

THE INFLUENCE OF LAND AND TREE TENURE ON PARTICIPATION IN SMALLHOLDER AND COMMUNITY FORESTRY IN THE PHILIPPINES¹

John L. Herbohn, Nick F. Emtage, Steve R. Harrison,
Nestor O. Gregorio and Dennis P. Peque

Key impediments to forestry development have been identified as part of a research program on smallholder and community forestry currently being conducted on Leyte Island, the Philippines, funded by the Australian Centre for International Agricultural Research (ACIAR). A number of studies conducted as part of that research program have identified land and tree tenure issues as being a key impediment to the expansions of smallholder and community forestry. This paper examines the impacts of uncertainty of land and tree tenure on woodlot establishment, based on the results of three separate studies. A study of household needs and attitudes in relation to forestry development identified a number of policy issues associated with land and tree tenure as needing to be addressed. A second study investigated why microfinancing of woodlots was not an option for many smallholders. That study revealed that landholders are unwilling to commit resources to forestry because they do not have land titling and hence regard their land tenure as insecure. Similarly, banks appear unwilling to lend to smallholders for investment in forestry, being influenced by lack of collateral associated with insecure land tenure. A third study of tree nursery practices revealed that land ownership appears to play an important role in the sustainability of nurseries that are raising seedlings for sale. In addition, nursery owners with secure land tenure were more likely to attend training sessions.

INTRODUCTION

Rapid deforestation took place in the Philippines from the 1950s. The contribution of forestry to gross national product fell from 12.5% in 1970 to 1.3% in 1990, and forest cover fell from 49% in 1950 to 22% in 1987 (ADB 1995). Forest cover is now reportedly estimated to be 5.5%. This resulted in the transition from a major timber export country to having a large trade deficit in timber. There is a shortage of timber for house building, industrial purposes, poles for electrification and fuelwood. Expansion of forestry provides an opportunity for greater timber self-sufficiency and job creation, as well as supplementary income for smallholders and rural communities.

There are also strong environmental reasons for reforestation (Niskanen 1995, Venn and Harrison 2000). Flood mitigation is a major concern, the tragic flood at Ormoc City in 1991, when an estimated 7000 people were killed, being attributed to upper watershed deforestation. There is growing concern about the effects of agricultural landuse on estuarine and bay fish farming, where siltation and pollution are affecting fish health and

¹ Published in Baumgartner, D.M. (ed.), *Human Dimensions of Family and Farm Forestry*, Proceedings of International Symposium, March 29 – April 1, Washington State University Extension MISC000, 2004, Pullman, Washington

product quality. There is also a recognition that siltation of rivers imposes economic costs, including interruptions to supply of hydropower. The life of power generators is reduced from 50 years to 25 years by siltation (Lasco 2000). The Philippines Department of Environment and Natural Resources (DENR) has listed priority watersheds in each region, and reforestation will be one of the strategies for environmental improvement. Carbon sequestration opportunities arise under the Clean Development Mechanism of the Kyoto Protocol. Increased reforestation would reduce pressure to fell coconut trees, a versatile and heavily used timber, and hence protect copra production, prevent coconut tree removal on fragile sloping land, and reduce unplanned land conversion. In short, reforestation can make an important contribution towards ecological, social and economic sustainability in Leyte.

Lack of secure land tenure and inadequate land use planning have been suggested as major impediments to the development of sustainable land management, including tree planting (De los Angeles 2000). In addition, even where secure land tenure exists, there are many restrictions on the harvest of trees on both private and community lands. Issues associated with the ability or right of tree growers to harvest trees that they have planted can be described as tree tenure issues. This paper discusses land tenure and tree tenure in context of a number of recent studies undertaken on Leyte Island, the Philippines as part of a smallholder forestry project funded by ACIAR. First, current land tenure and tree tenure issues are outlined. Findings from a number of research projects conducted as part of the ACIAR Smallholder Forestry project are then used to provide insights into the nature and importance of land and tree tenure issues for smallholder forestry development. Some final observations are then made about the importance of these issues and possible measures that may be put in place to improve land and tree tenure.

