



# Policybriefs

OCTOBER 2001

03

## HIGHLIGHTS

Indiscriminate regulation penalises smallholders

Distinguishing agroforestry species

Deregulation can work

**REMOVING** restrictions on the marketing of timber from agroforestry systems in the humid tropics is one of those rare 'win-win' opportunities where the interests of the environment coincide with those of development.



T Tomich

*In preparation for replanting, rubber wood burns in Sumatra, Indonesia.*

## Indiscriminate regulation penalises smallholders

Policymakers in the humid tropics often justify export bans, taxes, marketing regulations and other controls on the timber trade in order to protect natural forests. Their actions are supported by research that shows logging and associated activities to be a prime cause of the loss and degradation of the world's remaining large and relatively-intact rainforest ecosystems. In the absence of effective mechanisms for policing forest areas earmarked for conservation, restrictions on the tropical timber trade are seen as the next best way to curb illegal logging.

While they may prevent some deforestation, these restrictions are nevertheless imperfect instruments. Loggers often evade them, cutting trees and selling timber illegally. Alternatively, wood is simply wasted, left unharvested when trees fall naturally or burned when forest is felled for conversion to plantations or ranches.

Worse still, the policy measures aimed at protecting natural forest are also applied to agroforestry systems that are managed sustainably by small-scale farmers.

The unintended result of treating all timber alike—regardless of its origin in forests or on farms—is that smallholders who plant and tend trees are unfairly penalised. They are effectively denied the opportunity to produce timber, a product that could provide them with a much-needed source of income.

There also are damaging environmental consequences of these indiscriminate policies. Farmers who burn wood because of the difficulties of marketing it contribute to smoke pollution and the release of greenhouse gases into the atmosphere—problems that have reached alarming levels throughout the humid tropics (see box on page 2).

## Distinguishing agroforestry species

Timber from agroforestry systems should not be confused with timber from tropical rainforests. Deregulating agroforestry timber is an obvious move for countries that no longer have significant areas of natural forest at risk from illegal logging. But in those countries that do, the issue is more complicated: how can agroforestry timber be distinguished from timber logged from natural forests?

The right balance of regulation is elusive for many tropical timbers. Too little regulation and rainforests fall to loggers seeking valuable timber. Too much regulation and timber is wasted. The issues are simpler for timber from agroforestry systems ... and so is the appropriate policy: free trade for agroforestry timber. The key to success is a careful approach that ensures the right species are chosen for deregulation.



Making produce boxes from agroforestry timber in Mindanao, the Philippines.

One promising approach is selective deregulation involving only certain tree species. But different countries, and even different areas within the same country, may need to deregulate different species. Consider the example of a rubber tree growing in Indonesia. This is an exotic species, *Hevea brasiliensis*, originating in the Amazon. In its original home in Brazil, blanket bans on the harvesting and marketing of timber from *Hevea brasiliensis* are intended to conserve Amazonian rainforests, where the tree is a wild native. But in contrast to Brazil, none of Indonesia's rubber trees grow in natural forest; all are planted and raised by people. In Indonesia, as in the rest of Southeast Asia, rubber wood is a by-product of the periodic clearing of land for replanting with tree crops. Thus, Indonesian rubber wood

is an agroforestry product, not a natural forest product.

The Indonesian Government rightly rejected proposals for export taxes on the two main non-timber products of the rubber tree—crumb rubber and latex—because the taxes would have harmed export earnings and smallholders' incomes. But it failed to apply the same logic to the tree's wood, imposing high export taxes on both sawn timber and logs to promote domestic wood-processing industries. The taxes were applied to rubber wood among a long list of other woods, including many species that do occur in natural forests.

Working with ecologists from Indonesia's Forestry Department, ASB researchers identified three broad categories of tree species that are ripe for deregulation:

- **Exotics that do not originate from any of the country's natural forests.** It is important to distinguish between these species, like rubber, which are widely grown but relatively few in number, and the many species that are exotic to some Indonesian islands but native in others.
- **Indigenous species that are now found almost entirely on farmers' fields.** Farmers plant these species mainly for non-timber products, but timber is a valuable by-product at the end of the trees' life. This class includes several common fruit trees, such as duku (*Lansium domesticum*). Coconut (*Cocos nucifera*) is a special case in this category; it is indigenous to Indonesia's sandy beach ecosystems, but not rainforests. Nevertheless, coconut wood is regulated in Indonesia as if it were a natural forest species.
- **Indigenous pioneer species.** These are fast-growing, light-loving species that specialise in filling gaps in the forest. Rare in mature natural forests, they are well suited to domestication and planting in farmers' fields.

The researchers identified a list of 30 species belonging to one or another of these categories. These species could be deregulated immediately, without harming the country's natural forests. And there were many other possible candidates for deregulation that merited further investigation before a decision could be taken.

