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The IUCN/WWF Forest Conservation Newsletter

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## Forests and trade

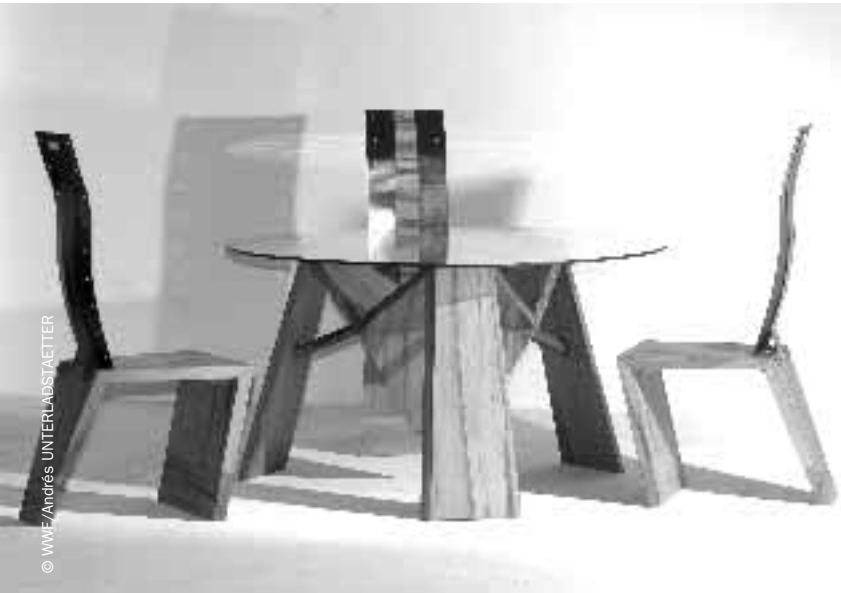
The trade winds are reaching gale force strength in the forest world. Gone are the days when the relationship between forests, trade and markets was seen as a rather specialized interest. The trade in forest products is now more expansive, from industrial roundwood to NTFPs to carbon, and reaches further into even the most remote regions. This means that the laws and institutions that help shape these markets are now not only relevant to trade specialists but also of concern to all those interested in the sustainable management and conservation of the world's forests. In this respect, it is encouraging to note that in some cases the public sector (particularly government aid agencies) is kick-starting the private sector to address forest conservation and sustainability issues, by funding various responsible forest trade-related initiatives.

This issue of *arborvitæ* takes a wide-angle look at the current trends in forest trade, from international to domestic, from timber to non-timber and from large scale to small, and at the impacts of these trends on forest conservation worldwide. We look at long-standing challenges, such as the bushmeat trade, and new opportunities, such as biodiversity offsets that have the potential to pay for the costs of forest 'set-asides' and tourism-based revenues for protected areas. We also highlight some interesting initiatives that aim to better connect forest-dependent people with markets while at the same time ensuring sustainable management and conservation of these resources. The bottom line is that sustainable forest management and conservation efforts will need to reckon with strong and growing market forces and should use these forces, wherever possible, to ensure that forests are valued enough to maintain their livelihood functions as well as their biological values.

**Women selling fuelwood, Vietnam**

Stewart Maginnis, IUCN and Duncan Pollard, WWF

## Bolivia's Expoforest: 'speed dating' for indigenous timber sales



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### A set of furniture created for the One Tree exhibition

As part of the 2007 edition of Expoforest, Bolivia's forest-related exhibit and trade fair, WWF Bolivia supported the participation of its Forest and Trade Network (FTN) members – forest management and wood processing companies committed to the buying and selling of wood from forests that are FSC certified or in process of becoming certified. During the business roundtable, these companies as well as two indigenous community producer units supported by WWF and a local NGO, Apcob, were able to present samples of their products and meet with buyers' delegations from Belgium, China and Spain. This event has proved to be a real golden opportunity for Bolivia's responsible timber and timber product suppliers to meet their ideal business partners, as buyers rotate every half hour around the tables in a kind of 'speed dating' formula. In this case though, instead of romantic relationships being sparked, business partnerships were started and deals sealed. For example, a long-term contract was signed under which the indigenous community of Monteverde will provide 15,000 m<sup>3</sup> of logs to two companies (Mardivar and INPA) for an annual amount of US\$94,000; this price can be renegotiated every two years.

Elsewhere in Expoforest, WWF Bolivia was hosting an unusual exhibition: 210 works of art, all made from parts of one Jequitiba hardwood tree (*Cariniana estrellensis*) that had been sustainably harvested and FSC certified. The purpose of this exhibit was not only to showcase the work of local artists, architects and designers, but also to highlight the importance of sustainable management of Bolivia's forests. The idea for the so-called "One Tree" exhibition came from similar experiences in the UK (see

[www.onetree.org.uk](http://www.onetree.org.uk)), Australia and Nicaragua. As well as being a very visual tool for awareness-raising, the One Tree exhibition also raised about US\$5,000 for the victims of Bolivia's recent floods. The 65 participating artists donated between 50 and 100 percent of the money generated from the sale of their pieces to this cause. The works exhibited included a bicycle, women's clothing, sculptures and furniture, each made using part of the tree. Every bit of the tree was used, from the roots to the leaves and from bark to sawdust. One artist actually burned part of her piece of the tree at high temperatures to create enamel-like ash for her mask sculptures.

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### news in brief

**Mulberry misery:** The arrival of Spring in the Pakistani capital, Islamabad, has once again brought an explosion of highly allergenic pollen from the paper mulberry trees, an east Asian species that has thrived and infested the city's open spaces. These trees are largely responsible for one of the highest pollen counts in the world – up to 40,000 pollen grains per cubic metre of air – that has reportedly caused many deaths over the years. The authorities have had to scale back their removal and replacement of the mulberry trees after protests from environmentalists; allergy sufferers are not happy. "It's not nice to say, but I'm hoping one of these big decision-makers gets this so they know what we go through," said one. "Until that happens, I don't think there's much the government will do."

**Source:** [www.planetark.com](http://www.planetark.com), 6 March, 2007.

**Delinquent gorillas find new home:** A group of five male orphaned gorillas, whose unsocial behaviour has made them 'rejects' of a wild release programme, were set 'free' in March on an island of rainforest in the Democratic Republic of Congo. The appropriately called "bachelor island" was created by digging through a meander of the river Louna as part of a rehabilitation programme funded by the UK-based wildlife charity, the John Aspinall Foundation. Weekly food deliveries will be made to the 24-hectare island to enable it to support the gorillas. It remains to be seen whether this unusual idea will work, or whether the gorillas will end up killing each other, succumbing to the Nile crocodiles or simply wading back to the shore when water levels drop during the dry season.

