

AFGHANISTAN

Killing heroin with saffron

Weaning Afghanistan's poppy farmers away from growing the raw material for the bulk of the world's illicit heroin has never been easy, but Kashmir's saffron cultivators may have the answer. A high-value crop, saffron has long been seen as a counter-narcotics candidate, but the idea has a chance of coming to fruition with expertise from farmers in India's Jammu and Kashmir state who produce the finest saffron anywhere.

An agreement between the agriculture ministries of the two countries paved the way for a 25-member delegation from Afghanistan to visit Jammu and Kashmir in November 2011 and see how the state's success with saffron can be emulated.

After touring Pampore, the main centre of the saffron industry, located 14 km east of Srinagar, delegation chief Naseem Atai told IPS that he was hopeful of a "change of choice" in his country. "Once our farmers grow saffron in the manner of their Kashmiri counterparts, they will certainly find it a profitable agricultural activity and they may ultimately give up growing poppy," Atai said. "We have seen how Kashmiri farmers are earning good dividends by growing saffron. We can do the same for Afghanistan if we adopt the same methods and techniques."

Afghan farmers, said Atai, have already been growing saffron since 2000 in Herat province near the border with the Islamic Republic of Iran, "but the yield and quality are not good since the farmers have no expertise or access to good technology".

The Islamic Republic of Iran and Spain are the two other countries where saffron is grown, with Iran producing 85 percent of the world's supply. Yet the quality of Kashmiri saffron – essentially the dried stamen of the flower – is considered to be far superior to that grown elsewhere in the world.

Saffron is sought for the aroma, colour and flavour it gives to rice and other food. It has also been used for centuries in medicines and as a natural pigment. Depending on the variety, some 400 000 or more stigmas may go into making 1 kg of saffron. The work must be done by hand and, since it calls for nimbleness, the industry holds out employment prospects for large numbers of women.

Saffron is considered the world's costliest spice, and Kashmiri varieties currently fetch US\$3 600/kg, although prices in recent years have gone as high as US\$6 000/kg.

Support from India to prop up various sectors of Afghanistan's economy was

formalized under a "strategic partnership agreement" signed in New Delhi during a visit by Afghan President Hamid Karzai in the first week of October 2011. This agreement came even as the United Nations Drug Control Agency released the report of a survey that showed land under poppy cultivation in Afghanistan increasing as a result of rising opium prices on the one hand and economic hardships faced by Afghans on the other. According to FAO, while Afghanistan's National Drug Control Strategy aims to eliminate illicit opium poppy cultivation by 2013, the UN survey found that poppy is now grown in 17 of the country's provinces. "Cultivation of poppy has devastated our agriculture and reputation. Our country is now known more for poppy and conflict than for any positive activity. We want to change that," said Asadullah Aurakzai, a member of the delegation. (Source: IPS in Real Change News, 25 January 2012.)

ANGOLA

Environment Ministry to create supervision body

The Angolan Environment Ministry, supported by its partners, will soon create a national environment controlling body to manage the country's parks. "This will be implemented under the policies and government programmes aiming at improving control and management actions in the conservation areas, mainly in the national parks, where ecotourism needs to be promoted," said the Environment Minister, Maria de Fátima Jardim.

The project started with a group of 45 former military personnel selected in the northern Cabinda province, who said they are ready to learn techniques to enable them to take care of Mayombe Forest, mainly its national park. (Source: Angola Press, 9 February 2012.)

ARMENIA

Norwegian Ministry of Foreign Affairs makes major commitment to Armenia Tree Project

Yerevan. In recognition of Armenia Tree Project's successful record in tree planting, environmental education and sustainable development, the Norwegian Ministry of Foreign Affairs has awarded it a US\$1.2 million grant. The Norway funding will provide partial support for some of the project's core programmes, including tree

planting initiatives in towns and villages throughout Armenia, an expansion of reforestation programmes in northern Armenia, maintenance of recently planted forests, environmental education programmes that train teachers and inspire youth, and community training in sustainable forest management. (Source: Armenia Tree Project press release, 14 March 2012.)

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AUSTRALIA

ACIAR'S forestry research in Pacific island countries

The Australian Centre for International Agricultural Research (ACIAR)'s main strategies in the Pacific islands have been to focus on research that supports the growing of high-value trees by landowners, developing value-adding opportunities for timber and non-timber products, and the protection of plantations from insects and diseases.

Forests and trees have great cultural significance for Pacific island people and provide many benefits for subsistence and livelihoods. In some of the Pacific island countries, such as the Solomon Islands, Vanuatu and Fiji, forests have also been commercially exploited and forest industries are important contributors to the national economies. Forests are held under custom landownership, but governments regulate commercial forestry operations. While timber is important, there are many NTFPs that provide significant cash income for people in remote locations. Nuts from *Canarium* trees are an important, locally traded NTFP in the Solomon Islands and Vanuatu. Sandalwood (*Santalum*

australocaledonicum) has been traded for centuries and is still a very important forest product in Vanuatu. (Source: Tony Bartlett, Forestry Research Program Manager, Australian Centre for International Agricultural Research.)

BANGLADESH

Improving livelihood status through collection and management of forest resources

A recent paper explored the role of forest resources in improving the livelihoods of forest-dependent people in and around two forest ranges in Sylhet Forest Division. The authors conducted an intensive field survey from early May to mid-August 2010, collecting primary information through community profiles and household interviews, using a semi-structured questionnaire focusing on sociodemographic, livelihood activities and overall impacts on forest resources. A total of 58 respondents from two forest ranges (36 from Kulaura and 22 from Habiganj-2 range) were interviewed.

Data analyses show that overall, 26 and 33 percent of people respectively in the two ranges, are totally dependent on the forest for their livelihoods. About 42 plant species belonging to 32 families were used by the people. Of these species, trees dominated (50 percent), followed by herbs (29 percent). Collecting forest resources, especially NTFPs and building materials, helps people meet important household needs and are sources of income – such as leaves and medicinal herbs, food for livestock, fruits, fuelwood and honey – while also supporting the production of secondary goods such as processed or prepared food (animal and vegetable), baskets and other crafts.

The paper concludes that research on the use of forest resources and co-management practices should be implemented through forest-dependent people to continue to live in and around the study areas in a sustainable manner. (Source: Improving livelihood status

through collection and management of forest resources: an experience from Sylhet Forest Division, Bangladesh. In *International Journal of Forest Usufructs Management*, 12[2], July–December 2011.)

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BENIN

Ethnic differences in use values and use patterns of *Parkia biglobosa* in northern Benin

The African locust bean tree (*Parkia biglobosa*) is a multipurpose species used widely in arid Africa by local communities. The present study focused on ethnic differences in use values and use patterns of *P. biglobosa* in northern Benin, where the species grows widely. The use values according to the various ethnic groups in the study area have been evaluated in detail.

From 13 ethnic groups, 1 587 people were interviewed in the study area using semi-structured questionnaires. All interviewees in the study area knew at least one use of *P. biglobosa*. The various uses identified were medicinal (47 percent), handicraft and domestic (3 percent), medico-magic (1 percent), veterinary (1 percent), cultural (1 percent), food (25 percent) and commercial (22 percent). The various parts involved in these types of uses were: fruits (shell [2 percent], pulp [22 percent] and seeds [36 percent]), bark (17 percent), leaves (9 percent), roots (3 percent), flowers (1 percent) and branches (10 percent). The ethnic group consensus values for *P. biglobosa* parts showed that the seeds are used the most.

The study concluded that *P. biglobosa* is well known and used in different ways by the local populations in the study area. Local knowledge on the species is diversified and influenced by ethnic group. Ethnic differences in use values and use patterns of the species were evident in this study. (Source: K. Koura, J.C. Ganglo, A.E. Assogbadjo and C. Agbangla, C. 2011. Ethnic differences in use values and use patterns of *Parkia biglobosa* in Northern Benin. *Journal of Ethnobiology and Ethnomedicine*, 7: 42.)

Bénin: quand les dieux préservent les forêts

(Syfia Bénin.) Le Bénin conserve encore près de 3 000 forêts sacrées, réservoirs de biodiversité et remparts contre la désertification. Bientôt intégrées dans les aires protégées, elles contribuent à leur préservation, en dépit de pressions croissantes.

À Ouidah, capitale économique du Bénin située à 40 km de Cotonou, un lopin de forêt oppose encore une résistance à une cité en pleine urbanisation. Dans la partie de la forêt accessible au public, de petites cases décorées de dessins de serpents et des amulettes accrochées aux pieds de grands arbres alertent le visiteur qu'il se trouve en un lieu habité par les esprits. Nous sommes dans la forêt sacrée de Kpassè. «Cet endroit est sacré parce que c'est ici que se trouve l'esprit du roi Kpassè qui, disparu en 1661, s'est transformé en arbre», raconte Anicet Zantchio, guide dans cette forêt érigée en site touristique. «Nous avons décidé d'ouvrir une partie du domaine au public à la demande du Gouvernement. En principe, seuls les initiés sont autorisés à se rendre dans cette forêt où nous organisons les cérémonies rituelles, en particulier l'enterrement des crânes des défunts de notre lignée», ajoute Gédéon Kpassènon, membre de la famille royale de Ouidah qui assure la gestion de la forêt.

Le Bénin, terre du vaudou, regorge toujours de réserves boisées conservées par les gardiens de la tradition, en grande majorité de petits îlots forestiers éparpillés sur le territoire. Une récente étude a répertorié 2 940 forêts sacrées et autres plantations «défiées», abritant divinités tutélaires, sociétés secrètes ou cimetières, pour une superficie totale d'environ 18 360 hectares.

Rempart contre la désertification

Même si les forêts sacrées sont prioritairement consacrées aux rituels vaudou, elles constituent, aux yeux de nombreux spécialistes, la forme traditionnelle par excellence de conservation des écosystèmes. «Leur gestion et leur accès, indique Nestor Sokpon, enseignant en sciences agronomiques à l'Université d'Abomey-Calavi, sont réglementés par des principes religieux qui se matérialisent à travers tout un ensemble d'interdits, de prescriptions et de pratiques rituelles qui ont longtemps permis leur protection et leur régénération». La réglementation de l'accès



au lieu et à ses ressources ont souvent repoussé les propensions humaines à leur destruction. «Nos parents avaient des coutumes pour préserver les écosystèmes, forêts, marigots, etc. Quand ils sentent la pression démographique, ils implantent un fétiche pour faire reculer l'activité humaine et garantir un certain équilibre environnemental», souligne Ferdinand Kidjo, directeur technique du Centre national de gestion des réserves de faune (CENAGREF).

L'importance de ces forêts dans la préservation de la biodiversité est beaucoup plus forte dans le Nord du pays, où les rites d'initiation en forêt sont encore légion. «La conservation des forêts à des fins initiatiques constitue un vrai rempart contre la désertification, très avancée dans cette région du pays», atteste Ferdinand Kidjo. Pour lui, ces forêts sont comme un réel instrument d'adaptation au changement climatique. «Si on les regarde, renchérit Évariste Alohou, coordonnateur du projet d'intégration des forêts sacrées dans les systèmes des aires protégées du Bénin, on y retrouve des espèces végétales qui n'existent plus nulle part ailleurs. Elles regorgent d'une biodiversité que nous ne retrouvons plus dans les végétations exploitables.»

Il faut sauver la forêt

Mais la force des esprits qui préservent autrefois l'intégrité de ces surfaces boisées semble s'effriter au fil du temps. «La forêt sacrée de Kpassè couvrait une superficie de 360 hectares, aujourd'hui elle est confinée dans un périmètre de 4 hectares parce que le domaine a été morcelé au profit des habitations», se désole Gédéon Kpassènon. Évariste Alohou constate que beaucoup de forêts sont aujourd'hui menacées de disparition, car confrontées à une dégradation avancée face à des pressions démographiques et économiques, liées surtout au recul du pouvoir des religions traditionnelles. «Les gens croient de moins en moins aux esprits des forêts sacrées, qui commencent à faire l'objet d'une exploitation frauduleuse», affirme-t-il. Ferdinand Kidjo estime, pour sa part, que l'absence des forêts sacrées dans le système national des aires protégées a contribué à leur dégradation.

