



## RECOGNITION OF TRADITIONAL KNOWLEDGE

### UN urges greater appreciation of culture and creativity of indigenous peoples

Secretary-General Ban Ki-moon today urged the world to recognize the right of indigenous peoples to control their intellectual property, saying they needed help to protect, develop and receive fair compensation for their cultural heritage and traditional knowledge.

"Indigenous peoples face many challenges in maintaining their identity, traditions and customs, and their cultural contributions are at times exploited and commercialized, with little or no recognition," the Secretary-General said in a message to mark the International Day of the World's Indigenous People.

"I encourage all Member States to take concrete steps to address the challenges facing indigenous people – including marginalization, extreme poverty and loss of lands, territories and resources. Countries should also commit to ending the grave human rights abuses that indigenous peoples encounter in many parts of the world," he said.

He noted that there were 5 000 distinct groups of indigenous peoples in some 90 countries, who make up more than 5 percent of the world's population – around 370 million people in total. They are custodians of valuable and often fast-disappearing cultural heritage, the Secretary-General said.

In her statement to mark the Day, Navi Pillay, the UN High Commissioner for Human Rights, noted that indigenous peoples around the world have lost, or are under imminent threat of losing, their ancestral lands, territories and natural resources as a result of unfair exploitation for the sake of "development". She said natural resource extraction projects such as mining are both land- and water-intensive and often directly affect the collective rights of indigenous peoples to their lands and territories.

Achim Steiner, the Executive Director of the United Nations Environment Programme (UNEP), said the agency was partnering with indigenous peoples in various places – including the Arctic, Africa and so-called Small Island Developing States – to highlight the fact that more than two-thirds of the Earth's biological resources are also the traditional territories of most indigenous peoples.

The Executive Secretary of the Secretariat of the Convention on Biological Diversity,

Ahmed Djoghlaif, and Jan McAlpine, Director of the Secretariat of the UN Forum on Forests, also highlighted the important role that indigenous communities play in global conservation efforts. (Source: UN News, 9 August 2011.)

### New project in Eastern Europe to protect traditional knowledge in plant trade

TRAFFIC recently launched a project to gather information about the use, harvest and traditional importance of wild plants and their significance in the cultural heritage of Eastern Europe. The project, which will run for three years in the Czech Republic, Hungary, Poland and Slovenia, is entitled "Promoting traditional collection and use of wild plants to reduce social and economic disparities in Central Europe".

It is supported by the European Regional Development Fund and aims to introduce a pilot model by 2012 for the collection, processing and use of wild plants that is socially and culturally acceptable, economically viable and environmentally sound.

"The use of herbs as medicine has been almost universal since ancient times, but collecting the plants requires specific knowledge of how to identify them correctly and where to find them. Such information is often passed down from generation to generation, but in today's urbanized society, much of this traditional knowledge is unfortunately being lost," said Anastasiya Timoshyna, TRAFFIC's Medicinal Plant Officer, based in Hungary.

The lack of knowledge can lead to unsustainable trade in certain species, which can affect livelihoods, and remove important sources of income from particular groups, including ethnic minorities, women and the elderly.

Central Europe is still a major exporter of plant products, including medicines and spices to processors in Western Europe. Wild collection represents 30–40 percent of medicinal drug production.

In Europe it is estimated that about 2 000 plants are traded commercially, of which 60–70 percent are native species. Up to 90 percent of these are still collected from the wild, creating an important market and genetic base for many essential drugs.

"With continued growth in the wild-collected medicinal plant sector, it is important for countries in Central Europe to join forces to develop a coherent approach to plant supply in order to ensure that this demand does not exhaust natural stocks and

the traditional knowledge base is preserved," said Timoshyna.

The new project is led by Corvinus University of Budapest (Hungary) and includes nine partners from the four Central European countries: Czech Republic, Hungary, Poland and Slovenia, which range from local authorities to NGOs, agrarian chambers and universities. (Source: TRAFFIC Web site, 23 May 2011.)