**Source:** *The Evening Standard* (London), [www.thisislondon.co.uk](http://www.thisislondon.co.uk), 19 March, 2007.

**Amazon arrests:** Truckers, loggers and government officials were among the 25 members of an Amazonian illegal logging scheme arrested in March. The suspects reportedly laundered wood through a complex scheme of false shipping and bank documents. The group is said to have included officials of the environmental protection agency Ibama, who alerted timber mills to scheduled inspections.

**Source:** [www.planetark.com](http://www.planetark.com), 5 March, 2007.

## The tourist trade and protected area financing

**Stephen F. McCool of the University of Montana looks at the potential role of tourism as a source of sustainable financing for forested protected areas.**

**Pay per view?** Funding for the management of forested protected areas can come from government, donors, or revenues from concessions or the sale of forest products. But given the vagaries of government-based financing these days, changing interests of donors, and shifting markets, how can financing be made sustainable? And, given the increase in nature-based tourism, can visitors be a source of sustainable financing?

Tourism and tourists can provide viable, sustainable and significant amounts of revenue for the management of some protected areas. For example, about 50 percent of the annual operating budget of the Saba Marine Park in the Netherlands Antilles is paid for out of diving fees. In South Africa, a significant proportion of the annual operating budget of the entire South African National Parks system is funded from entrance and user fees from visitors to Kruger National Park. Such examples intrigue managers of forested protected areas who wonder if these models and others would be viable in their situation.

Considering tourism as a source of financing requires a protected area manager, associated NGOs and other appropriate stakeholders to conduct an assessment of the viability of this source of funding. A number of questions need to be addressed in this assessment:

- What sources of revenues could be tapped? These could include entrance and user fees collected from visitors, reimbursements from concessions, taxes on goods and services sold to tourists, and revenues from trusts and endowments. Are these sources susceptible to year-to-year variability and to market forces?
- Is the market for the visitor opportunities in the area large enough to generate significant revenues? It costs money to collect fees from visitors and tourism concessions. The market must provide revenues that are significantly larger than these costs.
- Does the protected area agency have the capacity for collecting, accounting for and dispersing revenues from tourism? Collecting fees from visitors and revenues from concessions (such as guides and lodges) requires not only a managerial capacity (e.g. entrance stations, reservation systems, staff) but also appropriate business and accounting practices.
- To what extent are the tourism revenues predictable, stable and sustainable? What market forces might be affecting tourism at the site? What competing opportunities might tourists turn to? What unique values might the site offer to continue to attract tourists?
- What will the funding be used for? Tourists respond more favourably to fees and charges if they know revenues are going directly to the specific site. What projects are being



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funded from these revenues? How are the revenues being used to advance conservation?

- What proportion of the operating costs will be funded from tourism revenues? Realistic goals need to be established, to help determine the appropriate level of fees and charges – a level that reimburses the public fairly for the use of publicly administered forests without stifling interest or investment in tourism.
- What are the negative consequences of tourism as a source of financing? Charges directly levied on visitors, if too high, may negatively impact those with limited ability to pay. Fees on concessions that are too low may not pay for the costs of administering the concession.

Tourism may play, and in many cases should play, only one part in a sustainable financing programme. Having multiple sources of revenue may insulate the protected area from unanticipated turns in the market.

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### news in brief

**African forest elephants losing out:** A new study of forest elephants in the Congo Basin has warned that, while Africa's savannah elephant populations may be recovering, the continent's forest elephants still face intense poaching pressure. The survey included a "megatranssect", a continuous foot survey through 2,000 km of remote forest blocks between northeastern Congo and southwestern Gabon. The researchers found 53 confirmed elephant poaching camps and found poached elephant carcasses in all the protected areas – though less than in the unprotected forest areas. "These data are going to wake up a lot of people and open up a lot of people's eyes," said Stephen Blake at the Wildlife Conservation Society in New York, who led the study, "Elephants in the rest of Africa are not well managed [as southern populations] and the black market is alive and well."

**Source:** *The Guardian* (UK), [www.guardian.co.uk](http://www.guardian.co.uk), 3 April, 2007. Full study report available at [www.plosbiology.org](http://www.plosbiology.org)

**Colombia adds new protected area:** Colombia got its 52nd national park when the country's government announced in March the creation of the Complejo Volcanico Doña Juana-Casacabel Natural Park. The park, in the Colombian Amazon piedmont, covers over 65,000 hectares of diverse forests and is home to a number of threatened species including the Andean bear and mountain tapir. The park is also the source of drinking water for eleven municipalities in the region.

**Source:** [www.panda.org](http://www.panda.org), 23 March, 2007

# BioTrade: helping promote forest product exports

**Nancy Vallejo of Pi Environmental Consulting and Rik Kutsch Lojenga of UNCTAD report on efforts to revise an EU food safety regulation that is hindering developing country forest product exports.**

The BioTrade Initiative of the United Nations Conference on Trade and Development (UNCTAD) and its partners in developing countries have been working since 1997 to promote sustainable trade in goods and services derived from native biodiversity. As part of this initiative, the BioTrade Facilitation Programme (BTFP) was launched in 2002 to help enterprises – including small and medium-sized enterprises (SMEs) – in developing countries promote the export of their BioTrade goods and services. These products include many non-timber forest products (NTFPs) such as fruit, nuts and oils, and forest-based

protect public health by ensuring food safety, unintentionally acts as a technical barrier to the export of food products derived from developing countries' native biodiversity to EU member countries. This stems from the treatment of the exotic BioTrade food and food ingredients as "new" to the EU – even though they have been used for human consumption for centuries in other parts of the world. This means that these products must undergo a complex and costly scientific and safety assessment before being admitted into the EU market. Forest products that fall into this category include extracts from the Araza tree (*Eugenia stipitata*) from Ecuador and fruits from the Indian gooseberry (*Emblica officinalis*) and the Southern African Baobab (*Adansonia digitata*) trees.

The Novel Food Regulation is currently under revision by the EU, following arguments put forward by many developing countries that it could hamper poverty reduction efforts by blocking the import of many of their traditional BioTrade products and the revenue that could have been generated by their trade. A public consultation process ended last August and a proposal for modifications will hopefully take effect in 2007. The European Commission (EC) has indicated that it is considering a two-tier approach in which products that have a long history of safe use would be subject to a less rigorous procedure. The UNCTAD BioTrade Initiative has contributed to this revision by offering platforms for discussion between developing country governments, the private sector and the EC, and by proposing mechanisms that could help alleviate the weighty burden imposed on developing countries by this regulation.

There are many other examples of unintentional trade barriers for BioTrade products at both national and international levels. Clearly, this need not be the case. Adopting integrated approaches when designing new regulations and policies, as well as constant dialogue between mandatory and voluntary instruments could prevent this from happening. It appears that the revision of the NFR takes this to heart, therewith fostering the protection of both consumer safety and biodiversity, as well as promoting its sustainable use and the equitable sharing of its benefits.

services such as ecotourism. BioTrade products are produced either from wild collection or cultivation as a strategy to conserve native biodiversity, its species and their ecosystems.