Conscient du péril, l'État béninois a lancé en 2010 le projet d'intégration des forêts sacrées dans le système des aires protégées. «Il s'agit pour nous de développer des aires communautaires, de promouvoir un système d'utilisation durable et d'étendre

les principes de bonne tenue de ces forêts sacrées et de leur environnement», affirme le coordonnateur du projet financé par le Fonds pour l'environnement mondial (FEM). En attendant de passer la main au Code forestier national, les esprits gardent toujours le contrôle sur ce qui reste des forêts sacrées contre la convoitise humaine de plus en plus pressante. (Source: Syfia Info, 22 décembre 2011.)



BHUTAN

Locals worry over sustainability of bamboo supply

Sephu Geog, an area once providing an abundant bamboo harvest, is now facing a shortage in its supply as demand for bamboo handicrafts has increased. The demand for bamboo has also doubled as a result of the booming construction industry, which is struggling to find alternatives for timber. (Source: Headlines Himalaya, 188, 26 December 2011.)

BURKINA FASO

Empowering women for better trade in shea

Shea is one of the main forest products in the Sahel zone of West Africa and shea nuts and butter represent a significant source of income for rural communities in Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Nigeria, Senegal and Togo. The trees grow naturally throughout the semi-arid region of West Africa, but their largest concentration is in Burkina Faso, where exports of shea products accounted for the country's third most important export in 2000. Shea butter – often termed as “women's gold” by villagers in Burkina Faso – is extracted from the kernel through arduous processing, and is the exclusive prerogative of rural women, who are also totally involved in the collection of shea nuts.

With communally owned wooded savannahs comprising approximately half of

the landscape, shea has emerged as a vibrant sector for local economic development and sustainable forest management in Burkina Faso. The growing demand for cooking and cosmetics uses, both for domestic consumption and export, has further fostered this strong growth in recent years.

The improved economic condition of the shea trade, however, has not equitably benefited the women who have toiled the most. While women's participation had remained restricted to local markets, men continued to dominate the lucrative export markets, resulting in a very unfair situation for women. Low literacy levels, lack of technical skills and poor access to market information and formal credit have further aggravated their plight.

In response to these changes, particularly after structural adjustment had negatively impacted the livelihoods of numerous poor families, the Government of Burkina Faso and other national and international organizations took several initiatives. The key focus of these measures has been the development of the shea sector through the empowerment of women engaged in this enterprise. Some of these initiatives include launching the Projet national karité (PNK, National Shea Project), with financial and technical assistance from the Centre canadien d'étude et de coopération internationale (CECI, Centre for International Studies and Cooperation); mobilization of funding support from Taiwan Province of China; monitoring of exports by the United Nations Development Fund for Women (UNIFEM); and the establishment of a coordinating committee by the government to ensure synergy among various donor institutions. The support of UNIFEM, for example, ensured direct purchases through a network of more than 100 shea groups that have been set up and a greater share of benefits for local women engaged in the industry. The women were also trained in the trade, in order to produce a better-quality product.

The empowerment of women through the organization of local shea cooperatives, besides creating better economic opportunities for women producers, has helped them earn the respect of their family and provide new opportunities for their involvement in community development. (Contributed by: Jagannadha Rao Matta, Ph.D., Forestry Officer (Finance), Forest Economics, Policy and Products Division, Forestry Department, FAO, Viale delle Terme di Caracalla, 00153 Rome. Fax: +39 0657055137; e-mail: Rao.Matta@fao.org/)

CAMEROON

Promoting sustainable medicinal wildlife use in Cameroon

As the first phase of a two-pronged community education project, "Promotion of the sustainable use of indigenous wildlife resources as medicinal wildlife, in Cameroon's Northwest Region", a study was carried out from February to November 2010 both to identify wildlife species that are used for traditional medicine and the means of their acquisition. The main objective of the project was to raise public awareness of the sustainable use of medicinal wildlife and the study, a questionnaire survey, was initially to establish the fact that wildlife products/parts are actually applied in traditional medical treatment or prevention.

To achieve the goal, we set out to administer questionnaires to 60 traditional practitioners in all seven administrative divisions of the Northwest Region, the project site. At the end of the field work we had approached 62 practitioners. Of the 61 who responded, two said they did not use wild animals for medicines and could not go into any detail.

From the responses of the 59 traditional practitioners, 58 wildlife species – comprising 26 mammals, eight birds, ten insects and two fish – were indicated as having medicinal values in 53 cases of traditional treatment of illnesses and other medicinal usages. Of the 53 indicated medicinal usages, mystical protection, mental ills, disabled children and rheumatism rank in descending order as most necessitating medicinal wildlife. However, and most important of all, of the 58 identified medicinal wildlife species, 13 are of "Class A" or "totally protected" in Cameroon, one is endemic and 14 are listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) – banned from international trade.

Paradoxically, the only wildlife species that are extinct in the Northwest Region – and classified as "totally protected" in Cameroon – rank as the first and second highly used medicinal wildlife species: the elephant (*Loxodonta africana*) and the lion (*Panthera leo*). The chimpanzee (*Pan troglodytes*) and the African rock python (*Python sebae*), both of "Class A" in Cameroon and listed as "endangered" in the International Union for Conservation of

Nature (IUCN) Red List, both rank as the third most used medicinal wildlife species.

Furthermore, from the survey, only two of the 59 respondents had inherited the wildlife products used, while 13 non-licence-holding traditional practitioners hunted the required products by themselves and the rest affirmed that they ordered them from local hunters or bought them from the open but secretive bushmeat markets. This was revealing of the unsustainable use of the wildlife products, considering that only one hunter had obtained and operated with a hunting licence that year in the Northwest Region. Unless the practitioners bought their products out of the region (which was not indicated), most of what they used was illegally harvested.

The study result was presented at the Bamenda Symposium on Sustainable Medicinal Wildlife, held in Bamenda, the chief town of the Northwest Region on 10 November 2010 and presided over by the Regional Delegate of the Ministry of Forestry and Wildlife. During the historic symposium, a medicinal wildlife poster was launched for free public distribution.

Concrete recommendations were made by working groups for the three stakeholders (the government, NGOs and traditional practitioners) for them to take action in their respective spheres for the sustainable use/management of medicinal wildlife. These recommendations were the following. **For the government:** take the lead in raising public awareness of the sustainable use of medicinal wildlife; intensify the protection of identified medicinal wildlife species; facilitate the obtaining of medicinal wildlife products; and promote research on the use of indigenous wildlife species for traditional medicine.

For conservation and pro-health NGOs/groups: carry out research, training and community education on the sustainable use of medicinal wildlife; and create networking among stakeholders in medicinal wildlife use/management. **For traditional practitioners:** research alternatives to protected medicinal wildlife species; seek legal access to medicinal wildlife species; and create networks among practitioners to use medicinal wildlife sustainably.

For the second phase of the sustainable medicinal wildlife initiative, which is ongoing, key activities include: (i) running a "medicinal wildlife quarter hour" bimonthly radio slot; (ii) production of a short film on sustainable medicinal wildlife, with scenes on wildlife sensitization; (iii) reproduction of

more medicinal wildlife posters, to raise further awareness; (iv) subsidize (by 75 percent) the acquisition of hunting licences by local people to set an example for legal access to medicinal wildlife; and (v) train some traditional practitioners to be trainers on sustainable wildlife use.

Both phases of the initiative have been or are being realized with funding support from the Rufford Small Grants Foundation, the institutional support of the regional services of the Ministries of Forestry and Wildlife and of Public Health in the Northwest Region and of the Centre for Indigenous Resources and Development (CIRMAD), a local conservation NGO.

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La valorisation des PFNL au Cameroun: cas de la forêt communautaire de Morikouali-Ye dans la région de l'Est

Une étude menée dans la forêt communautaire de Morikouali-Ye a pour principal objectif de concilier la commercialisation des produits forestiers non ligneux (PFNL) et leur exploitation durable. De façon spécifique, il s'agit d'une part, de déterminer le bénéfice que les ménages tirent de la vente des PFNL et, d'autre part, d'évaluer ce que ces ménages sont prêts à payer en vue d'exploiter durablement ces ressources.

L'étude a utilisé la méthode d'évaluation contingente à travers deux approches, l'une paramétrique (modèle Logit) et l'autre non paramétrique (estimateur de la borne inférieure de Turnbull), ainsi qu'un modèle Tobit censuré, sur un échantillon stratifié de 60 ménages ruraux. Les résultats obtenus ont été les suivants:

- L'étude sur la valorisation des PFNL a montré que cinq espèces sont les plus collectées dans la zone d'étude: *Irvingia gabonensis*, *Ricinodendron heudelotii*, *Gnetum*, le jujube et les écorces. Leur vente contribue significativement à 41 pour cent du revenu total des ménages. Cette part est fortement influencée par le nombre de personnes du ménage, l'âge, le niveau d'instruction, le temps passé à la collecte et l'emplacement dans la forêt communautaire. Elle diminue en outre considérablement du fait de l'augmentation de la population et de la mauvaise exploitation de la forêt.
- Quelque 68 pour cent des ménages interrogés sont disposés à payer pour garantir une exploitation durable des PFNL, en vue de profiter de l'usage de ces ressources et de conserver les revenus qu'ils tirent de leur vente. L'estimation du consentement moyen à payer par le modèle Logit et par l'estimateur de Turnbull est respectivement de l'ordre de 6 845 FCFA et 4 940 FCFA par ménage et par an, avec un coût social de la dégradation évalué à 3 237 820 FCFA l'an. La probabilité du paiement augmente avec le revenu, le sexe, le nombre de femmes dans le ménage, l'âge et l'activité en tant que commerçant de PFNL, et diminue avec l'argument du développement durable.

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CENTRAL AFRICAN
REPUBLIC

Contribution à l'inventaire ethnobiologique des champignons comestibles en vue d'un essai de domestication

La République centrafricaine dispose d'un massif forestier important et d'une savane étendue sur tout le territoire. À l'instar du bois, les produits forestiers non ligneux (PFNL) contribuent considérablement aux moyens d'existence des populations urbaine et rurale riveraines. Ces PFNL sont variés et répandus sur toute la superficie, tant en forêt qu'en savane. Pratiquée par plus de la moitié de la population, leur cueillette contribue à l'alimentation, sert au traitement de certaines maladies et génère des revenus.

Parmi les PFNL, les champignons comestibles sauvages offrent un attrait



particulier du fait de leur saveur et de leur valeur alimentaire et commerciale. Ils constituent en effet un aliment complet contenant des minéraux, des glucides, des protéines et des lipides. Certains chercheurs ont étudié l'apport alimentaire des champignons comestibles sauvages, parvenant à des résultats intéressants, comme l'illustre l'exemple de *Auricularia cornea* séché – valeur énergétique: 397 kilocalories pour 100 grammes; composition chimique moyenne en pourcentage: protéines, 7,9; lipides, 1,2; vitamine B¹², 2.10⁻⁴; fer, 64,5.10⁻³.

L'étude et la conservation de ces champignons constituent un axe de recherche prioritaire pour la sécurité alimentaire et la lutte contre la pauvreté en République centrafricaine. Ainsi, à travers le projet GCP/RAF/441/GER «Renforcement de la sécurité alimentaire en Afrique centrale à travers la gestion durable des produits forestiers non ligneux» mis en œuvre par la FAO, une étude ethno-mycologique a été menée sur les marchés de Bangui et des environs.

