Assessing Stakeholder Agreements: A New Research Focus for CIFOR's Plantation Programme in Southeast Asia

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Summary

The total amount of industrial plantations around the world is still small compared with the total area of global forests, but plantation forestry in the tropics is expected to increase quickly because of growing demand for timber and the depletion of wood from natural forests. Forestry plantations in the tropics have a comparative advantage over temperate plantations in terms of potentially higher yields. Tropical countries are trying to encourage greater private-sector investment in forestry plantations and downstream wood industries. In many countries, however, land ownership and access is disputed by a variety of stakeholders. A major challenge for plantation companies is to reach agreements with these stakeholders to ensure a supply of raw material.

Agreements between plantation companies and communities or other stakeholders offer a means of meeting the different objectives of various groups. Yet in actual forest planning decisions, some stakeholders have more power than others. This is especially true when large international companies are dealing with local communities whose residents may have little understanding of what an agreement entails. In such a context whether agreements are sustainable is questionable. CIFOR's Plantation Programme is engaged in research to develop tools and methods for assessing and monitoring the viability of such agreements between plantation companies and other stakeholders.

Key words: forest plantation; forest management; stakeholder agreements; multi-agent system

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1. *Trend toward obtaining less wood from natural forests and reduced state involvement in plantations in favour of more private investment*

The total area of plantations around the world is about 3.5 percent of all global forests. Most forest plantations are in non-tropical areas: China, the Russian Federation, the United States and Japan. Tropical and sub-tropical resources constitute 44.7 percent of all global forest plantations. Overall, forest plantations totalled 123.7 million hectares in 1995, of which 103.3 million hectares were industrial plantations. The development of forest plantations in Asia is a recent phenomenon; a high proportion of plantations in Asia are less than 15 years old. China, India and Japan account for 78 percent of all forest plantations in the region. Currently, plantations are thought to be supplying about 12 percent of the world's total harvest of round wood, and projections suggest the total area of industrial plantations may double before 2050 (Brown 1999).

A number of factors are driving the expansion of forest plantations. In developing countries, especially tropical regions, populations are growing rapidly and standards of living are improving dramatically (this is the general trend, despite setbacks in Southeast Asia during the recent regional economic crisis). At the same time, natural forests in the tropics are shrinking, and there is greater public pressure to preserve a larger part of the forests that remain. Yet the demand for solid wood, wood particles and pulpwood is expected to increase, requiring more forest plantations. In addition, growing demand for environmental services of forests, such as carbon sequestration or water shade protection, may lead to new forms of plantation forests.

In Southeast Asia, the main forces driving the development of forest plantations are the board and the pulp and paper industries. Scenarios of the global timber market indicate that the pulp and paper industry could be adversely affected by limited or restricted timber supplies, although technical changes within the industry may mitigate the problem and help curb the growth of pulpwood prices (Tromborg *et al.* 2000). Tropical plantations have comparative advantages over plantations in temperate zones, including potentially higher yields and lower production costs. In regard to wood production, tropical plantations have comparative advantages over natural tropical forests. Commercial timber yields from natural forests are at most 2.5 cum/ha/yr, whereas the productivity of most tropical plantations is 15 to 25 cum/ha/yr — a considerable difference.

The scientific forestry community expects that plantations will ease the current pressures on natural forests. Even though ecological services from plantations may be significantly lower than those of natural forests, the development of forest plantations may, at a much larger scale, contribute to the protection of natural forests and their resources. In many countries, however, the pace of plantation development has been slow because natural forests still constitute a cheap source of raw material, while reliance on forest plantations entails higher costs and risks.