One of the challenges facing SMEs from developing countries is trade barriers. In this context, the EU's Novel Food Regulation (NFR), established in 1997 to



PhytoTrade Africa

**Women  
processing  
baobab fruit**

# CITES: a growing role in the timber trade

**Chen Hin Keong of TRAFFIC looks at proposals to list new tree species in CITES Appendix II.**

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) controls international trade in species listed in its three Appendices. Historically, the Convention has faced demanding times in gaining acceptance as an appropriate instrument that can control international trade in commercial timber species. Despite the inclusion of some timber species since CITES inception in 1975, it was only much later that CITES was used to try and regulate international trade in commercially important timber species.

Nonetheless, with support from some range States, Big-leaf Mahogany *Swietenia macrophylla* was finally listed in Appendix II of CITES at the 12th meeting of the Conference of the Parties (CoP12) in 2002. Since then, valuable tropical timber species ramin *Gonystylus* spp. were listed at CoP13 in 2004. Of the non-timber forest products listed in CITES Appendices, the highest-profile species is probably Agarwood *Aquilaria malaccensis*, a highly valuable non-timber forest product renowned for its fragrance.

New proposals by Germany, on behalf of the European Commission, to list additional tree species in CITES Appendix II have been put forward for consideration to CoP14 in June 2007. These proposals include one to list seven species of Spanish cedar. Widely used as a construction timber, as well as for furniture and panelling, the listing would regulate trade in these species through a system of permits. There are also proposals to list three species of *Dalbergia* rosewood species. In addition, Brazil is proposing the listing of Brazilwood. International trade in the timber of all these species is seen as partly responsible for the depleting populations of these trees, or as a potential threat to their long-term survival.

Against this background of growing involvement of CITES with timber species, a recent investigation by TRAFFIC, commissioned by the World Bank, on CITES role in combating illegal logging found that several aspects of CITES made it a useful instrument in controlling illegal timber harvesting and trade. Numerous recommendations were put forward in the report of the study, including that:

- all Parties exporting CITES-listed tree species should develop a means of tracking the chain of custody for their products;
- CITES measures should include in-built checks to ensure compliance with requirements for sustainability and legality; and
- Parties should include 'look-alikes' for CITES-listing, owing to enforcement problems with identification, and should select with care the appropriate Appendix for listings.

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## Wild collection of plants: new standard

A new standard to promote the sustainable management and trade in wild medicinal and aromatic plants (MAP) was launched in February at the World Organic Trade Fair. More than 400,000 tonnes of MAP are globally traded each year, with around 80 percent of the species harvested from the wild. Many of the estimated 50,000 to 70,000 plant species used in traditional and modern medicine are found in and around forests and a growing number are in danger of over-exploitation and even extinction through over-collection and habitat loss. The International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP) will help provide much-needed guidance to industry, resource managers, collectors and other stakeholders on sustainable sourcing practices. The standard was drawn up following extensive consultation with plant experts and the herbal products industry worldwide; the Medicinal Plants Specialist Group of IUCN's Species Survival Commission together with WWF, TRAFFIC and the German Federal Agency for Nature Conservation BfN, played a key role in its development.

**For more information:** visit [www.floraweb.de/map-pro](http://www.floraweb.de/map-pro).

# The bushmeat trade in West-Central Africa



Renaud Fulcomis

**David Brown of ODI and John E. Fa of the Durrell Wildlife Conservation Trust look at the urgent need for a new approach to deal with the bushmeat trade in the region.**

**Primates are among the most common bushmeat species in Africa**

The meat of wild animals ('bushmeat') has long been an important component of the diet in many parts of the tropics. The largest volumes are hunted and traded in the humid forests of West-Central Africa. The majority of African bushmeat is mammalian (though reptiles and insects are valued in certain areas) and the most important taxa are large-bodied ungulates, primates and rodents.

Though figures are difficult to establish with confidence, the volume of offtake in Central Africa may well be astonishingly high. For example, Fa et al (2003) estimate that around 580 million animals may be harvested annually in the Congo Basin.

The opening up of Africa's forests to commercial timber exploitation has considerably increased access for hunters. This factor, combined with burgeoning urban

demand, has brought the trade under the conservation spotlight. There is growing evidence that the size of the trade is threatening species survival and could also lead within the next few decades to a major protein deficit in the diets of rural communities. The trade has also been challenged on other grounds, such as human health (particularly the risk of zoonotic infections) and animal welfare.

Deciding what to do about the problem represents a considerable challenge. Simplistic solutions such as banning commercial trade while permitting subsistence consumption on 'pro-poor' grounds appear unworkable, and may also misunderstand the character of the trade (the evidence is that the poor are more likely to sell what they catch than the not-so poor, though these categories are only relative). While the nature of the threat does suggest that effective protected area management must be part of the solution, this requires the agreement of local peoples – which is precisely what is often lacking. To say that the problem is ultimately one of weak forest governance (for example, lack of tenurial and resource rights for forest dwellers) may also be true though this hardly offers a workable short-term strategy.

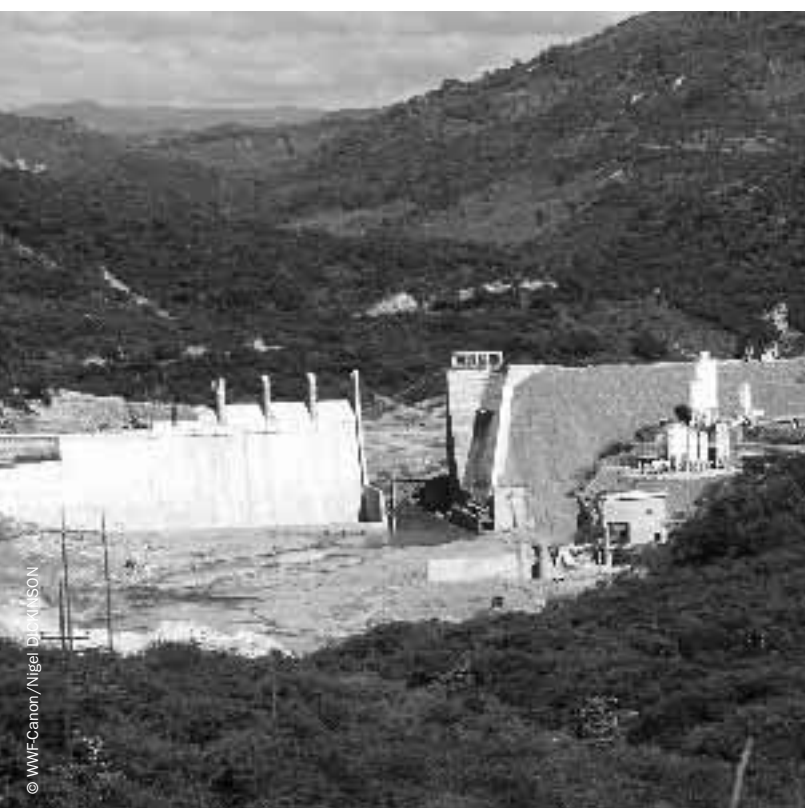
What is arguably most needed is real ownership in the producer states, at all levels but particularly by the people who live in the closest contact with wildlife. Conservation strategies have tended to rely heavily on denunciations and repression, though this would seem a perverse way of generating such ownership. There is an urgent need for a change of strategy. Arguably, the starting point should be the call long since made by the doyen of bushmeat research, Emmanuel Asibey, to bring the bushmeat economy into national environmental accounting, and thereby into national planning processes. Under the threat of climate change, international interest is growing in the broader goods and services that tropical forests provide beyond their timber values. This offers an opportune moment to acknowledge the importance of the commodity. Without public recognition of the value of wild meat to the economy, there is little likelihood that its use will be regulated and planned – in short, that it will be properly conserved.

