



ARMENIA

Armenia Tree Project

The Armenia Tree Project (ATP) is a non-profit organization that was founded in 1994 with the vision of safeguarding Armenia's future by protecting its environment. Funded by contributions from Diasporan Armenians, ATP has planted and restored more than half a million trees in Armenia, while providing jobs for hundreds of people. Plans for the next decade include expanding community reforestation programmes in partnership with villagers and other organizations, which will also provide social and economic development opportunities.

The forests, which recently covered only 10 percent of Armenia, now cover even less, threatening rare and endangered flowering plants that rely on the rapidly disappearing forest habitats.

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AZERBAIJAN

Memorandum of Understanding between Azerbaijan Government and WWF

A Memorandum of Understanding has been signed between the Minister of Ecology and Natural Resources Protection of Azerbaijan and the World Wide Fund for Nature (WWF) Europe and Middle East Programme. The key objectives are to elaborate mutual initiatives in environment protection and natural resources sustainable use in Azerbaijan and development of cooperation between the ministry and international environmental organizations.

The Memorandum of Understanding addresses: biodiversity conservation, establishing and expansion of protected territories, sustainable use of natural

resources, legislative, social and economic sides of environmental activity, protection of flora and fauna, combating deforestation and desertification, climate change, forest policy, restoration of forest areas, programmes for international environmental education and exchange of experience. (Source: INFO CENN, CENN 73, 28 October 2004.)

BANGLADESH

Patipata: a potential species for agroforestry in low-lying areas of Bangladesh

Patipata or mastak (*Schumananthus dichotoma* syn. *Clinogyne dichotoma*) belongs to the family Merentacy. It is a shrubby plant and generally grows by the edge of canals, ponds, roadsides and other water bodies. In Bangladesh, it is generally grown in low-lying marshy areas of greater Sylhet, Mymensingh, Barisal, Noakhali, Chittagong and Pabna districts. It is sporadically planted along roadsides and around ponds, primarily for checking soil erosion countrywide. Formerly, fallow and unproductive paddy fields were used for the large-scale cultivation of patipata. It is one of the most important raw materials for cottage industries, thus prospectively lucrative traditional novelty items were introduced in those areas in view of the availability and sustained supply of the raw material. A number of cultivators adopted it as their part-time profession and earned substantial incomes for their livelihood. Besides shitalpati prayer mats, etc., various novelty items produced from patipata are very popular with the people of Bangladesh and are also in great demand abroad. Patipata products, if properly managed, attract a good foreign market, especially in the Near East, and thus can earn valuable foreign currency. A valuation study revealed that the cane harvested from 100 ha of land, worth 65 lakh taka (US\$108 300), can produce products such as shitalpati worth 1 crore 80 lakh taka (approximately US\$300 000).

However, more and more fallow land is now being converted for agricultural production and thus patipata production

has declined considerably. If this process continues, production of the popular shitalpati prayer mat will decrease and ultimately be lost forever, making thousands of people jobless. Therefore, all possible measures should be taken for the conservation and extension of patipata cultivation through agroforestry programmes in those areas. Land scarcity as a result of population pressure is the major threat to patipata cultivation; it can be planted as an agroforestry component along with other crops in the same land use system, which has already proved to be successful.

Once the patipata plantation is established, it can be harvested for a long period, as with rattan and bamboo. The Bangladesh Forest Research Institute has developed a propagation technique for patipata, which is economic and has a high success rate. The government sector should come forward to assist interested farmers through technical support and financial assistance to help the patipata-based cottage industries flourish. If managed properly, it will not only attract foreign currency but also create employment opportunities for thousands of unemployed villagers of Bangladesh. (Contributed by: A.Z.M. Manzoor Rashid and Zihan Sabah, Bangladesh.)

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Rubber cultivation and latex production

Latex (raw rubber), a Spanish word meaning milk, is a biological product from rubber trees. About 2 200 unique items have been prepared from rubber and latex. Owing to its importance, the cultivation of rubber plants has spread from its native Brazil to the Indian subcontinent and many other parts of the world.

Latex from *Hevea* species is a hydrosol that contains rubber; it contributes 22 to 48 percent solid rubber excluding watery substances. Rubber tree products have an important role in society and rubber plants are no less important than other forest crops.

In addition to its latex, its wood and seeds, etc. are used for various purposes. A study on the physical properties of rubber wood showed that the timber is suitable for making furniture and is categorized as B-grade timber, i.e. next to teak.

The branch wood, about 40 percent of the total rubber wood, could be used as fuelwood in the domestic sector and in rubber manufacture. Stem wood may be utilized in various industrial uses.

Rubber seeds contain oil, which is about 12 to 16 percent of the total seed weight under commercial conditions. Rubber seed oil is mainly used for manufacturing inferior-quality washing soaps. A small quantity is used in the paint, varnish and leather tanning industries.

Seed cakes are produced in India, where rubber plantations are also prolific honey producers.

Even the rubber factory effluent, a highly polluting substance, may be used as liquid fertilizer in rubber plantations after 60 days of pounding for microbial alteration.

Malaysia tops the list in natural rubber production and the United States in synthetic rubber, with an estimated world production in 1981 of 3.085 million tonnes of natural rubber and 8.06 million tonnes of synthetic rubber. However, emphasis is being given to increasing natural rubber production since the estimated demand for natural rubber in

the twentieth century should have been 6.07 million tonnes. In Bangladesh, owing to its increasing population and rubber consumption, production should be enhanced in existing plantations and more areas need to be brought under rubber cultivation.

Natural rubber is cheaper, more durable and more easily obtained than synthetic rubber. Natural rubber may be obtained from the latex of widely different plant species but some of the genus *Hevea* (family Euphorbiaceae) are particularly known for their quantity and quality of latex. The most popular natural rubber-producing plant by far is the *Hevea brasiliensis* Muell. Arg., a native of Brazil but cultivated widely in many countries and contributing about 99 percent of natural rubber. It is primarily a tropical perennial tree but has acclimatized in many environmental variations.

In Bangladesh, rubber cultivation was introduced during the 1960s. In the National Fourth Five Year Plan, the government proposed to raise rubber plantations to 37 000 ha from the present 20 000 ha of land. Bangladesh has targeted planting about 40 000 ha of land for rubber within 2010. The Bangladesh Forest Industries Development Corporation is maintaining about 1.50, 0.35 and 2.50 million mature, overmature and immature plants, respectively. The organization's goal is to achieve around 5 500 tonnes of rubber per year. National production is currently 3 000 tonnes, with a national target of 7 000 tonnes by 2010, which will meet 40 percent of national demand. Present findings show that carefully selected fertilizer doses can considerably increase latex yield but very little systematic investigation has been made in the country.

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BOTSWANA



Botswana communities rehabilitate arid rangeland, save livelihoods

Standing atop a sand dune, Klaas Matthus can see more dunes almost surrounding Struizendam, his village in Botswana on the border with South Africa. They are bare of vegetation except for the one he is standing on, which has large clumps of grass, trees and shrubs – the dune has been stabilized by a new community resource management committee by fencing out goats and cattle and planting various indigenous species.

People in most remote villages in Botswana, as elsewhere in the arid zones of Africa, depend heavily on natural resources for their livelihoods, as there are few alternatives other than government welfare. But poverty often pushes them to overexploit resources to meet immediate needs.

Mr Matthus, vice-chair of the resource committee, dreams of seeing the sand dunes stabilized so they no longer threaten to engulf houses. Through a regional project to restore indigenous vegetation implemented by the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), with support from other partners, he and his neighbours are beginning to turn that dream into reality.

One of the committee's first priorities was to help the community to draw up an action plan to reverse environmental losses and improve livelihoods. The project covers steps to conserve the whole spectrum of local resources,



including wildlife and products such as fuelwood; grass for grazing and thatching; medicinal plants such as devil's claw (*sengaparile* – *Harpagophytum procumbens*), sold to European markets, particularly Germany, to make medication for controlling high blood pressure; a caterpillar known as phane, a local delicacy sold widely in the region; and the morula tree (*Sclerocarya birrea*), whose nuts are used for oil and sweets, fruit for jam and beverages.

Thirteen other villages hard-hit by environmental degradation have recently completed similar plans. In addition, villages in two areas in Kenya and two sites in northern Mali are following a similar strategy.

All the local plans benefit from indigenous knowledge and traditional land management systems. A key element is for community members to take the lead role in conserving biological diversity and improving income-earning opportunities.

The Global Environment Facility is providing US\$8.7 million for the five-year pilot initiative through UNDP and UNEP, and another US\$3.5 million comes from the German Technical Cooperation (GTZ), the University of Oslo, and the governments of Botswana, Kenya and Mali. (Source: *UNDP Newsfront*, 2 June 2004.)