### Traditional medicine should be embraced

Traditional medicine needs to be embraced so that it finds expression through combating diseases, says South Africa's Department of Science and Technology. "If it is to play a strategic role in combating the heavy burden of disease, it will need to be mainstreamed so that it can benefit from advances in the other sciences," said Director-General Molapo Qhobela. He was speaking at an African traditional medicine and intellectual property workshop held in Pretoria. Qhobela said South Africa should learn from China and India, which had effectively integrated traditional medicine into their health systems. He further emphasized the need to preserve African medicine.

"One way of securing the future of indigenous knowledge and research on traditional medicine is the advancement and refinement of regulatory regimes," he said.

The drafting of ethical guidelines for researchers and research institutions had already been completed. The Department planned to conduct research on medicinal plants, a move that the Traditional Healers Organization wanted to involve traditional healers themselves. Its spokeswoman Phephisile Maseko said that while the organization was not objecting to research, healers believed that leaving government to do research on its own, and excluding them, would undermine their own work done so far. She highlighted that 72 percent of South Africans made use of traditional medicines. Of the known plant species in the country, 3 000 of them have medicinal potential. (Source: www.timeslive.co.za, 14 July 2011.)

### Bioprospectors probe Aboriginal lore

When Aboriginal elder John Watson was bitten by a crocodile while fishing in the remote Australian Kimberley region, there was no doctor he could call and no medical kit on hand to stem the blood. So he resorted to the traditional knowledge of his people, passed down over the centuries from generation to generation, to help stop the bleeding from the injury to his hand, which had removed part of his middle finger. Watson knew that if he chewed the bark of a native tree known as *mudjala*, and spat the mixture on to his finger it would both numb the pain and stop the bleeding. And it did.

The plant is one of many avidly studied by researchers and so-called bioprospectors around Australia seeking to derive the next great medicine from the country's unique flora.

As the hundreds of Aboriginal languages that were once spoken around the vast nation quickly fade, and traditional knowledge is lost after two centuries of Western settlement, the race is on to preserve native lore, including that related to the medicinal use of plants.

"The information is being lost, irrespective of whether it is being used or not," says Professor Michael Heinrich, a researcher at Australia's Southern Cross University and the School of Pharmacy at the University of London. "We need ... to find a way where we can pass the indigenous knowledge on to future generations."

Heinrich said indigenous communities were rightly concerned about the handling of their traditional knowledge, some of which is sacred to their beliefs, and worried that their generosity would not be recognized or rewarded. This meant it was very difficult to get information on the plants used by Aborigines to treat illness and disease, he said.

Australia has a unique plant and animal life, some of which has adapted to extreme conditions such as drought and it is, to a certain degree, unexplored by Western scientists – all of which makes it deeply alluring to bioprospectors.

For elder Watson's Jarlmdangah Burru community in Australia's remote far northwest, ownership has been resolved through an intellectual property arrangement hailed as a breakthrough example for other communities. The Australian Government is hoping to help other indigenous communities and businesses protect their intellectual property through its Dream Shield project, and Watson's community is now seeking to commercialize the treatment, possibly as a

topical herbal product. [Source: AFP in *Traditional Knowledge Bulletin*, 7 June 2011.]

### Botswana to develop policy to protect traditional knowledge

Botswana is developing a policy to protect, preserve and promote its indigenous knowledge and mainstream it into the country's macro-economic framework. Development of the policy will involve identifying, documenting and gathering local traditional knowledge practices from areas including agriculture, health, culture and religious beliefs, and then feeding them into a legislative framework.

The project, which started in February but was formally launched in June, has received nearly US\$1 million from the government. "The initiative is intended to bring economic empowerment through benefit sharing and [providing] royalties to communities rich in indigenous knowledge," said Oabona Monngakgotla, the project's manager. He said that Botswana has realized the importance of indigenous knowledge, such as using traditional herbal medicines to improve health and generate income.

Creating awareness through education about the importance of indigenous knowledge to research, particularly global

medical research, will benefit both professionals and communities, he added.

Botswana has no specific laws on indigenous knowledge systems. Instead, it has isolated policies on natural resources, such as the National Policy on Natural Resource Conservation and Development and the National Policy on Culture, which fit within international frameworks including the Nagoya Protocol, an international agreement to combat biopiracy and share benefits from national resources research fairly.