Fa, J.E., Currie, D. and Meeuwig, J. (2003). Bushmeat and food security in the Congo Basin. *Environmental Conservation* 30: 71-78.

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# Trading habitat: the potential of biodiversity offsets

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## Joshua Bishop of IUCN takes a look at the growing practice of compensating for biodiversity loss.

No matter how hard we try to reduce or mitigate the environmental impacts of economic activity, there is often some residual loss of biodiversity and ecosystem services. Biodiversity offsets are conservation activities that seek to redress the balance by assessing and compensating – to the extent possible – this unavoidable adverse impact.

Experience with mandatory offsets includes recent initiatives in several Australian states, the introduction of tradable forest conservation obligations in Brazil, habitat compensation requirements in the EU, as well as the long experience of wetland and conservation “banking” in the USA (see box). In the Brazilian case, for example, there is a legal requirement that at least 20 percent of each property larger than 50 hectares (or 80 percent in the Amazon region) must be set aside as a Legal Forest Reserve, where only sustainable forestry practices are permitted. In some states, landowners who exceed this requirement can ‘sell’ the surplus (i.e. the presence of native forest on part of their land) to other landowners who are below the minimum. In effect, landowners can trade land use rights while retaining title to the land itself.

These and other offset regulations are designed to conserve natural habitat overall, while allowing land use change in appropriate locations. Legal schemes have been supplemented recently by growing interest in the potential of voluntary biodiversity offsets (see [www.forest-trends.org/biodiversityoffsetsprogram](http://www.forest-trends.org/biodiversityoffsetsprogram)).

While the benefits of biodiversity offsets are potentially large, several hurdles need to be crossed to ensure effective, efficient and equitable offsets. Chief among these is the need for consensus on when and where biodiversity offsets are appropriate (or not), and the performance standards that must be met by companies, governments, communities and conservation NGOs. In addition, there is a need to secure consent and build trust among stakeholders for the approach, to strengthen the business case to motivate companies to undertake voluntary offsets, while also working to establish effective policy frameworks to underpin quality biodiversity offsets on a broad scale.

### Trading and restoring habitat in the USA

One of the best-established systems of biodiversity offsets is found in the United States, where federal and state laws require “no net loss” of wetlands and the conservation of habitat for endangered species. Regulations require both public and private developers to compensate or “mitigate” the loss of natural habitat, when adverse impacts are considered unavoidable, by financing the creation, restoration and/or protection of comparable habitat.

Under certain circumstances, where public authorities determine that it is appropriate, compensation for environmental damage may be undertaken off-site. Moreover, developers may sub-contract and transfer their liability for compensation to third parties. In the case of both wetland mitigation and conservation banking, for each hectare of habitat that is damaged or destroyed, developers may purchase credits from approved ‘mitigation’ or conservation banks to support conservation efforts in the surrounding area, for habitat that is similar to that which they intend to convert. This has stimulated an emerging market in mitigation services.

Prices of mitigation credits are highly variable, depending on land purchase and restoration costs as well as the demand from developers. Reported prices range from as low as US\$1,200 per hectare for wetland credits in some areas of the USA, to US\$300,000 per ha for exceptional conservation banks.

At these prices, it is not surprising that private firms have become interested in supplying wetland mitigation credits. Conservation banking for endangered species is at an earlier stage of development but is also growing rapidly.

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**Biodiversity offsets could compensate the forest loss associated with development projects**



**Augusta Molnar, Rob Kozak and Andy White of the Rights and Resources Group discuss the need for new approaches to advance forest conservation and livelihoods.**

For most of recent history, ideas, discussions, and even our interventions around forest products and trade were fairly simple and straightforward. Images of Weyerhaeuser or Stora-Enso as “the industry” were common, as were narratives about changing the behaviour of the top 100 companies who process 50 percent of global industrial supply. Now we are realizing that the industry is much more domestic, small-scale, non-timber oriented, and politically embedded than previously imagined.

Moreover, there are also critical global shifts underway that are fundamentally transforming the entire forestry sector as conservationists increasingly understand the importance of recognizing rights, alleviating poverty, and encouraging more equitable economic growth. Indeed, rather than an international timber company, a female fuelwood headloader in India or a used paper collector in Beijing may be a better depiction of today’s global forest industry. This more complicated and rapidly changing industry poses new challenges to our existing stock of tools and approaches – all suggesting that it is now worth reconsidering how we intervene in forest trade to advance our goals of sustainable development.

**Old man going to the forest to gather rattan, Indonesia. Domestic, non-timber harvesting and trade is an important part of the global forest industry**

# The changing face of forest industry and trade

## What forest industry and what trade?

Employment data show that most forest sector employment – in both developed and developing economies – occurs in micro, small- and medium-sized enterprises (SMEs). In the US, for example, over 50 percent of wages in the solid wood products processing sector is attributed to SMEs. Unfortunately, overregulation, corruption and lack of political access often relegate small-scale operators in developing countries to the “informal” and “illegal” economy.

Although the international timber trade remains important, it accounts for only 20 percent of the industrial wood harvested worldwide and the value of this trade (about US\$150 billion annually) is almost matched by the international trade in non-timber products, natural pharmaceuticals, and medicinal plants. More than half of the wood harvested in the world continues to be used for fuel with experts estimating this will continue into the foreseeable future.

## Key transitions in forest industry and trade

Three key shifts within the industry are changing the threats and opportunities for influencing the fate of forests and forest peoples.

First, growth in demand for forest products is shifting from the West to the East (China and Asia) and, more generally from more “mature” markets of developed countries to emerging and middle-income countries. The processing industry is following that demand growth – typified by China, which is now recognized as *the* wood processor of the world. These shifts mean that it is increasingly the customers and processors in those Eastern and middle-income countries that will shape the market. It also means that jobs in the commodity processing industry will continue to shift East, creating unemployment in the North and reducing incentives to invest in local forests.