L'objectif était de collecter les diverses espèces de champignons comestibles, recueillant leurs noms vernaculaires et leurs substrats, voire leurs habitats, en vue d'effectuer un essai de domestication et de montrer leur importance pour la sécurité alimentaire des populations urbaine et rurale. Une analyse conduite par la suite en laboratoire devait déterminer les caractéristiques organoleptiques des champignons. Il s'agissait en outre d'estimer, en termes de commercialisation, la contribution de ces produits dans l'économie locale des ménages, les femmes en étant les principales vendeuses sur tous les marchés. Par ailleurs, l'étude visait à renforcer les capacités de tous les acteurs impliqués dans la filière.

Cette étude a permis de recenser les champignons comestibles et d'établir la correspondance entre leurs noms vernaculaires et leurs noms scientifiques.

Ainsi, *Termitomyces stratus* s'appelle gougou ti bobo, gougou champignon et bobo termite en sango, et *Termitomyces* spp. se dénomme ngawe (jeune fille) en yakoma. L'étude a montré que les populations sont de grandes consommatrices de champignons, chaque ethnie détenant des connaissances mycologiques variées et en faisant un usage divers. Ces différences portent tant sur la nomenclature locale que sur la consommation, l'utilisation médicinale et les modes de préparation. (Auteur: Yolene Rellea Kouagou, stagiaire à la FAO dans le cadre du projet PFNL, s/c FAO B.P. 2157, Bangui, République centrafricaine. Courriel: kouagou_86@yahoo.fr/) (Please see pages 67–68 for more information on this project.)

Commercialisation de *Gnetum* spp. dans la Lobaye

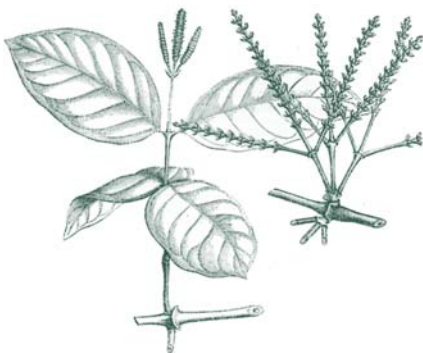
La préfecture de la Lobaye en République centrafricaine est une zone très riche en produits forestiers non ligneux (PFNL) tels que *Irvingia gabonensis* (mangue sauvage), *Gnetum* spp. (koko), *Pentaclethra macrophylla* (ebai) ou *Ricinodendron heudelotii* (essessang). Les communautés autochtones Aka, principales bénéficiaires de ces PFNL, représentent 30 à 40 pour cent de la population de cette zone. Ce sont de grandes collectrices de PFNL du fait de leur parfaite maîtrise de la forêt et de leur dépendance à l'égard de ces produits et des autres ressources naturelles forestières (fruits, écorces, feuilles, miel, gibier, etc.). Dans la plupart des cas, les prélèvements sont effectués de manière traditionnelle en vue de l'autoconsommation. Si une partie de la récolte est vendue sur les marchés locaux, la vente se fait à vil prix ou les PFNL sont échangés contre d'autres produits – tels que savon, sel, huile, cigarettes, farine de manioc, vêtements ou alcool.

Dans le cadre d'un stage pour l'obtention du diplôme d'ingénieur agronome à l'Institut supérieur de développement rural (ISDR), une étude de filière sur *Gnetum* spp. a été menée avec l'appui du projet de la FAO GCP/RAF/441/GER «Renforcement de la sécurité alimentaire en Afrique centrale à travers la gestion durable des produits forestiers non ligneux». Celle-ci a montré que la commercialisation de *Gnetum* spp. dans la Lobaye par les collecteurs primaires, les grossistes, les spéculateurs et les détaillants se fait de façon informelle. Cette faiblesse organisationnelle est due dans la majorité des cas à la méconnaissance des marchés locaux, nationaux et régionaux, lesquels pourraient

permettre aux acteurs concernés de tisser des relations commerciales et d'obtenir de la valeur ajoutée sur la matière première. Des contraintes d'ordre institutionnel entravent en outre sérieusement le développement de la filière.

Pour analyser le circuit de commercialisation de la filière *Gnetum* spp. et estimer la marge bénéficiaire des différents acteurs, l'étude s'est penchée sur 12 ménages issus des populations Aka (collecteurs), 74 ménages issus des commerçants grossistes et 54 ménages issus de commerçants détaillants (hommes ou femmes). L'objectif était d'évaluer l'impact socioéconomique de ce PFNL. Du fait du caractère informel de la filière, il est difficile de quantifier exactement la marge bénéficiaire dégagée par chaque catégorie d'acteur. En revanche, de façon qualitative, les enquêtes ont révélé que la commercialisation de *Gnetum* spp. génère de la valeur ajoutée et améliore les revenus des producteurs et autres acteurs impliqués.

Il est difficile pour le Gouvernement centrafricain de pouvoir mesurer la contribution des PFNL à l'économie du pays. Une stratégie nationale pour le développement du secteur est en cours d'élaboration et sa mise en œuvre devrait enclencher une nouvelle dynamique, notamment en termes d'organisation de la filière *Gnetum* spp. La recherche de solutions alternatives, telles que la domestication de *Gnetum* spp. par les acteurs, constitue un levier important susceptible de galvaniser la filière. (Auteur: Elodie Annette Hondet, élève ingénieur agronome (option Eaux et forêts), stagiaire à la FAO dans le cadre du projet PFNL, Institut supérieur de développement rural (ISDR) de Mbaiki. B.P. 909 Bangui, République centrafricaine. Courriel: hondet10@yawoo.fr/) (Please see pages 67–68 for more information on this project.)



Gnetum spp.

CHINA

China kicks off new era of interagency cooperation on wildlife law enforcement

A kick-off meeting of China's National Inter-Agencies CITES Enforcement Coordination Group (NICECG) was held in Beijing in order to enhance efforts by China's responsible government agencies to combat smuggling and illegal wildlife trade in China. The meeting marked the formal establishment of NICECG and included high-level representatives from more than 15 agencies. A number of "liaison agencies" also participated.

The meeting reviewed the progress of CITES-related law enforcement in China during the past three decades, analysed the challenges and problems facing wildlife law enforcement in the country and planned major activities for the next 12 months.

"The demand for wild animals and plants for traditional Chinese medicine and food is stimulating illegal trade and overexploitation of wildlife," said Madam Yin Hong, vice minister of the Forest Police Bureau and Conservation Department of the State Forestry Administration and Chair of the Group. "With the establishment of NICECG, we can enhance exchange and sharing of information, integrate and coordinate respective efforts and design and carry out joint enforcement actions to implement CITES better in China."

The representatives at the meeting agreed to strengthen, through leadership and coordination roles, cooperation and collaboration among the agencies to improve the implementation and enforcement of CITES regulations. "Only through interagency cooperation and collaboration can we solve the problems facing us in enforcing CITES and in addressing illegal trade in wildlife," said Dr Meng Xianlin, Executive Deputy Director-General of China's CITES Management Authority.

Several priority joint enforcement actions will be undertaken under the coordination and leadership of the Group in 2012. (Source: TRAFFIC News Update, 21 December 2011.)

COLOMBIA

Palm hearts and sustainable extraction in Colombia

Long eaten by indigenous populations, palm hearts have also been popular abroad, usually in fine dining establishments. However, palm hearts are cut out of the inner core of various palm tree species, in some

cases killing the tree. A new study, published in mongabay.com's open access journal *Tropical Conservation Science*, looks at the sustainability of palm heart extraction from the palm species *Prestoea acuminata* in the Colombian Andes. While harvesting from *P. acuminata* does not kill the host tree, better management is needed to ensure the practice does not become unsustainable.

The researchers found that it took *P. acuminata* 23–40 years before it reached a suitable size for palm heart extraction. Given this slow growth, and the fact that overharvesting from a plant can impact sexual reproduction, the authors recommend that only 10 percent of any population be harvested annually. "Our results show that the sustainable harvest potential of *P. acuminata* under natural conditions is too low to be economically viable. However, sustainable household extraction, as for traditional consumption by Indians and *campesinos*, is possible," they write.

In the Colombian Andes, palm hearts are extremely popular during Holy Week when eating meat is not allowed. The authors say future research should look at the size of this practice and whether it is unsustainable. (Source: www.mongabay.com, 12 December 2011.)

CÔTE D'IVOIRE

Locals key to saving primate-rich wetlands

Saved from being converted into a vast palm oil plantation by PALMCI in 2009, the Ehy Tanoé wetlands and forest in the Côte d'Ivoire are home to three gravely endangered primates as well as many other species. Since 2006, a pilot community management programme has been working to protect the 12 000 ha area, and a new study in mongabay.com's open access journal *Tropical Conservation Science* finds that long-term conservation of the Ehy Tanoé wetlands and forest is, in fact, vital for locals who depend on the area for hunting, fishing, fuelwood, building materials and medicinal plants. In addition, the study finds that the ecosystem has special cultural and spiritual importance for local people.

"Today, all over the world and especially in the global South, many people suffer from large-scale destruction of forest wealth depriving them of natural resources from which they have always drawn their livelihoods," writes the study's authors, who point out that the Côte d'Ivoire has one of the highest rates of deforestation

worldwide, plunging from 15 million ha of forest cover in the early twentieth century to around 3 million ha today.

"Decommissioning of some protected areas is even suggested by some authorities as a solution to the lack of arable land to meet the needs due to the increasingly growing population growth. The effect of deforestation, and poaching of wildlife in general, is dramatic. Wildlife is scarce in most national parks and reserves," the authors write.

Examining the community management pilot programme in the area, which includes input from NGOs, government and researchers, the study found that the value of the Ehy Tanoé wetlands and forest "is not limited to the specificity of its biodiversity. In fact, maintaining such a forest preserves, at the same time, the livelihoods of riparian communities and essential values for social and spiritual balance within these communities".

The community management programme has proved successful in combating major threats as well, including keeping loggers out of the wetlands and halting the palm oil project. [Source: www.mongabay.com, 12 December 2011.]



Akwé: Kon collects traditional Sámi knowledge

The words *Akwé: Kon* come from the Mohawk language spoken in North America. The original meaning of the words is "everything in creation". However, in UN language they mean the principle that indigenous peoples' traditional relationship to and knowledge about nature must be preserved. The principle was formulated in the United Nations Convention on Biological Diversity, but its adoption is voluntary for the participating countries. A Finnish working group planning its adoption suggested that the principle be followed in all planning and guidance of land use in the Sámi homeland in Finland. The responsibility for this was delegated to several public authorities and the municipalities in the Sámi homeland: Enontekiö, Inari, Sodankylä and Utsjoki.

While the working group was still dealing with the matter, the state-owned forestry company Metsähallitus decided to test the *Akwé: Kon* principles in the Hammastunturi wilderness area in Upper Lapland, where the management and land-use plan was being updated. Last spring, Metsähallitus and the

Sámi Parliament established an *Akwé: Kon* group, which continues its work until next spring, when the management and land-use plan will be finalized. *Akwé: Kon* demands that representation must be balanced in terms of several aspects: the structure of livelihoods, age and sex, for example. This can also be seen in the make-up of the *Akwé: Kon* group. The group will comment on the preparation of the management and land-use plan continuously.

Ms Elina Stolt, Area Manager at Metsähallitus, who is responsible for the *Akwé: Kon* work in the company, says with pride: "This is the first time in the world that these principles are being applied in practice".

It was expressly suggested that Metsähallitus prepare permanent guidelines to implement the principles.