The African Regional Intellectual Property Organization is also developing a protocol to protect holders of traditional knowledge from any infringement of their rights and the misappropriation, misuse or exploitation of their knowledge.

"After the development of policy, an implementation plan will be developed, detailing execution of the policy and making recommendations," said Monngakgotla.

Mogodisheng Sekhwela, the project's team leader, will lead the University of Botswana's Centre for Scientific Research, Indigenous Knowledge and Innovation in compiling the information, which is due to be completed in June 2012. [Source: SciDev.Net, 24 August 2011.]

### ANALYSIS OF THE NAGOYA PROTOCOL ON ACCESS AND BENEFIT SHARING

An analysis of the Nagoya Protocol on Access and Benefit Sharing (ABS) – "Towards a People's History of the Law: Biocultural Jurisprudence and the Nagoya Protocol on Access and Benefit Sharing" – featured in the July issue of the *Law, Environment and Development Journal* and comes from an understanding of the law as a "site of struggle" where different groups lobby for their interests. Some of these groups are clearly more powerful than others, which explains the reticence of state law regarding the rights of indigenous peoples and local communities. However, the authors consider it critical to acknowledge that power begets resistance and that indigenous people and local communities have not just been passive victims of the law but on the contrary have fought strategic and

pitched battles to stem and sometimes turn the legal tide.

In this context, the authors (Kabir Bavikatte and Daniel F. Robinson) analyse the Nagoya Protocol with the aid of three guiding questions: what was the status quo prior to the Nagoya Protocol; what did indigenous peoples and local communities seek to achieve through the Protocol and how did they go about doing this; and what is the outcome of these community efforts in the Nagoya Protocol. In answering these questions, they also attempt to map the emerging biocultural rights of indigenous peoples and local communities under the Convention on Biological Diversity (CBD), as well as their struggles specifically within the CBD Working Groups on ABS and on Article 8(j), aiming to trace the trajectory of the activism of indigenous peoples and local communities in the CBD processes. [Source: *Traditional Knowledge Bulletin*, 26 July 2011.]

### Namibia's indigenous people help draft biopiracy law

Namibia has kicked off a series of meetings with rural and indigenous communities to feed into the country's first bill on access to genetic resources and traditional knowledge. The first such meeting took place in the south of the country from 28 to 30 June. The bill has been in development since 1998. It should be finalized by the end of the year so that the country can sign the Nagoya Protocol before the February 2012 deadline. To be ratified, the Nagoya Protocol needs 50 nations to sign up, which 38 have done so far.

The bill will prevent exploitation of indigenous resources, such as devil's claw (*Harpagophytum* sp.) a plant used by the San people to treat rheumatism and arthritis, and *hoodia* (*Hoodia gordonii*), which is used for suppressing hunger.

Pierre du Plessis, a genetic resources expert and Namibian negotiator for the Nagoya Protocol, said that investments made to bring some of these plants to the market have not given much back to local communities. "In the case of *hoodia*, an investment in the region of US\$70.7 million over the past 12 years has, so far, yielded virtually no sustainable benefits, although some opportunists have enjoyed windfall profits," he said, citing attempts to market *hoodia* products for weight loss.

"Communities will benefit if their associated traditional knowledge is involved, or if they are the direct legal providers of the resources in question," said du Plessis.

Namibia was one of the main architects behind the 2010 Nagoya Protocol, which secured access and benefit-sharing rights for communities under the UN Convention on Biological Diversity. "Nagoya is a big step for the conservation and sustainable use of natural resources," said Dietlinde Nakwaya, the manager of a programme called "Strengthening Capacity Enhancement to Implement the Global Environmental Conventions" in Namibia, at the Ministry of Environment and Tourism – a project that builds capacity to implement international environmental agreements.

The meetings are an opportunity to strengthen people's "environmental literacy" – knowledge about their natural resources. "But we also need their expertise to prevent any loopholes in the bill," Nakwaya said. "After all, communities have used these resources for a long time."