BRAZIL

Law to regulate the exploitation of NWFPs in Acre state

Non-timber forestry products from areas smaller than 500 ha will now have regulations for product exploitation and commercialization. Acre's Institute of the Environment (IMAC) and the Brazilian Institute for the Environment (IBAMA) signed an interinstitutional agreement that will require that native seeds, fruits, leaves, roots and skins that are destined for medicinal, ornamental, aromatic or industrial uses may not be transported to other regions in their natural form.

IBAMA reported that the concern is to avoid natural resources and dividends for

the state that come from forestry products being freely transported to other regions, without contributing to Acre's development. The new law will permit better control and inspection of NWFPs through sustainable management of the forest. (Source: *O Rio Branco*, 13 August 2004 [in *Amazon News*, 19 August 2004].)

More than 2 million hectares declared protected in Brazilian Amazon

Brazilian President Luiz Inacio Lula da Silva created two new environmental reserves in the Amazon region on 9 November 2004. The reserves are to be classified as "extractivist" reserves, meaning that the local population will be allowed to remain in the area to tap rubber, pick fruits and nuts and extract regenerating goods from the forest. The new reserves will protect more than 2 million hectares in the Amazon state of Pará.

The announcement came on the heels of the release, at the October meeting of the Latin American and Caribbean Forestry Commission, of FAO projections that the region will see less natural forest cover but more protected areas and forest plantations by 2020. (Source: *Linkages Update*, 13 November 2004.) [Please see *Outlook studies* on page 71 for more information.]

Amazonia hype

It is tapicoquina here, boi-bumba there and priprioca over there. The Amazonian influence and the crafts of its indigenous people are everywhere and have begun to win over trend-setters. Brazilian fashion promotes the national identity line: necklaces created with guarana, coco and açai seeds can cost up to \$R 490 in New York City. In addition, Brazilian cosmetics companies are producing soaps made from copaiba and andiroba. (Source: *Jornal do Brasil*, 6 June 2004 [in *Amazon News*, 11 June 2004].)

Amazonia's cosmetics conquer the world Shampoos, conditioners, hair dyes and cosmetics made from Amazonian fruits and plants have begun to occupy the

competitive international market, offering great business opportunities for national manufacturers. Mixing cupuaçu, guarana, copaiba and buriti, cosmetic companies have conquered clients in Europe, Asia and the United States by offering genuine Brazilian products and opening doors for export growth in this sector.

During the last Cosmoprof, a worldwide cosmetic trade fair, Amazonian products drew a lot of international attention. At present, 5 percent of Farmaervas' production is exported, with a projected increase to 15 percent during the next two years; their Green and Amazonia lines use para nut, pequi, copaiba, andiroba, jaborandi and other typical Brazilian plants. Surya Henna presented its line of hair dyes produced from Brazilian fruits and herbs from India; international sales represent 20 percent of their total sales with plans to double its exports this year. (Source: *O Estado de S. Paulo*, 22 April 2004 [in *Amazon News*, 29 April 2004].)



Women to export handicrafts

Women with low incomes from the Pantanal neighbourhood, some of the most needy in Porto Velho, are exporting hammocks, baskets and other pieces made from prime materials from the forest to France, Belgium and the United States. The first cargo sent in March was valued at \$R 30 000. Through the Salesian Socio-education Centre, connected with the Union for Micro and Small business (SIMPI), women learn to make straw baskets and cotton hammocks that are now exported to Europe. They earn US\$35 for every hammock exported. (Source: *O Estado de S. Paulo*, 12 August 2004 [in *Amazon News*, 19 August 2004].)



CANADA

Québec devrait protéger davantage la forêt boréale

Un sondage sur la conservation de la forêt boréale québécoise, menée par l'Initiative boréale canadienne, révèle que trois Québécois sur quatre souhaitent que Québec protège davantage la forêt boréale.

L'organisme vient de publier les résultats d'une vaste étude menée entre le 26 août et le 1er septembre auprès de 626 personnes.

Les Québécois ne sont pas impressionnés par les objectifs de conservation des décideurs. Les résultats du sondage suggèrent que le gouvernement devra faire beaucoup plus.

À l'heure actuelle, Québec protège environ 3 pour cent de la forêt contre l'exploitation commerciale de la ressource. Mais le gouvernement souhaite augmenter cette proportion à 8 pour cent d'ici quelques années.

D'après le sondage de l'Initiative boréale canadienne, 98 pour cent des répondants trouvent que c'est insuffisant. La majorité d'entre eux, soit 65 pour cent, estiment que Québec devrait protéger entre 40 et 80 pour cent de la forêt.

Le sondage nous apprend aussi que les citoyens font peu confiance à Hydro-Québec, aux sociétés forestières et au gouvernement pour assurer l'avenir de la forêt. Ce sont plutôt les organismes de conservation et les Premières Nations qui ont l'aval du public.

Autre bémol à signaler: en 2003, 30 pour cent des répondants à un sondage similaire avouaient avoir beaucoup entendu parler de la forêt boréale. Cette année, cette proportion est descendue à 24 pour cent, alors qu'un répondant sur cinq n'a tout simplement pas entendu parler de la forêt boréale. (Source: Radio-Canada.ca, 19 octobre 2004.)



The Centre for Indigenous Environmental Resources

The Centre for Indigenous Environmental Resources (CIER) is a First Nation-directed environmental non-profit organization, based in Winnipeg, Manitoba, Canada. It was created by a small group of First Nation leaders, who felt it was critical for First Nations, and other aboriginal people, to have access to a technical environmental organization.

There are approximately 418 million hectares of forested land in Canada. These forested areas are home to approximately 80 percent of aboriginal peoples in Canada. CIER believes that sustainable forestry development is a viable venture for long-term economic development and employment for some First Nations. Their staff have experience and expertise in many fields, including non-timber forest products and ecotourism.

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CHINA

China to restore forest coverage to 19 percent by 2010

The Chinese Government has set an ambitious goal in its forestry restoration work, saying that it will improve its current forest coverage rate of 16.55 percent to more than 19 percent in the coming six years. Other goals include restoring national forest coverage up to 23 percent by 2020 and to 26 percent by 2050. Much of China's natural forests have been destroyed to make way for economic development. Over the past half century, China consumed 8.6 billion cubic metres of forestry resources, producing more than 5 billion cubic metres of timbers for construction. In the process, the country's forest coverage

rate dropped to 62 percent of the world's average. (Source: Xinhuanet, 19 July 2004 [in Community Forestry E-News, 2004.07].)

Work begins on major collection of Chinese biodiversity

China began building a repository to house samples of its biodiversity this week. It hopes that the centre will become one of the largest collections of its kind in Asia and a world-class research centre.

Based at the Kunming Institute of Botany in China's southwestern Yunnan province, the collection will include samples of 19 000 species. Most of these will be collected from Yunnan province – which is home to more than half of China's biodiversity – and from the neighbouring Tibet Autonomous Region. It will eventually include nearly 200 000 samples in seed and DNA banks, a collection of living plants, and specimens of animals and micro-organisms. It is expected that it will take between ten and 15 years to collect all the specimens.

The project is being jointly developed and managed by the Chinese Academy of Sciences and Yunnan's provincial government at a cost of 148 million yuan (US\$18 million). According to the academy's Web site, the repository will oversee foreign research on China's genetic resources. In recent years, Chinese media reports have repeatedly accused foreign researchers of biopiracy – gaining benefit from a country's biological resources without fair compensation. (Source: SciDev.Net, 3 December 2004.)

COLOMBIA

Colombia debt swap yields US\$10 million for tropical forest conservation

Colombia unveiled a debt-for-nature swap with the United States that will allow it to invest at least US\$10 million over the next 12 years to protect nearly 4.5 million hectares of its tropical forests. Under the agreement, the United States



Department of the Treasury will contribute US\$7 million to the deal, while Conservation International's Global Conservation Fund, Nature Conservancy and the World Wide Fund for Nature will contribute an additional US\$1.4 million.

The funds will go towards cancelling part of Colombia's debt to the United States. In exchange, Colombia will invest at least US\$10 million to protect tropical forests in key areas of the Andes, the Caribbean coast and the llanos (plains) along the Orinoco River. Colombia is one of the five most biologically diverse countries on the planet, harbouring one of every ten species of plants and animals in the world.

Under the agreement, Colombia will commit half the funds to financing local environmental organizations that are working in selected areas. The other half will go towards the Fondo Patrimonial, or Heritage Trust, which the government expects to use as leverage for additional loans of up to US\$40 million that will guarantee the long-term financial sustainability of Colombia's existing protected areas.

Funds from the debt swap will be focused in three areas key for tropical forest conservation. In the tropical Andes, funds will go towards 1.7 million hectares that are home to some of the nation's last remaining stands of oak. In the llanos of the Orinoco River basin, the funds will go towards the 1.4 million hectare Tuparro National Park and its buffer zone. A UNESCO Natural Biosphere Reserve since 1979, the park is also home to dozens of unique species. Along the Caribbean coast, conservation efforts will focus on 1.3 million hectares, including the world's highest coastal mountain range, the Sierra Nevada de Santa Marta.