Ecological analysis of this kind is essential to avoid policy mistakes that could accelerate

## Money up in smoke: The fate of rubber wood in Indonesia

Rubber wood is a potentially valuable by-product for the smallholders who produce roughly 70% of Indonesia's natural rubber. While the country could be a major producer of this attractive, pale-coloured timber, its output currently lags well behind that of other countries in the region. The reason is simple: most of Indonesia's rubber wood goes up in smoke.

At present, smallholders clearing old rubber trees to make room for new ones almost invariably burn the wood. They are discouraged from selling

it by a combination of export taxes, local levies and red tape. In some areas, companies wishing to buy rubber wood face a nine-step administrative procedure for every purchase.

These trade restrictions carry high economic penalties. They prevent smallholders from adding to their incomes by an amount that, according to ASB estimates, would not only cover the costs of clearing land but also buy most of the higher-yielding planting materials needed to raise incomes in the future.

On top of these economic penalties come the environmental costs. Every year, burning rubber wood releases millions of tonnes of carbon dioxide. Besides contributing to global warming, the fires add greatly to smoke pollution, a significant regional problem. Quantifying the smoke produced by rubber trees compared to other types of vegetation is difficult, but a study in lowland Sumatra showed that most slash-and-burn by smallholders is to clear old rubber and other planted trees, not to convert natural forest.

logging in natural forests. The species *list* for Indonesia could not be applied in any other country—witness the contrasting roles of *Hevea* as a forest tree in Brazil and an agroforestry species in Indonesia. However, the three ecological *categories* could be used widely throughout the humid tropics as a basis for identifying the most obvious candidates for selective deregulation.

## Deregulation can work

Selective deregulation of trade in agroforestry timber species is an attractive policy option that can stimulate equitable economic growth while protecting the environment. Free trade in agroforestry timber from the humid tropics would:

- Reduce poverty by raising the incomes of millions of smallholders
- Help satisfy domestic and international demand for timber
- Shift the supply of timber towards more sustainable sources
- Increase export earnings from timber and other agroforestry products
- Promote investments to rehabilitate degraded land and conserve vulnerable land
- Reduce smoke pollution and cut greenhouse gas emissions.

Experience shows that smallholders will seize the opportunities created by deregulation. On the island of Mindanao in the Philippines, for example, the deregulation of selected timber species has led farmers to plant more trees on their land to boost their incomes. The Philippines moved in the direction of deregulation after much of its natural forest had already disappeared. For countries that still have large areas of forest—such as Brazil, Cameroon and Indonesia—selective deregulation is a low-risk entry point for improving smallholders' incomes while encouraging better resource management.

Successful deregulation depends both on the broader policy context and on attention to detail. Since adequate protection of rainforest has proven difficult throughout the tropics, timber trade reform will require institutional strengthening at key points along the timber marketing chain to curtail illegal sale of timber from forests intended for conservation (see box on page 4). But discretionary opportunities for regulators breed corruption, especially in isolated areas.



T. Simons

*Bolaina logs ready for market in the Peruvian Amazon.*

In the Peruvian Amazon, private and public interests are joining in the creation of a lucrative and sustainable scheme involving the production, processing and environmental certification of the indigenous pioneer timber species 'bolaina blanca' (*Guazuma crinita*) and 'capirona' (*Calycophyllum spruceanum*). The two species were selected for domestication by the farmers themselves, who have been organised into seed selection and exchange networks with the

intention of improving productivity while maintaining genetic diversity. The project, which is in its preliminary phase, will expand market options through production contracts with smallholders in a region of rapid resource degradation and poor market links. The ultimate success of this project—and of innovative, sustainable projects like it—will be determined to a great extent by open access to the market and freedom from unnecessary regulation.

The antidote is to keep rules and regulations as simple and transparent as possible. Governments can reinforce the benefits of deregulation by combining it with other positive measures to promote market

access for agroforestry smallholders. These measures include improvements of infrastructure, marketing links and access to market information about timber prices and grades.

### Barriers to marketing agroforestry timber

The ASB team in Indonesia identified three kinds of barriers to trade in agroforestry timber. First are **export taxes and quotas**: intended to promote domestic wood processing, these drive down the domestic price of timber and hence, in the case of agroforestry species, reduce the incomes of smallholders. Second are **royalties**, which in theory are applicable only to products from natural forests but in practice are applied to agroforestry products as well because of confusion about the products' origin. Third are **complex bureaucratic procedures** that smallholders and local traders must follow before they can harvest or market timber and other agroforestry products.

Similar barriers to trade are at work in many other countries in the humid tropics. As a result, farmers are discouraged from planting trees.