Konrad Uebelhör, biodiversity and sustainable land management expert with the German Company for International

### THE ROAD TO AN ANTI-BIOPIRACY AGREEMENT

A recent book – *The Road to an Anti-Biopiracy Agreement* – is a compilation of articles from Third World Network publications following the difficult progress of the CBD negotiations that resulted in the adoption of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising out of their Utilization on 29 October 2010 during the tenth meeting of the CBD Conference of the Parties.

The book contains reports starting from the early days of the negotiations in Kuala Lumpur in 2004, up to the last round of talks in Nagoya in 2010, as well as some preliminary analyses of the Protocol and the extent to which it can effectively combat biopiracy. (Source: *Traditional Knowledge Bulletin*, 29 June 2011.)

Cooperation (GIZ), said that, even if local communities do not manage to derive benefits from the intellectual property (IP) relating to their knowledge, they can still benefit from the spillover effects of developments and investments surrounding traditional knowledge. (Source: [www.SciDev.Net](http://www.SciDev.Net), 15 July 2011.)



*Harpagophytum* sp.

### Developing policy guidelines to handle genetic resources and traditional knowledge

The Ghanaian Deputy Minister of Health, Dr Gladys Ashitey, has said that Ghana is developing policy guidelines for the handling of genetic resources and traditional knowledge. She said the policy guidelines, which would give special references to their application in health and agriculture, would also focus on the documentation of traditional knowledge and the related genetic resources, conditions of access, benefit-sharing arrangements and institutional arrangements for administration and enforcement.

Speaking at the opening of the Second Global Summit on HIV/AIDS, Traditional Medicine and Indigenous Knowledge in Accra, the Deputy Minister said the guidelines would help foster research and development, innovations and capacity building for optimal and sustainable use of traditional knowledge and plant genetic resources.

Dr Ossy M.J. Kasilo, World Health Organization Africa Regional Office Adviser on Traditional Medicine, commended Ghana for being the first in Africa to develop a strategic plan for the development of traditional medicine. She said Ghana was also the first in developing a traditional medicine research plant at the Centre for Plant Medicine and developing a Code of Ethics in traditional medicine, among other achievements, and urged other countries participating in the workshop to follow Ghana's example. (Source: [allAfrica.com](http://allAfrica.com), 6 September 2011.)

### Micronesia: blending science knowledge with ancient traditions

On Yap, a Pacific island that is part of Micronesia, the native people fish the traditional way. They construct kites made of breadfruit leaves, the spines of the *Pandanus* plant and coconut fibre rope, and fly them over the reef, dropping their lines to attract long-nose needlefish. These are the only fish the islanders want, and the only ones lured by this unusual gear.

"It is ecologically sound and sustainable, and they have been doing it for generations," says Robert H. Richmond, a research professor at the University of Hawaii at Manoa. "More importantly, no Western scientist could teach them a better way."

Richmond tells this story to make the point that marine and environmental science training must be relevant to the region, and include not just current science and technology, but an awareness of the unique cultural aspects of the communities that will benefit, in this case, Pacific Islanders.

Richmond directs the Partnership for Advanced Marine and Environmental Science Training for Pacific Islanders, a programme for local students that aims to blend up-to-date scientific knowledge with the ancient traditions that have served the islanders well over thousands of years. The hope is that by training local people in up-to-date scientific skills, they will become more invested in their homeland's environmental future. (Source: National Science Foundation in *US News*, 7 July 2011.)

### Green economy needs respect for indigenous rights

Nations must pay more than lip service to the idea of indigenous rights if they seriously hope to address problems such as species loss and climate change, say delegates at the Permanent Forum on Indigenous Issues, a UN body created to safeguard the rights of the world's 370 million indigenous people, at the Tenth Session of the UN Permanent Forum on Indigenous Issues in New York.

"They present very good studies and information, but not for us," said Marcos Terena, a prominent leader of Brazil's indigenous people, about the officials running UN projects on environment and development across the world. In his view, the transition to a so-called "green economy" will not work as long as humanity does not respect the rights of Mother Earth.

