerned with reforestation. Lowland flooding, massive soil erosion and depletion of groundwater stocks were identified as major issues, giving rise to strong interest by local people in reforestation. LSU, through its College of Forestry, has been actively involved with the CWMP, and has played a key role in strengthening community support for reforestation.

The municipality has a total land area of 9750 ha, of which an estimated 1000 ha is being targeted for reforestation. Considerable planting of trees is taking place, although securing funding for reforestation has been difficult. The LGU reported an allocation of P200,000 in each of the last two years for this cause.

Establishment of plantations of exotic tree species under the CBFM program had taken place at the time of the visit. Some individual landholders had also planted timber trees on their properties. A young gmelina tree farm on private land was inspected, and was found to be in particularly poor condition due to shallow sloping soil, moderately high elevation and limited weed control. A community seedling nursery had been set up by the DENR through the CBFM, with assistance from the non-government organization (NGO) called VALUES Inc. As well, CWMP had established a community nursery in barangay Matlang. A considerable seedling loss was observed in this nursery, possibly due to either excessive sun exposure or poor potting mix. Regular scheduled meetings of captains of the 24 barangays provide a forum for discussing reforestation and related issues in the municipality.

Site 2: Matalom (Southwestern Leyte)

Matalom is one of the research sites of the Visayas State College of Agriculture (ViSCA)-ACIAR collaborative work on the earlier ACIAR Project (FST 96/110). Numerous LSU projects on hillside farming and agroforestry have been conducted in various upland sites of the municipality. These projects addressed both the biophysical and socio-economic aspects. It was primarily due to these development projects that LSU was able to established strong linkages and working relationships with the local government and villagers.

The former ViSCA-ACIAR field trials have demonstrated rapid early growth of Australian eucalypts and acacias and some traditional species (including bagras) on a reasonably fertile site. The trial plots, however, are now 'locked up' due to lack of thinning and other necessary silvicultural activities, making them of little value for modeling stand yield beyond approximately the first six years of age.

A good example of smallholder tree planting on farms is found in barangay Tigbao. The tree farm, located approximately 2 km from a nearby passable barangay road, consists of a mangium and bagras mixture, with pineapples growing under the trees. The trees have grown rapidly and are of good form.

The visit to Matalom provided an opportunity for the ACIAR Smallholder Forestry research group to meet with barangay officials and People's

Organisation (PO) leaders at the small barangay hall. The meeting was presided by the barangay chairman (who was also PO president), with interpreter assistance from the LGU community organiser (a LSU forestry graduate). Discussion revealed that the government has strongly encouraged tree planting in communities; however, it was believed that not enough assistance had been provided for communities to successfully reforest denuded forest lands. A consortium has been established of the POs in five barangays in the municipality of Matalom, called the Waterloo, Anahao, Lowan, Lunas and Tigbao Reforestation Beneficiaries Association Inc. (WALLTReBA). The organisation is a duly recognized association of upland farmers registered with the Securities and Exchange Commission (SEC) and accredited with the DENR of Region 8 (DENR-8). The PO has secured a CBFM Agreement, giving the organisation the privilege to manage, protect, and utilize a CBFM area.

The People's Organisation was commissioned by the DENR for seedling production and tree plantation establishment and maintenance, with a contract for three years. VALUES Inc. was contracted by DENR to assist the PO and to take charge of community organising work and provision of livelihood opportunities for the target communities. The PO contract provided 9.7 M pesos to reforest 560 ha. However, only 42 ha was planted, at a cost of 1.2 M pesos. Seeds of fast-growing trees including mahogany were purchased from farmers' associations in Abuyog and Babatngon, Leyte. Native Bagalunga (*Melia dubia*) seed was obtained locally, and Narra (*Pterocarpus indicus*) wildlings were collected from a nearby stand. Seedling production and hence tree planting was ceased due to extreme dry weather during the El Niño period, bringing an end to revenue earning of the PO from seedlings sales to the DENR.

Planting on two other sites, covering a total area of 1667 ha, in rolling hill country at 200 to 300 m elevation, was carried out earlier under a DENR community contract reforestation project funded by the Asian Development Bank. Species planted include mangium and mahogany (recommended by DENR) and molave (*Vitex parviflora*). There is also a desire to grow gmelina, because it is a fast grower, and sprouts after fire. One block of 10 ha of narra had been destroyed by fire. Tree planting regimes included mixed species (by rows) and pure species. Three categories of planting are recognized, viz. production, limited production and protection forest. The choice of species varies with the kind of forest to be produced, e.g. narra and bagalunga are grown in the protection forest.

