

"Non-Wood Forest Products (NWFPs) consist of goods of biological origin other than wood, derived from forests, other wooded land and trees outside forests."

«Les produits forestiers non ligneux sont des biens d'origine biologique autres que le bois, dérivés des forêts, des autres terres boisées, et des arbres hors forêts.»

«Productos forestales no madereros son los bienes de origen biológico distintos de la madera derivados de los bosques, de otras tierras boscosas y de los árboles fuera de los bosques.»

(FAO's working definition)

APPROACHES TO NTFP MODELLING

Models of tropical mixed forests for simulation of multiple-use forest management are of importance because of the significance of both timber and non-timber forest products (NTFPs) for large numbers of the rural poor. Models capable of accurately simulating multiple-use forest management and their impacts could be used to address questions such as, how much of a given NTFP can be extracted before jeopardizing production of other products, and how NTFPs should be extracted or silvicultural treatments applied to increase timber and NTFP production. Based on the review of the literature, the authors observed that i) there is practically no integration between studies that focus on timber and those of NTFPs; and ii) in most cases, the limitations of common NTFP modelling approaches are rarely acknowledged. The authors identify key processes that require empirical data collection and suggest modifications to models to represent better multiple-use forest management. (Source: D. Ribeiro do Valle, C.L. Staudhammer & W.P. Cropper. 2007.



Simulating nontimber forest product management in tropical mixed forests. *J. Forestry*, 105(6): 301-306.)

BIOPESTICIDAL PLANT-DERIVED ESSENTIAL OILS

Boreal forest may be home to new medicines

In recent years, global initiatives and multilateral partnerships for the prevention and treatment of malaria have taken great strides towards the reduction of malaria deaths, in garnering a strong funding base and in identifying regimes and products that are effective in disease vector control. In order for these regimes and products to reach full coverage of malaria-vulnerable populations, global initiative partners emphasize demand creation among consumers of malaria commodities, together with subsidy and pricing structures that work for villagers living in poverty, while providing a reasonable profit margin for private sector suppliers. Effective social marketing of approved technologies depends on wide acceptance and persistent use of a variety of synthetic insecticidal treatments. However, the installation of new and emerging markets for approved malaria commodities, although proven to reduce child deaths from malaria, creates new disparities between developed and developing nations, since only a few, large multinational manufacturers are capable of producing approved technologies. Meanwhile, concerns over the potential long-term health and environmental effects of insecticidal toxicity remain largely unaddressed.

Funding is needed for the research and development of alternatives, such as biopesticidal plant-derived essential oils, and for capacity building that enables the village-level production of malaria commodities. Supporting such initiatives may ultimately prove to be a greater social good than building consumer demand for imported products that potentially create new health and environmental risks. (Source: *Transforming the malaria commodities market: the need for interdisciplinary research and development of alternatives to synthetic pesticide applications for disease vector control*. Paper prepared by Jennifer Chesworth, 2008. Available at: www.herbalistswithoutborders.org/ Chesworth.MalariaCommodities.pdf)

Fair trade and organic product development in malaria commodities markets is unlikely, although perhaps not impossible. For example, the African native chrysanthemums used as source material for pyrethrum could be farmed organically under fair trade cooperative management and developed for vector control use domestically, if intellectual property and patented technologies allowing for effective product manufacture were equitably shared. If a new generation of insecticides needs to be developed, produced and broadly adopted as a public good for malaria control, biopesticides may provide effective solutions that more equitably support sustainable regional economies and environmental protection.

Botanical raw materials and plant-derived essential oils known to be insecticidal via traditional knowledge and showing promise for malaria vector control – lemon grass, eucalyptus, galangal, tea tree, peppermint, thyme, oregano, rosemary, citrus species, citronella, rosewood, geranium, and cinnamon among others – can be grown and processed by agrarian villagers for their own local and regional malaria commodities markets if appropriate intellectual property rights are secured for villagers for the common good.

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BIOPROSPECTING/ BENEFIT-SHARING OR BIOPIRACY?

Plans to control access to the Amazon

Brazil's Congress is to be asked to consider a law that could require foreign visitors and workers in the Amazon region to have a permit. The legislation is designed to prevent outside interference and illegal use of the rain forest's resources. Those in the

region without a permit would be fined up to US\$60 000.

However, some scientists have warned that, if passed, the measure could have a negative impact on research and would force experts to look elsewhere.

There has long been a suspicion in some sections of Brazilian society that not all the attention focused on the Amazon region is well motivated. In an interview with the Associated Press news agency, Brazil's National Justice Secretary Romeu Tuma said that Brazil wanted the world to visit the Amazon, but he also said the country wanted visitors to inform the Government when they were coming and what they were planning to do while there. "We want to establish the Amazon as ours," he said.

In recent years, the Brazilian Government has become increasingly fearful of what it views as biopiracy, or the appropriation of traditional or indigenous knowledge and biological resources, in what is the world's largest remaining rain forest.

The Government insists that it is not trying to criminalize foreigners visiting or working in the region, but simply trying to distinguish between the good and the bad.

The proposals would require overseas organizations, including religious groups and individuals, to seek authorization to be in the area from both the Justice and Defence Ministries. [Source: BBC News [United Kingdom], 26 April 2008.]

Namibia: San medicine could be hijacked

The San people stand to be robbed of their knowledge of traditional medicine because of ignorance about the value this medicine carries, says Vicky Dan of the University of Namibia. Her study of San traditional medical usage at Farm Six in Tsumeb found that San traditional medicine, which is referred to as the "open air pharmacy", is in high demand.

The study looked into San indigenous medicinal knowledge and how it is shared. Ms Dan found that the level of awareness of what the San people has is very low, which could be a loophole for profiteers. She said that the danger arising from such a situation, if it should occur, is that the San themselves would reap few or no benefits from commercial exploitation of the natural remedies.

The study found that the San use traditional medicine to treat all diseases except tuberculosis. A variety of plants are used to treat colds and flu, aches and pains, malaria and high blood pressure; modern medicine is not considered because of the

long distances the San would have to travel to the nearest health facility. It was found that men, women and children all have considerable knowledge about traditional medicines.