THE ACIAR SMALLHOLDER FORESTRY PROJECT

This paper is based on research undertaken as part of a research project titled *Redevelopment of a Timber Industry Following Extensive Land Clearing (ASEM/2000/088)*, which is also referred to as the 'ACIAR Smallholder Forestry Project' by Filipino collaborators and community members who are involved with the project. The project commenced in 2001, and is funded by the Australian Centre for International Agricultural Research (ACIAR). It has currently been extended until December 2004. The project is collaboration between researchers at The University of Queensland and Leyte State University.

The broad aim of the project is to identify the social, economic and policy requirements for the re-establishment of a timber industry on Leyte Island through smallholder and community forestry structures. Project outputs to date have been impressive (Smorfitt 2003) and the project has provided a sound understanding of the key economic, social and technical issues that need to be addressed.

The project has involved a series of interrelated studies, including: a survey of smallholder households in four communities; an investigation of the role and effectiveness of people's organisations in facilitating community forestry; a study on the reasons why microfinancing of tree farms has failed; research into nursery production technologies and field trials; a survey of nursery operators; a study on carbon sequestration potential of smallholder forest plots; timber supply and demand studies; and the estimation of financial returns from forestry.

CURRENT LAND AND TREE TENURE ARRANGEMENTS AND ISSUES

This section provides a brief overview of some of the main land tenure issues that affect the development of farm and community forestry. In addition, important controls on harvesting trees from private land are outlined.

Land Tenure Arrangements

In general, land tenure arrangements are weak in the Philippines, with a lack of land tenure mapping and clear on-the-ground boundary marking. In 1975, all land with a slope of greater than 18 degrees was officially classified as publicly owned forestland, covering more than 60% of the 30 M ha of land in the Philippines (Gibbs *et al.* 1990, Asia NGO Coalition 1991). Under the current constitution that was drafted in 1987, the State retains official ownership of forest lands. Most of these upland areas have rugged terrain and are difficult to patrol. Historically the managing agencies assigned to protect the areas from exploitation have lacked the resources to police them. They were effectively open access areas, despite laws enacted to prevent people from practicing farming on land officially classified as 'forest'. The reality is that approximately 50% of officially classified forestlands are in fact cleared farmed land (De los Angeles 2000). This results in many smallholders and communities having no formal tenure arrangements for the land they occupy. Smallholders gain can gain access to land by paying a yearly land tax, allowing them to use the land to produced crops and graze animals. This type of arrangement is well suited to growing annual crops, but offers little security for long-term crops such as timber. While smallholders can legally harvest annual crops grown in public forestlands, all trees in public forestland areas are held to belong to the state, and their harvest is illegal even if they have been planted by private individuals (Mangaoang *et al.* 2003). On occasions areas of public forestland are classified as 'Alienable and Disposable', thereby becoming available for titling. Many landholders who potentially could seek formal title to their land do not do so. These people are usually poor, and due to a corresponding lack of education, find the laws and procedures surrounding obtaining formal land tenure confusing. In order for tenure to be granted, the land must be formally surveyed by government staff, the cost of which must be borne by the applicant. The cost of such procedures is high relative to the earning capacity of landholders, who are often subsistence farmers with little cash. The cost of survey is also often compounded by the remote locations of the land for which tenure is being sought. Finally, the powerful elite class in the Philippines has for many years been able to take control of land that is officially classed as publicly owned, extracting rent from poor households utilising the land for farming and who do not know about the land classification system (Borras 2000).

In recent years, a program of agrarian reform has been introduced under the control of the Department of Agrarian Reform. Under this program land holdings of greater than 14 ha are subject to agrarian reform and can be compulsorily acquired from large landholders (many of whom gained ownership of the land in the Marcos era) and redistributed to tenants on the lands. A variety of schemes are used under the Agrarian Reform program depending on the wishes of the tenants and landowners, and whether the landowner is a public agency or private individual (Borras 2000). The Agrarian Reform program officially redistributed approximately 4.8 M ha of land between 1988 and 1999 and benefited approximately 2 million households (Borras 2000). However the coverage of the agrarian reform program is uneven, with many large-scale landholders have exploited loopholes in the regulations, and subverted the process by signing unfair contracts with their former tenants in the form of joint-venture agreements (Borras 2000).