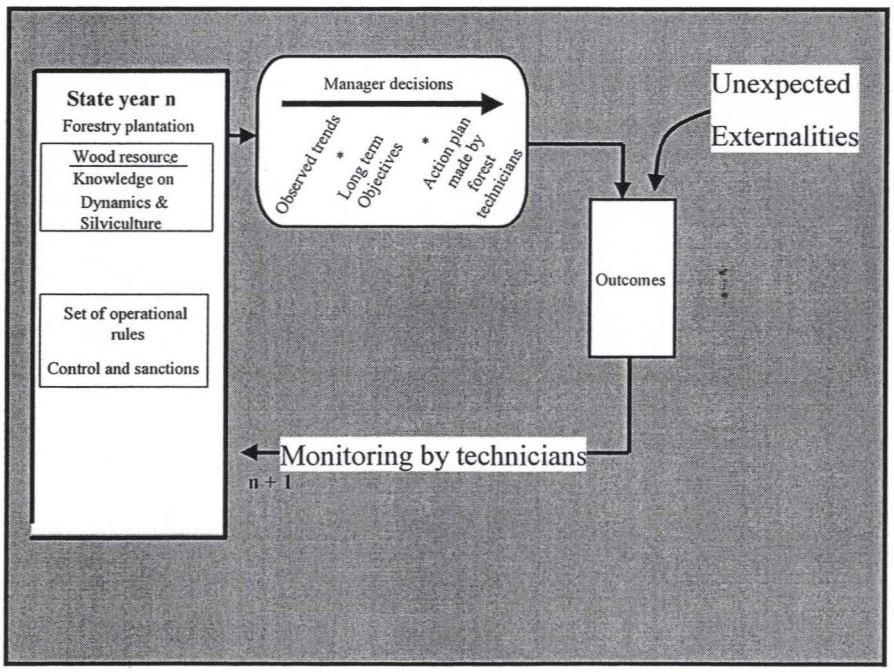
In many cases, plantation development has been pursued mainly as an 'insurance policy' — seen as useful eventually when natural forest resources are no longer available (Barr 2000). Recent experience in Southeast Asia shows, for example, that plantation forestry

has not reduced the pressure on natural forests at the national level (Abdul Razak Mohd Ali and Appanah 2000). Given this situation, it is inevitable that future supplies from natural forests will continue to decline, while large-scale development of forest plantations is expected.

In general, national governments have been retreating from plantation investments and are encouraging more private investment in the forestry sector, for both plantations and downstream industries. Plantation development involves considerable costs, time and risks. The investment generally centres around the need for large tracks of land, and a major challenge is maintaining control of such areas over a long period. Yet access to land is becoming more and more difficult, as local communities claim land for alternative uses. Under these conditions, acquiring guarantees of land access is a prerequisite for attracting private investment in forest plantations.

2. Changing decision-making process in forest planning: conceptual frameworks

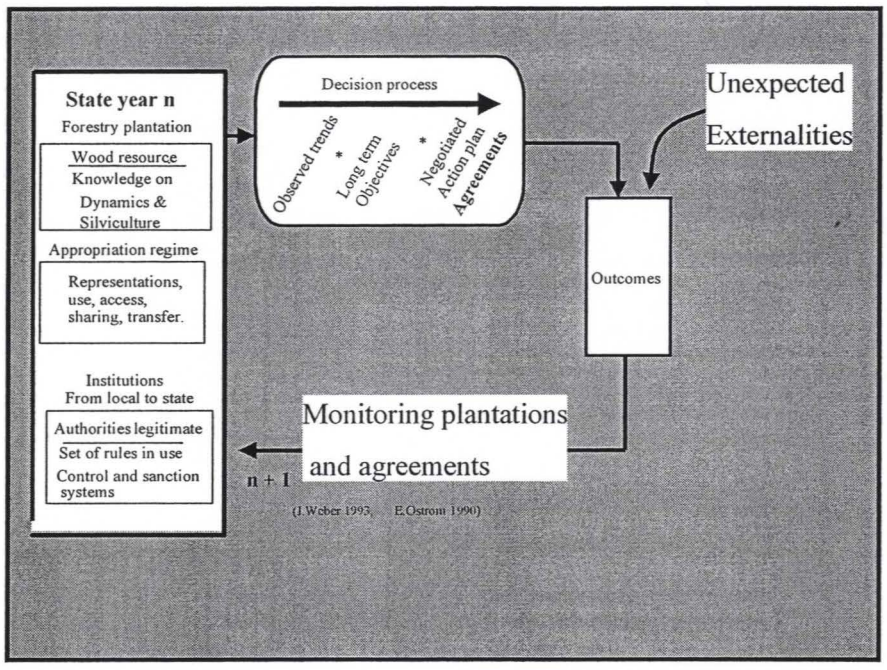
The basic approach to forest management has changed dramatically in the past decade. Until recently, managing tropical plantations to achieve sustainable yields depended mainly on a thorough understanding of forest growth processes and how plantation forests respond to interventions such as fertilising, weeding, clearing and logging. Forest plantation management targeted wood production as the single objective and was viewed largely as a process of technical operations to achieve optimum performance. In this management model, the manager — backed by his technical staff — was the main decision maker.