Debt-for-nature swaps were established under the Tropical Forest Conservation Act (TFCA) of 1998 to allow nations to reduce their foreign debt burden in exchange for making local-currency investments in conservation work. In the past, Bangladesh, Belize, El Salvador, Panama, Peru and Thailand have benefited from the TFCA. (Source: CEPF E-News, June 2004.)

CÔTE D'IVOIRE



Knowledge of our ancestors

In the close and humid forest of the Taï National Park there are a large number of trees, shrubs, lianas and herbaceous plants to which medicinal qualities are ascribed. However, the knowledge of these qualities is fragmentary because traditional African medical knowledge is passed on by word of mouth from generation to generation within the family circle. This constitutes a real cultural heritage. Often, the healers save their knowledge jealously to ensure their own authority and to benefit from the use of the plants. Some of them have a high reputation, but refuse to spread their knowledge and disappear without having ensured that their secrets are passed on.

Thanks to observations and ethnobotanical studies, knowledge of the medicinal plants has improved and some achievements of the traditional medicine can be saved.

But the forest is also a reservoir of plants that can ensure our future. There is, for example, a wild coffee plant growing in the Taï forest that could become very important if the coffee plantations were to be affected by a serious disease. (Source: Paroles de Forêts (Forest Wisdom) newsletter, No. 2, June 2004.)

DEMOCRATIC REPUBLIC OF THE CONGO

Stop the carve up of Congolese forests

New laws and "re-zoning" of the Democratic Republic of the Congo's forests being developed during 2004 threaten millions of hectares of rain forest and the rights of the people living in them.

Improvements in Congolese forest laws could be an opportunity to ensure that local forest communities' rights are properly protected. However, there is a real danger that it will only be the logging companies that are the winners.

"Pygmy" peoples urged World Bank President James Wolfensohn to halt plans that could unleash a wave of destruction on the rain forests of the Democratic Republic of the Congo where they live. They put their case directly to Mr Wolfensohn during a video conference organized by the Rainforest Foundation UK, which is challenging Bank plans for a massive increase in industrial logging in the country. The Bank is pushing through new laws and a "re-zoning" of the Congolese forests – the second largest in the world – that could see up to 60 million hectares (an area the size of France) handed out to logging companies.

"You must not forget that the lives of indigenous peoples depend on the forest," Adolphine Muley of the Congolese Union of Indigenous Women (UEFA) told the World Bank President. According to the Bank's own estimates, as many as 35 million of the 50 million Congolese people depend on the forests for their very survival.

Responding to these pleas, James Wolfensohn pledged the Bank to further discussion with Congolese people and non-governmental organizations about the future of the country's rain forests. (Source: Community Forest Resource Center, 15 July 2004.)

Condemnation of rain forest logging

British Member of Parliament Bob Blizzard yesterday said in a Westminster Hall debate that "there was no chance at all" that a World Bank-backed plan to "develop" the rain forests of the Democratic Republic of the Congo would bring any benefits to impoverished local people. Instead, the planned expansion of the timber industry would, the MP said, damage the livelihoods of some of the poorest people on earth, including those of local "Pygmies".

The parliamentary debate followed a visit to Congolese rain forests by



members of the All-Party Parliamentary Group on Great Lakes and Genocide Prevention. The group also announced the publication of a new report, *To elections and beyond*, which details the group's visit to the Democratic Republic of the Congo and sets out their recommendations on the future of the country's vast rain forests. The report calls for the continuation of a moratorium on the issuing of any new logging concessions in Congolese forests.

***To elections and beyond* is available online (www.appggreatlakes.org). The report also recommends that the World Bank, in conjunction with the Ministry of Environment and local civil society organizations, send monitors into the forest to ensure that local people are consulted and acknowledged as residents. It also calls for international donors, the United Kingdom Department for International Development especially, to fund a comprehensive study in order to provide an estimation of the value of the forest, based not only on the commercial worth of its timber, but also on the value of forest products such as animal products, vegetable foods, building materials, medicinal plants and fuelwood, as well as ecological functions and services such as watershed maintenance and biodiversity protection.**

Responding to the debate, the Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs said that he would draw the attention of the World Bank to the concerns raised by the Members of Parliament. The Director of the Rainforest Foundation UK welcomed the United Kingdom Government's commitment to raising concerns with the World Bank about the future of the Congolese rain forests and said that, as a major shareholder in the Bank, the government has a

responsibility to ensure that United Kingdom taxpayers' money will not be spent on destroying Congolese rain forests and wrecking local peoples' livelihoods. (Source: Press Release, The Rainforest Foundation, 14 December 2004.)



GHANA

Forest watchers call for more transparency and accountability

The Ghana Forest Watch, a coalition of concerned civil society organizations, says more transparency and accountability are absolutely necessary to curb the massive destruction of Ghanaian forest.

The spokesperson of the coalition, Albert Katako, described the state of the Ghanaian forest as alarming, saying in the last century the rate shrank from 8.2 million to 1.8 million hectares in the whole country. According to him, 80 percent of the forest had been destroyed. Only 20 percent, including wildlife reserves and protected areas, are healthy.

The timber industry, he said, is currently felling trees at four times the sustainable rate. He cautioned that if nothing is done now to curb the wanton felling of trees "Ghana's forest will disappear completely in five to ten years."

Mr Katako, who is the coordinator of CARE International's Forest Resources and Livelihoods programme, said that 70 percent of Ghana's rural population, the poorest segment of the society, depend on forest for their livelihoods.

The Forest Watchers urged the Forestry Commission to perform its role as an organization that conserves and develops the forest and wildlife resources in Ghana, including creating, protecting and managing the permanent forest

estates and regulating the harvesting of timber. (Source: *Ghanaian Chronicle* [Accra], 7 April 2004.)

People living beside rain forests in Ghana receive more protein from forest products than from crops or livestock. (Source: Peoples and Forests, FAO.)

Ghana's forest resources under threat

The country's loss of more than 75 percent of its original high forest cover and other valuable structures and resources through wildfires has been blamed on human activities and climatic hazards. The remaining 25 percent of the forest resources still faces enormous threat owing to rapid population growth, general disregard of environmental conservation, improper disposal of industrial and domestic waste, illegal and uncontrolled logging and the annual ritual of wild and bush fires. (Source: *Ghanaian Chronicle* [Accra], 17 June 2004.)

INDIA

Greener pastures for forest tribals

The recent announcement of the state government allotting all minor forest produce – such as herbs, lichens, honey, tubers, tamarind fruits, etc. – free of cost for the tribals has provided livelihoods for the people and prevented them from degrading the forests the way they had been doing for generations.

By coopting villagers in the task of forest and environmental protection, the forest department has helped to expand their horizons. (Source: *News Today* [Chennai, India], 12 October 2004 [in Community Forestry E-News 2004.10].)

Non-wood forest product collection, utilization and value: evidence from a protected area in India

Non-wood forest products (NWFPs) are particularly important as a source of



livelihoods for indigenous and other local people living in and around protected areas. A recent study by C.S. Shylajan examines the nature and extent of NWFP collection in a protected area in India. The collection trend of some major NWFPs was examined over a period of time. Owing to the high demand for some NWFPs from Ayurvedic companies, selected products (especially medicinal plants) have increasingly been extracted by the forest dwellers.

The paper also discusses the present institutional mechanism for managing NWFPs in the study site and observes that proper institutions are needed for regulating the unsustainable and destructive extraction of highly demanded NWFPs from the protected area. An analysis of overall dependence on protected areas shows that two major indigenous communities (Kattunaikan and Paniyan) with differing expertise in collection depend heavily on forest products for their livelihood needs. Annual household income generated from NWFP collection for these two communities is estimated at Rs 9 542 (US\$208.88) and Rs 1 936 (US\$42.39), respectively.

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Quantification and financial valuation of non-timber forest product flows

A study was undertaken in the Uttara Kannada district, one of the Western Ghats (a biological hot spot), Karnataka, to evaluate the flow of non-timber forest products (NTFPs). A wide diversity of NTFPs was collected in the different forest zones of the district. The diversity, however, varies with availability and local knowledge systems. Significant quantities of NTFPs are gathered in all the four zones and the financial value realized per hectare ranged from Rs 634 in the dry

deciduous zone to Rs 1 801 in the evergreen zone with a mean of Rs 1 159 per hectare per year. (*Source:* Abstract of a paper by I.K. Murthy, P.R. Bhat and N.H. Ravindranath.)

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Government preparing model legislation on non-timber forest products

Model legislation was being prepared for adoption by states conferring rights in respect of non-timber forest products for weaker sections working in the forests. The legislation will safeguard the legal rights of tribal communities over mineral and water resources and protect their livelihoods.