The author recommended that the San be educated about the potential value of their traditional medicine and, in particular, their intellectual property rights and their right to benefit from any marketing of the medicine. She said that the Government, in collaboration with international research institutions, should undertake research into traditional remedies.

Last year, in the absence of legislation, the Government established an interim bioprospecting committee to coordinate its approach on biotrade and bioprospecting.

Biotrade and bioprospecting have the potential to generate significant economic benefits for Namibia yet, given the absence of appropriate and watertight legislation, the country would lose potential revenue sources if they are exploited without proper benefit-sharing agreements, the Ministry of Environment and Tourism Deputy Minister said at an access and benefits sharing workshop held with several other countries last year. [Source: *New Era* (Windhoek), 12 March 2008.]



Biopiracy rampant in Nagaland, India

Kohima. (Press Times of India.) Resource-rich Nagaland is plagued by biopiracy with rare medicinal herbs, orchids and other endangered species being smuggled out of the state, NGOs have claimed.

Many plants are being taken away by pharmaceutical companies through intermediaries who engage locals to collect naturally grown species for derisory sums, Thomas Rengma, Media Secretary of Peoples Group, a Naga environmental NGO, told the Press Times of India. He said that sheer ignorance about the benefits to be accrued by the people if formal business in medicinal plants and herbs were to be undertaken has aggravated biopiracy in the state.

Some years ago *Panax ginseng* and *P. pseudo-ginseng*, the local species of

ginseng that are highly in demand in international markets, were almost completely wiped out in the wilds of Nagaland. A similar situation occurred for *Taxus baccata* and *Cephalu taxus*, found in Nagaland and Arunachal Pradesh, which are used in western countries for medicines to cure cancer. These plants are being smuggled out to neighbouring Myanmar in truckloads from the Kohima and Phek districts, Rengma alleged.

The latest medicinal plant to fall prey to biopiracy is *Paris cordifolia*, a poisonous herb used for manufacturing high value drugs. It usually grows during summer in the shade of woods and is difficult to spot. Although the plant generally bears four leaves and is called quadrifolia in the West, the Nagaland variety has six leaves, which means that a single stem can give more products so that demand is high. The plant is now extensively used for homoeopathic medicines for curing headaches and chronic respiratory and bronchial infections.

Rengma said that local Myanmar drugs companies have now engaged intermediaries to collect *P. cordifolia* from the Kohima and Phek districts after it was completely eradicated from the hills of Manipur. The herbs are taken by truck to the Moreh trade point on the Manipur-Myanmar border on the way to the neighbouring country. [Source: *The Hindu* [India], 2 May 2008.]

Filipino scientists developing system to stop biopiracy

To prevent biopiracy of indigenous communities' health practices that modern medical societies have proved to be effective, Filipino scientists are developing a national digital library to take stock of the materials.

Dr Jaime Montoya, executive director of the Philippine Council for Health Research and Development (PCHRD) said that a P10-million system is being developed to protect the country's biomedical indigenous knowledge from piracy by unscrupulous foreign researchers. According to Montoya, the national digital library will contain data on local communities' health practices that are acceptable to medical societies, in order to avoid biopiracy and "protect the heritage" of Filipinos.

PCHRD has started documenting indigenous health practices all over the country and expects to finish its research and the digital library by 2010.

Montoya added that the Philippines is teeming with raw materials that can be used

to develop medicines to make the country self-reliant in life-enhancing drugs.

The Department of Health is promoting ten medicinal plants that are already available in commercial preparations, namely: *lagundi*, *verba buena*, *sambong*, *tsaang gubat*, *ampalaya*, *niyug-niyogan*, *bayabas*, *akapulko*, *ulasimang bato* and *bawang*. (Source: GMA News.TV, 11 March 2008.)



CITES AND AGARWOOD-PRODUCING TAXA

At the Conference of the Parties CoP13 United Nations Climate Change Conference in 2004, the two genera *Aquilaria* (c. 24 species) and *Gyrinops* (c. seven species) were included in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II. The implementation of trade controls for these commodities poses a challenge for CITES authorities.

CoP14 has now decided upon the following measures: i) member countries involved in trade in agarwood should produce identification materials for all forms of traded products under CITES control; ii) they should agree on which agarwood products are to be exempted from CITES control and, once agreed, a proposal for the amendment of the current annotation for agarwood-producing species should be put forward to CoP15; iii) a set of principles, criteria and indicators for the formulation of non-detrimental findings for agarwood-producing species should be developed; and iv) a workshop aimed at strengthening the capacity of member countries to implement agarwood-related decisions should be held before CoP15. (Source: *Medicinal Plant Conservation*, 13, December 2007.)



CULTIVATING WILD FRUITS "COULD BOOST AFRICAN NUTRITION"

Africa's traditional fruits could boost nutrition, environmental stability and economic development if given the right scientific and agricultural support, says a report. The report, by the United States National Research Council, was released last week (30 January) and is the third in a series by the council called "Lost crops of Africa".

A panel of experts from various African countries, with input from ordinary workers,

looked at the sustainability of growing a range of indigenous African fruits and the effect it could have on combating malnutrition and poverty in the continent. Twenty-four fruits were chosen for their potential to contribute to nutrition – particularly for children – and to economic development. Among these fruits are *aizen*, *balanites*, baobab, butterflyfruit, ebony, marula and tamarind.

Traditionally, according to the report, indigenous fruits grew wild and were not domesticated. With the advent of colonialism, fruits from Asia and America were introduced, and Africa's fruits faded into the savannahs and jungles. Mark Dafforn, who directed the study, believes that farming these fruits will be extremely sustainable. "Their success will draw on local resources and local knowledge, and these are an ancestral heritage in which people can take justifiable pride. [The fruits] have the added advantage of having survived conditions like drought and floods for millennia," he told SciDev.Net, making them better suited for sustainability than imported varieties.

The report advocates not only large-scale farming, but encourages individuals to select their best crops and share them with others for propagation, stating that collaboration between amateurs and professional horticulturalist and scientists will be the key to success. "Even if just for home use rather than markets, they could lead to better nourishment in the general rural population, an essential foundation for any economic improvement in Africa," adds Dafforn.

