Private forest management in Indonesia

ITTO projects show clear land tenure and a culture of tree use are essential to success

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Cash crop: Mahogany logs from private forest in Ciamis. *Photo: D. Gilmour*

Recent ex-post evaluations of two ITTO projects in Indonesia, one in West Java and the other in Sumatra, have investigated the factors that hinder and help forest restoration and management. In one district in West Java, clear private landownership, a strong culture of integrating trees and agriculture, supportive government policies and other factors have resulted in well-managed private forests and substantial timber production. In Sumatra, on the other hand, a lack of clarity on land tenure, a lack of a culture of integrating trees and agriculture, and local suspicion of government are hindering the restoration of a degraded catchment. Both projects provide lessons on promoting private initiatives in forest rehabilitation that could be applied more widely in Indonesia.

Private forestry in Ciamis district, West Java

There is a long tradition of integrating trees into farming systems in West Java, and 'people's forests' have been an integral part of landscapes in the province for generations. Governments have supported this tradition with a series of policy initiatives since the 1970s aimed at encouraging tree-planting on private land (Box 1). Local and national interests have both contributed to the evolving practice of planting trees on private land for commercial purposes, which is now widespread in the province. The provincial government has a long-term target of 45% forest cover in West Java.

An ITTO project[1] operated in the district of Ciamis in the eastern part of West Java from 2006 to 2008 to provide support to private forest-growers to improve their forest management. The contemporary landscape in Ciamis is essentially a forested one, consisting of a mosaic of relatively small patches of agricultural land integrated into areas of private forest managed under both agroforestry and pure forestry regimes. The upland, steeper areas of the district tend to be state-owned forest of various categories, much of which is degraded, particularly those areas that were used for estate crops but are now abandoned. The private forest estate is in a mature state, with tree age varying from recently planted seedlings to greater than

Box 1. The evolving farming and tree-planting culture of West Java

The traditional subsistence culture of the people in West Java was to have a piece of land near their homes and to work that land to achieve self-sufficiency. Livelihoods were based on growing fruit trees and vegetables and, in some cases, rearing cattle (buffalos for the rice fields) or raising chickens. The system of mixed annual crops and fruit trees, with a minimum of land-clearing, maintained soil fertility and enabled the people to farm their lands sustainably.

With an increasing population and the advent of a market economy, however, the traditional subsistence culture has had to change and adapt. Land shortages have arisen, and government forests have been cleared for cultivation or converted to other forms of land use. Over the years, the national and provincial governments have responded to these pressures in numerous ways, including:

- 1952—government began a program of encouraging the planting of fruit trees on abandoned land to improve soil protection and raise soil fertility.
- 1956—the departments of agriculture and forestry ran joint national greening campaigns.
- 1972—the Governor of West Java initiated an agroforestry drive in Bogor.
- 1975–1976—the greening project of land outside government forest land was in full swing, particularly in West Java.
- 1990—the Forestry Department pursued national greening activities with the large-scale planting of *Albizzia*, targeting critical areas.

Source: Adapted from Department of Forestry (2008).

1 PD 271/04 Rev.3 (F)

30 years. Much of the area is managed as agroforests, with underplanting of crops such as cardamom. Overall, the private forests are extremely well-managed and produce a mix of timber and non-timber products. This impressive process of afforesting private land has been underway in the district for many decades.

The success of private forestry

Private forests now cover 32 000 hectares in Ciamis (about 13% of the district's land area) and produce an average of 360 000 m^3 of logs per year. These are processed in more than 500 sawmills in the district (FORDA 2008) and by mills outside the district[2]. Logs sourced from government forests contribute a further 49 000 m^3 to the local industry (FORDA 2008). By and large, there are no land-use or land-tenure conflicts over private forests in the district, and this contributes to the ability of farmers to manage their land for tree crops, which require long-term investment and thus tenure security.

Private forestry has received strong support from the district government. In 2004, for example, the tax on logs harvested in private forests was removed, thus providing an added stimulus to tree-planting. This is an excellent example of government creating an enabling regulatory environment (as opposed to an enforcing one) to achieve its policy objectives.

Under a national government initiative, farmers are encouraged to form groups to provide an interface between farmers and district extension staff. These farmers' groups are legal entities, with bank accounts and the ability to raise loans for collective activities. In Ciamis, farmers' groups (typically with 50–150 members) tend to operate collectively for activities such as seedling production, while farmers work individually on almost everything else, including the management of their agroforests (e.g. planting seedlings and applying silvicultural techniques) and the sale of their timber and non-timber products. An average farmer might own less than one hectare of forest land; for example, the 150 members of the Lumbung farmers' group own about 100 hectares of forest land between them.

Lessons learned

A number of lessons emerged from the implementation of the ITTO project, and from general experience with successful private forestry in Ciamis, that could help further encourage private forestry, both in the district and beyond. They include the following:

- Providing support to motivated local community leaders is an effective mechanism for demonstrating and spreading knowledge and information to improve the productivity of private forests. Local community leaders can act as unofficial (but highly effective) extension agents in spreading information in their communities and beyond.
- The major impediment to improving livelihoods based on private forest management under the prevailing conditions in Ciamis relates to poor market conditions for the timber produced in private forests.
- An enabling regulatory framework that encourages farmers to invest in private forestry is more effective in achieving government policy objectives than an enforcing one that requires farmers to plant tree seedlings and protect forests.