## Start simple, keep it clear

Regulating trade in timber from tropical forests is tricky; appropriate deregulation of agroforestry timber is simple by comparison. Nevertheless, it is vital to adopt a careful approach that ensures the right agroforestry timber species are chosen for deregulation. The simplest targets for deregulation are 'pure' agroforestry species that are not found at all in a particular country's natural forests and whose timber is distinguished easily from natural forest species.

Investment in training officials to distinguish between timber types will usually be needed for effective implementation. Fortunately, the colour, grain and other characteristics of timber from old growth tropical hardwoods make it relatively easy, even for non-foresters, to tell them apart from most agroforestry species. Inspection of these characteristics can be carried out at any point in the marketing chain, a feature that strengthens accountability. Again, training will be simplest and implementation will be clearest for 'pure' agroforestry species.

Complications can arise if species that both grow in natural forest and are planted on farmers' fields are

deregulated. For these species it often will be impossible to tell the difference between legally and illegally harvested timber unless other control measures are put in place. These so-called 'grey area' species are best left out of the first round of deregulation. Nevertheless, more detailed investigation may reveal strong arguments for reforming regulations for some of these additional species, even if their long-term future is at risk in the wild. This is because reform is essential to remove disincentives for smallholders to domesticate these species by growing them on their farms. After the first round of deregulation, in which the obvious candidates are dealt with, a case-by-case approach, supported by research, can help in deciding what to do about more problematic species.

Where identifying species is not an infallible guide to origin, other ways of distinguishing agroforestry timber can be tried—although they are seldom as satisfactory. One option is to require a certificate of origin for the transport of timber and other products. This is a common approach that, in theory, eliminates the need for enforcement agencies to possess much knowledge of

wood and wood products. The approach is prone to corruption, however, because the certificates depend on the discretion of officials at the point of origin, typically an isolated site far from the public view. Although the approach seems simple, transparency is lost once the timber moves. After that, it is difficult to detect bogus documents, especially when these have been issued with the connivance of officials.

Another option is to continue to regulate trade in big logs while allowing free trade in smaller logs. The rationale for this option is that most logs derived from natural forests are of a size and age rarely (if ever) attained in agroforestry systems. A diameter criterion can therefore be established to distinguish between them. This option is simpler than distinguishing between species, but it only works until the timber is sawn or otherwise processed—and opportunities for cheating arise where processing is done locally. Another potential drawback is that, after mature individuals are harvested, logs taken later from natural forests increasingly fall below the established diameter and so escape the regulatory net. Perversely, this option can encourage premature harvesting.

### For more information:

Ketterings, Q M, Tri Wibowo, T, van Noordwijk, M and Penot, E (1999). Farmers' perspectives on slash-and-burn as a land clearing method for small-scale rubber producers in Sepunggur, Jambi Province, Sumatra, Indonesia. *Forest Ecology and Management* 120: 158-169.

Sizer, N, Downes, D and Kaimowitz, D (1999). Tree trade: Liberalization of international commerce in forest products: Risks and opportunities. *Forest Notes*. World Resources Institute: Washington DC, USA.

Tomich, T P, van Noordwijk, M, Budidarsono, S, Gillison, A, Kusumanto, T, Murdiyarso, D, Stolle, F and Fagi, A M. eds. (1998). "Alternatives to Slash-and-Burn in Indonesia: Summary Report and Synthesis of Phase II." ASB-Indonesia Report No. 8. ICRAF: Bogor, Indonesia.

Contact us at:  
ASB Programme, ICRAF  
P.O. Box 30677, Nairobi, Kenya

Tel: +254 2 524114/524000 or + 1 650 833 6645  
Fax: +254 2 524001 or + 1 650 833 6646  
Website: <http://www.asb.cgjar.org>  
E-mail: [asb@cgjar.org](mailto:asb@cgjar.org)

Please send us the name and address of any of your colleagues whom you feel should be added to our mailing list.



This brief was developed with contributions from Samuel Oliveira, Marcus VN d'Oliveira and Judson Ferreira Valentim of Embrapa; David Kaimowitz of CIFOR; Hubert de Foresta and Gregoire Vincent of IRD; and Merle Faminow, Ruben Guevara, Jessa Lewis, Tony Simons, Thomas Tomich, Meine van Noordwijk and John Weber of ICRAF.

Funding provided by the Asian Development Bank and the Government of the Netherlands.

ASB encourages free dissemination of its work when reproduction is for non-commercial purposes. Portions of this document may be quoted or reproduced without charge, provided the source is acknowledged.  
©2001 Alternatives to Slash-and-Burn

**ASB Policybriefs is published by the Alternatives to Slash-and-Burn (ASB) Programme. The series aims to deliver relevant, concise reading to key people whose decisions will make a difference to poverty reduction and environmental protection in the humid tropics.**

Series Editor: Thomas Tomich • Associate Editor: Jessa Lewis • Writer: Simon Chater, Green Ink Ltd • Design and layout: Conrad Mudibo