Community Based Forest Management Agreement (CBFMA) and Certificate of ancestral Domain Claims (CADC) apply to communities whereas Certificates of Stewardship and Certificates of Forest Stewardship apply to individuals and households. The CBFM agreements provide the communities with a guaranteed tenure over the land for a period of 25 years and are renewable for a further 25 years. Certificate of Stewardship and Certificate of Forest Stewardship agreements that were issued under the Integrated Social Forestry Program were transferred to and replaced by CBFMAs in 1996. The Certificate of Ancestral Domain Claims have been offered to 'tribal' or 'indigenous' communities that have a long history of living and working in forest areas. These agreements give communities resource-use rights, and unlike the other agreements they are not set to a limited time frame. The

agreements were established following the passage of the Indigenous Peoples' Rights Act in 1997.

A number of government forestry programs have been introduced which lead to increased land tenure security of participants, and which cover in excess of 5 M ha (Table 1).

Table 1. Total area of public forest and forest lands covered by community forestry type agreements

Tenure instrument	No. issued	Area covered (M ha)
Certificate of Ancestral Domain Claims	181	2.546
Community-based Forest Management Agreements	666	1.971
Certificates of Stewardship and Certificate of Forest Stewardship Agreements	442	0.815
	124	
Total area		5.332

Source: Adapted from Guiang (2001, p. 10-11).

In terms of plantation forestry, larger landholdings, which have the potential for gaining economies of scale in timber production, tend to have lower tenure certainty. In the Philippines this applies to both ancestral domain and agrarian reform (the latter applies to properties of larger than 14 ha). Ancestral domain claims can lead to land rights for indigenous populations, but present a threat to tree growers, particularly industrial foresters, who utilise large areas of land and would not want to incur the expense of establishing plantations and then lose control of the land.

Tree Tenure Issues - Restrictions on Registration, Harvest, Transport and Sale of Trees and Timber

Secure tree tenure – or the ability to register, harvest, transport and market trees – is a critical ingredient for the development of a forestry industry. A total logging ban on native forests has been imposed to protect the remaining areas of native forest that comprise only 3% of the total original forest area. Illegal logging however remains a problem and in an effort to control this, a number of restrictions have been placed on harvest and transport of timber.

It is a requirement of the DENR that all trees on private land must be registered before any may be harvested. Tree registration is a lengthy process that requires time, effort and payments under the Lagay system. The Lagay system - which is also known as 'under the table' - is a form of corruption that requires payments to be made to facilitate a service to be provided. It still exists in all stages of tree farming, starting from the registration of trees to timber/log transport.

In addition, a permit is required to transport timber, with checkpoints being established to control timber movement. It is arguable whether these measures are effective in controlling illegal logging. The 'checkpoints' are cynically referred to as 'cashpoints' as log transporters have to pay 'cash' to pass through these. One Davao (Mindanao) sawmiller reported that one load of logs that he received had passed through some 45 cashpoints on the way to his mill.

The banning of harvesting tree from native forests, together with the complex regulation and permit system used to control timber harvesting and transport provides entry points for 'rent seeking' officials who can effectively take any profits from tree growing. One effect of this is that small-scale farmers evade the regulations, partly by not registering their trees so that

officials will not know where they are. They further reduce the potential to lose their investment by not investing significant resources into timber production, thereby ensuring that broad scale revegetation does not occur. Most households appear to only grow enough timber for their own requirements. When they do sell trees it is often done by selling them locally so that they will not pass through any of the checkpoints.