The Draft National Environment Policy has been formulated by the Union Environment and Forests Ministry and is intended to be a guide to environment protection throughout the country, while at the same time taking care of the livelihoods of the poor.

An Action Plan was being developed to increase the country's forest and tree cover from about 23 percent of the land area to 33 percent by 2012. (*Source:* *Team India*, 4 November 2004 [in Community Forestry E-News 2004.11].)

IRELAND

Non-wood forest products in Ireland

In Ireland, limited markets already exist for a variety of non-wood forest products such as game, fruit, fungi and foliage; however, these are at the earliest stages of development. The National Council for Forest Research and Development (COFORD) recently launched a new publication, *Markets for non-wood forest products*. The publication examines the potential markets for the main categories of non-wood forest products.

Forest foliage. The report defines the foliage market in the United Kingdom and

Ireland as being worth €195 million. Market information suggests that there are opportunities for the development of foliage as a subsector of the forestry industry; however, a strategy must be developed to realize these opportunities. In this strategy, technical research, market research and enterprise need to be developed in a coordinated way.

Forest tourism. Irish forests provide opportunities to engage in a range of outdoor pursuits and the overall picture is that forestry plays a very important role in tourism and particularly recreation in Ireland.

Alternative health care. In the last ten years there has been an enormous increase in the popularity of alternative health care. A wide range of herbs can be grown under a forest canopy including some that are top selling in world markets. Some of these are successfully grown in other countries but their cultivation under Irish conditions has yet to be established. A number of Ireland's native trees including ash, birch, cherry, elder and yew have long traditions of use in alternative medicines, according to the report.

Oils and oleoresins. Essential oils are aromatic oily liquids obtained from plant material such as flowers, buds, seeds, twigs, leaves, bark, woods, fruits and roots. They are used in the food industry as flavouring, in the perfume industry for fragrances and in the pharmaceutical industry for their functional properties. The report concludes that there is little or no potential for import substitution in this sector as the main imported oils into Europe are orange, lemon and lime, which are sourced from warmer fruit-growing countries.





Edible forest products. Forests generate a number of wild edible products. The report concludes that data on wild foods are hard to find, however it goes on to state that those that are harvested from the forest include berries, nuts, mushrooms and maple syrup. These foods are harvested in developed and developing countries. The need for ongoing market intelligence regarding trends in wild food products is highlighted.

This report is the first comprehensive examination of the area of NWFPs in an Irish context. Recently, the area of NWFPs has been receiving extra attention in the media and in his report, *A review and appraisal of Ireland's forestry development strategy*, author Bacon highlights the non-timber value of forestry.

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JAPAN

Mountain forests imperilled by increase in deer population

Mountain forests across Japan are being endangered by an increased number of deer feeding on grass and trees. Huge trees are dying in the Tanzawa mountain area, a famous hiking spot, after deer gnawed off their bark. In many areas of the forest, there are now sweeping vistas unbroken by any trees. Bamboo and other bottom grasses covering the land were also devoured.

Global warming and animal protection are considered the main causes of the increase in the deer population. Damage caused by deer could lead to secondary damage such as soil erosion, and some local governments are considering lifting the ban on hunting to control the number of deer. (Source: *CFRC Weekly Summary*, 23 September 2004.)



JORDAN

Jordan conserves forest and helps communities' livelihoods

Jordan is creating a nature reserve in one of the largest natural forests remaining in the kingdom to conserve habitat for endangered species and generate jobs in tourism and enterprises making wood products without damaging biological diversity.

The Dibeen forest north of the capital Amman, one of the best examples of pine-oak woods in the region, is home to at least 17 endangered species, including grey wolves, imperial eagles and other migratory birds, Persian squirrels and wild orchids.

Deforestation is an acute problem, and Jordan has less than 1 percent of its original trees, making conservation a priority.

Eight square kilometres will come under protection, part of a broader effort to create a unique regional forest park covering 200 km² in three local municipalities: Jerash, Al Meirad and Burma. The reserve is near the ancient Roman city of Jerash, a popular tourist destination, which can help draw visitors to enjoy its natural beauty. It will have a headquarters, visitor centre, camping area, trail system and parking facilities.

Local communities will learn to use the forest's resources in ways that conserve the environment, curtailing excessive timber cutting, grazing, hunting and trapping of wildlife and gathering of wild herbs.

The Global Environment Facility is providing US\$1 million for the four-year project and UNDP US\$100 000, with in-

kind contributions from Jordan's Royal Society for the Conservation of Nature and other local organizations.

The project includes preparation of by-laws and a land use plan and setting up a management team to run the reserve. (Source: *UNDP Newsfront*, 13 April 2004, newsfront@undp.org)

KENYA

Kenya Association of Forest Users (KAFU)

KAFU was established as an umbrella organization that could bring together all stakeholders working towards sustainable agriculture, land and forest use to address issues related to quality, pricing and marketing on a continuous basis.

The mission of KAFU is to provide a forum for sustainable production, utilization, certification and marketing of forest and tree products in Kenya through capacity building, information and experience sharing, and policy advocacy. One of KAFU's priority areas is to unlock trade opportunities for non-timber forest products, conservation and organic products by putting in place a Kenyan movement for certification and marketing of non-timber forest products, conservation and organic products.

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MADAGASCAR

Projects to boost food security, conserve environment

Madagascar is to benefit from two funding initiatives that aim to boost food security and harness the ecotourism potential of the island.

The World Bank has announced that it had approved an International Development Association (IDA) grant of



US\$40 million, as well as a US\$9 million Global Environment Facility (GEF) grant, of to support the implementation of Madagascar's National Environment Action Plan. The IDA is the Bank's financing arm for the poorest countries, while the GEF is a mechanism for providing grant and concessional funding to meet the incremental costs of initiatives for achieving global environmental targets.

The World Bank said in a statement that its grant "constitutes the single largest concessional financing package for the environment provided by the Bank in its 60-year history", and habitat protection and biodiversity conservation were expected to contribute directly to poverty reduction and economic growth in Madagascar.

Apart from expanding Madagascar's protected areas network, the programme will establish conservation sites in natural forests, and transfer forest management responsibilities to communities. "These will be complemented by measures aimed at reducing existing pressures on natural forests, including reforestation and the scaling-up of the usage of efficient wood-fuel technologies," the Bank said, adding that "biodiversity conservation efforts are essential in unleashing the significantly high revenue-generating potential of the ecotourism sector in Madagascar." (Source: *UN Integrated Regional Information Networks*, 13 May 2004.)

MALAYSIA

Nomadic Malaysian tribe tells of life in the forest

Aina Ikeda (not her real name) launched her oral history collection project in Sarawak near the border of Kalimantan, which is known as the place of origin of the Penans, said to be the last nomadic people on earth. Only about 400 of the 10 000 Penans still follow their traditional nomadic lifestyle. Penan guardianship of the forest and its natural resources is reflected in the custom of "molong" that requires an individual or community to

control the use of resources for the sake of future generations, and is visualized by a special symbol created by natural materials such as rattan.

The forest provides the Penans with all their needs for survival – food, shelter and medicine – but it is threatened by logging activities. The village studied by Ikeda has already lost nearly half of its communal forest area and a road now crosses their land. The Penans have demanded that the government protect the forest, which they claim belongs to them as communal property and not to the concessionaires. Timber products are a major source of Sarawak's income and, according to the International Tropical Timber Organization, Japan imported 40 percent of its timber products from the state in 2002. (Source: *Daily Yomiuri*, 1 May 2004 [in Community Forestry E-News, May 2004].)



MOROCCO

Environmental impact of the cosmetic valorization of the leaves of *Argania spinosa* (L.) Skeels

Argania spinosa (L.) Skeels is an endemic tree from southwestern Morocco, covering about 830 000 ha in a semi-arid region. The forests are mainly state-owned with a large right of use for local people. It is a multipurpose tree, its main product being a high-value oil produced from seeds. The low density of the stands allows agriculture, mostly cereals, on the forest ground. Human pressure on the ecosystem is consequently high. A Biosphere Reserve of argan forest was created in 1998 to preserve the forest as a unique ecosystem against desertification.

The increasing economic value of argan forest products may encourage people to preserve the forest and strengthen local development. The use of the leaves in cosmetics is an additional economic benefit of the argan tree. Its impact has been calculated in a study on the global context of the argan region, the implementation of an experimental site to follow up the reaction of argan trees after harvesting the leaves, and an analysis of different ways of obtaining a supply of argan leaves.