Jane Guyer, professor of anthropology at the United States-based Johns Hopkins University and a member of the panel for the report, points out that these crops are already valued and used in many parts of Africa. "These crops were never lost to the people; they have just been lost to the kind of agricultural science that focused mainly on internationally commercialized crops." (Source: SciDev.Net Weekly Update, 4–11 February 2008.)



DÉVELOPPEMENT DES PFNL COMME MOYEN DE RÉDUCTION DE LA PAUVRETÉ DES FEMMES RURALES

Le dernier Rapport de Suivi Mondial (RSM) 2007 de la Banque Mondiale estime que parmi les 900 millions d'habitants les plus pauvres de la planète, les plus touchés se situent en Afrique. La majorité se concentre toujours en zone rurale, les femmes rurales et les enfants demeurent les couches les plus vulnérables. Au cours des 10 dernières années, le nombre de femmes vivant dans la pauvreté a augmenté plus rapidement que celui des hommes, en particulier dans les pays en développement. La pauvreté continue de perpétuer en zone rurale sahéenne et magrébine.

Un développement durable et une croissance économique à la fois soutenue et durable ne seront possibles que si l'on améliore la situation économique, sociale, politique, juridique et culturelle des femmes. Le développement durable doit s'appuyer sur un développement social équitable donnant aux pauvres et, plus particulièrement, aux femmes pauvres, les moyens d'exploiter rationnellement les ressources naturelles. C'est dans cette optique qu'œuvre les organismes internationaux afin de réaliser les objectifs du Millénaire pour le développement (OMD).

L'exploitation, la transformation et le commerce de certains produits existant à l'état naturel ont souvent permis de suppléer aux déficits alimentaires et de fournir des apports financiers, en particulier durant la période de soudure. L'arganier au Maroc et le karité au Sahel sont des exemples d'espèces végétales naturelles d'une grande importance pour les populations rurales, particulièrement pour les femmes, qui méritent d'être mises en relief. Une meilleure gestion et un développement de la filière économique de l'arganier marocain et du karité burkinabé pourraient contribuer à la réalisation des OMD.

Le Sahel et le Maghreb disposent d'un important potentiel de produits forestiers non ligneux (PFNL), potentiel qui mérite d'être valorisé. La gestion participative et le développement de la filière économique du karité et de l'arganier permettraient de réduire l'extrême pauvreté et la faim. Cela pourrait améliorer les conditions de vie des femmes en milieu rural. L'arganier et le karité jouent un important rôle tant sur le

plan socioéconomique qu'écologique au Maroc et au Burkina. Ces deux PFNL fertilisent les sols et les protègent contre l'érosion; ils font également l'objet d'un commerce international qui devient de plus en plus important.

L'arganier et le karité recèlent plusieurs avantages: ils protègent l'environnement et constituent une source de revenus supplémentaires pour les femmes rurales. Les branches d'activité de l'arganier et du karité sont devenues une grande opportunité de développement particulièrement pour les femmes. Le commerce du karité et de l'arganier constitue de nos jours un vrai paradigme économique, du fait de la croissante demande du marché extérieur. Ces deux PFNL sont actuellement très demandés par les industries agroalimentaires et cosmétiques européennes.

A l'heure actuelle, plusieurs organismes de développement appuient la valorisation du karité au Burkina Faso et de l'arganier au Maroc. Ces différents projets s'inscrivent dans la continuité des programmes de développement, qui ont centré leurs stratégies sur plusieurs approches (bien-être, pauvreté et efficacité) concernant l'intégration des femmes dans le développement. Ces politiques, inscrites dans la continuité des concepts du développement durable, ont pour fondement la croissance économique. Ainsi l'augmentation de la production locale de karité et d'arganier devrait générer un développement économique et pour les femmes rurales et, par conséquent, préserver la ressource naturelle.

En favorisant la commercialisation du beurre de karité et de l'arganier vers le marché international, les femmes pauvres pourront accroître leurs revenus (rôle productif) en s'insérant pour cela dans des groupements féminins (rôle communautaire). Elles pourront ainsi assurer le bien-être de leurs enfants et de leur famille (rôle reproductif). Qui plus est, l'importance économique de ces ressources naturelles se répercutera alors sur la préservation de l'environnement. L'arganier et le karité offrent ainsi une réelle opportunité de développement aux femmes rurales à travers le financement et l'encadrement des coopératives associatives féminines de la part de l'Etat, des ONG nationales et internationales.

Malgré les efforts de développement consentis par les femmes et les partenaires de développement, le diagnostic du secteur

révèle plusieurs contraintes. En effet, il existe un risque réel de voir les femmes rater cette opportunité à cause de leur pauvreté, leur ignorance, l'analphabétisation, et le manque de financement et de moyens de production adaptés à la démarche de qualité exigée par le marché international. Il faut aussi tenir compte de l'intérêt grandissant qu'accordent les hommes propriétaires terriens à l'arganier et au karité mettant en valeur leurs droits de propriété, freinant ainsi le travail des femmes dans les zones d'exploitation.

Le manque d'accès au marché international du karité et de l'arganier, l'éloignement et les contraintes de transport, et la faiblesse des prix auxquels les femmes vendent leurs produits aux collecteurs primaires réduisent les retombées que ces ressources naturelles devraient procurer aux femmes rurales. En plus de ces facteurs qui freinent le développement de la filière économique de ces deux PFNL, il y a également les problèmes de surexploitation et de changements climatiques qui entraînent une réduction massive des couvertures végétales et le risque de compromettre les générations futures, empêchant ainsi le développement durable.

Cette situation nécessite la mise en place de programmes spécifiques pour répondre aux besoins pratiques et stratégiques des femmes, et pour valoriser leurs compétences et les habiliter à contribuer pleinement au développement économique, social et culturel de la communauté.