Private forestry in Ciamis is well accepted and widely practised by farmers and supported by the district government. Under these conditions, the project demonstrated various approaches to support and improve private forestry and make it even more productive, with an emphasis on the production and distribution of high-quality seedlings and the introduction of improved silvicultural techniques. The project also showed ways in which the internal management of farmers' groups could be strengthened to make them more effective, and it provided individual farmers with negotiating skills to give them more power in the sale of their logs to sawmillers and middle-men. Techniques for the production of high-quality seedlings have been taught at local schools, thus influencing the next generation of farmers. The work done by the project has been disseminated widely through the preparation and distribution of publications and especially through the convening of numerous stakeholder workshops.

A national model?

The project began the task of identifying the building blocks of a model for the sustainable management of private forests. This endeavour has assumed strategic importance because of the changes taking place in the timber industry countrywide. As the log supply from natural state-owned forests declines, more logs are being sourced from private forests. There seems little doubt that this trend will continue; for this reason, the refinement and testing of private forestry models is of increasing importance. The experiences of the project could be applicable in districts where private forestry has not yet reached the maturity that it has in Ciamis.

Rehabilitation of degraded forest land in Northern Sumatra

The Lake Toba Catchment Area in northern Sumatra is an area of outstanding natural beauty and a popular tourist destination. However, much of the forest in the catchment area has become degraded, and this has contributed to the deterioration of the catchment's ecosystem functions. In the 12 years between 1985 and 1997 it was estimated that about 16 000 hectares of forest were either degraded or converted to agriculture, a rate of about 1300 hectares per year. Most of this degradation and clearing occurred on

2 Provincial Forestry Office data (quoted in FORDA 2008) indicate there were 538 sawmills in Ciamis in 2006.

Degraded beauty: Lake Toba landscape. *Photo: D. Gilmour.*

government-owned forest land of various categories, and the indications are that substantial areas of forest are still being lost. It is estimated that around 142 000 hectares of forest land are degraded in the Lake Toba Catchment Area (ITTO 2010).

The national government has designated the Lake Toba Catchment Area as one of the country's 12 priority catchments to be rehabilitated, and the North Sumatra provincial government set a target of about 25 000 hectares of degraded forest land to be rehabilitated by 2009. The strategic importance of rehabilitation in the Lake Toba area is well-recognized at all levels of government.

Failure of past rehabilitation efforts

Analysis has shown that past rehabilitation efforts in the Lake Toba Catchment Area have had little success, for the following reasons (among others):

- Local communities have often been treated as 'objects' rather than 'subjects' in rehabilitation programs, and this resulted in very low local community participation in activities and a lack of ownership of outcomes.
- Fires regularly burn the rehabilitated areas and destroy previously planted seedlings.
- In many areas, unclear land tenure, and conflicts over tenure constrain rehabilitation efforts.
- Ineffective coordination among local stakeholders reduces the potential for optimal outcomes.

While past rehabilitation efforts were also affected by technical constraints, the major issues to be addressed in the area are social and institutional in nature, particularly unclear land tenure, tenure conflicts, and a lack of local participation and community empowerment to undertake and sustain rehabilitation activities. An ITTO project[3] was implemented in the Lake Toba Catchment Area from 2007 to 2010, and the analysis referred to above provided the rationale for the project's design and implementation. An evaluation of the project's achievements carried out in July 2012 summarized the current status of rehabilitation in the Lake Toba Catchment Area and the contribution made by the project.

Clan land

One of the major constraints on rehabilitation efforts in the Lake Toba Catchment Area is unclear and conflicting land tenure. However, it became clear during the project evaluation mission that this was not universal and indeed varied widely between districts and, in some cases, within districts. In the district of Samosir, for example, a large proportion of non-government land is held under clan ownership, although for various reasons some of this has been privatized in the past several decades (a process that continues, although slowly). Tenure uncertainties on clan land limit attempts to introduce tree and agroforestry systems because of difficulties associated with obtaining agreement from all clan members (many are absentee landowners but still have the right to participate in decision-making). In the district of Karo, by contrast, the process of privatizing clan land was completed in the 1970s and there are now no land-use or tenure conflicts. The situation in other districts lies between these two extremes. The distribution of degraded forest between government and private and clan land is unclear, but most degradation is probably on government land of various categories.

3 PD 394/06 Rev. 1 (F)

Tree culture: A farmer in a tree nursery developed under the Ciamis project. *Photo: D. Gilmour*

This simplified characterization of a complex land-tenure situation is sufficient to indicate that no single approach will be suitable in all situations. Any approach to rehabilitating degraded land will need to be tailored to site-specific conditions, including the land-tenure situation.