The experiment consists in the measurement of the length of the current year's twigs as a good marker of the trees' growth. These are easy to recognize since they have a red colour because of the non-lignified wood and simple leaves, whereas older twigs have grouped leaves. The bloom on those twigs is also measured: 32 twigs were measured per tree. The experimental site was implemented on 1.2 ha of argan forest. On one third of the trees 700 to 800 g of fresh leaves per tree were harvested, on another third 350 to 450 g and on the remainder there was no harvesting. The harvesting and measurement experiment are to be repeated each year for at least four years.

Three methods for regulating the supply of leaves have been studied:

- Harvesting leaves directly from the trees. This creates two sensitive points: the difficulty of controlling the quantity cut off per tree and of obtaining an official permit as there is no clear provision in the legislation.
- Collecting leaves that are turning yellow and falling off naturally during the summer. The difficulty is the great variation in the behaviour of argan trees, which does not ensure a regular supply.
- Finally, the best way of collecting the leaves with the lowest environmental impact: according to legislation and local practice, leaves should be taken from the branches which have been lopped during silvicultural operations.

In conclusion, the value of argan leaves in the cosmetic industry could finance the silvicultural operations and would thus have a positive environmental



impact. In this way, the argan oil cooperatives involved in the project could provide the supply of leaves in a sustainable way.

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NAMIBIA

World Bank grant for community-based ecosystem project

The World Bank this week approved a US\$7.1 million Global Environment Facility (GEF) grant to Namibia for scaling up community-based ecosystem management to the benefit of rural people. The grant is a part of a total US\$32.43 million intended for the project, with contributions from the Namibian Government, the French GEF, USAID and the German Development Bank (KfW) making up the balance.

The five-year initiative to improve rural livelihoods, promote sustainable environmental management, biodiversity conservation and sustainable land use will run as part of Namibia's Community Conservancy programme.

The project encompasses the development of community-based tourism facilities, including joint ventures with the private sector, trophy hunting, game meat production, the commercialization of indigenous plants and craft production.

(Source: *UN Integrated Regional Information Networks*, 3 June 2004.)

Conservancies a major success

Community-based conservancies such as those in Uukwaluudhi in Kaokoland, the Nyae-Nyae, Salambala and Torabaai are just a few which have successfully managed to create what the Permanent Secretary in the Ministry of Environment and Tourism, Dr Malan Lindique, termed "community based-entrepreneurism". He indicated that the Ministry of Environment

and Tourism, together with non-governmental organizations and the private sector, have had substantial success in the 31 registered conservancies in the country.

Eighty percent of the income derived through wildlife tourism is ploughed back into the community. Sustainable development means development that meets current needs, without compromising the ability for the future generations to meet their own needs. In the light of this, conservancies having trophy hunting, community campsites and mid-market lodges have become a viable industry in the country.

The decade has been fruitful for community-based tourism ventures, where revenue of up to US\$5 million was generated, employing close to 100 000 Namibians. Trophy hunting also generates an income of \$N 160 million (about US\$64 million) annually. Under the 2001 Forest Act, provision has also been made to proclaim the first 15 community forests before the end of this year. (Source: *New Era* [Windhoek], 27 October 2004.)



Torra Conservancy wins UNDP award

Namibia's Torra Conservancy has made history by becoming the first southern African rural community to win the prestigious US\$30 000 UNDP Equator Prize. The Equator Prize, which was first introduced in August 2002, honours outstanding community projects that effectively reduce poverty through conservation and sustainable use of the biodiversity-rich equatorial belt. Torra Conservancy comprises the Damaraland Community, who were one of the first communities to form a community

conservancy in Namibia in recognition of the need to protect wildlife and other natural resources on their land. (Source: *Zimbabwe Standard* [Harare], 21 March 2004.)

Harvesting and processing of indigenous fruits shows promise

An FAO project is helping to improve the use of wild fruit-trees to supplement diets and incomes in rural communities.

The Caprivi region comprises 500 km of grass and forests, irrigated by the Okavango and Zambezi rivers whose seasonal flooding forces people to evacuate their homes and lands each year. The northeastern communities cultivate sorghum, millet and maize on the fertile ground, but the nearby bush and forests have always been an important source of nutritious wild fruits. In the regions of Caprivi and Kavango, about 66 wild fruit-tree species have been identified that contribute to the daily diets and income of the local communities, mostly during the rainy season when the crops are not ready for harvest.

"The Kavango and Caprivians have beyond a doubt accumulated sound traditional knowledge and understanding on the utilization of their indigenous fruit-tree species," recognizes Syaka Sadio, an FAO forestry expert, who initiated and supported a two-year community-based project to assist the Namibian Government in enhancing the contribution of indigenous fruit-trees to food security.

The project, "Domestication, post-harvest handling and marketing of selected indigenous fruit tree species", implemented from 2002 to 2004 by the Namibian Government with technical support from the Forest Conservation Service of FAO's Forestry Department, aimed to provide local communities and national institutions with improved technologies for wild fruit-tree domestication and processing for sustainable livelihoods.

According to Mr Sadio, project activities included transfer of technology and capacity building through the exchange of knowledge and training for professional staff and communities in the



selection and domestication of fruit-tree species and in the harvesting, storage, processing and marketing of fruit products. "Further attempts should be made, however, to improve genetically and propagate the three selected fruit-trees – marula (*Sclerocarya birrea*), eembe or bird plum (*Berberia discolor*) and monkey orange (*Strychnos cocculoides*) – most preferred by local communities for their fruit quality and other desirable characteristics."

Through training, the project enhanced the skills of local women in harvesting and processing the fruit. "We used to only eat them fresh and throw the seeds away," recalls Dorothee Manyemo-Maluta, a women's group leader in Kasheshe, near Katima, Caprivi region. "Now, with the training here and a study tour I made last year in Malawi, where I learnt from other women, I can make juice, jam, jelly or drinks from marula," she says. Dorothee sells pots of eembe jam to her neighbours for \$N 10 (US\$4) each.

However, it will take some time before women's groups become independent of the Directorate of Forestry and rent their own location for fruit processing and marketing activities. John Sitwala, Senior Forestry Officer at the Katima Regional Office of the Namibian Directorate of Forestry, appealed to all local stakeholders to invest in indigenous fruit-tree species for the benefit of local communities, domestic trade and environment protection through the preservation of the plant biodiversity. (Source: FAO Newsroom, www.fao.org/newsroom/en/field/2004/47587/index.html)

NEPAL

Ecogeographical distribution of rattan

Many species of rattan are believed to be native to Nepal; however, nine species have been reported in Nepal, five of which have been taxonomically identified and validated with the help of a rattan scientist.

Rattan is mainly distributed in tropical to subtropical climates and even in temperate climates: Tarai (plains) and the mid-hills (mountains). Evergreen, semi-evergreen and tropical deciduous forest is the most suitable habitat for rattan. Rattan is found both in forested areas and in pure form. In the Tarai, rattan is found where there is abundant rainfall and a warm climate: it prefers a perennial source of water and well-drained soil. Thick-sized rattans (*Calamus inermis* and *Calamus leptospadix*) are associated with evergreen tree species, at roughly 800 to 1 850 m altitude where there is difficult terrain forming a basin and a generally southeast-facing aspect. In Dhorbarahi, Tanahu district, *Calamus inermis* also thrives on rocky terrain where there is no visible soil for the roots. Sunlight is the most important factor for rattan growth, although fairly shaded places produce satisfactory growth for some species of rattan. It has been observed that rattan always prefers clean running water: no rattan has been observed growing in stagnant water. Rattans are distributed in more than 28 districts of Nepal, mainly in the eastern, central and western regions, with varying population status.

The rattan species reported and identified in Nepal are: *Calamus tenuis*, *Calamus leptospadix*, *Calamus acanthospathus*, *Calamus latifolius*, *Calamus erectus*, *Calamus khasianus*, *Calamus inermis*, *Calamus gracillis* and *Plectocomia himalayensis*.

The rattan species that have been identified and validated in Nepal are:

Calamus inermis is mostly found in the mid-hills of well-drained areas associated with evergreen tree species on southern aspects and slightly steep-sloping land at an altitude of around 800 m. The

population status of this species is very poor.

Calamus latifolius is found on hill slopes of evergreen forest in the mid-hills. It grows well on moist sandy loam soils, and performs well in shade. The condition of this species is very poor; only four to five clustered clumps were recorded.

Calamus leptospadix is found in swampy areas near permanent water sources in the moist deciduous *Shorea robusta* forest. The population is in a degraded condition. Only about ten clustered clumps were recorded during a field visit.

Calamus tenuis is common in the lower hill valleys especially near permanent water sources, dams and seasonal swampy areas. It is mostly associated with the species of riverain tropical forest such as *Bombax ceiba*, *Syzygium cumini*, *Albizia* spp., *Acacia catechu* and *Dalbergia sissoo*.

Calamus acanthospathus prefers slightly moist areas. Associated species are those of evergreen forest, mainly *Syzygium cumini*, *Trewia nudiflora*, *Terminalia alata* and *Bombax* spp. Only single clustered clumps of this cane were recorded during a field visit. According to local people, they harvest before flowering and fruiting when the cane is ready for rope making or sticks.