Pour que les contraintes relevées au niveau des filières de l'arganier et du karité soient levées, il est nécessaire que les femmes participent à la vie économique et à la lutte contre la pauvreté par leurs activités domestiques, communautaires et professionnelles rémunérées et non rémunérées. Leur autonomie économique est une condition essentielle à l'élimination de la pauvreté. Pour que la gestion et le développement des PFNL puissent contribuer à la réalisation des OMD, et améliorer les conditions de vie de la femme rurale, il est nécessaire qu'il y ait un encadrement des femmes et leur implication réelle dans l'économie. Par ailleurs, on devrait:

- insérer les femmes, les responsabiliser et les former davantage dans la gestion des PFNL et la production de produits de qualité;
- sensibiliser les femmes et promouvoir la protection de l'environnement en décourageant l'exploitation abusive des



Community-based ecological monitoring.
A manual for practitioners

PFNL, et contribuer à rendre leur utilisation plus rationnelle;

- contribuer à l'accroissement des revenus des femmes en zone rurale en aidant au renforcement de leur capacité afin qu'elles puissent intégrer les réseaux commerciaux régionaux et internationaux;
- sensibiliser les hommes agriculteurs et nomades à protéger l'environnement, et les inciter à aider au développement des femmes.

La gomme arabique et tout le capital non ligneux dont dispose la Mauritanie nécessite une valorisation. La Mauritanie pourrait en effet suivre l'exemple de l'arganier marocain et du karité burkinabé pour développer son potentiel en matière de PFNL. Cela pourrait lui permettre de réduire la pauvreté et la faim en milieu rural, de protéger l'environnement, de lutter contre l'exode rural et l'avancée du désert.

(Source: *Gestion participative et développement des produits forestiers non ligneux comme moyen de réduction de la pauvreté des femmes rurales: cas du Maghreb et du Sahel* par Mme Hawa War, Volontaire, FAO, Le Caire.)

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Mulberry juice drink unveiled

The Progressive Food Company has announced the launch of the United Kingdom's first ever mulberry juice drink under the mul-be brand name. It is a not-from-concentrate (NFC), single fruit, 50

percent juice drink and is a premium super juice drink for adults, one of the fastest growing sectors in the United Kingdom soft drinks market. The drink contains no artificial colourings, sweeteners, flavourings or preservatives and has an extended ambient shelf-life.

Mulberries are rich in anthocyanins – powerful antioxidants that help cleanse the body of free radicals, harmful molecules that can cause serious cell damage. Mulberries are a natural source of vitamin C and each bottle of mul-be provides 70 percent of the recommended daily amount (RDA). [Source: talkingretail [United Kingdom], 23 April 2008.]

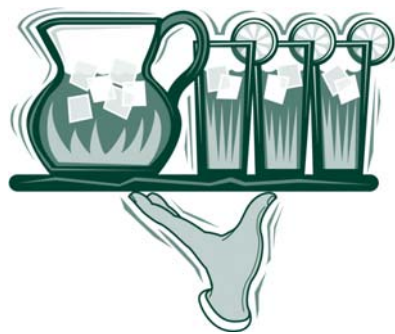
The buzz on energy drinks

Energy drinks are flooding the market. They've become so popular that sales at convenience stores are surpassing those of soft drinks. It's common now to see coolers by checkouts containing only energy drinks. Naturally, kids frequent corner stores and are big consumers of these beverages, but parents should be aware that there are health implications to this choice that children and teens are making.

Energy drinks have their place. They're meant to supply mental and physical stimulation for a short period of time. But most are packed with double or even triple the caffeine of a caffeinated pop. Caffeine can have serious effects on young bodies. High doses of caffeine in adolescents have been reported to cause severe heart palpitations and even seizures. Teens are reaching for energy drinks to stay awake all night to study, party or to play computer or video games. Most have no idea of the effects these energy drinks have on their bodies and mental health.

Most energy drinks contain a variety of medicinal ingredients. Natural sources of caffeine such as *guaraná*, a Brazilian plant whose seeds are high in caffeine, and *yerba mate*, a South American herb used to make tea, are commonly added. Many drinks also contain ginseng, a herb that can increase energy but may also cause anxiety. Sometimes glucuronolactone is added and this type of carbohydrate is known to affect mood and act as a diuretic. Taurine is often contained, and it is an amino acid (building block of protein) that aids in circulation. Currently there is no research indicating how these ingredients work together or what effect they have on the human body. The combination of these substances could be quite harmful.

It's interesting to note that some energy drinks are banned in Europe because the safety of these energizing ingredients is not known and they are deemed potentially dangerous. *There is a difference between energy and sports drinks.* Kids and parents should not confuse energy drinks with sports drinks, which rehydrate the body. Sports drinks provide sugars, which the body burns to create energy and replenish electrolytes, but do not contain caffeine. [Source: *Calgary Herald* [Canada], 16 April 2008.]



EXPLOITATION DES FEUILLES EN AFRIQUE CENTRALE

Dans la zone d'Afrique centrale, les feuilles issues des forêts sont très consommées. La récolte de ces feuilles est variée, selon qu'elles proviennent d'une liane, d'un arbuste, d'un arbre ou d'une plante herbacée.

Les lianes dont les feuilles sont les plus récoltées dans le bassin du Congo sont *Gnetum africanum* et *G. bucholzianum* (kokou ou eru). Ces feuilles sont récoltées et consommées dans l'ensemble des pays étudiés en dehors de la Guinée équatoriale. Elles font même l'objet d'échanges régionaux et internationaux (marchés importants vers le Nigéria et même l'Europe). Le *Gnetum* se trouve ainsi la proie de la convoitise de nombreux cueilleurs parmi lesquels certains n'ont pour seul souci que la maximisation du profit financier immédiat.

En République du Congo où les collecteurs deviennent de plus en plus nombreux, seules les feuilles sont généralement récoltées sur la liane et cette dernière est rarement coupée. Malheureusement, par ignorance ou nécessité économique «vitale» peut-être, toutes les feuilles sont récoltées dans la mesure du possible. L'activité photosynthétique de la liane complètement

défeuillée se trouve ainsi sérieusement perturbée. A peine de nouvelles feuilles apparaissent-elles qu'elles sont récoltées à nouveau. Cette méthode de récolte bien que moins destructrice que celle pratiquée au Cameroun, a une incidence non négligeable sur la croissance et la capacité de régénération de la plante.