Indigenous peoples' traditional knowledge has been widely acknowledged as vital to conservation and efforts to fight climate change. "Nature conservation is at the heart of the cultures and values of traditional societies," said Ahmed Djoghla, Executive Secretary of the UN Convention on Biological Diversity, which recognizes the significance of traditional knowledge and calls for actions to promote it.

UN researchers note that one-third of the world's 370 million indigenous people are condemned to live in poverty in as many as 70 countries around the world. World Bank estimates put their share of global poverty at 60 percent.

In reflecting upon UN efforts to enhance understanding between indigenous communities and the outside world to fight climate change and reverse the loss of biological diversity, Terena said his people did not think it was working in a meaningful way. "I hope the UN will understand and listen to the indigenous people, and not only produce papers," he said about the UNEP-led session at the forum meeting. [Source: IPS, 21 May 2011.]

### India's digital library to the rescue of traditional patents

Success achieved in India in staving off attacks on its traditional knowledge is in part due to efforts by the Council for Scientific and Industrial Research in initiating the Traditional Knowledge Digital Library (TKDL) project.

TKDL is an Indian digital knowledge repository of traditional knowledge, especially medicinal plants and formulations used in Indian systems of medicine. Indian traditional knowledge dates back a good

10 000–12 000 years and is slowly fading away because of the lack of documentation, said V. Prakash, former director of the Mysore-based Central Food Technological Research Institute (CFTRI). TKDL has succeeded in digitizing at least 30 percent of this knowledge.

CFTRI is one of 19 national science laboratories in India that are on board the TKDL project. Prakash said the project is aimed at scientifically documenting India's traditional knowledge base. This database will help put an end to the indiscriminate rush to patent items.

The database compiled so far is made available to lawyers in Europe and the United States of America for a fee, so that they do not recklessly apply for patents. It is better to stop the process before it starts, rather than challenge it in courts outside India at a later stage, as happened in the case of turmeric, he said.

Digitizing traditional knowledge for TKDL is a painstaking effort. But it is worth it, given that it is providing leverage to India to defend itself in case of attempts to patent products that are indigenous to the country.

Information is digitized in various formats – orally, through video – and the gaps in knowledge are filled with help from science. Even information given by individuals on traditional knowledge backed by scientific proof is acknowledged. [Source: *The Times of India*, 8 August 2011.]



### Indonesia's pledge to forest people welcomed

Forest groups on Wednesday welcomed an Indonesian commitment to protect the rights of indigenous people who have long complained that their land is being stolen in the name of conservation schemes. With billions of dollars in foreign aid and carbon offsets potentially on the table, tribal groups have accused internationally backed efforts to tackle deforestation of pushing them off their ancestral land.

Presidential adviser Kuntoro Mangkusubroto told a forestry conference on

Lombok Island this week that Indonesia would address the issue by implementing a decade-old land law recognizing the rights of forest communities. It will also develop a land tenure map identifying the location and size of forests and how they are used, as well as defining the legal status of the country's vast forested areas.

"Indonesia is committed to longer-term forest and land tenure reform," he said. "All should be implemented based on the principle to recognize, to respect and to protect customary rights," he added.

Forest groups hope the government will fulfil its obligations to inform and consult with indigenous groups whose lives could be dramatically altered by UN-backed measures to prevent deforestation.

"We are very pleased with Indonesia's commitment," said Victoria Tauli-Corpuz, a board member of Rights and Resources Initiative, a global coalition of forest research groups. "It is not a matter of recognizing who the indigenous people are and their rights, but developing a legal framework to recognize their ownership over forests. We are very hopeful that changes will come about."

Indigenous Peoples Alliance Secretary-General Abdon Nababan said forest people were in danger of being forced off their land and denied their customary livelihoods in the name of conservation. "The basic point is that if you want to protect the forests, you must protect the people who protect the forests," he told AFP.

The alliance last month demanded a halt to conservation schemes worth billions of dollars on Borneo Island, saying they could be a form of "cultural genocide" if not handled properly. [Source: AFP, 13 July 2011.]



### Amazonía o petróleo

La deforestación en el mundo se ha reducido en la última década más de un 30 por ciento. Es una buena noticia, si no fuera porque continúa a un ritmo galopante en muchos países o en zonas imprescindibles para la salud del planeta como la Amazonía.

