

# Can REDD-plus Save Asia's Tropical Rainforests?

By Henry SCHEYVENS



Author Henry Scheyvens

## Uniqueness of Tropical Forests

According to the Food and Agriculture Organization's report "Global Forest Resources Assessment 2010" (FRA 2010), forests cover 592 million hectares or 19% of the land area in Asia. Most tropical forests in Asia lie in the tropical belt that forms the Malay Archipelago, through the Philippines, the coastal lowlands of Southeast Asia and the eastern Himalayan foothills to the southwestern coasts of Myanmar, India and Sri Lanka. That more than half the world's flowering plants are located in this belt is indicative of the significance of tropical forests to global biodiversity.

Tropical forests are unique, ancient ecosystems that form in areas with high rainfall, humidity and sunlight hours and warm temperatures that fluctuate only a little throughout the year. Under these conditions, trees grow to immense heights and their bark is mostly smooth and thin as they do not need protection from water loss and low temperatures. In addition to the tallest or emergent trees, there are three other tree layers in tropical rainforests: upper canopy, understory and forest floor. The emergent trees, as their name suggests, grow above the forest, are widely spaced apart, and have straight smooth trunks with few branches. The upper canopy receives a lot of light and provides rich habitats for many animals that never need to go down to the forest floor. Epiphytes such as orchids and bromeliads grow in the upper canopy on larger trees to get sunlight. Vines also use trees to reach the sunlight and can make up 40% of the canopy leaves. In contrast, the understory is always in shade, experiences high humidity and consists of shrubs, plants and small trees. Less than 1% of the light reaches the forest floor where herbs and mosses grow.

Biodiversity is naturally very high in tropical rainforests. Trees of the same species usually do not grow together and this separation of species makes the ecosystem more resilient to contamination and die-off from disease or insect infestation. The high biodiversity also means there will be enough pollinators to provide for the needs of each species. The blooming and fruiting of rainforest plants are staggered, providing animals a supply of year-round food.



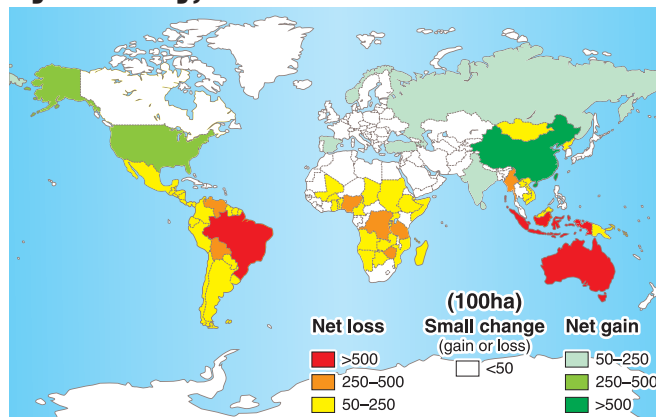
Lowland tropical forest, Papua New Guinea

## Functions That Forests Serve

Forests fulfill economic, social and environmental functions from local to global levels that are critical for human survival and well-being. In developing countries, they contribute to the livelihoods of millions of rural households who use forest products to construct

CHART 1

## Annual change in forest area by country, 2005–2010



Source: Forest Resources Assessment 2010

their houses, schools and canoes, for traditional medicines and for forest game as a source of protein. Forests are particularly significant to the customs, values and knowledge systems of indigenous peoples, many of whom have lived within or on the borders of tropical forests for numerous generations. Tropical forests have been referred to as the "world's largest pharmacy" because more than a quarter of modern medicines are derived from their plants. Most of the world's terrestrial biodiversity is found in tropical forests and many more medical discoveries can be expected from research into this biodiversity. Forests also provide timber and non-timber products that are processed for sale, providing employment and an important source of private and public revenue in many countries. Natural forests can reduce flooding and thereby contribute to human settlements and sedentary agriculture. Further, the world's forests moderate global climate by sequestering and storing over 650 billion tons of carbon, more than the total amount of carbon in the entire atmosphere. And, of course, for many of us forests are important places of recreation and education.



Canarium nuts gathered from tropical forests for sale and local consumption

## Rapid Deforestation & Forest Degradation

While the many functions of forests are widely recognized, the world's tropical forests are in a state of crisis. The World Wide Fund for Nature has described tropical forests as "perhaps the most endangered habitat on earth." FRA 2010 reports that primary forests, i.e.

forests where there are no clearly visible indications of human activities and the ecological processes have not been significantly disturbed, have decreased by more than 40 million hectares since 2000. In Asia, the area of primary forests decreased by 342,000 ha/year over the same period, with the largest decreases reported by Indonesia and Papua New Guinea. Globally, on average 13 million hectares of forest were converted to other uses – mostly agriculture – or lost through natural events each year from 2000 to 2010.

As *Chart 1* shows, forest cover change differs widely between countries, with increases in forest cover in China and Vietnam due to their massive tree-planting programs, but with continued high rates of forest loss elsewhere. Indonesia, Malaysia and the Philippines are listed among the world’s biodiversity hotspots. Under the World Conservation Union’s “red list” of species, over 9,500 species in Asia are now considered to be threatened.