Au Cameroun, très peu de cueilleurs se donnent la peine, comme au Congo, de prélever uniquement les feuilles sur la liane. Celle-ci est préalablement coupée à la base de manière à être sûr de ne laisser aucune feuille. En forêt dense, le *Gnetum* utilise parfois des arbres comme tuteur autour desquels il s'enroule jusqu'à atteindre la cime. Dans pareilles circonstances, la liane est coupée avant d'être déroulée. Au cas où l'opération de déroulage de la liane autour de l'arbre serait ardue voire impossible, le cueilleur abat purement et simplement le tuteur avant de faire la récolte, feuille par feuille. Une autre méthode de récolte encore plus dangereuse pour le potentiel productif usitée au Cameroun consiste à déraciner la liane avant d'en collecter les feuilles, ce qui rend impossible tout rejet de souche. Ces méthodes particulièrement destructrices et utilisées à une large échelle compromettent sérieusement l'avenir des *Gnetum* dans leur milieu naturel.

Les feuilles de plantes herbacées de la famille des marantacées ne sont pas comestibles, mais elles jouent un rôle prépondérant dans l'alimentation. En effet, elles servent d'emballage pour de nombreux mets d'Afrique centrale (à l'instar du bâton de manioc, des gâteaux de pistache, d'arachide, etc.). Les espèces les plus commercialisées et donc les plus exploitées sont: *Megaphrynium macrostachyum* et *Sarcophrynium brachystachys*. Ces dernières poussent dans le sous-bois en forêt et préfèrent généralement les zones humides. L'exploitation de ces plantes est très intensive mais seules les feuilles «adultes» sont récoltées et ces espèces possèdent des capacités exceptionnelles de multiplication végétative. Il n'y a, pour l'heure, aucune raison de s'inquiéter quant à l'avenir de ces espèces dans leur milieu naturel malgré une exploitation qui se déroule toute l'année.

[Source: *Gestion des ressources naturelles fournissant les produits forestiers non ligneux alimentaires en Afrique centrale*. Produits forestiers non ligneux - Document de travail n° 5, FAO, 2007. www.fao.org/forestry/site/40716/en]



FRAGRANCE HOUSE SOURCES SUSTAINABLE INGREDIENTS

Givaudan, the Swiss fragrance house, has entered into ethical sustainability partnerships with Australian and Venezuelan producers as part of a move towards sourcing of sustainable ingredients. It has embarked on its Innovative Naturals programme, which it hopes will secure the supply of natural resources for the fragrances of the future.

The two ingredients involved in the programme to date are sandalwood sourced from the southern part of Western Australia and the tonka bean found in the Caura basin of the Bolivarian Republic of Venezuela.

Australian sandalwood. The first of Givaudan's partnerships is with sandalwood producer Mount Romance. The sandalwood is harvested by the Aboriginal communities in the southern part of Western Australia and Givaudan claims to be the first fragrance house to use the Aboriginal source of the wood.

The company will pay a premium for the supply to be passed to the harvesters; a transaction that will be inspected by the Songman Circle of Wisdom (an independent indigenous certification body). In addition, a fund to finance harvesting equipment has been set up by Givaudan and Mount Romance, bringing benefits to both the company and the harvesting communities.

Venezuelan tonka beans. The second of the agreements is with the criollo peoples of Venezuela's Caura basin in partnership with the non-profit organization Conservation International to ensure the sustainable sourcing of tonka beans (*Dipteryx odorata*). Through the agreement, local communities will receive technical and productivity assistance in exchange for their efforts in forest and wildlife conservation.

Like the sandalwood partnership, the agreement is to benefit both Givaudan by improving the quality and harvesting of the beans, and the local communities that will be supported in the pursuit of sustainable economic activities.

Securing resources for the future.

Givaudan's fragrance division has a portfolio of more than 190 natural raw materials and the Innovative Naturals programme is a way for the company to

enlarge this range. Company chief executive officer Gilles Andrier highlighted the importance of securing sustainable future resources for companies with such a large range of natural ingredients.

(Source: CosmeticsDesign-Europe.com [France], 7 February 2008.)




FUNCTIONS AND USES OF MANGROVES

Mangrove forest ecosystems fulfil a number of important functions and provide a wide range of services at the local and national levels (see Box). Fishers, farmers and other rural populations depend on them as a source of wood (e.g. for timber, poles, posts, fuelwood and charcoal) and NWFPs (food, thatch, especially from nipa palm, fodder, alcohol, sugar, medicines and honey).

Mangroves were also often used for the production of tannin suitable for leather work and for the curing and dyeing of fishing nets. However, this production has declined in recent years, mainly because of the introduction of nylon fishing nets and the use of chrome as the predominant agent for curing leather.

Mangroves support the conservation of biological diversity by providing habitats, spawning grounds, nurseries and nutrients for a number of animals. These include several endangered species and range from reptiles (e.g. crocodiles, iguanas and snakes) and amphibians to mammals (tigers – including the famous *Panthera tigris tigris*, the Royal Bengal tiger, deer, otters, manatees and dolphins) and birds (herons, egrets, pelicans and eagles, to cite just a few). A wide range of commercial and non-commercial fish and

MANGROVE USES – WOOD AND NON-WOOD FOREST PRODUCTS

Fuel	Honey
Fuelwood	Wax
Charcoal	Birds
Construction	Mammals
Timber and scaffolding	Reptiles
Heavy construction	Other fauna
Railway sleepers	Food, drugs and beverages
Mining props	Sugar
Boat-building	Alcohol
Dock pilings	Cooking oil
Beams and poles	Vinegar
Flooring and panelling	Tea substitute
Thatch and matting	Fermented drinks
Fence posts and chipboard	Dessert topping
Fishing	Condiments (bark)
Fishing stakes	Sweetmeats (propagules)
Fishing boats	Vegetables (fruit/leaves)
Wood for smoking fish	Agriculture
Tannin for nets/lines	Fodder
Fish-attracting shelters	Household items
Textiles and leather	Glue
Synthetic fibres (rayon)	Hairdressing oil
Dye for cloth	Tool handles
Tannin for leather preservation	Rice mortars
Other natural products	Toys
Fish	Matchsticks
Crustaceans	Incense
	Other forest products
	Packing boxes
	Wood for smoking sheet rubber
	Medicines
	Paper products
	Paper – various types

shellfish also depends on these coastal forests. The role of mangroves in the marine food chain is crucial. When mangrove forests are destroyed, declines in local fish catches often result. Assessments of the links between mangrove forests and the fishery sector suggested that for every hectare of forest cleared, nearby coastal fisheries lose some 480 kg of fish per year. (Source: FAO, 2007. *The world's mangroves 1980–2005*. FAO Forestry Paper 153. Rome, FAO.)