In the household and community survey carried out in Leyte, the majority of the households that were surveyed (approximately 80%) indicated that they are presently managing at least a few trees which they have either planted themselves or else have regenerated naturally and been allowed to grow on. The primary purpose of most tree planting and management activities is to supply timber for the household's own needs. Only 10% of respondents indicated that they intend to sell trees they are presently managing, and 25% stated that they intend to plant and manage trees for the production of timber for sale in the future, while approximately 60% of responding households indicated an interest in developing commercial tree farming on the land they manage.

INSIGHTS FROM SMALLHOLDER RESEARCH

The following section outlines some findings from a number of research projects conducted as part of the ACIAR Smallholder Forestry Project which provide insights into the nature and importance of land tenure issues for smallholder forestry development.

Household Survey

The survey was designed to enable a needs assessment of the households, and the communities as a whole, in relation to their tree planting and management activities. The survey consisted of three main stages, including initial focus group discussions (FGDs), household surveys conducted using structured interviews, and validation focus group discussions. Multivariate statistical analysis of the community survey data has also been used to identify landholder groups (typologies) with respect to their interest in forestry. A survey team consisting of 14 people interviewed 200 people from four communities, and information was collected on about 1500 variables.

During the initial FGDs the participants mentioned lack of land for planting, instability of policies and difficulties marketing tree products as constraints to planting and management.

In terms of those who have already planted, those that own at least some of the land they farm, are more likely to be presently managing trees (60%) compared to those who don't own their own land (40%). There is a similar difference (i.e. 60% to 40%) for the intention to plant trees in the future. Those that own at least some of the land they are farming, are also more likely to managing a greater number of trees (see Table 2).

Table 2. Tree planting by households according by land ownership

No. trees established	N	Respondents who own land	
		Yes	No
None	39	41%	59%
1 to 20	51	57%	43%
21 to 100	49	53%	47%
> 100	64	70%	30%
Total	203	116	87

Those who own at least some of their farming land, also intend to plant a greater number of trees (mean of 350 compared to 110). Those who intend to plant trees for timber own a

greater proportion of the land they farm (55% compared to 39%). Those with formal lease contracts intend to plant and harvest more trees for timber as well (88.5% compared to 15%). Those who own at least some of their farming land, are more likely to be interested in commercial tree farming (47% compared to 34%). 'Concern about the security of tenure' was rated on average as the third most important constraint to tree planting and management (3.04/5), after 'lack of land' (3.5/5) and 'finances to pay for tree growing needs' (3.4/5). 'Concern about the security of tenure' also had the greatest variation in ratings with the highest standard deviation of all the constraints.

The scale which included both 'concern about the security of tenure' and 'lack of land for planting' was of greatest concern for two of the five cluster groups identified as part of extensive multivariate statistical analysis of the landholder data set. With regard to tree registration, only 2% of respondents had registered all or some of their trees, and only 16% said they knew how to register trees. Registration of all trees owned by a landholder is a DENR requirement for harvesting permits to be issued. However, most growers leave tree registration until the trees are ready for harvesting. Particularly for small growers, who wish to harvest only a small number of trees, these registration requirements are both costly and time-consuming. In addition to Lagay payments, DENR personnel also expect that landholders pay a 'travel allowance' during the plantation inventory. Assistance and direct action from DENR personal is also very slow and unreliable. In addition, land title or land tax declarations as proof of ownership is one of the requirements for tree registration. This means that the tenurial status of the land has implications for tree registration, which in turn affects the willingness of landholders to plant trees, especially for those with no land titles.

There is an obvious relationship between wealth and land ownership, although the wealth effect is complex. Of the two groups identified as having a low interest in commercial tree farming, one was the poorest with the lowest land ownership rates and the lowest income. The other group with a low interest in commercial tree farming was the wealthiest in terms of income, but they did not have the highest rate of land ownership. On the other hand, the most enthusiastic group are the second poorest, but this group do own (or at least think they own) a relatively high proportion of the land they manage.

Poverty in the Philippines is predominantly a rural phenomenon. Because of the poor prices received for agricultural products most farmers are below the poverty line. Those above the poverty line tend to be receiving remittances from family members employed in cities or overseas, or else have other non-farm sources of income. The largest land owners in the rural areas are indeed the richest but they do not live in the communities but in the cities and weren't surveyed.