## Drivers of Deforestation & Degradation

In Asian developing countries, similar patterns of deforestation can be observed across countries. Governments usually allocate a large proportion of their country’s forests for timber harvesting as a means of generating revenue and creating employment. While the harvesting is supposed to be sustainable, weak enforcement of forest laws often means that it degrades the forest, for example by opening up the canopy which makes the forests susceptible to pests, drying and fires. Laws that aim to limit the amount of timber that is harvested and reduce environmental impact are weakly enforced because forest departments lack the resources to properly manage the millions of hectares of forest they are responsible for and because of corruption in the forest sector. In the worst cases, the forest police themselves may be involved in illegal forestry operations. It is also economically logical for loggers to extract as much timber as quickly as possible in situations where there is political uncertainty or conflict over forest rights allocation, which is often the case in tropical developing countries.

Logging, mining and other roads make forests more accessible. People move in and clear the land along the roads for their settlements and agriculture. This migration is driven by poverty, high rates of population growth and the limited availability of arable land. In some countries, local people can only acquire land tenure after they have shown that they have developed the land, which causes them to clear the forest.

To generate revenue and employment, governments allocate some forests for conversion to other forms of land use that provide greater financial returns, such as plantations, cash crops such as soya beans and ranching. They are more easily persuaded to support conversion when the forests have lost much of their commercial value after the most valuable trees have been logged. Natural forests in countries such as Indonesia, Papua New Guinea and Malaysia have been cleared for single-species timber plantations that provide wood fiber for pulp and paper and increasingly for oil palm plantations. The Ministry of Forestry of Indonesia reports that Indonesia alone lost 1.04 million ha of peat swamp forest in 2000-2005, primarily for conversion to oil palm plantations.

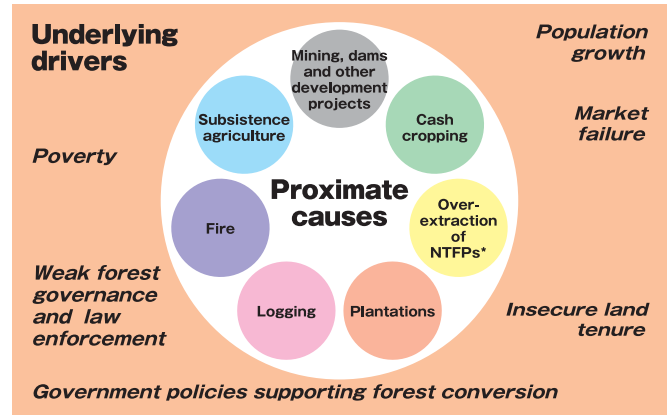


*Burning of tropical forests to establish fruit & vegetable gardens*

In addition to timber harvesting and conversion, governments set aside some forests for the protection of biodiversity, water and

CHART 2

## Proximate & underlying causes of forest loss in developing countries



Note: \*non-timber forest products

soil. FRA 2010 notes that globally the area of forest designated for the conservation of biological diversity has increased by 30% since 1990. However, here too governments are struggling. A joint World Bank-United Nations Development Program review of 10 protected forest areas in developing countries found that most of the forests were under threat of habitat loss and degradation from conversion to pastureland and agriculture, and from overexploitation of resources through logging, collection of non-timber forest products (NTFPs), grazing and fishing. The underlying problems identified were weak and ambiguous rules over land ownership, lack of budgetary support to promote development opportunities around protected areas, and lack of involvement of local people in protected-area management.

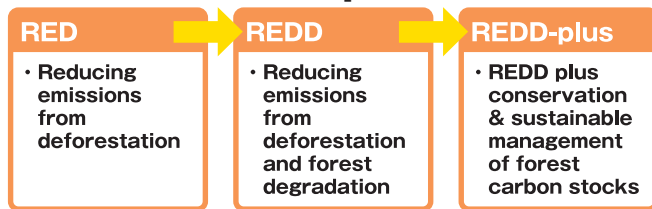
The discussion above shows that the drivers of deforestation include both underlying factors and proximate causes, as depicted in *Chart 2*. Consumers in developed countries such as Japan can be both part of the problem and part of the solution. Whether it is a wooden table, a house constructed with wooden framing, a ream of paper, or a bar of soap made with palm oil, consumer decisions send signals to forest and land managers that impact the health of forest ecosystems. When consumer choices for products containing wood materials are not informed by sustainability concerns, the signal to forest managers, traders, manufacturers, house builders, retailers and others who use and handle wood materials is that they can continue with their current practices, no matter how environmentally destructive some of these might be.

## Enter REDD-Plus

Efforts to improve forest management in developing countries have been underway for many years, but it is difficult to say whether they have been successful in reducing national rates of deforestation. This may partly explain why until recently international support targeting the forest sector in developing countries was declining. The threat of climate change has rekindled global interest in the fate of the world’s tropical forests, however. Deforestation (the clearing of forests for other land uses) and degradation (a long-term reduction in forest biomass through activities such as selective cutting of trees and grazing of animals) are major contributors to global warming. In its “4th Assessment Report,” the Intergovernmental Panel on Climate Change states that the forest sector is responsible for around 17% of global greenhouse gas emissions from human activities.