Box 1: Conceptual framework of forest plantation management controlled by a single decision maker

Today, however, forest management has come to be viewed as a dynamic process that almost invariably requires addressing social impacts of existing and potential plantations as well as physical constraints on the forests' performance. Instead of acting independently, a manager is often required to initiate a decision-making process that involves multiple stakeholders, while the management objective is to reach an acceptable trade-off among the desires of different stakeholders.

Commercial wood production is a key objective of plantation forestry. Yet plantations also provide an opportunity to generate or support local development, and can be made to simultaneously meet a number of different objectives. Adopting a new forest management approach that emphasises social and institutional dynamics at the expense of other legitimate objectives such as timber production would be as inappropriate as the old style of forest management that focused exclusively on biological aspects.



Box 2: Conceptual framework of forest plantation management controlled by multiple stakeholders

The main difference between the two conceptual frameworks presented here is the decision-making process. The first model is based on a single-actor decision-making process; in the second model, decisions are made by multiple stakeholders. Coordinating stakeholders' multiple interests in forest resources is becoming an issue of major concern. This implies the need to take into account new kind of processes as the appropriation regime the way in which different stakeholders compete for the same resources and the institutional processes by which the resources are allocated. This appropriation process is at the interface of social and biological concerns.

The means by which forest-related resources such as land, wood, non-timber products and water are appropriated by the stakeholders can be characterised by five factors (Weber 1993):

- access to the resources and patterns controlling that access;
- use of resources;
- perceptions or behaviours in relation to the resources;
- resource-sharing mechanisms; and
- resource-transfer mechanisms (such as inheritance or markets).

In the new decision-making process, forest stakeholders interact and negotiate a management plan. It constitutes not only a set of actions but also a set of agreements among stakeholders. These agreements can be readily adjusted according to predefined rules that provide mechanisms for resolving conflicts of interests and addressing other problems. This opportunity to make adjustments as necessary is a cost-effective way of keeping the management system viable. Yet this arrangement may not work well in the event of catastrophes or other major changes such as fire, tree diseases, new national regulations and the emergence of additional stakeholders. In such cases, a complete reassessment of the management system is needed — the management process enters a new 'loop.' This reassessment must be done under the control of the stakeholders.

In the new conceptual framework, stakeholders together elaborate the forest management plan. How they interact to reach agreement about land use and forest plantation management, and how this process remains viable, is the subject of a new field of research. Researchers monitor and evaluate the processes and the viability of the agreements.

3. *Stakeholder agreements: a research question*

Forest management agreements involving local stakeholders are not yet extensive. In Indonesia, the system governing relations between Perum Perhutani and local communities in regard to teak plantations was a rare example of an enduring agreement between a company and other forest stakeholders. New kinds of agreements has been instituted only in the last decade, yet there is now rapid movement in that direction. Large companies in Indonesia such as Finnantara, a subsidiary of Stora-Enso, are investing in such schemes. Under an agreement with nearby communities, Finnantara has planted about 30,000 ha of *Acacia mangium* plantations in Kalimantan.