Second, increasing competition and declining prices in the commodity wood sector are leading to an investment shift



to industrial plantations in the global South – where growing conditions are optimal, property rights relatively secure, and governments have a long history of subsidizing the plantation industry. The top 10 plantation countries now supply over 35 percent of the global wood commodity market, and most experts agree that their share is steadily increasing. Plantations are controversial because they are often established at the expense of indigenous and local rights and by clearing natural forests. In addition, these plantations and the subsidies behind them indirectly undermine the value of natural forests to produce timber, thus diminishing the incentives to invest in natural forests, and the ability of these forests to contribute to economic development in local communities. Russia, with its huge, untapped boreal forest reserves is an exception to this trend. While not yet attracting sophisticated investment, it has fast become an emerging force in the production of forest products, especially coniferous logs and sawnwood destined for China. Interestingly, as ‘big business’ migrates southward, evidence suggests that the SME sector is also growing; particularly in millwork and furniture segments where success is not contingent upon scale, enabling SMEs to serve local markets and contribute to local development.

Third, environmental and legal standards such as certification and verification of legality have become market standards – affecting all players, regardless of size and market orientation, and raising new questions of equity and tradeoffs between conservation and poverty alleviation. In contrast to earlier expectations, certification and measures of legality are driving a wedge between large companies, politically and financially positioned to become “legal” under new standards, and the smaller forest owners and processors who cannot. Since Northern importers have driven these standards, and since large industry dominates export markets, the environmental and legality standards are inadvertently excluding small industry from international markets, limiting them to less-profitable domestic markets. Moreover, these standards risk legitimizing and consolidating business models that do not conform to concerns for human rights, poverty alleviation, and pro-poor growth. For example, it remains far easier to certify a plantation than a natural forest, and it is the largely European concession holders in central Africa – a relic of the colonial period – that find certification feasible, rather than the community forest owners and small-scale enterprises who generate greater returns to the poor and more widely shared economic growth.

### **Changing outside forces**

One of the important realizations of recent decades is that the forest sector is heavily influenced by outside forces – something that will only intensify as roads, access to information, and political and economic actors reach deep into the remaining remote forest regions of the world. Industry and trade will be substantially influenced by growth patterns in the global economy, shifts in social and political systems, and rising concerns over impending climate and water crises.

Of the many important shifts, three stand out. First, the booming demand for food and energy – estimated to double by 2020 and driven in large part by the growing economies of Brazil, Russia, India and China (the “BRICs”) – will place new pressures on forest lands and will likely lead to increased land values, conversion, and competition for plantations and forests. Embedded within this trend is the growing interest in biofuels, a market with as yet unknown effects on forest conservation and livelihoods.

Second is the growing demand by Indigenous Peoples, ethnic communities, and other local groups pressing for recognition of their tenure rights to forest lands. Without adequate response from governments, these and other resource-related civil conflicts in forest areas will increase – disrupting supply from natural forest areas in developing countries and perhaps encouraging buyers to source from plantations.

A third shift is the rise of the BRICs as political and industrial players, and the ways in which they will reshape political influence and business practice. These shifts have two key implications. First, there will be many more industrial and political players in the BRICs and other developing countries. This more dispersed set of actors will make it much more difficult to identify and influence markets and business practices, particularly because growth will be in countries where information and transparency remain limited. Second, because of their different cultural, socio-political and operational contexts, approaches like CSR, certification or the Equator Principles are less likely to be adopted by the major players of tomorrow.

### **Implications for conservationists**

The complex and evolving forest industry poses challenges and opportunities for those promoting forest conservation and improved forest livelihoods. It is time to:

- begin a new dialogue on the effects of certification (and related environmental and legal standards) on goals for social and economic development. While there are clearly benefits from these standards, there also seem to be large and possibly growing costs and tradeoffs, particularly for low-income forest people and small-scale producers.
- more actively promote small-scale forest producers and enterprises – “leveling the playing field” by removing legal, regulatory, financial and technical barriers. SMEs are engines of social and economic development and provide incentives to keep forest lands forested.
- renew efforts for forest policy and tenure reforms and equitable forest governance in forest areas to enable local people to protect and manage their own resources and participate freely in forest industry and trade.

Progress on these three recommendations will help ensure that forest trade and industry help rather than hinder global goals for conservation and development.



## Is the time right for fair trade timber?

**Duncan Macqueen of IIED reports on a new initiative to help community timber producers.**

Significant numbers of small and medium scale forest enterprises (SMFEs) – which make up about 80-90 percent of all forest businesses – are broadly community based. Many of these community enterprises behave responsibly – often adopting democratic business practices with strong social and environmental provisions.

Currently, responsible community timber producers often struggle to cover their costs. Too frequently, amateur business management, remote locations, poor product design and quality, and inadequate packaging and transport infrastructure exacerbate the inherent scale inefficiencies. So far, existing trade mechanisms offer little help. Of the 250 million hectares of forest certified as sustainable, only one percent involves community-based forestry. No mechanism exists to enable discerning consumers to

distinguish products of community origin, and certification schemes do not offer the organizational support that is so crucial to high quality community products and market success. Existing eco-labelling schemes, mostly limited to pulp, paper and to a lesser extent panels and plywood also stack compliance against community producers.

On the other hand, a fair trade label for timber would offer strong brand recognition and fair trade associations would be able to provide organizational support to producers. However, fair trade is primarily focused on agricultural products such as bananas, coffee, sugar, flowers and seed cotton. It has yet to address the ecological complexities of sustainable forest management and the value chain complexities of timber processing. Some members of the International Fair Trade Association (IFAT), the main certification body, already trade substantial volumes of timber-based craft products and furniture, but a product-specific fair trade label for timber does not exist within the Fair Trade Labelling Organisation (FLO). As a result, mainstream timber traders are currently unable to supply fair trade timber to meet potential consumer demand.

New research suggests that organized community timber producers are increasingly meeting the requirements that enable them to trade – not only domestically but also internationally. Perhaps the largest single example is the Association of Forest Communities of Petén (ACOFOP) in Guatemala which covers 445,804 ha of FSC-certified concessions owned by 22 community cooperatives and associations. Leading timber buyers and the main labelling schemes are not blind to such developments. For example, the Forest Stewardship Council (FSC) and FLO are currently on the steering committee of an IIED project funded by the Dutch NGO, the Interchurch Organisation for Development Cooperation (ICCO). This project is assessing – together with the WWF Global Forest Trade Network (GFTN) – demand for, and practical options towards, distinguishing community forest products in the market.

So is there broad demand for fair trade timber? Early indications suggest that several international companies, particularly in sectors such as furniture and home decor, garden furniture, specialist construction or flooring and DIY see significant marketing advantages in offering a ‘community’ product line. Almost all reject the idea of a new ‘label’ and would prefer to use the existing fair trade label. Other companies reject the idea altogether, either due to past attempts that failed on quality or timeframe issues or due to concerns over broadening consumer choice further at a time when recognition of FSC is still poor. The completed demand surveys will shed further light and identify practicable pilot projects with enthusiastic companies.