Metsähallitus' work has already led to one concrete result. The management and land-use plan of the Hammastunturi wilderness area is going to include the right to gather raw materials for traditional Sámi crafts from nature free of charge. However, there are some exceptions: raw materials cannot be taken from strictly protected parks, and they may not be sold on to third parties – although the products made from them may be sold freely. The decision introduces an important principle," says Stolt. "Now nobody will need to check whether anyone sees them break off a few small branches for craft work." [Source: www.forest.fi, 2 December 2011.]

Finns get fresh in forests on weekdays, too

During the second National Outdoor Recreation Demand and Supply Assessment or LVVI 2, the recreation activities of nearly 9 000 Finns were researched in 2009–2010. A previous, similar study was carried out in 1998–2000. The sample size of 9 000 is considerable in Finnish conditions.

On average, the nearest forest is just 700 m away from one's home. For half of the population, the trip to close-to-home forest is just 200 m and the nearest bigger forest area is situated within 1 km. The most popular recreation activities are walking and Nordic walking, walking the dog and running. The popularity of running and cross-country skiing had increased since the previous study.

Forest land covers around 66 percent of Finland's land area. About 70 percent of it is owned by private persons or companies.

The LVVI 2 study found out for the first time how much Finns rely on "everyman's rights" for recreation. The tradition of everyman's rights means that anyone can move about and stay for a short time on privately owned lands



in the Nordic countries. According to the study, private land is much used for recreation in Finland. Forty percent of Finns get their outdoor recreation at least once a week on privately owned lands, says Mr Harri Silvennoinen, researcher at the Finnish Forest Research Institute. The most common activities are walking and picking mushrooms or berries, he adds.

According to Silvennoinen, the majority of respondents felt positively about everyman's rights. The most significant related problem is the commercial use of these rights. Some have taken paying groups of tourists on trips to private forests, without prior discussions with the landowners. Some companies bring foreign pickers to pick berries and mushrooms every year. One-third of those who have met guided tours or commercial berry or mushrooms pickers felt these activities were disturbing. On the other hand, only one-fifth had met a tour group and one in four commercial pickers on private land.

Landownership affects attitudes. Landowners were more critical than others towards everyman's rights-based use of their land for these kinds of commercial activities. Some were also prepared to restrict the scope of everyman's rights. [Source: www.forest.fi, 9 December 2011.]



The first community forests of Gabon: towards sustainable local forest management?

Gabon is part of the Congo Basin, home to the largest dense humid forest range in Africa. The dense forest covers almost 85 percent of its territory, a surface area of more than 22 million ha. If the low population density and the underdeveloped road infrastructures have partly preserved that vast area, logging companies have gradually established themselves and today their concessions

cover almost 12 million ha – practically half of the forest surface area.

Even though rural populations have traditionally had little interest in commercial logging, they have, for generations, maintained close sociocultural ties with the forest. The communities rely directly on this ecosystem as a source of food, medication, fuelwood and construction wood and, more recently, farmland. However, their formal involvement in the management of this resource is only minimal. Relegated to a role of passive actors, they are barely taken into account in the process of allocation of large permits and perceive only a small part of the profits from this activity which is nevertheless performed, in most cases, in areas where their customary rights apply.

Forest resources abound in Gabon. Species diversity and quality of trees in the Gabonese forests make it a very lucrative production niche. Even though international forest operators are well established there and are making a profit, the Gabonese rural communities have not yet developed their own operations. In view of their remoteness from decision-making centres, villagers often unlawfully lose, without being aware of it, a great deal of the riches in their villages.

Today, the rural socio-economic component is not sufficiently integrated in the management factors of the resource, even though populations that depend on them daily are supposedly the best placed individuals to make wise use of them. In this sense, community forestry helps to promote sustainable use of forest resources on a scale that is at par with the needs of the community, and seeks to guarantee that profits are shared at village level. In Gabon, the process of legalization of community forests has been ongoing since 2001. Pilot projects such as DACEFI (Development of Community Alternatives to Illegal Logging) strive to assist communities in securing their community forest. However, their legalization is slow in coming, while logging activities in the rural forest estate are increasing and the quality of the species is deteriorating continually. (Source: Q. Meunier, M. Federspiel, C. Moumbogou, B. Grégoire, J.-L. Doucet and C. Vermeulen. The first community forests of Gabon: towards sustainable local forest management? In *Nature & Faune*, 25(2): 40-45.)

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GEORGIA

The Georgian Red List

The International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC), upon receiving information from within the IUCN network, is currently looking at the Georgian Red List, specifically its quality in terms of applying the IUCN Red List categories and criteria. The consultations began as a result of recent legislative changes in Georgia that allow hunting of some Red List species.

Under the new regulations, each species is labelled with a price tag, allowing any individual who has paid a fixed price to hunt for them anywhere, excluding protected areas and national reserves. The Ministry of Energy and Natural Resources of Georgia published the hunting quotas and terms for the year 2012 on 10 January.

The Government of Georgia has not explained the initiative publicly. However, the newspaper *Kviris Palitra* recently published an interview with Georgian Minister Alexander Khetaguri, where he is quoted as saying "hunting is a very popular pastime so it can attract many tourists; they spend heavily on hunting".

According to Tbilisi-based environmental NGOs, the government's move will cause "irreversible damage" to Georgia's unique biodiversity. Endangered species such as the eastern and western Caucasian tur, chamois, brown bear, red deer and wild goat will decrease to alarming rates. (Source: *Georgia Today*, 26 January 2012.)

Georgia enacted its Law on the Red List and Red Book in 2003 and established the current national Red List of threatened animal and plant species in 2006. The law aims to protect and restore threatened species existing on the territory of Georgia, and to save specific biodiversity and genetic resources considering the interest of present and future generations. (Source: IUCN press release, 20 February 2012.)

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GHANA

Shea butter project employs 3 500 women

PlaNNet Finance, the global non-profit microfinance organization, says its shea butter project in northern Ghana has employed 3 500 women so far, and will create at least 1 500 more jobs next year. The project, which started 16 months ago, involves the provision of financial and other assistance to women involved in shea butter production to boost their output and incomes. PlaNNet Finance has provided gloves for picking the shea nuts, grading mills for processing and silos to store the shea butter for up to two years. Additionally, the women have received mobile phones to help them check the prices of shea butter in markets in the cities.

French economist and president of PlaNNet Finance, Jacques Attali, told the *Business & Financial Times* (B&FT) during a visit to Ghana to see the project that his organization intends to move up the supply chain by establishing a factory to add value to the shea butter produced. Currently, part of the production is sold as raw material to a local cosmetics maker and the rest exported to Europe. "What we intend to do after 2013 is to establish a social business with the women as shareholders that tries to pursue the highest form of value-addition to the product," he said. He added that a study by Stanford University in the United States of America showed that the project had improved the living standards of the women involved by 65 percent in the first year.

"But this is more than money. It is also a means to keep the women in the villages and stem migration to the cities," he said.

His organization is hoping to use its success in Ghana as a model that can be replicated in other countries.

PlaNNet Finance coordinates the project through its local headquarters in Tamale. Its partners include the Agence française de développement (AFD), the European Union and the German software company, SAP, which together provided the €6.5 million funding for the project. Globally, the organization works in 80 countries and manages US\$1 billion in funds. (Source: *SpyGhana.com*, 21 February 2012.)

INDIA

Saffron and silk wither in Kashmir

Srinagar. The saffron and silk industries in Kashmir have been dying a silent death over the last decade, with production rates for both

commodities witnessing up to 50 percent declines in some areas of the Kashmir valley. A growing market for cheap, fake saffron – either chemically manufactured or “cut” with additives to increase its weight – has dealt a harsh blow to traditional, world-renowned saffron producers and sellers in Kashmir. Meanwhile, a mismanaged government monopoly over the silk industry coupled with an invasion of cheap Chinese silk has choked local production, pushing thousands of producers out of business.

As a result, saffron farmers and silk rearers are facing hard times in the lush Kashmir valley.

Kashmir is one of a handful of places on Earth that grows natural saffron, along with the Islamic Republic of Iran and Spain, and has long been considered to have the best-quality saffron in the world, with rich plantations in Pampore, Pulwama, Budgam and Kishtwar. But Saleem Shakeel Mir, Managing Director of Kashmir Kesar Leader, Kashmir’s leading saffron producer, told IPS that the influx of false saffron has lacerated the market for honest producers. Since non-experts are unable to differentiate between pure and artificial saffron, the cheaper product is selling fast, Mir added. “If pure Kashmiri saffron costs 110 rupees/g (or just over US\$2), synthetics cost as little as 30 rupees. As a result, traditional Kashmir saffron growers have suffered an almost 70 percent loss.”

Mir also blames saffron growers’ hardships on the rampant industrialization in the valley, including the proliferation of residential houses in the area, which eats up swathes of land that could otherwise be used for crops. “A decade ago, ten kanals (6 050 square yards [5 060 m²] of land were under saffron cultivation; today just four kanals, less than half the original amount, are used,” he said.

According to Malik Farooq, Director of the state Sericulture Department, government efforts to save the silk industry have gained much less ground, possibly because a decades-long government monopoly over the silk industry contributed to its decline in the first place. Silk is one of Kashmir’s oldest trades. In 1855, Europe was Kashmir’s biggest silk trading partner, purchasing 70 kg of silkworm seeds every year. The period immediately following the end of British rule opened a glorious phase for Kashmiri silk. “After the 1980s, there was a sudden decline in silk production and the industry began to suffer,” Farooq told IPS. The rigid state monopoly that had once boosted the industry became its greatest impediment. The government bought all the silk cocoons from the locals but managed

every other stage of the production process themselves.

According to official government statistics, the number of silkworm rearers shrank from 60 000 in 1947 to a mere 7 161 in 1995. The area of land under mulberry cultivation shrivelled from thousands of ha in the early 1900s to less than 2 000 ha in 1990. From employing 1 830 labourers on 584 silk production units, the silk industry now only has the capacity for 200 workers on 30 silk production units. (*Source*: IPS News, 9 December 2011.)

Six non-timber forest projects in Maoist-hit areas

The Indian Government announced on Friday six projects on NTFPs, such as gum and medicinal plants, to cover around 60 Maoist-affected districts in the country. Addressing a national conference on NTFPs, Rural Development Minister Jairam Ramesh said the projects in “lac, gum, medicinal plants, *tasar*, bamboo and non-edible oil seeds such as neem and *mahua*” will maximize return for tribals engaged in collection of these forest products. He said the projects, to be executed in six months in the public-private partnership mode, will cover Jharkhand, Chhattisgarh, Odisha, Madhya Pradesh, Andhra Pradesh and Maharashtra.

Ramesh said that generation of NTFPs and expansion of their markets in a sustainable manner were challenges that needed to be addressed. The minister said projects will be part of the National Rural Livelihood Mission and focus primarily on livelihood generation and value addition. (*Source*: Mangalorean.com, 3 February 2012.)

Edible weeds in grape fields of Theni district in Tamil Nadu

An extensive survey was conducted on edible weeds in the grape (*Vitis vinifera* L.) fields of the Theni district in Tamil Nadu. The investigation revealed that 21 weeds of 17 genera belonging to 12 families of grape fields are commonly consumed as vegetables. The utilization of these undesired but useful weeds can: (i) free the fields from weeds; (ii) play an important role as a source of additional income for farmers; and (iii) provide promise as normal and/or scarcity or famine foods through their nutritional values (more comprehensive research should be carried out on their nutritional status). (*Source*: S. Shanmugam, N. Kamaladasan, T. Arunraja, B. Sakthivel and K. Rajendran. 2011. Edible weeds in grape (*Vitis vinifera* L.) fields of Theni district in Tamil Nadu, India. In *International Journal of Forest Usufructs Management*, 12 (1).)