Una cuarta parte de la población mundial depende de las grandes áreas forestales. Pero hay más: en los bosques, entre sus plantas, posiblemente se hallen remedios a graves enfermedades o la solución al cambio climático. La necesidad de proteger estos espacios es acuciante, pero a veces se



cruzan otros intereses amenazantes, como las grandes bolsas de petróleo que yacen bajo el manto verde de los bosques.

Esto es lo que sucede en el Parque Nacional Yasuní, en Ecuador, en plena Amazonia. Sus habitantes viven como hace siglos y preservan un bien universal. Pero las petroleras no están muy lejos. *Informe Semanal* ha navegado por uno de los lugares más conservados del planeta y ha dialogado con las comunidades que viven de los recursos de esa selva en la que nacieron y en la que quieren seguir viviendo. Lamentablemente, la situación económica de diversas poblaciones empuja a las mismas ha migrar o extraer recursos con valoraciones inmediatas sin tener en cuenta las perspectivas de los mismos.

Es necesario, por lo tanto, un trabajo conjunto donde se conjuguen los intereses de las comunidades y la protección a la inmensa biodiversidad existente. Se debe unir la conservación y el respeto por la biodiversidad, el conocimiento de los antepasados junto a los beneficios de prácticas útiles. Este proceso lo está desarrollando un proyecto de cooperación técnica de la FAO. (*Fuente: Programa de la Televisión Española [TVE] Informe Semanal*, 18 de junio de 2011.)

#### Videos on the Amazonian forests of Ecuador

A series of lectures on the Amazonian forests of Ecuador have been released on video as part of the educational series "Voices for Sustainable Forests", produced by TRAFFIC. The Spanish-language broadcasts, by 17 specialists in areas critical to the conservation and sustainable forest management of the Amazonian forests of Ecuador, are aimed at community radio, schools and the media.

It is wonderful to hear these experts speaking colloquially about the problems and solutions. What dilemmas do people face in their forests? What about indigenous territories, forest governance and the law? What ecosystem services do the forests provide? The videos cover the key topics, including the best policies and programmes of the Government of Ecuador today.

Moreover, the information contained in the videos is relevant to countries across the region as many of the challenges experienced in Ecuador are the same in other countries where the Amazonian forest is under threat. One of the next steps is to produce short online courses for members of the media who may know little about forests. Another is to seek inclusion of the videos in the National Teacher Training Programme: the Ecuadorian Ministry of Education has already purchased

400 copies of the two DVDs to be used in the programme.

The videos are available from: [www.youtube.com/user/ConservacionEquidad#g/c/94EA7829C11139B8/](http://www.youtube.com/user/ConservacionEquidad#g/c/94EA7829C11139B8/) (*Source: Traffic Bulletin*, 23(2), April 2011.)

#### Forest fund to reward forest-dwelling communities

At the Amazonas Sustainable Foundation (FAS) centre in Tumbira – six hours by boat from Manaus, capital of the Amazonas state in Brazil – Professor Virgilio Viana and his colleagues are running a state-wide scheme called Bolsa Floresta (forest fund). The idea is to sign up and reward forest-dwelling communities for responsible, sustainable use of the rain forest. It provides the average participating family with BRL1 360 (about US\$850) of value/year. Nearly half of this is a monthly cash payment to housewives, another part goes to promote sustainable harvesting for forest products – Brazil nuts being the best known – and part is spent on health and education for local communities. A small amount is spent on building rudimentary business infrastructures so that forest communities can profit from sustainable business.

So far, over 8 000 families have benefited from this forest fund. It can and should be scaled up. But it is threatened by the faltering city economy of Manaus, which may see industry invading the Amazon rain forest. Declining opportunities and competing subsidies may move money and entrepreneurship back to the old ways, seeking resource-extracting profits and jobs. The cost of such a reversal would be huge – to Amazonas, Brazil and the world. (*Source: The Guardian* [United Kingdom], 28 June 2011.)