Lack of a tree culture

Unlike in West Java, the Batak and other local communities who live in the Lake Toba Catchment Area do not place a high value on integrating trees into local farming systems. The project approach, therefore, had three threads: demonstrating how agroforestry can be integrated into private farmland to improve environmental and economic outcomes; collecting material that can be used in the planning and implementation of rehabilitation activities; and raising awareness among stakeholders of issues associated with rehabilitation in the Lake Toba Catchment Area.

Demonstration, and some uptake

With the support of the project, about 330 hectares of demonstration plots were established on private and clan land in the area. There is some evidence that several farmers not involved directly with the project have taken up tree-planting as a result. It cannot be said, however, that a tree-planting movement is underway, and some of the additional plantings have been destroyed by fire. The few hundred hectares of land devoted to demonstration plots, and the modest spill-over effect to other farmers, make an insignificant dent in the overall land degradation problem, but they could point the way for the future.

Lessons learned

Several lessons have been learned from the implementation of the project that are worthy of documentation for future work. These include the following:

- The lack of a culture among farmers in the Lake Toba Catchment Area of integrating trees into the farming systems will take a long time to overcome. Farmers need to see real and obvious benefits before they commit resources to modifying their existing farming practices.
- Visionary and innovative farmers can play an important catalytic role in encouraging their neighbours to adopt agroforestry systems.
- Attempts at increasing tree cover on clan lands are more difficult than on lands with clear private tenure rights.
- Increasing tree cover on clan lands should be approached by interfacing with the customary institutional systems and facilitating a social process, leading to partnerships between clan members and intermediary organizations such as non-governmental organizations.
- A three-year project cannot be expected to overcome the entrenched social and institutional issues associated with tenure uncertainty and conflicts on clan lands. It can do little more than identify the issues and chart a possible way ahead.
- Iterative approaches to implementation, such as action research, can usefully be employed in situations such as those faced by the project, where there is a high

degree of social and institutional uncertainty in the operational context.

- Community empowerment is a social process that needs careful nurturing and support—participation in training courses is insufficient to empower farmers and farmers' groups to be independent decision-makers.

Not all the Lake Toba Catchment Area is degraded and not all categories of land in the catchment need intensive rehabilitation. It is worth considering a strategic approach to future rehabilitation activities that disaggregates the landscape and identifies a spectrum of needs and the likelihood of success. Table 1 provides a framework for starting such an exercise. Such a framework could assist in making strategic decisions about the allocation of resources and the focus of rehabilitation efforts in the Lake Toba Catchment Area and elsewhere.

Table 1. Framework for a rehabilitation strategy based on need and likelihood of success

Land category	Need for rehabilitation	Rehabilitation strategy	Likelihood of short-term success
Gently sloping, productive agricultural land; private tenure; intensively managed for cash crops (e.g. much of Karo district)	Low	Little/no rehabilitation necessary—don't waste resources	Low (farmers probably not interested in incorporating trees into their farming system)
Steeply undulating deforested land, with agricultural crops in valley bottoms; private tenure (e.g. the southern edges of Karo district)	Medium	Work with motivated farmers and farmers' groups to establish demonstration plots and encourage expansion	High (farmers interested or could be easily motivated)
Steeply undulating deforested land, with agriculture in valley bottoms; subsistence/cash cropping; clan tenure (e.g. much of Samosir district)	Medium/high	Interface with traditional clan institutions using a trusted intermediary; establish demonstration plots where interest is high	Medium (some individual farmers may be keen, but some may undermine efforts, at least initially)
Steep government land; substantial loss or degradation of forests (e.g. many of the steeper parts of most districts)	High	Direct government rehabilitation following extensive awareness-raising campaigns; and/or the establishment of trials of some form of community-based forest management	Low (because of fire and other problems)

Tree-planting on private and clan lands is not widely practised and will probably require some sort of social movement for it to become widespread. A complicating factor is the widespread and vocally expressed lack of trust in government among local communities in the Lake Toba Catchment Area. In the long term, this will probably only be overcome by building some sort of partnership between government and private and clan landowners, possibly facilitated by mutually trusted neutral facilitators. Attempts to achieve government policy objectives, such as integrating tree crops into farming systems or rehabilitating degraded government land, are best approached by developing enabling regulatory frameworks that encourage positive actions rather than through regulatory enforcement.

The ITTO project's results provide guidance for the future. In particular, the demonstration of tree-planting systems on private land, the spreading of ideas (socialising the process), and the provision of information for regional planning are valuable contributions. In the future, more emphasis could be placed on strengthening nascent farmers' groups (which remain weak) and encouraging the integration of tree crops into farming systems by improving regulatory incentives, and these could contribute to the reforestation of private and clan lands. Rehabilitating degraded government forest lands (which is where the majority of the degraded lands occur) is a complex issue and will require radical changes in government policy and practice.

Conclusion

The two projects described in this article show some of the heterogeneity in private forestry in Indonesia and the need to tailor approaches to local circumstances. At the same time, they provide lessons that could prove valuable as Indonesia moves towards greater private and community forestry—with the aims of empowering local people to improve their livelihoods and meeting the needs of the timber industry.

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