The DENR was willing to continue the tree planting program, but funds were not available. This has been a disillusioning experience for the barangays involved. The PO members went ahead and produced 400,000 seedlings after the El Niño, only to find that the DENR would not purchase them. But even then, with continuing interest in forestry, some seedlings were distributed by the PO to individual farmers to plant. Some planting took place over time with the community believing that the tree planting contract was continuing. The

remaining seedlings (approximately half) produced by the PO were eventually discarded.

For established plantations the PO is aware of the production-sharing arrangement of 70% for the association and 30% for the government. At the barangay level, there is an expectation of equal sharing, although the sharing arrangement had not been formally resolved at the time of the field visit. All farmers who contributed planting labor were paid for their time on a daily wage basis.

The community still had hopes of negotiations with the DENR about seedling production, with the PO members intending to arrange a voluntary expansion of plantings, then make business arrangements with the DENR later. They were also willing to undertake voluntary production of seedlings for distribution to individual farmers. The PO holds a CBFMA over the 560 ha, for a period of 25 years with anticipation of renewal for a further 25 years. Any further plantings will need to be registered with the DENR to ensure future harvest rights. Some confusion was found to exist about whether tree plantings on individually-owned lands have to be registered with the DENR. There was a concern raised that if a wealthy individual were to apply for a tenure over communal land, the request may well be granted, dispossessing the poor farmers of their asset, which was thought to have happened elsewhere.

Site 3: Babatngon (Northeastern Leyte)

This site is an area formerly covered by the Integrated Social Forestry Program of the DENR and now is a Community-Based Rainforestation Project (CBRP) site of the same agency. LSU and DENR have also conducted collaborative development activities with biophysical and socio-economic components. There has been a continuing research activity by the staff and students from the College of Forestry, LSU. The project provided 12 scholarships for LSU forestry students in 1999, in the form of field allowances and food, for conduct of research and planning activities during their field practice course.

A 200 ha CBRP site at Babatngon was planted in 1998 with various dipterocarp and other native tree species, for conservation purposes. The Asian Development Bank (ADB) provided funding and through the DENR had given the PO the opportunity to establish its own nursery. The nursery produced seedlings as a major source of income for the barangay, with the DENR being their major market. The area had previously experienced severe forest fires, especially during the El Niño period. Gmelina, mahogany and a small number of mangium trees were being planted on farms. A few farmers mentioned they had already produced mangium seeds. There was no evidence, however, of eucalypts being planted, although farmers have indicated interest in growing this species on their land, with lack of access to planting material being mentioned as an impediment.

Landholders grow food crops on their flat areas and gmelina and mahogany on steeper land. They are interested in information about forestry in the form of actual demonstrations, but do not want to read extension materials. A farmer noted that he has planted trees under the Integrated Social Forestry (ISF) program, and as a recipient of a Certificate of Stewardship Contract (CSC) he is allowed to harvest the trees, with the condition that a cutting permit must first be secured from the DENR. The cutting permit also serves as a permit for transport of timber from the stumpage site to the market.

Planting of the 200 ha with funding from ADB for only 1½ years was completed in 1999. Funding support for the project was then shouldered under the regular budget allocation of DENR-8. VALUES Inc. was initially involved in project implementation, then the DENR took over. Depending on the existing original vegetation, 20 people can plant one hectare in one month, including full site preparation and staking. The actual total area covered by the project is 400 ha, 200 ha of which is available for planting. There are two types of tenure arrangement that exist, viz. tax declaration and CSC.

In terms of production sharing from tree harvest on farms, the community is entitled to a 70% share of the total production and the DENR, 30%. There will be equal sharing of benefits within the community, but 30% of gross returns will go to capital buildup of the PO for livelihood activities that include firewood production, tilapia raising, rattan production, and growing orchids and tree ferns for sale.

Site 4: Inopacan (Western Leyte)

This is the site of a proposed Community Based Resource Management (CBRM) planting. Lack of support by the LGU has led to long delays in project approval. Some earlier community plantings have taken place as part of the government's reforestation program, but the trees are not growing well due to poor site-species matching and lack of maintenance.