Habitat destruction is the major threat to the biodiversity of Nepal. Perennial water springs, waterholes, ponds and swampy lands with well-drained places are a suitable habitat for rattan. During the last two decades, more than 10 000 ha of rattan habitats have been converted into agricultural and resettlement areas in rattan forests with high potential in Nepal. Similarly, overexploitation and premature collection of rattan is another threat. Biological characteristics and external influences are other factors: *Calamus leptospadix* and *Calamus latifolius* are





generally found on the stream side of the mid-hills. Their geographical distribution inhibits the possibility of seed dispersion elsewhere. Inside the managed forest biological diversity has improved considerably. (*Contributed by:* Chhote Lal Chowdhary, NTFP Research Officer, Conservation of Medicinal and Aromatic Plants for Sustainable Livelihood in Nepal [CMAPSL]/ Canadian Center for International Studies and Cooperation [CECI], Kathmandu, PO Box 2959, Nepal; e-mail: clc_9@mail.com)

PANAMA

Expanding opportunities for the Naso people

With assistance from the Critical Ecosystem Partnership Fund (CEPF) as part of its strategic approach to connect critical areas through economic incentives in southern Mesoamerica, the indigenous Naso (Teribe) people are developing, managing and marketing their Wekso Ecologde. The lodge is located on the border of La Amistad Biosphere Reserve near Bocas del Toro, Panama, a priority focus area for CEPF in the Mesoamerica biodiversity hot spot. La Amistad has one of the highest rates of unique species in all of Central America and greater biodiversity than most other areas of equal size anywhere in the world.

The Naso live in small communities along the Teribe River next to La Amistad International Park and the Palo Seco Forest Reserve. These two protected areas, together with the soon-to-be-declared Comarca Naso (or Naso indigenous reservation), form part of the larger Biosphere Reserve.

For hundreds of years, the Naso have enjoyed the riches of the forest – hunting, fishing, cutting trees and extracting plants. With a population of approximately 3 500 and a unique form of government – the only nation in the Western Hemisphere ruled by a king – they have, until recently, been able to sustain themselves well.

However, in the mid-1990s, they began to see their world changing in ways they did not like. “We live here because we like

the forest,” relates Eliseo Vargas, a member of the Organización para el Desarrollo Ecoturístico Naso (ODESEN, or the Organization for the Sustainable Development of Naso Ecotourism), established in 1995 to develop community-based ecotourism to generate income and improve the lives of the Naso people. “We have always used the forest to satisfy our needs, but until recently we didn’t notice that we were harming it,” Vargas says. “As a result of the environmental education we have received, we now realize that to continue to live here, we need to find alternative lifestyles that do not endanger the forest.”

The Wekso Ecologde will offer ecotourists an opportunity to experience the vast biodiversity and cultural diversity of inland rain forest while also contributing to its conservation.

The partnership aspect of the project extends beyond the ecotourists, the Naso people, ODESEN and CEPF. It includes the Autoridad Nacional del Ambiente (the Panamanian National Authority of the Environment) and another Naso non-governmental organization, the Asociación de Médicos Tradicionales Naso (the Association of Traditional Naso Healers). The association, known as ASOMETRAN, was established to conserve and revitalize the centuries-old knowledge and practice of shamanism and medicinal plants use.

During its eight-year existence, ASOMETRAN has established medicinal plant gardens in three Naso communities; participated in a series of educational exchanges with traditional healers from other communities and indigenous groups; and established a small herbarium of dried plants – activities helped with support from Conservation International and the International Cooperative Biodiversity Group.

Its members are also seeking to further their work in collaboration with the Wekso Ecologde. They hope to improve and amplify their gardens and open them up to visitors. In addition, they plan to produce a book on medicinal plants and Naso culture and establish a 10 ha medicinal plant forest. These activities

will enhance ODESEN’s ecotourism programme, will permit the Naso to generate income from the forest and will contribute to the conservation of natural forest and Naso culture. (*Source:* CEPF E-News, April 2004.)

PHILIPPINES

Common tropical plants yield new natural dyes

Common plants could help cut the Philippines’ reliance on imported synthetic dyes and reduce the pollution they cause, according to researchers there.

The scientists, from the Philippine Textile Research Institute (PTRI), have identified 26 plant species – including mangrove trees, a type of onion, and guava and cashew nut trees – that could be used to produce high-quality natural dyes. PTRI, an institute of the Philippine Department of Science and Technology, has also developed techniques for efficiently extracting the dyes.

The species are widely distributed in the Philippines and in other tropical countries in Africa, Asia and Latin America and can be easily cultivated in humid regions.

The textile industry discharges toxic waste into water systems and, according to the Philippines Department of Environment and Natural Resources, is one of the main sources of environmental pollution. This is due in part to the use of synthetic dyes, which are more abundant, cheaper and easier to apply than natural dyes. The Philippines has been importing most of its dyeing, tanning and other colouring materials because of the absence of local manufacturers of either synthetic or natural dyestuffs, PTRI reported.

To address this problem, PTRI has been collaborating with other agencies to develop technologies for extracting and applying natural dyes. “The government should continue its efforts to revive the natural dyeing technology, not only in order to cut down the country’s reliance on synthetic dye imports but also to



explore benefits that can be derived from indigenous sources," PTRI said.

The Philippine Textile Research Institute is compiling a book containing information about the plants and their applications. (Source: SciDev.Net Weekly Update, 25–31 October 2004.)

RUSSIAN FEDERATION

Russian far east: NTFP small business development project

Over the past three years the IUCN-CIS Forest Conservation Programme has been involved with a community economic development project focused on the Kamchatka Peninsula and Sakhalin Island. (This project is one component of the larger project Building Partnerships for Forest Conservation and Management in Russia, funded by the Canadian International Development Agency (CIDA) and managed by IUCN–World Conservation Union.)

The activities in the Russian far east are aimed at assisting remote communities of the region to develop their non-timber forest product resources sustainably. Since the early 1990s, communities on the Kamchatka Peninsula (and elsewhere in the country) have experienced an economic decline, made worse by the withdrawal of federal support to outlying regions and traditional resource use such as reindeer herding.

In our project, NTFPs are viewed as one part of a local sustainable livelihood strategy (including tourism, cultural activities, hunting and herding). We provide business and legal issues training, consultation on small business and community-based enterprise development, and support for sustainability and monitoring programmes. It is the hope of project participants that the successful development of these opportunities will decrease the pressure to move forward with potentially damaging resource exploitation activities, such as gold mining and oil extraction within or close to the World Heritage Sites.

The project is focusing on groups of people who have not normally had the

chance to participate in small business or natural resource management – indigenous people and women. It is the intention of all involved that, over time, local community groups will take over production and marketing activities. Four family and cooperative NTFP-based businesses have already been started by native communities on Kamchatka with the assistance of the project. Started from scratch, these businesses are now marketing their products – so far these are herbal teas, dried wild berries and birch bark souvenirs within the Russian Federation and abroad.

About 400 people are involved as experts, trainees and participants of other project activities. We hope that the project will make a contribution to the development and implementation of the global approaches to sustainable community development and poverty alleviation. (Contributed by: Nikolay Shmatkov, Russian Federation and Tim Brigham, Canada.)

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Non-wood forest products in Kamchatka region

Kamchatka's forests are located mainly in the valleys and basins of spawning rivers and streams and play an important role in conservation. Forests cover 42 percent of the Kamchatka region. The main tree species are larch (Kamchatka and Cayander's), Ayan fir, birch (white and stone), aspen, sweet poplar, chosenia (a member of the willow family), Sakhalin willow, elfin cedar and alder. The forest cover has remained relatively stable throughout the region, and generally fulfils its function in the ecosystem; however, it cannot be allowed to decrease.

Forests are a multipurpose resource and are also a source of non-wood forest resources, e.g. nuts, fruits, berries and other food and medicinal plants. Twenty-one shrub species, such as blueberry, lingonberry, honeysuckle, rose, mountain ash, cloudberry, cranberry and currant, are economically important. About 70 percent of the harvested berries consist of lingonberries, honeysuckle and blueberries. (Source: *Kommersant*, 8 December 2004.)

SOUTH AFRICA

New law to protect South Africa's biodiversity

President Thabo Mbeki has signed into law South Africa's new Biodiversity Act, which is hailed by some as the most significant environmental legislation adopted in ten years of democratic government. Because of its incredibly rich biological diversity, South Africa is ranked the third most biologically important nation in the world, after Brazil and Indonesia.

The new act now gives the highest possible political protection to this biodiversity. Among other things, it requires full environmental impact assessments before the introduction of any genetically modified organisms (GMOs).