**Contact:** Duncan Macqueen: [duncan.macqueen@iied.org](mailto:duncan.macqueen@iied.org) or see a background paper (<http://www.iied.org/pubs/pdf/full/13530IIED.pdf>) and workshop report (<http://www.iied.org/NR/forestry/documents/IIEDfairtradetimmermeeting.pdf>) discussing these issues.

## Kenya: carving out a sustainable handicraft trade

**David Maingi of WWF's Eastern African office reports on an initiative targeting wood carvers and tree growers.**



David Maingi

The woodcarving industry in Kenya supports up to 60,000 carvers and their dependants and generates an income of over US\$10 million per year, but has contributed to the decline of threatened hardwoods and the degradation of the globally important East African coastal forests. The Good Woods project, launched in Kenya in 2000, therefore aims to conserve these forests by encouraging wood carvers to shift from traditionally preferred and depleted hardwoods such as ebony and Mahogany to sustainably produced farm trees such as Neem and Mango, thus providing livelihoods for carvers and tree owners. As part of the project, WWF helped set up a farmers' group and supported an FSC group certification for the neem trees produced by the participating farmers.

These farmers now sell their logs to two local handicraft associations, both of which have received FSC Chain-of-Custody certification, thus opening up a totally new income source for the farmers and enabling the carvers to reach environmentally aware international markets with their FSC-certified carvings.

**Top: One of the carvers participating in the project**

The main challenges so far have been to ensure a big enough market for certified carvings, to provide the incentive for carvers and farmers to comply with the certification rules and to bear the costs of certification. The main benefit of FSC certification for the carvers (and thus, indirectly, for the farmers) is that it can help them recapture some market share by enabling them to differentiate their certified products from cheaper, and often better designed, wooden crafts from Asia. On the other hand, they have yet to see any real price premiums for their FSC-certified carvings, even though this is one of the oft-cited benefits of FSC certification.

The main conservation benefit however is clear to see, as 20,000 indigenous trees have been conserved in natural forests as a result of using alternative species.

Currently, the project's main goal is to scale up the lessons learnt into other regions and industries as well as contribute to the development of National Certification standards for Kenya and Tanzania.

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## Getting the price right when there is no market

**Virpi Stucki of IUCN reports on efforts to secure a fair price for Allanblackia seed collectors.**



Virpi Stucki

Since 2003, IUCN has been part of a public-private partnership called Novella Africa, the aim of which is to ensure that the supply chain of Allanblackia, a

tree species commonly found in West, Central and East Africa, is environmentally sound, economically viable, and socially equitable. Other partners include Unilever, SNV, ICRAF and a number of governmental and non-governmental organizations in Africa (see *arborvitaë* 30 for more details).

Unilever, currently the only multinational company buying Allanblackia seeds, has put considerable effort into establishing and supporting local supply chains in Ghana, Tanzania, and Nigeria. Since there is only one international buyer interested in Allanblackia and its market is not yet functional, the price of the seeds has been set each year by calculating 'backwards' from the Free on Board (FOB) price of extracted oil in Rotterdam. Costs along the supply chain are deducted from the FOB price to derive the price to be paid to farmers collecting the Allanblackia seeds.

The price currently paid for Allanblackia seeds is Cedis 1500 per kg (approximately USD 0.15 per kg). Feedback from the farmers that the price was too low has resulted in the price being revised upwards a number of times since collection started in 2002 when the price paid was Cedis 400 per kg (approximately USD 0.04 per kg). However, there is still a perception among many collectors that the price is too low.

Whereas Unilever's 'backward calculation' is transparent and justifiable for the current situation where no market price for the Allanblackia seeds exists, it does mean that inefficiencies along the supply chain are simply passed along to the farmer. The Novella Africa team has therefore agreed that it will be useful to inform the pricing mechanism from the perspective of the farmers' opportunity costs for engaging in Allanblackia seed collection. Such an exercise will give Unilever complementary information for setting the price in the future.

It has been made clear to all participating parties that this study is not binding in the price-setting process. Unilever has welcomed the approach. The study, to be undertaken by IUCN, will help all the stakeholders to understand the constraints and opportunities that are involved in the Allanblackia seed collection in relation to income generation.

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## Russia: bringing NTFPs to market

**Nikolay Shmatkov and Anna Belyakova of IUCN-Russia describe how an international NTFP fair has helped boost livelihoods in remote communities.**

Forest ecosystems are able to provide much more than just timber. A CIDA-funded IUCN project has proved that the sale of non-timber forest products (NTFPs) can make an important contribution to the livelihoods of hundreds of people in remote communities, and boost self-esteem and pride in traditional native cultures. Women make up a large proportion of those involved in collecting and processing NTFPs and their businesses bring significant improvements in the quality of life of their rural households.

The project has been working with largely indigenous communities in the Russian Far East and North-West to help local people bring their NTFPs to market. The work involves, for example, helping the small-scale producers make production samples that fit with the demands of local and international markets, establishing contacts with wholesalers and ensuring ecological sustainability of the harvest.

The project established an annual International NTFP Fair and Forum in Moscow to provide small businesses with opportunities to reach new markets and broaden their marketing contacts. The first fair, held in 2004, proved a huge success with over 9000 visitors. In 2005, more than 80 businesses from 8 countries participated in the fair, which attracted more than 25,000 visitors.

The problems facing small-scale NTFP producers are mainly of a financial and bureaucratic nature, and information on marketing opportunities is very limited in these remote territories. Even NTFP businesses closer to urban centres can find it hard to break into these lucrative markets. Particular problems emerge for those producers living within protected areas, as their NTFP user rights may be unclear. A new initiative, funded by BBI-Matra aims to develop market opportunities for communities living in or near protected areas in the Russian North-West. Indeed protected areas administrations can play an important role in channelling information to NTFP producers and marketing local NTFPs through their visitor centres.

These kinds of initiatives do not need huge amounts of investment and yield benefits not only for the local economies but also for the forest ecosystems as they help reduce illegal logging and poaching.

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## The cork market: screwed?

Cork oak landscapes cover approximately 2.7 million hectares of Portugal, Spain, Algeria, Morocco, Italy, Tunisia and France. As well as providing a vital source of income for more than 100,000 people, these landscapes also support high levels of biodiversity including globally endangered species such as the Iberian Lynx, the Iberian Imperial eagle and the Barbary deer.

The economic value of these forests to local communities is vital to their continued conservation. The cork harvested accounts for an annual export trade value of around US \$329 million and has a wide variety of uses in national and international markets, from clothes to insulation and even rocket technology. Nonetheless, it is the bottle stopper market that drives the cork industry, comprising almost 70 percent of the total cork market value. Cork stoppers offer significant environmental benefits as they are biodegradable and recyclable.