The LSU College of Forestry had provided advice on the CBRM project proposal, and the proposal was to be registered under the World Bank (WB) funding arrangement. A feasibility study had been carried out on the socio-economic and biophysical profile of selected barangays. Consideration was given to alternative strategies for natural resource management (NRM) and livelihood. For NRM in uplands, an amount of approximately 5M pesos was allocated for both the agroforestry and micro-watershed project components. The progress in gaining funding approval had been slow because of slow processing of documents by the LGU. A comprehensive land-use plan (CLUP) for the municipality had been prepared by an NGO called PhilDHRRA[2], which has been awarded most of the contract work. The document was prepared using LGU

[2] This is an acronym for the Philippine Partnership for Development of Human Resources in the Rural Areas, a nationwide network with 64 member NGOs (Groetschel *et al.*, 2001, p. 56).

funds, as a basis for site planning and development. The plan, however, was not a mandatory requirement for the CBRM project proposal.

There have been a number of previous upland plantings in Inopacan, most of these spearheaded by the DENR and supported by the ADB. One reforestation activity was in barangay Conalum, with about P2M in funding. The area covered is 100 ha, and planting of gmelina was organised by a PO, without any facilitating NGO. The trees are now over three years old, but growth has been poor due to lack of maintenance. It was observed that many of the farmers are too old to manage forestry. Young people were paid as laborers and do not have an ownership share. Membership of the association for people aged 18 years or more is automatic if they are interested. As part of capability-building, one-week training was organized by the PO with instruction on grafting jackfruit.

One of the CBRMP proposed development sites is barangay Cabulisan. The site is a headwater barangay located 17 km from the national highway. The 1500 m elevation and poor road access are posing serious problems for site development. The walk of 17 km takes four hours, though vehicles with wheel chains can reach the site. The barangay has electricity and is relatively progressive.

Abaca is being grown as a major economic crop by Inopacan farmers. The existing abaca plantation of 300-400 ha is encroaching on the natural forest, and the aim is to arrest this alarming encroachment problem. The suggestion is to develop idle and marginal lands which abound in the area by initially planting trees and later introduce abaca as an intercrop. Suggested species are eucalypts and mangium as shield species, with later introduction of 'spearhead' native trees, especially in areas adjacent to natural forests.

Recently, a small seedling nursery was established by the newly formed PO in barangay Conalum, in which bagras, narra and mahogany are being grown, with seeds and seedlings provided by LSU. A communal agroforestry farm project has also been identified as one of the activities of the organization. The plan is to intercrop bagras with fruit trees and pineapple, hence wide row planting will be adopted.

An agreement was been signed (in February 2001) between the Conalum Agroforestry Association (CAFA) and a retired landholder for communal forestry development on 1.9 ha of private land. The 'owner' is to receive 25% of the crop and the 'workers' (PO members) 75%. There is no time limit (sunset clause) specified on the contract. Some planting of coconuts, mahogany and jackfruit was made on this land shortly prior to the establishment of the agreement. Several blocks of land are also intended for tree planting and these are tax declaration areas within public forest lands

Some farmers expressed the view that tree farming would be a desirable investment if financial support were provided for five years, since funds are needed for fertilizer and maintenance. The tree planting program must compete with the opportunity to earn cash for food considering that livelihood would

suffer with tree farming, so that a livelihood component is necessary in tree planting programs.

A PO capital fund has been established under the initiative of the organisation, and involves the growing of vegetables (capsicum) and raising of swine. The intention is for the capital to be rolled over to an income-generating activity, and when a large amount is accumulated, each individual will be given the opportunity to carry out their own livelihood activity out of the fund.

LESSONS LEARNED FROM THE VARIOUS SITES

Observations at the four sites provide some lessons for the planning of smallholder and community forestry programs.

Mechanisms for setting-up and funding community forestry. There are a number of mechanisms under which trees are established, the most important of which are CBFM (with ADB support) and CBRM (with WB support). Generally, a community organizer (CO) is required to assist in the establishment of the people's organization (PO). Sometimes DENR allocates the work to the NGO and sometimes directly to the PO. Without external support, it is likely that the level of tree planting would be very low.

Planting progress. Community forestry is still in its infancy in the case study areas. Little planting and no CBFM had taken place at Isabel or Inopacan at the time of visits. Even where community forestry programs have taken place in Matalom and Babatngon, the area planted has been well below the target area. Various types of planting take place, including commercial production, limited production and conservation plantings and agroforestry. In some cases, tree maintenance appears to have been poor. This would suggest that strong community commitment and careful planning is required for community forestry programs to succeed.