The act also makes provision for communities to share the profits of any exploitation of natural materials involving their indigenous knowledge. An example



is the case of the San/Bushmen communities who will benefit from a commercial slimming product derived from the hoodia cactus plant, which they have known for centuries, chewing its leaves as an appetite suppressant.

"The act regulates for the first time what we call 'bioprospecting'," explained Environmental Affairs and Tourism director-general Chippy Olver. "For companies to be able to bioprospect, they will now have to go through a regulatory system which gives protection to indigenous communities." (Source: *Cape Argus* [Cape Town], 3 June 2004.)

New list of protected trees

A new national list of protected tree species will contribute towards the protection of biodiversity and ecosystems. The Department of Water Affairs and Forestry says in a statement that the protection of biodiversity and ecosystems has become a high priority following South Africa's ratification of the Convention on the Protection of Biological Diversity.

In terms of the declaration, tree species listed as protected may not be cut, disturbed or damaged and their products transported or sold without a licence.

Listing certain species as protected is not primarily aimed at preventing the use of a tree species, but to ensure sustainable use through licensing control measures, explained the department.

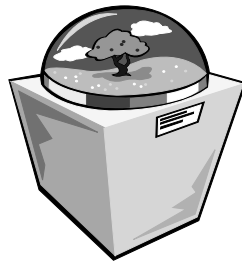
South Africa is home to more than 1 700 indigenous species of trees and shrubs, some of which are currently threatened on account of their rarity as well as the pressure of commercial and subsistence use.

The department said that detailed guidelines had already been developed for the handling of licence applications to cut Camel thorn trees (*Acacia erioloba*) following extensive research and consultation with a variety of stakeholders.

Other protected species under threat include the rare pepperbark tree (*Warburgia salutaris*), which is widely used for medicinal purposes and the marula tree (*Sclerocarya birrea*), which is one of the most highly valued trees in the

country. A large industry is based on products derived from marula fruit, including beauty products and a famous brand of marula liqueur. It is also a vital source of income and subsistence to many rural people. The Tsonga people also celebrate the Feast of the First Fruits by pouring an offering of fresh marula juice over the graves of deceased chiefs.

Trees are mainly threatened by commercial harvesters, while some ecologically important forest trees are also under pressure from coastal development. (Source: *BuaNews* [Pretoria], 14 September 2004.)



Building markets for traditional foods

Samp, African ground nuts, mealies, sorghum potele, isithwalaphishi, ditlhakwana, mutuku and inkobe are some of the indigenous foodstuffs featured in a cookery book that has been compiled in South Africa as part of the Department of Science and Technology's Indigenous Food Poverty Alleviation project. Among the recipes are morogo (an indigenous green leafy vegetable), semphemphe (wild melon pudding) and masonja (a dish featuring mopani worms and ground peanuts).

The project, which is being undertaken by the Council for Scientific and Industrial Research (CSIR), aims to find ways of marketing indigenous foods. The cookery book, an unintended output of the project, brings together about 80 recipes from rural areas of five of South Africa's nine provinces – Free State, KwaZulu-Natal, North West, Limpopo and Eastern Cape. Many recipes are generations old, and form part of the traditional knowledge of these communities.

The aim of the project is to find ways of using indigenous knowledge to help communities generate income. Since 2000,

more than R 12.3 million (US\$1.8 million) have been put into the project, which seeks to set up small businesses and develop the technologies needed to produce indigenous foods in significant quantities.

The project was initiated in the most needy parts of the country and CSIR consulted extensively in rural communities to collect indigenous recipes. (Source: *SciDev.Net Weekly Update*, 28 June–4 July 2004.)

UGANDA

Forests net Sh 66 billion from non-wood forest products

Ugandans selling non-timber forest products earn more than Sh 60 billion annually, according to the National Forestry Authority (NFA). NFA stated that the forestry industry employs about one million Ugandans: 100 000 are permanent employees while the rest are in the informal sector. According to NFA, "Sh 66 billion goes to people in the informal forestry sector such as herbalists in Katwe," but illegal harvesting and selling of timber had made it impossible to value forest resources in the country. (Source: *New Vision* [Kampala], 18 May 2004.)

Forests that covered half of the country in 1901 now cover only 24 percent. (Source: *New Vision* [Kampala], 5 July 2004.)

Moringa export orders increase

The United Kingdom and Namibia are two countries that are buying moringa herb products from Uganda. Namibia has signed a contract with the Moringa Development Association (MODA) to supply six tonnes of Moringa seeds and leaf powder for the next four years. Another firm from the United Kingdom has made a similar order. MODA has about 20 000 moringa farmers with a total of 200 million moringa trees.

Currently, Uganda exports about 8 to 10 tonnes of moringa products, mainly to



the United States, Kenya and the United Republic of Tanzania. In the local market, one kilogram of moringa costs Sh 10 000, while in the world market a kilogram sells for US\$15 to \$20. (Source: *The Monitor* [Kampala], 17 May 2004.)

German farmers to buy moringa

German cattle keepers have expressed a willingness to import moringa powder worth billions of shillings from Uganda. "This is a big relief to our moringa farmers, especially those in the Rwenzori region, where hundreds of families are engaged in moringa growing and had no market for the crop," Maate Kajumba, the Rwenzori Vanilla Growers Co-operative Society chairman, said recently.

Kajumba said the German cattle farmers were willing to buy any quantity of moringa powder depending on quality. He declined to reveal the price per kilogram at which the German farmers would buy the moringa and when they expressed interest. "They will buy plenty of it. They said they will make cakes for their cows from the moringa powder. It is up to us to ensure that the quality of our produce is of the required standard," he said. (Source: *New Vision* [Kampala], 17 July 2004.)

Fruits to help fight poverty

Northern Uganda is endowed with various herbs and nutritious fruit-trees which can help in fighting poverty and improve nutrition. But because of insecurity, ignorance and inadequate funds, the biodiversity is not being tapped.

One of the vitamin-rich fruit-trees is the *Borassus* palm (tugo), which grows in the wild. Its trunk is split and used as poles for roofing houses and its leaves are used for making mats. The fruits are rich in food values and money can be earned from it," said George Obong, coordinator of the Northern Foods Project. The community-based non-governmental organization is piloting processing tugo wine from the fruit.

The project now has more than 60 members, most of whom are rural-based women from the pilot subcounties of Adekokwok (Lira) and Aboke in Apac district. Each member must have at least one tugo tree in his or her garden. Apart

from wine, tugo can be used for making salt, honey and nutritious porridge, especially for children. Other uses include making baskets, bags, other handicrafts from its foliage, and as fuelwood.

The project has more than 200 types and uses of local plants. Some of the traditional plants are effective medicine for different diseases. It has also started "manufacturing" Vaseline, in 50 and 100 g packs sold at Sh 600 and Sh 1 000, respectively.

The project has three components: food processing to fight malnutrition, medicinal plants for community health, and art and crafts to raise household incomes. It is aimed at sustainable utilization and management of natural resources, including fruit crops and medicinal plants, as well as rational exploitation of the fruit crops to ensure proper ecological balance and soil conservation.

"What we now need is funding, security and the market. We have enough raw materials and many members are willing to join hands in the project," said Obong. (Source: *New Vision* [Kampala], 22 June 2004.)

Sustainable management of non-wood forest products

The proceedings of the May 2003 "National Stakeholders' Workshop to review the sustainable management of non-wood forest products in Uganda focusing on bamboo and rattan" have been published.

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UNITED STATES OF AMERICA

Research into non-timber forest products

Non-timber forest products (NTFPs) in the United States are harvested for commercial and non-commercial purposes and include thousands of wild or semi-wild species or parts of species used for medicines, foods, decorations, fragrances, containers, dyes, fuel, shelter, art, ceremonial purposes and so on. Despite the known and substantial economic value of a few individual NTFPs, and the unknown but likely high economic value of NTFPs in aggregate, historically managers have not included them as important factors in forest management. Not only do NTFPs comprise a significant part of the biological diversity of forest ecosystems but, given the lack of formal NTFP research, the many people who harvest NTFPs part or full time have the most knowledge about them. Consequently, efforts to conserve biodiversity are unlikely to succeed unless knowledge about NTFPs, and the effects on them of various forest management activities such as timber removal, grazing, prescribed burning and NTFP harvesting practices, becomes an integral part of forest management.

A recent research project attempted to address these issues through achieving two objectives: to advance understanding of the role and impact of NTFP management in forest ecosystem sustainability and biodiversity; and to support the ability of United States forest managers to assess NTFP sustainability.

The project developed five interrelated components to meet these objectives:

- An online species database expanded from 857 to 1 343 entries. The database serves as an initial tool for identifying NTFP species that currently or formerly existed in their region and that can potentially be incorporated into planning for biodiversity conservation, forest restoration, cultural use patterns and sustainable economic development.
- An online bibliographic database expanded from 1 468 to over 2 600



entries. The database aids in identifying NTFP references of books, journals and grey literature. A large portion of the entries are annotated. The academic publications included in the database are drawn more heavily from the international NTFP arena, which is where the majority of NTFP research has been done thus far.