*Pirapitinga*

#### Giant fish help the Amazon rain forest grow

While researchers have studied the seed-dispersal capacity of such species as birds, bats, monkeys and rodents, fish are often overlooked.

Jill T. Anderson, a post-doctoral associate at Duke University (United States of America) is one of few researchers who have begun to connect the dots between massive fruit-

eating Amazonian fish, such as the weighty *tambaqui* (*Colossoma macropomum*), and the diversity and health of the Amazonian rain forest. In a 2009 study, Anderson and her colleagues studied two species of frugivorous (fruit-eating) fish in Peru, the *tambaqui* and the *pirapitinga* (both known as *pacu* fish). Picking through over a million seeds, they documented 44 species of seeds, including 36 from trees and lianas, from the guts of 195 individual fish.

A paper published by Anderson and other researchers this year outlines that the *tambaqui* are truly long-distance dispersers. "In our study, fish can carry seeds up to 5.5 km, although it is likely that larger (older) fish can disperse seeds much farther than that," says Anderson. According to research, the older the fish, the more effective it is at dispersing seeds; younger fish consume fewer fruits and disperse fewer viable seeds. Of course, this finding has implications for conservation, since older fish are vanishing from ecosystems because of overexploitation by locals. "[*Tambaqui*] is very important commercially. Fish is the primary source of protein for human populations throughout the Amazon, so it is not surprising that people would overfish a massively large fruit eater," Anderson says.

While humans have likely fished for *tambaqui* and other *pacu* for millennia, rising populations in the Amazon and increasingly easy access to once impenetrable places have pushed big fruit-eating fish into treacherous territory. A significant drop in the population or a loss of older individuals has the potential of impacting the diversity and abundance of the Amazonian rain forest. (*Source: Amazon News*, 12 April 2011.)

#### Partnership reinforces *copaiba* oil production chain in Brazil

July 2011 marked the beginning of a promising partnership in the municipality of Apuí, 408 km from Manaus, capital of the state of Amazonas. The Brazilian branch of the Swiss company Firmenich, which manufactures fragrances and aromas, has ordered its first purchase of *copaiba* oil produced in the interior of the municipality under a regime of sustainable forest management. The agreement, with the Aripuanã-Guariba Agri-extractive Association, negotiated in the first semester of 2011, was mediated by WWF-Brazil.

*Copaiba* is a stimulant oleoresin obtained from the trunk of several pinnate-leaved South American leguminous trees from the genus *Copaifera*.



### La producción de la castaña amazónica en Bolivia

El árbol de la castaña (*Bertholletia excelsa*) es una especie no maderera de alto valor ecológico, cuya altura asciende a más de 20 m. Produce semillas comestibles, las cuales se conocen como castaña amazónica o "Brazil Nuts", mismas que en el país son extraídas y exportadas en un 99 por ciento.

La actividad de la explotación de la castaña representa más del 75 por ciento del movimiento económico de la zona norte de Bolivia. La importancia de la castaña no sólo radica en su aporte a la economía de la mencionada región sino también por su componente ecológico en la preservación de la selva amazónica, ya que su explotación permite frenar la depredación de los bosques.

La castaña amazónica es el fruto del árbol de la castaña que se encuentra en forma natural y silvestre solamente en los bosques amazónicos de Bolivia, Brasil, Perú, Guayana y Colombia; sin embargo, solamente en los tres primeros países se encuentra la castaña que se comercializa. En Bolivia existen condiciones aptas para el desarrollo del árbol de la castaña en un área extensa de la Amazonía que abarca más de 100 000 km<sup>2</sup> (un 10 por ciento de la superficie total del país). Bolivia ha mejorado paulatinamente la productividad de la castaña en el mundo.

El árbol de la castaña produce desde el mes de noviembre, en el que se encuentran los primeros frutos, pero es recomendable iniciar la zafra recién en la segunda quincena de diciembre. A pesar de las condiciones adversas, más de 15 000 familias se internan en el bosque y no vuelven hasta febrero o marzo. Desde marzo hasta diciembre se procede al beneficiado, la mano de obra que participó en la recolección se traslada a las plantas beneficiadoras, donde se requiere más de 5 000 puestos de trabajo. El proceso de recolección consiste en recoger y recolectar los cocos que se encuentran bajo los árboles, los cuales se desprenden de los árboles por maduración natural.