Further, it appears that the decision to plant trees for timber production is truly an interaction not only between cash wealth and land ownership, but also the value system of the household i.e. their confidence in farming as a way of improving their livelihood. This is also partly influenced by their degree of experience with forestry in native forests.

Implications for Land and Tenure Security Obtained in the Policy Workshop

After the preliminary data analysis on the responses to the community survey was completed, a policy workshop was held. This workshop was designed to assist in the delivery of information from the landholder survey to the relevant stakeholders (community members, representatives of local government agencies, and representatives of national government agencies involved in natural resources management), and to develop policy recommendations for consideration by government agencies involved in natural resource management.

During the policy workshop, the question of tenure security was discussed. Local Government Unit (LGU) and community representatives indicated that they were almost

totally ignorant of the regulations pertaining to land tenure and tree registration procedures. Both groups called for more information to be made available about these issues and for the DENR to properly fund and undertake an IEC (Information, Education and Communication) program. Some called for DENR personnel to visit the communities regularly, or alternatively for liaison officers to be appointed to the LGUs so they can coordinate DENR/LGU activities and maintain awareness from both the DENR and the community members about land management and tree registration regulations. They also pointed out that while people are able to grow most crops without any regulatory requirements, trees are subject to many regulations and are therefore less attractive to grow.

Community representatives mentioned they were concerned about their ability to choose the crops they grow on leased land, fearing prosecution or eviction if the landowner disapproves of tree growing or other crops they chose. Both the community and LGU representatives called for the tree registration process to become the responsibility of the LGUs, to decrease the expense of obtaining registration certificates, and partly to ensure that those applying for permits are indeed the owners of the trees (it is already a requirement that those seeking harvest permits have to get a letter from the mayor to state they are indeed the land owners). Finally, community representatives were concerned about the lack of stability of land and tree management policies. It seems that the lack of information about DENR policies was the greatest concern of the participants at the policy workshop.

Land and Tree Tenure Findings from the Microfinancing Survey

A survey was undertaken to identify the reasons why smallholders were not using microfinancing (i.e. small loans) to fund the establishment of small woodlots. Ninety respondents were interviewed from three sites, all of who had established tree farms. Respondents were selected randomly by choosing 30 names from the records of DENR under the CENRO responsible for the area. Where there were insufficient registered tree farms to gain the target sample size of 30, additional respondents were identified by asking the residents in the area to identify additional tree planters. In addition, 10 bankers were interviewed to gain their perspectives on lending to smallholders to finance tree farms. The bankers interviewed included representatives from rural banks, commercial banks and government-owned banks.

Providers of microfinance mostly required real estate as collateral for loans, although one bank accepted insurance policies and another required 'liquidity'. Landholders thus need secure land tenure in order to be eligible for microfinance. Improving land tenure would thus improve the potential for landholders to access to microfinance to establish tree farms. However, many banks wanted additional assurance from government that landholders will be able to harvest trees and that a market will exist.

Lack of financing was identified by most landholders as the most important constraint on sustaining their tree plantations. However, landholders were not favourably disposed to obtaining microfinance for this purpose because of the high interest burden that they would face. Furthermore, they were unwilling to borrow money because of the lack of existing markets for timber. Many criticised the government for doing nothing to solve this problem. In addition, some tree farmers indicated that government employees were unhelpful in processing the required papers for timber harvest. The Lagay system still exists in the process.

Land and Tree Tenure Findings from Surveys of Nursery practices and Community Organisations

The nursery practices survey investigated the nursery management skills and financial capacity of the nursery operators, flow and distribution mechanisms of germplasm, basis in deciding the species to raise, relevant knowledge on site-species matching, and the type, species and quality of planting stocks raised. Further, the survey has investigated the relative seedling production costs and sale prices of planting stocks, constraints hampering the nursery operation, and the support received and needed by the nursery operators from various supporting agencies. A total of 74 nursery operators were interviewed, drawn from 22 out of 41 municipalities that comprise the entire province of Leyte. These included 37 private (individual or family) operators, 22 community groups or people organisations, 13 government agencies and two academic institutions.