The main reason for the development of agreements like these is industry's need for wood supplies in the face of land scarcity and disputes. Investment per mill in the pulp and paper industry is increasing, and vast areas of land are needed to supply enough raw material for large-scale industry. The biggest challenge now for industry is how to develop sufficient wood resources to meet its future needs. In the past, wood mill supply in Indonesia came from extensive, unsustainable logging of natural forests (Barr 2000). Soon, this source will be exhausted. This growing shortage is happening in an environment of increasing land claims by local communities. The problem of acquiring

access to land for growing trees is hardly unique to Indonesia. Mondi, a large commercial forestry company in South Africa, for example, needed a minimum of 100,000 hectares of plantation to support its investment in a timber-processing facility. Through a joint venture, Mondi bought about 80,000 hectares of commercial farmland, of which only about half was suitable for establishing plantations. As a result, Mondi began as early as 1994 proposing agreements with local groups to grow trees on community lands.

This issue of alternative land uses and the need for agreements with local stakeholders is sure to be raised as well in relation to the present interest in exploring the development of forest plantations for carbon sequestration.

Agreements between plantation companies and communities or other stakeholders offer a means of meeting the different objectives of various groups. Yet in actual forest planning decisions, some stakeholders have more power than others. This is especially true when large international companies are dealing with local communities whose residents may have little understanding of what an agreement entails. In such a context, whether agreements are sustainable is questionable.

The research question:

Are stakeholder agreements feasible when there is an imbalance of power among the various partners?

Objectives:

The objective is to develop processes and tools for assessing and monitoring stakeholder agreements in the context of forestry plantation development in tropical countries.

Assumptions:

An imbalance of power among stakeholder groups can be remedied by transparency in the decision-making process. Through increased communication and information flow among partners, we can increase the viability of cooperative forest management. Transparency means that communities at least understand the terms of an agreement and have enough information to assess its potential impacts on their livelihood. A company has the means to monitor impacts of the agreement on aspects of its business, but can monitor as well effects on other stakeholders and on the forest resources.

Scale of interest:

The landscape is the main scale of interest. But this level has to be seen in relation to the farm-level or plot-level scale on the one hand, and to the policy-level scale on the other hand.

Partners:

The main partners are national research centres (universities and forest institutes), the private sector and NGO's.

Beneficiaries:

The beneficiaries are basically all stakeholders. However, as the research attempts to increase the transparency of the decision processes towards real fair share of the resources, the main beneficiaries will be the smallholders and the communities. The large companies, which are really looking for fair agreements with communities, will also benefit from this research.

Projected outputs:

a) Criteria and indicators to assess and monitor stakeholder agreements.
b) Processes to build scenarios and anticipate conflicts. Each process will include the elaboration of site-specific models that can be used as tools.
c) Tools to monitor the impact of agreements on benefit sharing among stakeholders.
d) Identification of stakeholders influential in forest decision making.

Outcomes:

a) Greater empowerment of local communities.
b) Fairer benefit sharing.
c) Fewer risks for companies and more benefits for all parties.
d) Feedback on land use and shift toward greater diversity.

Impacts:

a) Fewer conflicts.
b) Alleviation of poverty.
c) Better use of land and resources.

This research will support the development of small-scale forest plantations in the tropics and will contribute to leveling the playing field between large companies and small holders, as the basis for establishing alternative, sustainable sources of raw material for the wood industry. Comparative research will be done through research networks in Southeast Asia. This research will help CIFOR fulfill its mission of conducting strategic, collaborative forestry research that contributes to the sustained well-being of people in developing countries, particularly in the tropics, and promotes the transfer of appropriate new technologies and the adoption of new methods of social organisation for national development.

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