- A national survey of Forest Service Ranger District employees and state forest managers for the purpose of examining NTFP management in relation to biodiversity.
- Ethnographic fieldwork throughout the lower 48 United States. The fieldwork included formal and informal interviews and participant observation with hundreds of NTFP harvesters and other stakeholders including land managers, scientists, Native Americans, commercial businesses, and environmental groups.
- A series of four all-day multistakeholder workshops and a three-day retreat of the seven member project team held to discuss the possibilities for inventory and monitoring programmes involving NTFP harvesters.

(Source: Jones, E.T., McLain, R.J. & Lynch, K. 2004. *The relationship between non-timber forest product management and biodiversity in the United States*. Portland, OR, Institute for Culture and Ecology [www.ifcae.org/projects/ncssf1].)

Harvesting wild ginseng

Wild ginseng, which has been harvested and exported from the United States to Asia for more than 200 years because of its purported health benefits, has grown scarce in many states. It fetches as much as US\$350 a pound (US\$160/kg), and a recent study at Shenandoah National Park (Virginia) suggested that the number of ginseng plants might have dropped as much as 75 percent over the past 30 years. (Source: *Washington Post*, 1 June 2004.)

Ginseng gives surprising boost to state's agricultural economy

In recent years, between 1 700 and 4 200 pounds (770 and 1 905 kg) of dry ginseng root have been exported annually from

Pennsylvania – mostly to Asian markets – according to State Department of Conservation and Natural Resources estimates. At an average price of US\$300 per dry pound, ginseng has generated at least US\$11 million for Pennsylvanians over the past decade. (Source: *National Network of Forest Practitioners' Non-timber Forest Product News*, Digest Issue 3, 31 August 2004.)

VIET NAM

NTFP education

A Memorandum of Agreement was signed on 17 March 2004 between the Non-timber Forest Products Subsector Support Project in Viet Nam and the Forestry University of Viet Nam to formalize and promote further fruitful cooperation in the field of NTFP education and research.

Non-timber forest products are increasingly recognized in Viet Nam as a significant source of income for some farmers who live near forests and especially for poor, landless people. Conservation of NTFPs can play an important role in maintaining the biodiversity riches of Vietnamese forests. This is the project's first attempt to mainstream NTFPs in forestry education in Viet Nam.

Under this agreement, the two partners will cooperate on a voluntary and equal basis. Fields of cooperation identified in this agreement are NTFP curriculum development, graduate and post-graduate training, NTFP research, organization of technical seminars and workshops, NTFP publications, documents and materials, information exchange and a student research programme.

The focus area is NTFP curriculum development, and will involve all departments of the Forestry University of Viet Nam. This is in line with the intention of the Ministry for Agriculture and Rural Development of Viet Nam to develop NTFPs in a sustainable and economic way.

Another major field of cooperation is the Student NTFP Research Programme. The programme's grants are available to forestry students throughout the country. Together with the project's existing NTFP

Research Fund and NTFP Action Learning Fund, this aims to increase the body of NTFP knowledge in Viet Nam. The programme is also expected to stir up enthusiasm for and strengthen capacity in NTFP research for future forestry professionals – present university students. (Source: Vietnam NTFP Network E-bulletin, issue No. 2.)

VIETNAM NON-TIMBER FOREST PRODUCTS NETWORK

Established in 2003, the Vietnam NTFP Network is a non-profit, volunteer organization under the Forest Service Institute of Viet Nam. The network aims to provide comprehensive NTFP-related information to its members and to raise awareness of the role that NTFPs play in biodiversity conservation and national economic development.

The network produces a quarterly NTFP e-bulletin, as well as a biannual newsletter.

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Study on development potential and planning for ten major Vietnamese NTFP species

The Forest Inventory and Planning Institute has been conducting a long-term study to survey and assess potentials, as well as propose a development plan, for ten major Vietnamese NTFP species, including cinnamon (*Cinnamomum cassia* Bl.), pine resin, anise (*Illicium verum* Hook. f.), cardamon (*Amomum aromaticum* Roxb.), bastard cardamon (*Amomum villosum*), rattan, essential oil species, agar wood, codonopsis and cajuput.

The next phase of study will focus on updating the available data and collecting missing information on the socio-economic situation, national and international NTFP



market demands and indigenous knowledge, as well as the natural potential and the current situation, of these ten major species. (Source: Vietnam NTFP Network E-bulletin, issue No. 2.)



Cinnamomum cassia

Viet Nam endorses national action plan to control wildlife trade

As global attention focuses on boosting high-level political will to combat the wildlife trade “crisis” in Southeast Asia, the Government of Viet Nam has endorsed a comprehensive National Action Plan to address the country’s wildlife trade management priorities. The *National Action Plan to Strengthen the Control of Trade in Wild Fauna and Flora in Viet Nam to 2010* was approved by the Deputy Prime Minister Nguyen Tan Dzung last Tuesday, immediately prior to the opening of the 13th Meeting to the Conference of the Parties to CITES in Bangkok, Thailand [October 2004].

The National Action Plan is built upon field research and rigorous consultations with Vietnamese agencies and stakeholders, and analysis from international conservation experts. The plan focuses on six thematic priorities: increased government capacity, appropriate economic incentives, harmonized legislative controls, targeted public awareness, scientific research and international cooperation.

Among the key research findings were that poverty was in fact not the primary factor fuelling the illegal trade and that local consumption of wildlife will continue to grow as economic conditions improve. In fact, 73 percent of decision-makers and government field personnel surveyed said that Viet Nam’s domestic trade in wild meat required urgent attention.

Viet Nam is well known for its biodiversity and range of endemic species

but, as the country’s human population has grown, these animals and plants are literally losing ground. Alongside threats from habitat degradation and land conversion, wild species are heavily exploited to supply both domestic and international trade demands, despite laws prohibiting or severely curtailing the harvesting of “rare and precious species” and banning the export of wild forest mammals.

In Southeast Asia, Viet Nam plays a role as source, consumer and re-exporter of a vast range of wild animals and plants, and is a wildlife trade hot spot of global significance. (Source: TRAFFIC Press Release, 7 October 2004.)

ZAMBIA

Jam from indigenous fruits

CODIBA, a new firm engaged in agroprocessing, has started producing jams and drinks using indigenous fruits on the Copperbelt. The formation of the company would also create employment in the province. The company would be using traditional fruits – masuku and impundu – to produce jams and juices. The use of the traditional fruits would add variety to the market while increasing the usage of indigenous resources that have been going to waste. The company was already producing jam from water melons and intungulu, on a small-scale basis, for the local market.

The agro-processing firm was trying to raise K 60 million as an initial capital injection to start large-scale production. CODIBA would work with the Zambia Bureau of Standards to ensure the products were of high quality. Full-scale production is expected to start in the next two months. (Source: *The Times of Zambia* [Ndola], 20 September 2004.)

ZIMBABWE

Animal, plant life dwindling

Information compiled between 1990 and 2002 and posted on the World Resource Institute’s EarthTrends Web site

indicates that of the 270 known mammal species in Zimbabwe, 11 are threatened with extinction; of the 4 440 higher plant species known in the country, 141 were on the verge of extinction.

The large-scale dependence by Zimbabweans on forest resources for fuel, construction timber, etc., has become unsustainable with rampant deforestation and woodland degradation. It has been said that poverty is the greatest enemy of the environment. Evidence of this abounds in the communal areas where poor families are trying to make ends meet by exploiting the country’s natural plant resources.

The baobab tree, whose bark is used extensively in mat-making, is now on the brink of extinction. The overexploitation of the giant tree for commercial purposes has rendered the baobab incapable of effectively regenerating its bark.

For hundreds of years southern African communities have stripped the tree bark to extract pulp which is used to treat fever, diarrhoea, malaria and as a vitamin C supplement.

But such extraction posed very little threat to the tree since damage was minimal and so infrequent that the tree had a good chance of regenerating.

Data compiled from many organizations indicate that the baobab, an unmistakable feature of the landscape in most drought-prone parts of southern Africa, has been and still is a source of livelihood for many communities.

The baobab is a multipurpose tree. Its leaves and fruit are good as relish substitutes. The fruit is used as a fermenting agent in traditional brews and makes a refreshing traditional drink when dissolved in milk. The seeds, which yield an edible substitute for vegetable oil, can also be eaten raw or roasted or ground to produce a coffee-like beverage. Pulped seeds are also known to cure gastric, kidney and joint ailments.

But all this treasure is at risk as economic survival continues to dictate the future of these vulnerable and sometimes unique species. (Source: *The Herald* [Harare], 21 June 2004.) ●