Posteriormente, se procede a cortar la parte superior de cada coco por donde se extraen las semillas; el corte se hace a mano con la ayuda de un machete. Una vez terminado este proceso se reúnen las castañas con cáscaras y se colocan en bolsas para ser transportadas a los payoles, que son precarios y rústicos galpones que sirven para protegerlas de la lluvia.

La castaña se transporta por diversos medios y lo antes posible a depósitos y silos de las beneficiadoras que reúnan condiciones de almacenamiento controladas.

Uno de los principales problemas que ocasiona la mala recolección y acopio es la contaminación con aflatoxinas que son metabolitos del hongo llamado *Aspergillus flavus*. Según estudios preliminares se cree que en ciertas concentraciones son cancerígenos y dañinos para la salud.

### Áreas de aprovechamiento

La zona castañera de Bolivia se encuentra ubicada en el norte del país, comprende una superficie aproximada de 100 000 km<sup>2</sup>, equivalente al 10 por ciento de la superficie total del país. Históricamente el Brasil ha sido el mayor productor de castaña, por lo tanto, el nombre con el que se conoce y comercializa en el mundo es "Brazil nuts" "paranuss" o "castaña do Pará". A partir del año 1996, Bolivia se convierte en el primer productor mundial de castaña, superando al Brasil. En 1999, Bolivia exportó 10 880 t contra 2 500 t del Brasil, representando el 73 por ciento del mercado mundial de la castaña. Prácticamente, el 99 por ciento de la producción nacional está destinada al mercado de exportación. En términos monetarios la producción de castaña pasó de 15,6 millones de dólares en 1990 a 31,3 millones en el 2000. La castaña se utiliza también en la industria pastelera como glacé (mazapán). (Fuente: Sitio de Amazonia Boliviana: [www.amazonia.bo/](http://www.amazonia.bo/))

### Producción de carbón activado utilizando los productos forestales no madereros (PFNM) en alianza con comunidades de la Amazonía del Perú

Los objetivos de la industria de producción de carbón activado es: producir el mismo utilizando frutos de palmeras amazónicas que serán aprovechadas legalmente por comunidades organizadas. El aprovechamiento es sostenible a partir de los frutos de las tres palmeras sin valor comercial (no incluidas en CITES), en asociación con comunidades de la Amazonía, generando ingresos en las mismas por

abastecimiento de los frutos y demanda de mano de obra con participación de género.

El carbón activado, es de origen vegetal, el mismo viene activado a alta temperatura y retiene por absorción moléculas de compuestos diversos en su gran superficie interna. Este material se usa en recuperación de oro, para purificar alimentos, agua, alcoholes, cosméticos, etc.

Este carbón se produce usando las semillas de las palmeras amazónicas aguaje (*Mauritia flexuosa*), shapaja (*Scheelea* sp.) y shebón (*Attalea* sp.), apoyando la conservación de la Amazonía y el desarrollo sostenible en las comunidades socias. Se formalizará el aprovechamiento del bosque amazónico mediante la formación de una cadena productiva sobre la base de especies no madereras.

En el Perú existe demanda de las empresas, especialmente las mineras, las cuales deben demostrar su compromiso con la conservación del medio ambiente directa e indirectamente y al comprar carbón activado en los almacenes en Lima o en Iquitos adquirirán derecho al uso de los atributos comerciales del producto como son: apoyar la conservación de la Reserva Nacional Pacaya Samiria, el desarrollo sostenible de comunidades en la Amazonía y el comercio justo en la cadena productiva. Entre los compradores se encuentran la minería aurífera nacional, que consume el 91,5 por ciento de la demanda del Perú y que es abastecida por 5 empresas importadoras; la industria de purificación de agua, la agroindustria y otros que demandan el 8,5 por ciento restante.

El total de la demanda nacional es de 1,354 t, de las cuales se importan el 95 por ciento. (Fuente: BiD network foundation.)

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If we do not change our direction, we are likely to end up where we are headed.

Chinese proverb