Sharing of timber revenue. When funding for a community forestry program has been provided by the DENR, then during harvest the community and the government can be expect to share the revenue on an approximately 70%:30% basis. Various options exist for sharing of income within the community. The simplest arrangement is to have an equal minimum time commitment (say one day a week) and equal equity on harvest. Another simple arrangement is to have immediate payment for labour inputs, but this requires that funds are available. Where unpaid labour inputs vary between community members, then income should be shared an 'equitable' though not necessarily equal basis. Simple systems such as agreed numbers of days per week by individuals, and more complex log book arrangements, are possible. The critical issue is that the income sharing arrangement has general support within the community.

Provision of assistance to the local people. Success in community forestry is highly dependent on provision of support to develop the people's organisation and access to finance for livelihood purposes during planting. Support from the LGU is critical if the community is to make progress with planting and not lose

interest. Livelihood support is needed for the early years because farmers' time and effort are diverted from the normal income generating activities.

Choice of species. A consistently strong interest in fruit trees was observed. Nurseries find it profitable to sell grafted seedlings of mango and jackfruit. Gmelina is popular because of the ease of collecting and germinating seeds, and mahogany is popular because of the ease of collecting wildlings. Of the native timber species, bagras is popular[3] and there are some plantings of narra and mangium. In some cases, inappropriate species appear to have been planted, e.g. gmelina in the more elevated areas and mangium in areas prone to high winds. Some Australian eucalypts including *E. camaldulensis* appear to be well suited in particular situations. Identifying trees as shield species to cater to the short- and medium-term cash needs, and spearhead species that will respond to the long-term economic and ecological needs of the farmers, seems necessary.

Seedling production. A number of small-scale tree seedling nurseries was inspected. While there are some failures, and seedling quality is variable, in general barangays have a high capacity to produce seedlings. It can generally be concluded that if a market exists for seedlings, then barangay nurseries will quickly expand output to meet that demand.

Commercial activities. Timber prices appear to be considerably higher in Leyte than in Mindanao, and the market for charcoal is strong, hence providing incentives for tree farming. Barangays have shown interest in carrying out revenue generating activities, and setting-up community funds. Sale of seedlings, preferably under a contract to the DENR, is one such activity. Other products such as abaca, charcoal and orchids also generate revenue.

MAJOR DIFFICULTIES FACING COMMUNITY AND FARM FORESTRY PROGRAMS

A number of major obstacles to successful community and farm forestry were noted:

1. Drought (referred to as El Niño) can delay tree planting plans.
2. Illegal logging has been prevalent, but community reforestation seems an effective way to bring *kaingin* (shifting cultivation or forest clearing) and illegal logging under control.
3. Poor tree growth rates are sometimes experienced, which may be due to poor sites (planting on steep land with shallow soils) and poor site-species matching (planting gmelina at high elevation).
4. Seedling death is a problem in isolated cases; poor quality seedlings (root damage because seedlings are too advanced at planting out, and J-rooting) may be more serious problems.

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[3] Bagras is probably native to Indonesia rather than the Philippines, but is generally regarded as a native tree species.

5. Windthrow is sometimes a problem, particularly for *A. mangium* on exposed sites and high elevations.
6. Communities as yet have little experience in timber sales, and there is anecdotal evidence that difficulties can arise in finding a market for timber due to the lack of milling facilities. While harvest age is not critical in a biological sense, delay in harvest reduces profitability and increases the risk of fire damage.
7. Unstable external funding can lead to stop-go reforestation activity. Funding of CBFM depends on DENR obtaining funds from the ADB or other sources. When funding cuts out during plantation establishment but well before the target area has been planted, there can be a discouraging effect on the community. If funds are cut out unexpectedly, such that not all effort is rewarded, this can cause severe disappointment.
8. In general, LGUs are enthusiastic about community and farm forestry, and their support is essential for programs to progress smoothly. This support is to some extent dependent on the presence of enthusiastic individuals in LGUs.
9. In terms of property rights, 'cash points' are not the concern in Leyte than they are in Mindanao, but there is still some fear of sovereign risk and dissatisfaction with government charges and implementation systems.

In summary, problems arise with respect to physical stand performance, organizational support and funding, and smallholder property rights (particularly in relation to tree harvesting and timber transport and selling).

CONCLUDING COMMENTS

This paper has presented a number of observations and raised a number of issues. It is not a simple task to categorise the complex social and biological issues associated with community forestry, particularly from short visits to case study sites. Research under the LSU-ACIAR smallholder forestry project will provide a greater understanding of these case study sites, and allow inferences to be drawn for planning of community forestry elsewhere in the Philippines.

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