EDIBLE WEEDS

- *Alternanthera sessilis* DC. Leaves and tender shoots are fried as vegetables or mixed with potato and cooked.
- *Amaranthus graecizans* L. Leaves are cooked as vegetables with onions and tomatoes.
- *A. spinosus* L. Leaves are cooked as vegetables.
- *A. viridis* L. Leaves and tender branches as well as young shoots are cooked to prepare curry.
- *Asystasia gangetica* (L.) T. Anderson. Leaves are cooked to prepare curry with onions.
- *Basella rubra* L. Leaves are cooked with onions and tomatoes.
- *Bidens pilosa* L. Leaves are cooked as vegetables.
- *Cardiospermum halicacabum* L. Leaves and tender shoots are cooked as vegetables and leaf extract is used to prepare *rasam* (soup).
- *C. microcarpum* (Kunth) Blume. Leaves and tender shoots are cooked as vegetables and leaf extract is used to prepare *rasam*.
- *Coccinia grandis* L. Unripe fruits are used to prepare curry and pickles.
- *Commelina benghalensis* L. Rhizomes are cooked as curry with potatoes or other vegetables.
- *Eclipta prostrata* (L.) L. Mant. Leaves, tender branches and young shoots are cooked and eaten with other leafy vegetables.
- *Ipomoea aquatica* Fors. Leaves and tender stems are cooked as curry.
- *Oxalis corniculata* L. Leaves are cooked as curry.
- *Portulaca oleracea* L. Leaves and tender shoots are fried with potatoes or cooked with other vegetables.
- *Pupalia atropurpurea* (Lam.) Moq. Leaves and tender shoots are fried with potatoes or cooked with other vegetables.
- *Solanum nigrum* L. Young leaves and tender branches are cooked as vegetables.

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TRAFFIC helps claw back illegal parrot trade

A parrot in captivity is one of the more visible symbols of illegal trade in India, where all native wildlife is fully protected. To help enforcement officers identify the 12 native parrot species, and thereby clip the wings of the illegal bird trade, TRAFFIC India, with support from WWF India, has produced an identification poster called "Parrots of India in illegal trade". The posters will be distributed to the police, Customs, forest departments, railway protection forces and educational institutions, including schools and colleges.

Despite the blanket ban since 1990–91 on trade in all Indian bird species, hundreds of parrots are collected and traded annually in the country. They are taken from the wild and smuggled to various parts of India and beyond. The bulk of the trade is in three- to four-week-old chicks. Parrots are caught using nets and bird lime. Adult parrots are traded throughout the year, with chicks arriving in trade between December and June. For every bird that reaches the marketplace, several are believed to die en route. Of the 12 native species, eight are regularly found being illegally traded. They include the Alexandrine, rose-ringed, plum-headed, red-breasted, Malabar, Himalayan and Finsch's parakeets and the vernal hanging parrot.

For centuries, parrots have been kept as pets mainly because they are straightforward to keep and easy to replace because of the large numbers in trade. This has in turn created demand that has led to an organized illegal trade in parrots. (Source: Traffic News Update, 17 February 2012.)

JAMAICA

Launch of nutraceutical industry with seven products

Renowned local scientist Dr Henry Lowe last night delivered on a promise made a year ago by launching what he said was the region's first indigenous nutraceutical industry with seven products, including his flagship Alpha Prostate Formula 1 made from Jamaican ball moss or Old man's beard (*Tillandsia recurvata*). At the same time, Dr Lowe announced that an initial public offering (IPO) will be launched next year "to give Jamaicans and diaspora members a chance to invest in this lucrative and exciting venture". "The potential earnings from this industry can be anywhere from US\$500 billion, growing to a trillion dollars in the next five years," Dr Lowe told guests attending the launch in Kingston.

"The question is: are we ready to make the investments required to grow our share of this lucrative industry?" he asked.

Lowe said that in addition to the Alpha Prostate Formula 1 – which is basically a halfway house to the development of the anticancer drugs he identified in the ball moss – the other products launched last night include Jamaican guinea hen weed (*Petiveria alliacea*) supplement, traditionally used for the management of cancers, arthritis, rheumatism and diabetes; and the aloe complex formula supplement, a mild laxative, which reduces inflammation and enhances colon health. (Source: *Jamaica Observer*, 24 February 2012.)

KOSOVO

Medical ethnobotany of the Albanian Alps in Kosovo

Ethnobotanical studies are crucial in southeastern Europe for fostering local development and also for investigating the dynamics of traditional environmental knowledge (TEK) related to plants in one of the most crucial European hotspots for biocultural diversity. A recent medico-ethnobotanical survey was conducted in rural alpine communities in Kosovo. The aims of the study were twofold: (i) to document the state of TEK of medicinal plants in these communities; and (ii) to compare these findings with those of similar field studies previously conducted among local populations inhabiting the Montenegrin and Albanian side of the same alpine range.

The uses of 98 plant species belonging to 42 families were recorded; the most quoted botanical families were Rosaceae, Asteraceae and Lamiaceae. Mainly decoctions and infusions were quoted as folk medicinal preparations and the most common uses referred to gastrointestinal and respiratory disorders, as well as illnesses of the

urogenital system. Among the most uncommon medicinal taxa quoted by the informants, *Carduus nutans* L., *Echinops bannaticus* Rochel ex Schrad. and *Orlaya grandiflora* Hoffm. may merit phytochemical and phytopharmacological investigations.

Comparison of the data with other ethnobotanical field studies recently conducted on the Albanian and Montenegrin sides of the same Alps has shown a remarkable link between the medical ethnobotany of the Montenegrin and Kosovar side of the Albanian Alps. Moreover, folk uses of the most quoted wild medicinal taxa recorded in Kosovo often include those recorded both in Albania and in Montenegro, thus suggesting a hybrid character of the Kosovar local plant knowledge. This may also be explained by the fact that Montenegro and Kosovo, despite their differences in ethnic composition, have shared a common history during the last century. (Source: B. Mustafa, A. Hajdari, F. Krasniqi, E. Hoxha, H. Ademi, C.L. Quave and A. Pieroni. 2012. Medical ethnobotany of the Albanian Alps in Kosovo. *Journal of Ethnobiology and Ethnomedicine*, 8: 6.)

LAO PEOPLE'S DEMOCRATIC REPUBLIC

Bamboo management project takes root in Huaphan

The European Union has granted €1 million and the Netherlands Development Organization (SNV) and Gret an additional €600 000 for a bamboo development project in Huaphan province. The aim of the project, which began in Viengxay, Xopbao and Xamneua districts this year and will run until 2014, is to promote the sustainable management of bamboo forests. This would in turn lead to the production and sale of handicrafts and furniture, increasing the income of local farmers.

The project is targeting those people who are most likely to ensure the growth of the project in the long term.

Prior to implementing the project, in 2009 SNV and Gret approached bamboo growers and gave them training courses on plantation management, forest allocation, production and reforestation. There are currently 478 families of bamboo growers spread across 21 villages and 22 groups of producers within the three districts. These communities have already grown about 120 ha of bamboo and are making 26 types



Carduus nutans



of products, including suitcases, baskets, small presentation boxes, trays, decorative items and pieces of furniture.

On site last week, project official Mr Souvanpheng Phommasane told the media the project will continue to run training courses and that by next year a greater variety of items will be made to meet market demand. By 2012, it is envisaged that the range of items produced will increase to 30 different types and to 275 in 2015. Mr Souvanpheng said: "In Huaphan province, bamboo forests cover about 80 percent of the land area. If we don't protect and carefully manage this area, it will continue to decrease".

In the past, people living in provinces where bamboo is grown have benefited from this resource by harvesting and collecting its shoots, which they sell at local markets. Mr Souvanpheng said farmers who had been cutting down and burning bamboo to clear land for agriculture or to make a wall or roof for their houses, for instance, were acting irresponsibly.

The bamboo sustainability project would help to increase awareness and responsibility, he said. It is hoped people will realize how important it is to protect and manage the plantations, which in future will provide income and business growth.

Provincial Agriculture and Forestry Department Deputy Director Mr Phouvang Sysomhack said that last year sales in the targeted districts represented 312 million kip (1 million kip equals approximately €94.5) for bamboo shoots and 348 million kip for handicraft and furniture products, the most productive district being Viengxay. As experience and development grow, he hopes that this year's figures will double. Mr Phouvang sees Huaphan province as the leader in the development of bamboo forest sustainability and management, not only bringing "green gold" but also alleviating poverty for many families. (Source: Khamphone Syvongxay, *Vientiane Times*, 19 December 2011.)

MADAGASCAR

Innovative conservation: wild silk, endangered species and poverty

For anyone who works in conservation in Madagascar, confronting the complex difficulties of widespread poverty is a part of the job. But with the wealth of Madagascar's wildlife – such as lemurs, miniature chameleons and hedgehog-like *tenrecs* found nowhere else in the world – rapidly diminishing, the island nation has become a testing ground for innovative conservation programmes that focus on tackling entrenched poverty to save dwindling species and degraded places.

The local NGO, the Madagascar Organization of Silk Workers or SEPALI, together with its United States partner Conservation through Poverty Alleviation (CPALI), promotes one such innovative programme. In order to alleviate local pressure on the newly established Makira Protected Area, SEPALI is aiding local farmers in artisanal silk production from endemic moths. The programme uses Madagascar's famed wildlife to help create more economically stable communities. "We wanted to try a new approach to conservation that could replace the needs of local populations to harvest forest resources in areas of great biological importance," Catherine Craig, founder of CPALI, told *mongabay.com* in a recent interview with the SEPALI/CPALI team.

The Makira Protected Area, the largest on the island, was established in 2002 by the then president, Marc Ravalomanana. The park is home to 22 species of lemur including several threatened species. It is also home to the Madagascar serpent eagle (*Eutriorchis astur*) and the island's top predator, the fossa (*Cryptoprocta ferox*). Despite being seen initially as a conservation success (although the park is now imperilled by illegal logging), the protected area has impacted surrounding communities.

"Communities that once had access to the park's resources now must abide by restrictions. Despite the fact they are not physically displaced, they are unable to gather the natural resources on which they previously depended and are hence economically displaced," explains Craig and her team, noting that a recent study found anaemia rates among children have increased since the park's demarcation, because of a decline in protein from bushmeat hunting.

Enter into the picture SEPALI and silk production. "We sought to identify a sustainable, ecologically sound, income-

generating programme that allowed farmers to make between US\$60 to US\$200 of added annual income to ensure the security of the Makira Protected Area."

Using three native moth species, each found in the region, SEPALI has begun to work with local farmers to raise wild silkworms on native trees and to sell unique silk products to an international market. "Silk cocoons provide a new, sustainable, source of income," says Craig and her team. "Chrysalides provide a new, alternative source of protein; silk moth host trees build up a protective green zone around the Makira Protected Area. Only 100 chrysalides to produce the eggs that yield 10 000 cocoons in the next season and 9 900 chrysalides, or approximately 10 kg of protein rich food, are available for human consumption, poultry feed or fertilizer."

If successful, the programme hopes to have an ecological impact (creating a buffer around the park with silkworm trees); an economic impact (additional source of income); a health impact (more protein); and a mitigating impact (less pressure on the park's ecosystem and wildlife). "By relying on a 'proto-commodity' (a good that is large enough to make a difference at the scale of a landscape but small enough to avoid industrial attention and competition), we hope to guard against the fluctuations in market prices that often affect the prices of commodities. We are proceeding by developing diverse markets for the silk that include architectural products, fashion accessories, home design products and lighting," Craig and her team say.

Currently, SEPALI is working in 11 communities with 126 farmers, over a third of whom have planted at least 250 trees for silkworms. If conservation is to succeed in a nation facing massive development problems, entrenched poverty and a booming population, it is likely it will only be with the input of such multipurpose programmes as SEPALI's.