The concept of funding activities to reduce emissions from defor-

## From RED to REDD-plus



estation in developing countries (RED) was not included under the Clean Development Mechanism of the Kyoto Protocol because of concerns over the uncertainty of emission estimates, the potential for emission displacement and the risk of non-permanence. However, RED was later introduced into processes under the United Nations Framework Convention on Climate Change (UNFCCC) by the Conference of the Parties (COP) at its 11th session in November/December 2005. The Bali Action Plan, agreed two years later at the 13th COP, stated that enhanced national/international action was needed on reducing emissions from deforestation and forest degradation in developing countries, or REDD; RED had become REDD. By the time of the 15th COP in Copenhagen in December 2009, REDD had been further expanded to REDD-plus, which gives equal weight to REDD and conservation of forest carbon stocks, sustainable management of forest, and enhancement of forest carbon stocks (*Chart 3*).

The 15th COP was unable to agree on a legally binding instrument for enhanced action on climate change as it had been challenged to do two years earlier. However, the importance of REDD-plus was highlighted in the non-legally binding Copenhagen Accord, which more than 130 countries have “associated” with. Shortly after the 15th COP, the REDD-plus Partnership was established as an interim platform with the aim of taking immediate actions to improve the effectiveness, transparency and coordination of REDD-plus efforts. As of October 2010, the partnership had 69 partner countries. Other international initiatives include the World Bank’s Forest Carbon Partnership Facility and the UN-REDD program, which collectively are assisting over 40 developing countries in preparing for a global REDD-plus mechanism. Bilateral aid for REDD-plus is also now considerable. For example, Norway has agreed to extend \$1 billion worth of assistance to Indonesia to support its REDD-plus preparations. The tide of declining global funds for tropical forest conservation has clearly turned.

### Why REDD-plus?

Four reasons can be given for why REDD-plus should be included in the global climate regime. First, the scale of emissions from deforestation and forest degradation is too immense to ignore. Second, REDD-plus is thought to be a relatively low-cost mitigation option that would lower the economic costs of achieving global emission reductions. Third, because of the large volume of credits that could be generated and their anticipated cost competitiveness, REDD-plus would allow for more ambitious emission-reduction targets. Fourth, reducing deforestation and forest degradation rates could provide a number of co-benefits that mitigation activities in other sectors cannot offer, such as biodiversity and watershed conservation.

REDD-plus supporters provide several arguments for why they believe REDD-plus could succeed where other approaches to improve the management of forests have failed. First, REDD-plus provides a financial incentive to improve forest management that can

compete with the incentives offered by some of the other competing land uses, e.g. shifting agriculture, though there are doubts that REDD-plus could compete with oil palm. Second, because of the perceived financial benefits, REDD-plus will generate political will at the national level. Third, REDD-plus will encourage many groups – government agencies, project developers, international donors and non-governmental organizations – to work together and collectively they will be strong enough to counter the alliances responsible for forest destruction. Fourth, REDD-plus finance will be performance-based, meaning that payment will only take place when real reductions in emissions from improved forest management are verified.

### What Are Risks?

There are also a number of perceived risks associated with REDD-plus. These include:

- REDD-plus could provide a large pool of cheap offsets that would serve as a disincentive for developed countries to invest in technologies to reduce their own emissions.
- Emissions avoided through REDD-plus activities could occur at some time in the future (e.g. forests protected today could burn tomorrow).
- Without reducing demand for forest resources and forest land, REDD-plus activities in one locality could lead to deforestation or degradation elsewhere.
- REDD-plus could encourage “fortress-style” conservation that would deny local communities access to forests, forcing them to endure greater economic hardship.
- REDD-plus could provide the greatest rewards to forest owners and managers with the worst performance records, i.e. those with the highest rates of deforestation and degradation.

### What Next for REDD-plus?

In 2010, further progress was made on the text prepared by the chair of the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) under the convention to advance the negotiations. Reflecting a growing appreciation of some of the risks described above, the text now includes a number of safeguards covering issues such as biodiversity conservation, transparent and effective forest governance structures, and the well-being of indigenous and local communities.

The 2010 work program of the REDD-plus Partnership, in which Japan currently serves as one of the chairs, includes establishing a database on REDD-plus financing, actions and results, and an analysis of financing gaps and overlaps. At a partnership meeting on Oct. 26, 2010, in Nagoya, further activities were identified with the aim of creating a comprehensive work program up to 2012. Combined with the existing efforts of developing countries to prepare for REDD-plus and the sponsorship provided by multilateral and bilateral agencies, we can expect to see REDD-plus strategies and national architecture for monitoring, reporting and verifying forest-sector emissions gradually evolve. Demonstration activities are underway at the forest level in countries such as Indonesia, Laos, Cambodia and Papua New Guinea, and we can expect them to provide important lessons for how REDD-plus might succeed. And, indeed, we need REDD-plus to succeed if we are to save Asia’s tropical rainforests. **JS**

*Henry Scheyvens is director, Natural Resources Management Group, Institute for Global Environmental Strategies.*