INTERNATIONAL FELLOWSHIPS AVAILABLE AT THE WORLD FOREST INSTITUTE, UNITED STATES

The World Forest Institute Fellowship Program brings forestry and natural resources professionals from around the world to work at the World Forest Institute (WFI) (in Portland, Oregon) for six to 12 months.

Fellows conduct an independent research project developed in conjunction with their sponsors. Projects may involve gathering information, interviewing, visiting other organizations or planning a conference. Fellows typically summarize their projects in a report and poster published by WFI. In addition, a large component of the programme involves travelling and visiting players in the Pacific Northwest forest sector. Fellows visit forest lands, research sites, manufacturing facilities and NGOs.

Project proposals are now being accepted.

For more information, please contact:
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livelihood benefits and the alleviation of poverty; ii) NTFPs and services derived from forests; iii) the management of natural and seminatural forests and plantations for enhanced livelihood benefits, including indigenous tree and forest management systems; iv) trees and common pool resources in land use and management systems; and v) policies, institutional issues and implementation of rural development forestry.

A special issue of the journal (Vol. 18[1], 2008) focused on the certification of NTFPs and included articles on:

- certification of wild coffee in Ethiopia: experiences and challenges;
- NTFPs and certification: strange bedfellows;
- experience with NTFP certification: lessons from Brazil;
- certification for local realities: valuing traditional ecological knowledge of NTFPs;
- bridging the gap: Phytotrade Africa's experience of the certification of natural products;
- certification of NTFPs in China: effects on food quality, forest conservation and rural development.

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Journal of Medicinal Plant Research
The monthly *Journal of Medicinal Plant Research* (JMPR) publishes articles in all areas of research in medicinal plants.

JMPR welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence. All articles are peer-reviewed. The following types of papers are considered for publication: i) original articles in basic and

applied research and ii) critical reviews, surveys, opinions, commentaries and essays. Instructions for authors and other details are available from the JMPR Web site.

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www.academicjournals.org/JMPR

LATEST LAUNDRY SOAPS

Soap nuts aren't exactly new. In fact, the hard, nut-like fruit of the *Sapindus mukorossi* (or soap nut tree) has been used as a natural detergent for hundreds of years – not just in the United States. Now, however, they're becoming an alternative to manufactured soap among green-leaning Americans.

All you do is take a couple of soap nuts, place them in the small cotton sack that comes with the nuts and throw the whole thing in the wash. Soap nuts don't foam, but they seem to clean well enough. (Some online discussions suggested they do best in hot water.) They have a light scent and can be tossed in the composter after they've been used. [Source: *Minneapolis Star Tribune* [United States], 31 December 2007.]



NON-PROFIT ORGANIZATIONS AND NGOS

The Boreal Centre

The Boreal Centre for Conservation Enterprise is a non-profit association concerned with community development in the Peace River region of northern British Columbia, Canada. The Centre's goal is to help improve the livelihoods of the

JOURNALS

Forests, Trees and Livelihoods

Forests, Trees and Livelihoods, originated in 1979 under the title of the *International Tree Crops Journal*, adopted its new name in 2001 in order to reflect its emphasis on the diversity of tree-based systems within the field of rural development. It is a peer-reviewed international journal publishing comments, reviews, case studies, research methodologies and research findings and articles in order to promote discussion, debate and the exchange of information and views in its main subject areas: i) the economic and social importance of trees and forests for people, including their cultural significance, potential for enhanced

marginalized northern, rural and First Nation communities through the promotion of ecologically responsible, financially viable and socially relevant "conservation-based" enterprise.

Since its formation in 2000, the Boreal Centre has been engaged in market opportunities research on NTFPs and has facilitated regional consultations on community development. The Centre's vision is being realized as individuals, families and communities discover new, environmentally sustainable business opportunities.

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FOR MORE INFORMATION, PLEASE CONTACT:

Reg Whiten, Executive Director, The Boreal Centre for Conservation Enterprise, Box 285, Moberly Lake, British Columbia, V0C 1X0, Canada. Fax: +1-250-7889635; e-mail: interraplan@gmail.com; www.peacriverwatershed.ca/borealenterprise (Please see page 69 for more information.)

Reforestation Scotland

Reforestation Scotland is a Scottish charity that works to promote and support people's benefits from forests and facilitates networking of those active in the ecological and social regeneration of Scotland.

Reforestation Scotland promotes NTFPs as an alternative use of forestry and has held seminars on various aspects of NTFP production and marketing. In addition, it maintains the ForestHarvest Web site, Scotland's only Web site dedicated to providing information about the diversity of products available from Scottish woodlands. One of the purposes of the site is to help develop the untapped market potential of these products. It includes information on gathering, management and trading of NTFPs, including a database of buyers and case studies of operating businesses.

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FOR MORE INFORMATION, PLEASE CONTACT:

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Tourism Cares for Tomorrow

Tourism Cares for Tomorrow – the tourism industry's non-profit organization – exists to preserve, conserve and promote the responsible use of the world's natural, cultural and historic treasures, and to support education and research to help

secure the positive future of travel and tourism worldwide.

As part of its mission, Tourism Cares for Tomorrow distributes charitable grants to worthy tourism-related non-profit organizations worldwide. It considers projects or programmes with either or both of the following goals: i) projects that protect, restore or conserve sites of exceptional cultural, historic or natural significance; and ii) programmes that educate local host communities and the travelling public about the conservation and preservation of sites.

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PLANTS TO RAISE BIOLOGICAL ACTIVITY IN SPACE

Tomorrow, the Russian carrier vehicle Progress M63 will deliver a box with cells of two plants – red-rooted gromwell (*Lithospermum erythrorhizon*) and ginseng (*Panax ginseng*) – to the orbit. The new scientific experiment is aimed at studying the peculiar features of the development of plant cell cultures under zero gravity conditions for a potential rise in their biological activity.