VIDEO – WALKING THE VANILLA TRAIL

Take a stroll along the vanilla trail with Rainforest Alliance auditor Noah Jackson. Meet communities working to harvest the fragrant spice sustainably, and see how Rainforest Alliance certification is helping them to live and work in harmony with their environment. (Source/view: Rainforest Alliance Web site, www.rainforest-alliance.org/)

 MALAYSIA

500 000 agarwood trees for a greener Malaysia

Half a million agarwood trees will be planted throughout the country under Tesco Stores (M) Sdn Bhd's Greener Earth Tree Planting programme. Tesco Stores and the Malaysian Timber Industry Board (MTIB) recently inked a Memorandum of Understanding (MoU) to plant the trees in the next three years. Partly funded by the sale of plastic bags on Saturdays, the programme is part of Tesco's Greener Earth initiative. The MoU was signed by Tesco Malaysia chief executive officer SungHwan Do and MTIB director-general Dr Jalaluddin Harun and was witnessed by MTIB chairman Datuk Madius Tangau.

Do said Greener Earth was Tesco's latest initiative to protect the environment while engaging customers. "Through this programme, Tesco and MTIB will plant 160 000 trees this year and 170 000 in 2013 and 2014, respectively," said Do, who added that Tesco would spend RM4 million on the project. "This is our way of helping the country to achieve its target of planting 26 million trees by 2014," he said.

Datuk Madius said Tesco's initiative would contribute towards reforestation efforts and keeping at least half of the country under forest cover. "It is hoped that there will be many more similar collaborations between the corporate sector and the government," he said. [Source: *New Straits Times*, 20 January 2012.]

More gaharu (agarwood) trees being felled in Penang forest

George Town. The illegal felling of *gaharu* (agarwood) trees appears to be continuing unabated despite extensive media coverage and the state government's declaration of a crackdown against the thieves. The latest incident involves several *gaharu* trees in Gambier Hill near Island Park. Gurdial Singh, a runner, came across around 20 felled trees, several of which were *gaharu* trees, on Tuesday while setting the trail for a run for his group. "The trees were all from one area, not scattered in the jungle. I think they were felled about a week ago, looking at the condition and colour of the wood," he said yesterday, adding that he believed the trees were felled with a chainsaw. Gurdial said the area had been green and shady when he passed it last December.

The *Sunday Star* had reported on 12 February that local syndicates with foreign

connections were allegedly felling the highly valued *gaharu* trees in the rain forest near the Penang Botanic Gardens and in several other places.

The oil extracted from the agarwood is used for medicine and perfume, and fetches a handsome price in the Middle East.

Penang Health, Welfare, Caring Society and Environment Committee chairman Phee Boon Poh said yesterday that there would be joint operations with the police to tackle the situation, as it was a serious matter. State Forestry Department assistant director Azahar Ahmad said he would also get his team of officials to investigate.

[Source: *Malaysia Star*, 23 February 2012.]


 MEXICO

Potential management of *Chamaedorea seifrizii* (Palmae), a non-timber forest product from the tropical forest of Calakmul, southeast Mexico

Leaves and seeds of *Chamaedorea* (*xaté*) palms are important NTFPs. In the Calakmul region (Yucatan peninsula) of Mexico, several communities have sporadically collected and sold seeds of *C. seifrizii* since 1980. However, harvesting has intensified recently, raising concerns about overexploitation.

To evaluate the economic potential of leaf and seed exploitation in the area, we collected information on abundance, population patterns, and leaf and seed stocks in Ejido Conhuas, a community within the Calakmul Biosphere Reserve. Then we combined these data with current market values and hypothetical management regimes obtained from the literature for leaves and seeds. Conducting a quantitative analysis of 43 0.1^{ha} plots with differences in forest and soil type, we assessed the abundance of *C. seifrizii* in the area. We also conducted interviews to estimate the importance of *xaté* in the local economy.

We found *C. seifrizii* density to be highly variable, with a mean (+or-SE) of 295 (+or-35), with forest type being the most influential factor. Population structures differ between forest types, with healthy populations in medium and lower forest. We found a mean density of leaves of harvestable size of 3 750 (+or-380) leaves ha⁻¹, while seed production was 1.5 (+or-0.3) kg/ha¹ of fresh seeds.

Assuming sustainable harvest rates of 30–50 percent for leaves and 80 percent for seeds, 1 ha of forest could generate US\$7.0–15.9/ha¹. Considering the number of households (102) and 10 percent of the total area managed each year (5 700 ha), this harvest could generate a household income of US\$391–838 annually.

At the moment, the *xaté* trade represents a minor component in the economy of the community, but given the area's extensive forest (>57 000 ha), the resource abundance and the low human population, we believe the NTFPs derived from *C. seifrizii* have a potentially great economic impact in the area. [Source: L. López-Toledo, C. Horn, A. López-Cen, R. Collí-Díaz and A. Padilla. 2011. Potential management of *Chamaedorea seifrizii* (Palmae): a non-timber forest product from the tropical forest of Calakmul, southeast Mexico. *Economic Botany*. 65(4): 371–380. 29 refs. [abstract]]

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 NAMIBIA

Namibia's bushmen profit from nature

The nomadic San, or bushmen, are Namibia's oldest indigenous inhabitants as well as the country's most marginalized and poorest. For thousands of years, they have lived as nomads, as hunters and gatherers in harmony with nature, but they must now find their place in the modern world.

These days, the San obtain most of their supplies from the shop in Tsumkwe, in the centre of the Nyae Nyae Conservancy in northeast Namibia, near the border with Botswana. The reserve is home to around 2 500 San. With roughly 500 inhabitants, Tsumkwe is the largest village in the area.

Earning the money to pay for goods at the shop can be difficult in the remote region.

Many San, usually the women, spend their days making handicrafts for the small tourist trade. Ney, a young woman, chisels ostrich eggshells into small pieces which will later be made into necklaces and bracelets. "A bracelet can be finished in the course of a day," Ney said. "The jewellery is what brings us the most money. You craft it, sell it – and afterwards you can buy food in the shop."

Ney sells her work at the small craft shop in Tsumkwe, run by Hoan. "I am happy that this shop exists, because it has changed the lives of the people," she said. "Before, they just sat around doing nothing; they didn't have opportunities." Life has also changed for Hoan. For her new job, she learned many new skills, from bookkeeping to sales strategies. She had help from Martha Mulokoshi, a consultant for the Nyae Nyae Foundation, which offers support to the San in their transition to commercial trading. "It's an ongoing [learning] process, stocktaking, writing out receipts – every little thing that goes on," she said. "The other thing is marketing. Our biggest current challenge is that we don't really have a market to sell our products."

By contrast, devil's claw, a root that has been used as a natural medicine for centuries, sells very well on the international market. Much of the world's supply comes from Namibia. For a few months every year, business is all about devil's claw. The San painstakingly gather bags of the root, cut it into small slices and dry it. Among its many uses, it is said to be good for relieving pain from arthritis, muscles and joints, and for heartburn, fever, headaches and difficulties in childbirth.

To maintain the demand for their product, the San must produce the devil's claw according to international standards. In this respect, help also comes from outside the community. Recently, two experts from Germany and South Africa visited the area to advise in the process.

Klaus Fleissner, of the South African consultancy CRIAA, a membership-based NGO that supports rural communities and advocates better pay for the devil's claw producers, said considerable additional training is necessary, especially when it comes to administrative work. "The first thing we do is check all the paperwork," he said. "Then we drive out to the villages where the people are harvesting devil's claw and look to see if they've filled in the holes again [after digging out the roots]. This guarantees



sustainability, and the most important point for organic certification is sustainable harvesting." But Fleissner said the San, who have been harvesting the root for centuries, need little help in this last area.

Aside from medicine and handicrafts, the San also occasionally bring in some extra money by organizing trophy hunting for adventure tourists. Soon, however, the Nyae Nyae Conservancy, a region covering more than 9 000 km², will be awarded community forest status, which will be a distinct advantage for the San. "The community will have the opportunity to use [the land] commercially," said Eckhard Auch of the German Development Service (DED), who advises the Namibian authorities and partners when it comes to community forests. Local forestry employees are also keen on the project. "It's encouraging people to conserve their natural resources. They will make an income from them. When they conserve them, they can use them for future generations," said Rachel Andima of the forestry office in Tsumkwe.

Kunta Boo, a village elder with a face lined with deep wrinkles, often takes tourists on walks, showing them how he lives off the land. The tourists pay €5 (US\$6.50) to stay at the small campsite near his settlement. A few hundred metres away, the San perform traditional dances at a village rebuilt specifically for visitors.

Making long-term plans for the future is not part of the San culture. But with steady sources of income from a sustainable mix of devil's claw, ostrich egg jewellery and tours through the bushland and the future community forest, they will be able to move forward with a mix of tradition and modernity. (Source: Annjochen Berends and Suse Henn, Africa News Service, 3 February 2012.)

NEW ZEALAND

Wild ginseng and Maori traditional ecological knowledge feature at Forestry Finance Conference

Wild natural ginseng growing under a pine tree canopy that can increase the revenue earned from forestry land is an initiative that the Maraeroa C Incorporation wants to share at the upcoming Forestry Finance event. It wants to promote the growing of wild natural ginseng, which is now being termed "the new kiwifruit", with Maori forest owners and relevant industry and says the conference is an ideal platform to share their success.

Other prominent speakers at the event include Dr Kepa Morgan from the Engineering School at Auckland University, who will talk about integrating Maori values and the potential role for traditional ecological knowledge in forestry management.

All speakers bring to their roles a strong belief in the potential for Maori people in rural communities around New Zealand to make good the potential for increasing their opportunities and capitalizing on industry associations. (Source: TangataWhenua.com: Maori News & Indigenous Views, 14 February 2012.)

NIGERIA

Utilization of NTFPs for economic development in Nigeria

NTFPs contribute immensely to food security, poverty alleviation, economic development, and household and national income generation, among many other benefits. A recent paper gives a synopsis of NTFPs in Nigeria, their diversity and diverse uses, with specific examples of the economic potential of *Moringa oleifera*, *Acacia senegal*, *Lonchocarpus cyanescens*, *Vitellaria paradoxa* and *Dacryodes edulis* (see Table on page 58). The paper highlights the challenges facing the economic utilization of NTFPs in Nigeria and proposes possible solutions.

Nigeria is blessed with vast biodiversity, mostly in forest ecosystems, many of which are used as NTFPs. One researcher in 1980 found 150 edible NTFP indigenous plant species in the rain forest and 51 species of food and fodder trees and shrubs in the savannah, while another researcher in 1995 identified over 200 plant and animal species used as NTFPs

Economic uses and potential of selected Nigerian NTFPs

| Plant name | Economic uses and potential |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Moringa oleifera</i> | Parts sold for medicinal uses; seeds for water purification, biogas production; seed oil used in cosmetic industries. In the case of water purification alone, the use of moringa seed is reported to have a 99 percent success in removing bacteria. It is also used for tanning leather. This could save Nigeria up to US\$2.25 million a year used to import alum. |
| <i>Acacia senegal</i> | Nigeria is the third largest gum arabic producer in the world, producing 17 000 tonnes as of 2003, reaping about US\$12.75 million in exports. However, gum Arabic farmers claim only 40 percent of capacity is tapped. A tree has the capacity to produce up to 500 g of gum Arabic, and up to 200 kg/ha. Gum arabic is used as a preservative in soft drinks. Most of the production comes from the wild. Acacia plantations should be encouraged to increase production and hence economic potential. |
| <i>Lonchocarpus cyanescens</i> | The plant yields an indigo dye for making the popular <i>adire</i> cloth. The textile was very popular in the 1950s and 1960s, but is less so now in Nigeria because of popular acceptance of other textiles. A huge investment in this area could yield hundreds of thousands of dollars, especially in sales to international tourists, who like the cloth. |
| <i>Vitellaria paradoxa</i> | Nigeria is the world's largest producer of shea butter – producing about 414 000 tonnes in 2005 – but most of it is rejected on the international market. There is no record of revenue from shea butter for Nigeria since 1995 but, as of 1995, revenue generated from the shea sector was N3.58 billion (over US\$23 million based on the current exchange rate). The potential of this tree has yet to be fully exploited. Shea butter is in high demand on international markets for use in cosmetics. |
| <i>Dacryodes edulis</i> | Widely eaten as food, with seeds rich in protein. It is a source of income from exports to Europe. Mature trees yield between 1 500 to 10 000 fruits/year, generating US\$75–150 in cash income; 1 kg of fresh fruit costs US\$14–15. Export of <i>D. edulis</i> from Central Africa and Nigeria to France, Belgium and the United Kingdom was estimated to be over 326 tonnes in 1999, worth over US\$2 million. |

inside the Omo Biosphere Reserve, southwest Nigeria. [Source: Utilization of non-timber forest products [NTFPs] for economic development in Nigeria. In *Nature & Fauna*, 25(2.)