Private nursery operators raised seedlings for personal use (49%), to sell (49%) or for free distribution (2%). There is a strong association between nursery ownership and land ownership, with most private nursery operators owning some land (78%), which they have planted with agricultural crops, and timber and fruit trees. Just over 94% of nursery operators who raise seedlings for private use own land, compared with 61% of operators who are raising seedlings for sale.

Land ownership appears to play an important role in the sustainability of nurseries that are raising seedlings for sale. Operators who own land are still willing to continue seedling production in spite of the condition of low sales because they can plant unsold seedlings on their own farms. They have indicated that they will continue raising planting stocks as long as there is still space in their farm where they could plant the unsold seedlings.

The quality of seedlings produced by most nurseries was low, and no nursery operators had any formal knowledge about species suitability for particular site conditions, although it is possible that they had at least some informal knowledge. Low seedling quality and a lack of site-species matching lead to poor performance of seedlings once planted in the field. It is apparent that training of nursery operators in both of these areas would result in improved field performance of planting stocks. Nursery operators that own land also are much more likely to have attended training sessions compared with those who do not own land (Table 3). While the reasons for this trend have not yet been identified, they may have important implications for improving planting stock quality and hence industry development. If improvements in land tenure arrangements result in an increase the level of ownership of land by nursery operators, and these operators exhibit a similar disposition to attend training sessions, this may thus indirectly also assist in improving the general quality of planting stocks and the advice provided by nursery operators.

Table 3. Relationship between land ownership and training received by nursery operators.

Attendance at training sessions	Number of nursery operators who	
	Own land (n)	Don't own land (n)
Have attended training	17	2
No training	12	6

Most of the communal nurseries are project-based and seedlings are raised for planting in a community plantation (usually in public forestland). In some organisations, however, seedlings are raised and subsequently distributed to group members for their own plantings on their respective lands, for example in Community Based Resource Management (CBRM) projects and projects supported by ICRAF and GTZ. In these cases, project participation may have been influenced by land ownership. That is, those without their own land, or

access to community land, would not have been members of the People's Organisation or have participated in the project.

In a continuing study of the role of people's organisations in facilitating community forestry, Estoria (2004) has found a number of cases where people's organisations were hesitant to plant seedlings dispersed by the PO due to unclear boundaries of CBFMA or CSC.

CONCLUDING COMMENTS

For many smallholders and communities in developing countries the question of tenurial security is a major constraint to tree planting and management. Nearly all community members and the LGU members involved in the Leyte forest policy workshop indicated that they want more information to be made available about the regulations that affect tree and land tenure. In fact, when the project team members visited communities accompanied by DENR staff, community members were always keen to ask many questions about land and tree management regulations. Anecdotal evidence is that landholders are ignoring tree registration because it is too complex and liable to manipulation by officials. The result is that they only seek to sell small numbers of trees and sell them locally to avoid detection during transport. The complexities and manipulation of the regulatory environment (i.e. rent seeking by officials) has resulted in the lack of development of formal markets for timber products. While much of the DENR motivations for tree registration are designed to reduce illegal logging of native forests, these provisions appear to be having a negative impact on people's willingness to plant trees for fear of not being able to harvest them.

It appears that many landholders could obtain secure tenure by making the appropriate application, but are prevented by a lack of education and the cost of obtaining land title. Assisting landholders in securing land tenure, through providing 'how to' guides in extension materials, establishing an NGO to assist landholders with preparing tenure applications and to provide help in paying the relevant charges are potentially effective measures for overcoming these impediments. In terms of property rights, there appears to be lack of understanding by local governments of the DENR approval procedures for timber harvesting and transport, suggesting that improved communication, including development of manuals of approval procedures, is desirable. As well, some DENR policies would appear to restrict property rights, and scope exists for designing alternative policies that continue to achieve environmental objectives but are less discouraging in relation to tree planting.

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