The box will stay on board the international space station until the middle of April under natural radiation conditions, charged particle flows and magnetic fields. Cell cultures are usually time restricted – culture lawn dries out in 60 days. However, this experiment provides an airtight container, allowing longer life of both cell and bacterial cultures.

The plants chosen for the experiment are special. Ginseng biomass is a perfect

material for making various medical agents, as well as for cosmetology and the food industry. Ginseng is a source of biologically active substances called ginsenosides, evidencing various therapeutic effects. Red-rooted gromwell contains the valuable, biologically active substance shikonin, possessing bactericide and fungicide properties, as well as having a burn-treating effect. [Source: Russia-InfoCenter [Russian Federation], 4 February 2008.]

PLUGGING NTFPS IN THE CONGO BASIN

The potential of NTFPs to reduce poverty continues to divide opinion. Recently the Rainforest Foundation, a United Kingdom-based charity campaigning for the protection of rain forests and the livelihoods of indigenous people who depend on them, added fuel to the debate by publishing a survey of over 30 years of research from the Congo Basin (*The use of non-timber forest products in the Congo Basin: constraints and opportunities*, by Alison L. Hoare).

The survey concluded that, while NTFPs themselves are rarely the answer to poverty alleviation, their importance nevertheless merits a fundamental shift in forest management policy. Up to now, policy-makers in the six countries surveyed (Cameroon, Democratic Republic of the Congo, Equatorial Guinea, Gabon, the Republic of the Congo and the Central African Republic) have prioritized timber over all other forest products. However, according to the report, NTFPs provide important nutritional, financial and cultural benefits to forest communities that are often threatened by timber extraction. **Food, money and medicine.** Sources of income from the forest vary across the basin, but bushmeat and fish are often the most important. In some villages in southern Cameroon, sales of bushmeat accounted for 51 percent of annual incomes, compared with 32 percent from agricultural sales. In the Central African Republic, hunters can earn between US\$400 and US\$700 per year, more than the official minimum wage. Trade in forest insects is also big business; every year an estimated 9 600 tonnes of edible caterpillars are sold in the Democratic Republic of the Congo capital, Kinshasa, alone.

Bushmeat, fish and insects also provide between 30 and 80 percent of the protein needs of forest populations in the countries surveyed. Other major sources of income from NTFPs include rattan cane, charcoal, mushrooms, palm wine, edible vines, kola nuts and various fruits.

Forest products form the basis of healthcare in the region. The high cost of pharmaceutical medicines and the limited numbers of university-trained doctors have led to an increase in the use of traditional medicines. In the southern province of Cameroon, around 300 species of NTFPs are used medicinally and, in some parts of the Congo Basin, over 90 percent of the population relies on plant-based remedies.

Felling the arguments for timber. Although forests can prove bountiful, many NTFPs are under threat. *Gnetum* vines, for example, provide nutritious leaves much in demand in urban markets, but deforestation is removing the trees that support the vines. *Nudaurelia oyemensis* – a widely consumed caterpillar species – is threatened by the loss of its preferred host plant, the sapelli tree, which is highly valued for its timber. Rattan canes are frequently overharvested because of their perceived status as a free or "open access" resource. Finally, strong urban demand for bushmeat has had a severe impact on animal numbers, exacerbated by increasing human populations and diminishing forest areas.

The need to protect the long-term supply of these products has been recognized by the World Agroforestry Centre (ICRAF), among others, which has projects for the domestication of some fruit species, such as safou (*Dacryodes edulis*) and bush mango (*Irvingia gabonensis*). There are also trials to incorporate rattan in agroforestry and the Center for International Forestry Research (CIFOR) has supported cultivation of *gnetum* vines.

Towards sustainable forest management. Domestication – including genetic improvement – and cultivation of species outside the forests themselves are often seen as the only way to ensure a continued supply of many products. While acknowledging this, the Rainforest Foundation is concerned that cultivation may reduce the incentive for forest preservation, and may not stop overharvesting, since people will continue to be attracted by a free resource. In addition, the Foundation points out that many forest products are collected by women and the elderly or by vulnerable groups such as Pygmies. If forest plants and

insects are farmed rather than gathered, the benefits they currently offer to these groups may be lost.

Cultivation should therefore be combined with sustainable resource management *in situ*, says the Foundation report. Beyond this, it recommends a comprehensive set of policies aimed at supporting the NTFP sector; promoting policies are needed to establish harvesting levels for threatened species and to allocate harvesting licences. Further policies would be required to develop certification schemes for NTFPs and to clarify land tenure and resource rights of forest communities. Such policies would offer a more holistic approach to the region's forests than the current focus on timber, reflecting nutritional, financial, environmental and cultural values. Revised management plans for the region would be likely to include extraction of NTFPs, beekeeping, cultivation of medicinal plants, agroforestry, insect rearing and bioprospecting. [Source: New Agriculturist Web site: www.new-ag.info/index.php]



STYLISHLY SUSTAINABLE JEWELLERY

Sustainable jewellery label, LeJu's collections are exploding with colour. Muted lilac, citrus lime, dark red and deep aquamarine are contrasted with the natural earth-toned colours of the vegetable ivory and other tropical seeds making up the range of stylish, vibrant jewellery. LeJu combines the best in contemporary design with naturally sustainable, plant-based materials resulting in a unique, ecofriendly jewellery that is already gaining momentum with the fashion crowd.

LeJu specializes in the use of a special seed known as vegetable ivory. The seed is harvested from palm tree species (*Hyphaene* sp. and *Phytelephas* sp.), found in the Amazonian rain forest. Vegetable

ivory resembles elephant ivory in both colour and hardness and is the only 100 percent sustainable alternative. *Tagua* is another name for the seed or nut and the rich colours are created by staining and dyeing it with natural plant extracts and oils. The use of vegetable ivory provides an alternative to cutting down rain forests for farming and prevents elephants from being killed for their tusks. [Source: Easier Lifestyle (press release) [United Kingdom], 21 February 2008.]