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Camu camu promoted as Peru's flagship product

The regional government of Loreto, in northeastern Peru, has submitted a proposal to the country's Ministry of Foreign Trade and Tourism, asking for the inclusion of this vitamin C-rich fruit in the growing list of Peru's flagship products. Norma Cordova, head of the regional office for foreign trade, tourism and handicrafts, said they expect a "positive" response from the ministry within the next months.

With the aim of promoting the production, sale and consumption of this fruit, Loreto's capital city Iquitos will host the Camu Camu Expoamazónica 2012 festival on 27–28 January.

Camu camu is a low-growing shrub found throughout the Amazon rain forest, mainly in swampy or flooded areas. It grows to a height of 2–3 m and has large, feathery leaves. It produces round, light orange-coloured fruits about the size of lemons, which contain a significant amount of vitamin C. Its high vitamin C content has created a demand for *camu camu* fruit in the natural products market. [Source: Peru this Week, 24 January 2012.]



Camu camu

Exclusive Amazon "uncontacted" tribes at risk from new highway plan

Tension is mounting in one of the remotest regions in the Peruvian Amazon over plans to build a highway through the country's biggest national park. The Alto Purus Park is inhabited by at least two "uncontacted" tribes, one of which was photographed on a beach in the park five years ago.

Carlos Tubino Arias Schreiber, a congressman from the Fuerza 2011 party, has been promoting the need for the highway in Peru's Congress, in what has become an increasingly aggressive publicity campaign. "In Purus the monkeys and plants have more rights than human beings," he stated on 18 November last year after a visit to the region. "The national parks have cut it off."

But plans for the highway have drawn fire from environmental and human rights groups concerned about its potential impact on the rain forest and the "uncontacted" tribes living there. The World Wide Fund for Nature (WWF), which helped set up the park in 2004 and now supports its ongoing protection, calls it "an area of incredible biodiversity" covering "some of the most pristine forests in the southwestern Amazon" and home to jaguars, monkeys and pink dolphins.

"There are only a handful of places left in the world as biologically and culturally important as Peru's Alto Purus," said Chris Fagan from the Upper Amazon Conservancy (UAC), an NGO working in the region that

VIDEO – STRENGTHENING A SUSTAINABLE HARVEST IN THE PERUVIAN RAIN FOREST

Thousands of people in Peru's Madre de Dios region earn their living by gathering and selling Brazil nuts, which grow wild in the Amazon rain forest. With support from the United States Agency for International Development (USAID) and Fondation Ensemble, the Rainforest Alliance has helped hundreds of them to improve their forest stewardship, working conditions and incomes. By working with the Brazil-nut gatherers' associations in eastern Peru, the Rainforest Alliance has strengthened the conservation of their forest concessions while raising their members' standard of living. [Source/view: video, Rainforest Alliance Web site, www.rainforest-alliance.org/]

released a damning statement about the highway on 7 January. "To cut it with a road would compromise the integrity of the entire basin and trigger the swift demise of some of the last isolated hunting and gathering tribes on Earth."

Currently, the Purus region, in southeast Peru, is only accessible by plane. A highway would connect it to the rest of the country and, so say those in favour of it, develop the local economy. (*Source: The Ecologist, 19 January 2012.*)

New Forest Peoples Programme Report

A recent report – entitled *The reality of REDD+ in Peru: between theory and practice. Indigenous Amazonian peoples' analyses and alternatives* and compiled by national and regional indigenous organizations in Peru (AIDSEP, FENAMAD, CARE) and the Forest Peoples Programme (FPP) – collates indigenous peoples' experiences with REDD policies and projects in the Peruvian Amazon. It analyses the policies and strategies of the Peruvian Government, examines the roles of international agencies and scrutinizes pilot REDD initiatives already under way in indigenous territories. Among other conclusions, the report finds that existing REDD policies and programmes are undermining the rights of indigenous peoples and are likely to lead to conflicts over land and resources.

The report calls for alternative rights-based approaches to forest and climate protection based on the recognition of land and territorial rights of indigenous peoples and support for community-based climate initiatives. (*Source: Forest Peoples Programme, December 2011.*)



REPUBLIC OF THE CONGO

Production de plants de *Gnetum* spp. par bouturage – expériences pratiques en République du Congo

Les feuilles de *Gnetum* spp., une liane forestière sempervirente, figurent parmi les aliments préférés dans le bassin du Congo. Face à l'amenuisement du potentiel de cette espèce dans certaines régions de la République du Congo et de la République centrafricaine, la FAO est intervenue. À travers le Centre for Nursery Development and Eru Propagation (CENDEP – voir www.cendep.org) de Limbe, Cameroun, des communautés de base œuvrant à la domestication de *Gnetum* spp. ont été formées en mai-juin 2011.

Au Congo, le suivi des pépinières est assuré par le Service national de reboisement (SNR). Les expériences montrent la nécessité d'adapter localement le manuel de production conçu au Cameroun et présenté lors de la formation.

Le suivi des boutures placées en juin 2011 dans le propagateur d'enracinement se fait quotidiennement. Le taux de réussite des bouturages est estimé à 86 pour cent pour Abala et à plus de 59 pour cent pour Madingo-Kayes, un quart des boutures étant toujours en observation dans le propagateur. Des sevrages ont été effectués 10 à 12 semaines après le repiquage, soit avec un décalage de deux à quatre semaines en comparaison du manuel camerounais. Ce retard peut être justifié par le fait que la saison sèche s'accompagne de températures relativement basses au Congo.

L'expérience a montré qu'il faut asperger d'eau les boutures tous les jours pendant la première semaine et deux fois par jour au cours de la deuxième semaine. En revanche, il suffit de mettre une fois par semaine 150 ml dans la jauge, au lieu des deux à trois fois par semaine préconisées par le manuel camerounais.

Pour le premier sevrage, du compost mis en place lors de la formation a été utilisé à Abala, avec un taux de réussite de 58 pour cent. Pour le deuxième sevrage, un mélange comprenant deux tiers de terre forestière et un tiers de sable fin a été utilisé. Ce changement de substrat a augmenté le taux de réussite, qui a atteint 70 pour cent à Abala, car le sol forestier contient non seulement la matière organique décomposée mais aussi du mycorhize naturel, favorable à la croissance des plants. La même observation a été faite à Madingo-Kayes.

Le bambou de Chine utilisé pour clôturer les hangars s'est révélé inapproprié car il a été attaqué par les insectes et a créé une poussière nuisible pour les boutures. En fonction de leurs coûts, d'autres matériaux – tels que des planches en bois – pourraient être adaptés.

Il a été constaté qu'une pénétration excessive des rayons solaires dans le propagateur cause un flétrissement des boutures. La clôture des hangars a ainsi été renforcée par des feuilles de palmier et des tissus (rideaux), en vue de maintenir un microclimat favorable au bouturage. L'intégralité du sevrage devrait ainsi pouvoir se faire sous les hangars.

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RWANDA

Rain forest in Rwanda's main natural forest in danger of extinction

Kigali. Nyungwe rain forest in the southwestern region of Rwanda is progressively disappearing, findings released in Kigali by a team of researchers from the National University of Rwanda revealed.

According to the findings made available to Xinhua in Kigali, the main threat to the forest is the abundance of a harmful plant, scientifically known as *Serochochys scadens*. "In the past, this plant was eaten by elephants and buffaloes," the report said on Monday. Today, only five elephants are believed to remain in the Kamiranzovu swamp located in the neighbouring area, while the buffaloes have literally disappeared. Another menace to the Nyungwe rain forest is the lack of abundant rainfall compounded by encroachment on the forest by the population.

If no immediate measures are taken to preserve the high-altitude forest (3 000 m above sea level), Nyungwe faces the same fate as Gishwati forest in the northwest region, which has been destroyed by farmers. In a bid to save Nyungwe forest from extinction, the government has decided to declare it a national reserve where tourism would be directed to supporting conservation efforts and research. In July 2011, the Government of Rwanda had fully entrusted the management of the Nyungwe natural reserve to a British forestry company, New Forests Company. (*Source: Xinhua News Service, 20 January 2012.*)

Price of gorilla permit increases to US\$750/day

Rwanda has raised the price of a permit to see mountain gorillas to US\$750/day starting from 1 June 2012, up from US\$500/day. While the price is steep, the programme each year raises millions of dollars in revenue for gorilla conservation, including US\$8 million in Rwanda alone in 2008, according to a 2011 study published in PLoS ONE. The number of permits available each day is limited to reduce the impact of gorilla tourism on the endangered apes. Around 20 000 people visited Rwanda's gorillas in 2008.

The programme seems to be working: mountain gorilla populations have steadily increased in recent years, with the combined

number in Uganda, Rwanda and the Democratic Republic of the Congo reaching 790 in 2010. The opposite trend has been observed with the more numerous lowland gorillas, which are in decline in the Congo Basin through poaching, habitat loss from deforestation and logging, and disease outbreaks. (Source: Rhett Butler, mongabay.com, 7 February, in ENN Daily Newsletter.)

SIERRA LEONE

From war to peace, Sierra Leone eyes ecotourism

Sierra Leone is trying to change its image as a war-torn country by promoting ecotourism, writes journalist Paige McClanahan at the launch of the new Gola Rainforest National Park.

If you are thinking of planning a bird-watching holiday, Sierra Leone might not be the first destination that jumps to mind. But that could change soon, if the government of this small West African nation gets its way. Earlier this month, Sierra Leone opened the Gola Rainforest National Park, a 71 000 ha protected area that is home to more bird species than can be found breeding in the whole of the United Kingdom.

The government hopes that the new park might help nature-loving tourists see beyond the battered image that defines the country overseas. The reason for this image is a brutal 11-year civil war that claimed the lives of tens of thousands of people. But Sierra Leone has been at peace since the conflict ended in 2002.

"The great news is that despite the area being one of the worst hit during the war, the biodiversity survived relatively intact," said Jonathan Barnard, the head of the tropical forest unit at the Royal Society for the Protection of Birds, which has been doing conservation work in the Gola region since 1989.

The park is Sierra Leone's largest remaining piece of the Upper Guinea Forest Ecosystem, a region that the environmental group Conservation International has identified as one of the world's critical biodiversity hotspots. The new national park is home to over 500 butterfly species, 300 bird species and 45 species of mammals. More than two dozen of these animals are under threat globally, including the pygmy hippopotamus, the Diana monkey, the chimpanzee and the

white-necked *picathartes* – a charismatic bird that the government has picked as the park's official symbol.

The government hopes that such species will lure wildlife enthusiasts from overseas.

The national park "is already receiving a modest number of adventurous tourists", Sierra Leone's President Ernest Bai Koroma said at the official opening of the park. "With further development, ecotourism will continue to grow and generate economic benefits for the country." (Source: BBC News, 14 December 2011.)