**Above:**  
freshly  
harvested  
cork stack

**Far right:**  
Lucas Tuare

However, the increase in the market share of alternative wine stoppers, specifically plastic stoppers and screwtops, could reduce the market value of cork and the economic importance of cork lands, leading to their conversion or abandonment. Recent increases in global wine production and markets for cheaper wines which are consumed soon after bottling, have encouraged the accelerated use of synthetic stoppers and screwtops. This is particularly true of the Australian wine market, and is also found in other expanding New World wine markets such as New Zealand and South Africa. A report last year by WWF estimated that, on the basis of these current trends and in a worst case scenario, 95 percent of wine produced could be closed with synthetic stoppers by 2015. This could lead to the loss of three-quarters of the cork oak surface area and over 60,000 jobs in the cork industry.

WWF is therefore working with the wine and cork industries to urge them to help reverse these trends and maintain the market for cork stoppers. Moves by the wine industry to choose cork and promote its use among customers need to be accompanied by efforts by the cork industry to maintain and improve the quality of cork stoppers and communicate progress to the wine industry and consumers. This all needs to be combined with improving management, protection and restoration practices in cork oak landscapes and promoting their credible certification, namely FSC.

**Contact:** Nora Berrahmouni, NBerrahmouni@wwfmedpo.org or download *Cork Screwed?* from [www.assets.panda.org/downloads/cork\\_rev12\\_print.pdf](http://www.assets.panda.org/downloads/cork_rev12_print.pdf).

## PNG: eaglewood a lucrative infection

**Lydia Kaia, of WWF PNG, reports on an initiative to encourage sustainable management of a tree resin.**



In a good harvest year, a villager like Lucas Tuare can make up to US\$350 from the sale of eaglewood. From Wagu village, which lies along the upper Sepik River in northern Papua New Guinea (PNG), Lucas is one of the many locals who are enjoying the benefits of eaglewood since its discovery in PNG back in 1997. Interest in eaglewood harvesting and trade has grown rapidly, driven largely by demand for the sweet smelling wood in the Middle East and Japan, where eaglewood is highly valued as a perfume. Also referred to as agarwood, gaharu or aloeswood, eaglewood is known the world over for its use as incense and for medicinal purposes. Eaglewood is a dark resin that is produced when certain trees are injured or infected, though the actual cause of the resin continues to elude scientists.

Currently only two eaglewood trading companies are operational in PNG but there are many unlicensed buyers and middlemen, inexperienced at achieving a good price. A lack of knowledge about eaglewood has also resulted in some intense and highly destructive harvesting. A WWF project is working in five communities to assist resource owners to prevent extinction of their eaglewood trees, maximize harvest of resin while minimizing damage, promote regeneration and improve income and benefit sharing. The project is working with local landowners to set up Eaglewood Management Areas to demonstrate sustainable harvesting techniques and is supporting communities to go through a 14-step process to plan and regulate eaglewood extraction and trade. The project is also making sure the locals know the real value of the resin so they get a fair price for it.

One of the major challenges is the lack of a National Eaglewood Management Plan – a requirement for the export of the resin since it is listed in CITES Appendix II. Because of the lack of this plan and the resulting problems in exporting the resin, some of the villages have been finding it hard to find eaglewood buyers. WWF is working with the government to finalize this plan.

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## Private finance for responsible forest management in Latin America



**Steve Gretzinger, GFTN Coordinator for Latin America, looks at contrasting experiences in seeking finance for forest-based enterprises.**

**A Bolivian FTN member company, Multi-Agro, produces cremation urns and other timber products**

Much deforestation in Latin America is driven by short-term economic necessity. Alternatives to forest conversion must generate employment and earnings that compete with agriculture and cattle. While responsible forest management and trade is a promising alternative, funds for such operations are difficult to obtain since forestry is often considered a high risk investment. Limited access to finance is a particularly tough obstacle for the small and medium-sized enterprises (SMEs) which are members of WWF's Global Forest & Trade Network (GFTN).

Many SMEs in high-risk countries in Latin America are unable to comply with traditional requirements from private lending institutions, do not use modern accounting methods, have little suitable collateral, or do not have a track record in the formal financial world. National and international banks are reluctant to risk their reputation or assets by financing a company with non-traditional collateral, in a sector often associated (wrongly or rightly) with activities on the fringes of the law, and with little certainty regarding availability of raw materials.

To help address this problem, the World Bank/WWF Global Forest Alliance has initiated activities to obtain sources of private debt and equity financing, particularly for smaller companies in higher risk countries. Depending on the stability of the country's forest sector, the approaches have included only private ("hard") capital, or a mixture of hard and donor ("soft") capital.

The Alliance hopes to replicate the positive experience of Guatemala where Bancafe (one of Guatemala's fastest growing and most widespread banks) has approved loans to communities with long-term forest concessions. Bancafe's unique approach included assigning one individual to the forests portfolio, working with a local association of community concessionaires, accepting standing forest as collateral, being flexible in assigned use of funds, and maintaining a good, working relationship with the government of Guatemala. As a result, by 2003, the bank had lent over US\$2 million to different communities and had achieved a high payback rate.

In Peru, the financing model was less successful. Here, soft funds were obtained from the donor community to finance forest-based SMEs working in the Amazon. In this model, funds from USAID were channelled through WWF to a local financial institution that then loaned money to companies selected and supported by WWF. However, the dependency on soft funds, lack of experience in working with the forestry sector, and tradition of informality in the sector, made this programme less successful than anticipated.

Learning from both these experiences, a hybrid debt model has been designed for the largely indigenous, forest-based SMEs working in the Miskito coast region of Nicaragua. Although yet to function, a trust fund has been designed in conjunction with FINDESA (a successful Nicaraguan micro-credit lending institution) to use both hard and soft funds for different uses. Under this model, donor funds would be used for training and planning activities, whereas private loans would be used for productive activities.

Another new and exciting alternative is private equity investors. Private venture capital firms, timber investment management operations and high net worth individuals are all prospective sources of capital for such operations. The goal of an ongoing initiative financed through the Alliance is to develop and apply a protocol for analyzing the investment potential of two forestry operations in Bolivia and Peru. In the case of one operation, private US capital has already been successfully located, and opportunities look positive for the other.

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### WWF news in brief

**HCVF brochure:** WWF's Forests for Life Programme has produced a brochure on the concept of high conservation value forests and its application around the world. Bulgarian, Chinese, Russian and Spanish versions will also be available soon. This can be downloaded at: [www.panda.org/forests/hcvfs](http://www.panda.org/forests/hcvfs)

# The poor and local forest product markets

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**Gill Shepherd of IUCN's Commission on Ecosystem Management looks at some of the factors limiting poor people's access to market opportunities.**

The ability of the poor to benefit from forests can be affected by a number of impediments at the local, sectoral, and national levels. How do these hamper the ability of poor people to take advantage of market opportunities and what should be done about them?