TANNING: NEED TO EXPLORE NICHE MARKETS FOR EAST INDIAN LEATHER

Chennai. Changing fashion trends and environmental awareness of consumers in developed countries have created niche markets for ecofriendly products such as vegetable-tanned East Indian (EI) leather. This leather, produced in the small and cottage sectors, could be developed into a branded product with geographic indication, tanners say.

According to the secretary of the Tanners Association of Trichy, V.R.S.M. Mohideen, joint ventures for production and buy-back arrangements for fashion and designer products from ecofriendly and vegetable-tanned leather could be identified to boost India's leather and leather products exports. "It is also in tune with the international fashion trend, which is switching over to fully vegetable-tanned and environmentally friendly leathers," he said.

The unique technology and craftsmanship required to make vegetable-tanned EI leather (East India leather, denoting its colonial legacy) is vested in the small-scale tanners and craft workers in the Trichy and Dindugal areas of Tamil Nadu. EI leather is at present being considered for registration as a "Geographic indication" product. "India is the only source available to the world for EI leather supply," Mohideen told the *The Financial Express*.

EI leather dominated Indian leather exports until 1970. After the introduction of chrome-processed finished leather and the focus on exports of value-added consumer products, it was driven into the background. It currently accounts for less than 5 percent of finished leather exports. The EI tanners, now facing an uncertain future because of fiscal and policy constraints, believe that world fashion-makers will create new value-added

products using EI leather. However, poor patronage by the Indian mainstream leather industry, a 15 percent duty on exports, the high costs of environment protection and pollution control technologies, and import duty on essential ingredients such as wattle extracts, have led to the closure of a large number of EI leather tanneries, Mohideen said.

Removal of export duty, liberal imports of essential ingredients for tanning and government policy support for the promotion of EI leather for world markets would give a new lease of life to this traditional rural-based industry. [Source: *The Financial Express* [India], 14 January 2008.]

TREE RESIN: INSULATION RETROFITTERS PUSH "GREEN" ALTERNATIVE

FoamXperts, a Fishers-based business, is trying to introduce what it says is a more energy-efficient and earth-friendly product: tripolymer foam insulation. According to the company's vice president, the product is water-based, with a high resin content derived from tree sap. It is also mould- and fire-resistant, he said, and provides a higher level of insulating properties because it expands before hardening to conform to the shape of any space. And, perhaps more important, it is non-toxic. [Source: *Indianapolis Star* [United States], 14 January 2008.]

VALUING TREES AND FORESTS

Revenues from forests of the Congo Basin
The humid dense forests of the Congo Basin are of great economic importance to the six countries (Cameroon, Central African Republic, the Republic of the Congo, Democratic Republic of the Congo, Equatorial Guinea and Gabon) of the region; for example, contributing up to 18 percent to the gross domestic product (GDP) of the Central African Republic and 20 percent to the foreign exchange earnings of Cameroon.

However, such revenues are calculated from timber harvesting, while the value of NWFPs is generally not accounted for in national statistics. [Source: J.C. Tieguhong and O. Ndoye. 2007. *The impact of timber harvesting on the availability of non-wood forest products in the Congo Basin*. Forest Harvesting Case Study 23. Rome, FAO.

ISBN 1014-9945. Available at:
www.fao.org/docrep/010/a1105e/a1105e00.htm/

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Adding value to forest resources

Interest in NTFPs has grown with the increasing awareness of tropical forest deforestation and recognition of the need to add value to forest resources. Holistic management of NTFPs would maintain and sustain the resource, contribute to sustainable development, conserve forests and biodiversity and promote non-traditional enterprises to improve local economies and diversify the economic base of the rural poor. [Source: *Asia – a rich source of NTFPs*. *Maskayu*, 10, 2007.]

Putting a value on rain forests

Biodiversity doesn't sell! At least that was the frustrated cry of at least one delegate in New York last week at a conference of corporations, NGOs and financiers to explore innovations in biodiversity and business.

At present, natural capital remains largely off the balance sheet of all but the most innovative companies. But this may be about to change with the announcement of a ground-breaking deal by a group of London-based investors in the United Kingdom who aim to change the way the economy values the environment, by investing in rain forests as a global life-support system and to fight climate change.

The deal, announced by Canopy Capital at the world's first Biodiversity and Ecosystem Finance Conference, involves guaranteed payments over five years to the Iwokrama International Centre in Guyana in return for rights to the ecosystem services produced by a rain forest reserve two and a half times the size of London, which the Centre manages on behalf of the Commonwealth.

The funds will be used to provide livelihoods for the 7 000 indigenous people dependent on the reserve and to help support conservation of the rain forest.

Canopy Capital aims to repackage the rights into novel financial instruments such as forest-backed bonds that will acquire value over time for investors. Profits will be shared with up to 80 percent of any upside going to the Iwokrama community.

London law firm Stevenson Harwood drew up the pioneering deal, defining the "ecosystem services" of the reserve as the proven ability of rain forests to generate rainfall, cool the atmosphere, store carbon, moderate weather conditions and sustain biodiversity.

If it works, the project could create a new paradigm for maintaining life on earth by paying for it – and not just for bugs – but for all of us. [Source: Andrew Mitchell, *Telegraph.co.uk* [United Kingdom], 31 March 2008,]

How is a tree valued?

A plane tree in central London has been valued at £750 000 under a new system that puts a "price" on trees. How?

A six-foot-wide (1.8 m) plane in Berkeley Square, Mayfair, is thought to be the United Kingdom's most valuable tree. Large, mature, city trees like this one are being blamed – sometimes wrongly and often fatally – for damage to neighbouring properties. But it is hoped that a new valuation system will make it harder for "expensive" trees to be felled because of doubtful suspicions that they are to blame for subsidence.

So how are trees priced? Size is the biggest factor, followed by population density of the surrounding area (how many people enjoy the tree); the size of the canopy; its life expectancy; its impact (does it flower or drop annoying honeydew); and any special features, such as the fact that Queen Victoria planted it. The system has been on trial in London and is gradually being adopted by local authorities elsewhere in the United Kingdom, such as in Bristol. [Source: BBC News [United Kingdom], 23 April 2008.] ♣



The foundation of justice is good faith.
Marcus T. Cicero