### Access to forest resources

The dominating factors affecting access by the poor to forest products stem from government ownership of most of the forest estate and the legislation and regulations controlling use in these forests exercised by government forest departments. Historically this has often resulted in access to forests by the poor being subordinated to industrial and conservation interests.

In many areas the poor draw many of the forest products they use from forest to which they have de facto *subsistence* access, but only ambiguous rights to *gather and sell* those same products. Though measures to improve the tenurial access of poor users to government forest resources have been common over the last twenty years, often only partial rights have been transferred. In many cases the government

has retained the rights to some of the more valuable components of the resource (such as timber), or transferred only areas with degraded resources.

### Access to forest product market opportunities

In the forest sector, governments are often active stakeholders as well as regulators, so forest departments are not necessarily disinterested guardians and implementers of forest laws and regulations.

Market impediments for the poor often include subsidized state production competing with unsubsidized small private and community producers; the state interposing itself as an intermediary between local producers and the market; regulations, bureaucratic procedures, taxes, fines, etc. drawn up for larger producers and not waived for small producers and traders, and which unfairly add to their costs; and raw material allocation procedures which favour larger industrial producers.

### Removing market impediments for the forest-dependent poor

What then might be done to improve the opportunities for poor local people to engage successfully with forest product markets? We would suggest the following:

- Clarifying and improving tenurial rights devolved to local communities so that marketing rights are explicitly recognized;
- Prioritizing the revision of forest sector and conservation policies and practices that hinder the participation of the poor in accessing benefits from forests (competition from the state, excessive regulation, forest management goals overly biased towards global rather than local environmental values, etc.);
- Facilitating forms of partnerships with the industrial sector that extend the range of mechanisms whereby the forest-dependent poor can participate in, and benefit from, forest product market opportunities;
- Deliberately improving the access of the poor to the information and skills necessary to benefit from, and compete in, an increasingly liberalized and market-driven forest products environment.

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## IUCN news in brief

**Staff changes:** Michelle Laurie, the IUCN Managing Editor for the last two issues of *arborvitæ*, has left IUCN. Many thanks for your help Michelle.

**NTFPs:** IUCN and WWF are co-organizing, along with several other partners, a conference on the role of NTFPs in biodiversity conservation and poverty alleviation. The conference will take place in Hanoi, Vietnam from 11 to 15 June, 2007.

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The editors and authors are responsible for their own articles. Their opinions do not necessarily represent the views of IUCN and WWF.

## Reviews in brief

### Restoring tropical forests

Downloadable at: [www.forru.org/HTPAFmanual.htm](http://www.forru.org/HTPAFmanual.htm)

David Lamb of the University of Queensland reviews a recent book on forest restoration.

*How to Plant a Forest: the principles and practice of restoring tropical forests*, published by the Forest Restoration Research Unit at Chiang Mai University in northern Thailand, is a superb 200 page account of more than 10 years field research into methods of restoring forests at degraded sites. This truly is a how-to-do-it book and it will be of great use to ecologists, foresters and restorationists across the Mekong region. But, such is the wealth of practical information contained, it should also be of interest to anyone involved in tropical forest restoration.

The book contains descriptions of the main forest types in the region and an account of the ways various species in these forests are able to regenerate. These chapters are based on many years of study that have documented fruiting phenologies, dormancy and the germination patterns of a large number of species. There are also chapters showing how this knowledge has been used to devise ways of accelerating natural regeneration and to reforest using direct seeding and planting. Again, these are based on field trials carried out in collaboration with villagers in the region over many years. The Research Unit have always had a strong educational focus and have spent considerable time working with school and running training sessions with their village collaborators. This is reflected in the final chapters on how to foster such collaborative work and how to transfer knowledge to people wanting to use it.

### The illegal logging trade: all you need to know

Downloadable at:  
[www.oecd.org/dataoecd/36/18/37968440.pdf](http://www.oecd.org/dataoecd/36/18/37968440.pdf)

The 19<sup>th</sup> Round Table on Sustainable Development, held at the OECD in Paris in January, focused on the economics of illegal logging. This report of the meeting, authored by Arnaldo Contreras-Hermosilla, Richard Doornbosch and Michael Lodge, pulls together the key facts and figures on the nature, magnitude and consequences of illegal logging in forest-rich producer countries and the programmes on both the supply and demand side being implemented to reduce this problem. In assessing the various measures taken to control illegal logging, the authors report that the general consensus is that the actions required are both complex and need to be carried out by a broad array of actors, including those outside the forest sector. However, the authors warn that this conclusion should not be used as an excuse for not setting priorities or for diluting efforts to control the problem. They stress that it is actions by producer countries that will be most effective in tackling forest crime, and this should be borne in mind by importing countries and the wider global community when they develop their responses and assistance strategies.

### Cleaning instructions for timber supply chains

Downloadable at: [www.panda.org/forests/keepitlegal](http://www.panda.org/forests/keepitlegal)

As mentioned briefly in *arborvitæ* 31 and 32, WWF's Global Forest and Trade Network has recently published a guide for keeping illegally harvested timber out of supply chains. The *Keep it Legal guide*, authored by Frank Miller, Rodney Taylor and George White, details a systematic approach to identifying and eliminating the risk of illegal wood entering supply chains and presents a set of practical tools establishing traceability, applying a supplier risk rating system, and developing a responsible purchasing policy for forest products. The manual is aimed at any medium-size or large enterprise that purchases forest products, including processors, importers, manufacturers, wholesalers, and retailers, and it may also be useful to smaller enterprises.

### A tropical forest: what's it worth?

Available from: [www.earthscan.co.uk](http://www.earthscan.co.uk)

*The Economics of biodiversity conservation: Valuation in tropical forest ecosystems*, by K.N. Ninan et al., is not a general treatise on the economics of tropical forest biodiversity conservation, but the report of a valuation exercise carried out in three areas in the Western Ghats, one of the biggest stretches of tropical moist forest remaining in the Indian sub-continent. This makes the book all the more interesting and a valuable contribution to the literature, as it represents one of the few attempts to measure the costs and benefits of conservation to local communities.

The authors, unlike many economists, don't shy away from political economy questions either, e.g. demonstrating how the odds are stacked against poor farmers trying to get any kind of payment out of the government's complicated wildlife damage compensation system.

That said, there is also plenty to disagree with here. While the authors demonstrate a healthy scepticism towards the rosy wildlife census data presented by government foresters, which have been proven to be erring on the high side in a number of cases, their critical faculties appear to be somewhat diminished when faced with large numbers of villagers waxing lyrical about conserving elephants or the bequest values of the forests that surround them. More importantly, the authors' conclusion that local opportunity costs of tropical forest biodiversity conservation are universally high and that therefore conservation always depends on large international financial transfers is open to challenge. Surely the national benefits to India of conserving the Western Ghats (where many large rivers have their origin) are considerable and direct government payments or other mechanisms compensating villagers for benefits foregone are justified on those grounds.