SOUTH AFRICA

Poor prefer NTFPs during a crisis

According to the Center for International Forestry Research (CIFOR), a recent study finds that the sale and use of NTFPs are some of the most common coping mechanisms in times of crisis for vulnerable households in two of South Africa's poorest provinces.

The study found that while all the households sampled relied, to some extent, on NTFPs as part of their livelihood portfolio, as many as 70 percent also reported using the safety-net function of NTFPs in response to a range of crises. Kinship was found to be the top coping strategy chosen by both wealthy and poor households, and poorer households cited the use or sale of NTFPs as the second most commonly adopted coping strategy.

"This highlights that in addition to the more regular use of NTFPs, they play an important role in helping households weather specific crises," said Fiona Paumgarten, CIFOR scientist and co-author of the CIFOR study conducted in collaboration with South Africa's Rhodes University. "The safety-net function of these NTFPs doesn't manifest specifically in the increased use of resources they already use but might manifest through using resources which are not normally used, or selling NTFPs which are not normally sold," she said.

Surveying both poor and wealthy households over a two-year period, researchers looked at a range of dynamics and drivers of use and sale of NTFPs. In both areas studied, overutilization of NTFPs and increasing population densities meant that these resources are becoming scarcer. This has implications on the possible safety-net option of NTFPs,

Paumgarten said. "It undermines overall livelihood security, especially as alternatives are limited, a situation that is unlikely to change in the immediate future as ongoing service delivery failures and high rates of unemployment persist." (Source: allAfrica, 18 January 2012.)

UNITED REPUBLIC OF TANZANIA

Spice town that lets you smell and taste Zanzibar

Zanzibar boasts white sandy beaches and the history-rich alleyways of Stone Town, but a visit to the archipelago is not just about seeing the islands – it is about smelling and tasting them, too. Spice traders crowd downtown market stalls, the pungent scent of their wares hanging in the air. Hawkers offer visitors a whiff of cinnamon or a taste of spiced coffee, but these dried and powdered products are a far cry from the spices in their raw form.

Private landowners have created miniature spice plantations where tourists can sample a variety of spices in their natural form – blades of lemon grass freshly picked from their bushes or ginger roots still covered in damp soil.

Cloves (*Syzygium aromaticum*) are typically the first tastes of the tour, as the spice most important to Zanzibar's economy. The archipelago earned its nickname of the "Spice Islands" in the 1800s, after Omani settlers introduced the clove tree to the region. Other spices were introduced over time, but cloves remained the main cash crop for exporters: during the nineteenth century, the archipelago was the source of 90 percent of the world's supply of cloves. Zanzibar's economy today remains dependent on clove exports, even though only 7 percent of world supply comes from the islands. Cloves are picked as unopened flower buds from the evergreen clove tree. After being dried, they are ground or used whole in cooking,



Cloves

especially as a key ingredient in *chai masala* (mixed-spice tea). Aside from the culinary uses of cloves, they are also commonly used as painkillers in dental emergencies.

Cloves may be the centrepiece of Zanzibar's economy, but they are not as common in kitchens as another spice on the tour: **peppercorns** (*Schinus* spp.). Peppercorns are the world's most-traded spice and grow on a vine, like tiny grapes along a stem. The fresh green kernels pack an eye-watering punch, even when eaten raw. Depending on how they are picked and dried, they either become black, white, or green pepper.

While peppercorn is the most common spice, a third plant wins the award for versatility: **cinnamon** (*Cinnamomum verum*). The roots, bark, branches and leaves of the cinnamon tree can each be used for different degrees of flavour, the bark being the most pungent in odour and taste. Dried and pulverized, cinnamon tree bark is used to make cinnamon powder, or dried whole to become cinnamon sticks.

Cinnamon is often paired with **nutmeg** and **mace**, two more spices found on the tour. Both impart a stronger, hotter flavour and grow intertwined inside the pithy nutmeg fruit: red ribbons of mace encircle the hard shell of the nutmeg seed, which is about the size of a Brazil nut. Nutmeg (from the *Myristica fragrans* tree), the sweeter of the two, is made when the flesh of the seed is dried, then ground or grated. Mace has a more delicate and peppery flavour, and is made from the dried membrane that surrounds the nutmeg seed. Nutmeg trees take at least seven years to begin producing fruit and do not reach their full production until after 20 years, which makes them a valuable trading commodity.

Vanilla (*Vanilla planifolia*) is perhaps one of the most intoxicating and valuable spices on the tour. It starts out not as a nut or a bark, but as an orchid. Vanilla pods grow dangling from a vine wrapped around a host tree, looking like french beans that got lost in the rain forest. The vanilla beans have to be carefully harvested, dried and aged before they can be used as flavouring, a process that takes at least six months. Once the beans are processed, the pods can be used whole, ground into a powder or turned into a liquid extract.

Cacao (from the *Theobroma cacao* tree) also lurks on the spice tour, looking nothing like its final product. This

fundamental ingredient in chocolate is found within the green rind of the cacao pod, which holds about 30 seeds. The seeds, about the size of an almond, are embedded in a slightly sweet, slimy white fruit. When they are dried and ground, the paste – called chocolate liquor – can be separated into two different products: cocoa powder and cocoa butter.

Eventually all these spices and others such as cardamom, cumin and annatto, end up in the market stalls of spice hawkers in Stone Town. And while the booming spice exports of Zanzibar are largely a thing of the past, tourists can stock their suitcases with fragrances and flavours for friends back home, keeping that trade going just a little bit longer. (Source: The East African, 4 December 2011.)



Carya ovata

UNITED STATES OF AMERICA

Our native trees include shagbark hickory

Shagbark hickory (*Carya ovata*) is native to most of the eastern United States of America and much of Ontario and Quebec, Canada. It is found in a variety of sites, most often on upland sites in the north in association with oaks and other hardwoods. Young seedlings and saplings can survive in the shady understory for many years until the older trees die, exposing them to sunlight; then they grow more rapidly. Hickories do not generally dominate a site; they are usually found in mixtures.

The common name of shagbark hickory comes from the distinctive peeling bark on mature trees that gives it a shaggy appearance. Other common names include shellbark, scalybark and upland hickory. The bark of young trees is smooth and grey.

Hickory comes from the Algonquian Indian word *pawcohiccora*, for the tree's nut meat. The nuts are edible and sweet-flavoured. They can be used in place of pecans in baking. Many wildlife species eat

the nuts of shagbark hickory, including squirrels, chipmunks and, to a lesser degree, black bears, foxes, rabbits and mice, and birds such as mallards, wood ducks, bobwhites and wild turkeys.

Nuts are round to ovate with a thick husk. The husk is green at first, browning as it matures. When the husk dries, it splits open along four grooves exposing the nut. The shell of the nut is fairly thin and light brownish white.

The wood of the shagbark hickory is very strong and resilient. It was, and is, used for axles, axes, ploughs and other tool handles. Native Americans used it for bows. Other uses include furniture, cabinetry, flooring and speciality products such as ladder rungs, dowels and athletic equipment. It is a desirable fuelwood because of its high heat value and because it burns evenly. Charcoal made from hickories can be used to give food, particularly meat, a hickory-smoked flavour.

The bark of the shagbark hickory can be used to make a syrup much like maple syrup but with a unique flavour. Unlike maple syrup, the extract used comes from the bark, not the sap. Hickory syrup is only available from a few places and one of them is in Connecticut.

Shagbark hickory is a tall tree, growing to a mature height of about 120 ft (approximately 36 m) with a width of about 40 ft (12 m) and is adapted to a variety of sites and soil types. (Source: *The Mystic Press* [Connecticut, United States of America], 1 January 2012.)

ZIMBABWE

NTFPs as a coping strategy for HIV/AIDS-afflicted rural households

A recent article examines the role of the extraction of NTFPs as a coping strategy in response to HIV/AIDS-related economic shocks among rural households in the semi-arid Sengwe communal lands in southeastern Zimbabwe. Using panel data for 200 households in 2008 and 2009, an econometric analysis revealed NTFP extraction as an important *ex post* coping mechanism for HIV/AIDS-afflicted households. Many of the households responded to HIV-related economic crises by increasing NTFP extraction to smooth both consumption and income. On average, the additional income from NTFPs offset about 48 percent of a household's income shortfalls arising from the impact of HIV or

AIDS. The importance of NTFPs as an economic safety net for households depends more on the timing of extraction than on the magnitude (i.e. as a share of total household contribution). Hence, sustainable forest management is of great value for semi-arid tropical areas, such as the Sengwe communal lands, which are hard hit by the HIV epidemic.

Consequently, government and other stakeholders would be well advised to implement programmes that reduce pressure on forest resources, by introducing, for example, other income-generating enterprises such as raising small livestock, while improvements in access to education and health care will further help the rural poor cope with HIV/AIDS-induced economic crises. (Source: M.J. Mutenje, G.F. Ortmann and S.R.D. Ferrer. 2011. Extraction of non-timber forest products as a coping strategy for HIV/AIDS-afflicted rural households in southeastern Zimbabwe. *African Journal of AIDS Research*, 10(3): 195–206.)

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FAO commissions study on indigenous plants

FAO is to produce an inventory of the top ten underutilized plants with commercial potential for smallholder production. Bio-Innovation Zimbabwe (BIZ), an innovation hub acting to develop new business opportunities using indigenous plants, was recently commissioned to produce the report.

Gus Le Breton, BIZ Chief Executive Officer, says the study will focus on plants that can be used for medicines, food, biofuel, cosmetics, herbal teas, dyes, construction, gums, resins and essential oils. "As we begin rebuilding Zimbabwe's agricultural sector, we have the opportunity to position ourselves strategically in the global market as the first choice suppliers of an array of unusual African natural ingredients and products," said Le Breton.

In terms of domestic consumers and policy-makers (both of whom are now actively considering the implications of the "Proudly Zimbabwean" commercial drive) and in terms of the international market (with its focus on natural, on Africa and on ethical trade), the time has never been better, he added. Key points include short lead time for



Groundnuts

commercialization, ease of domestication/cultivation, suitability for marginal dryland areas, building on existing, abundance of geographic spread, existing markets and multiple marketing opportunities, including availability of skills.

Among the 250 useful plants already identified are: baobab (*mauyu*), pigweed (*mowa*), prickly cucumber (*magaka*), finger millet (*zviyo*), *makoni* tea (*musvisvinwa*), *mobola* plum, (*hacha/chakata*), *marula* (*mapfura*), groundnuts (*nyimo*) and pepper bark (*muranga*).

But Le Breton says the potential of these species will not be realized unaided and there is a need to identify the unique selling points of each and facilitate concentrated investment in product development, trial marketing, consumer awareness and production and yield trials.

Many foreign countries have capitalized on indigenous plant species such as kiwi fruit (New Zealand), macadamia nut (Australia), *açaí* (Brazil), argan oil (Morocco), shea butter (Burkina Faso) and *rooibos* (South Africa). (Source: The Zimbabwean, 11 January 2012.)

Importance of woodland resources in southeastern Zimbabwe

Like many forest and woodland resources in other areas across Africa, ecosystems in the southeastern low veldt of Zimbabwe generate a wide range of timber and non-timber products and services. These include consumptive resources such as bark for rope, building materials, fodder, fruits, fuelwood, fungi, bushmeat, gum, honey, insects, termites, leaf litter, medicines, mushrooms, roots, thatching grass, tubers and wood for small artisanal crafts; social services such as cultural and spiritual benefits; aesthetic value; wilderness experience and recreation; employment; and ecological services such as carbon sequestration, grazing, shade, soil stabilization, water catchment, wildlife habitat and windbreaks. Some of the most valued

fruits include those collected from *Adansonia digitata* and *Sclerocarya birrea*.

Especially in periods of extreme weather events such as droughts and floods, woodlands become very important for the livelihoods of local communities in the study area and they form the only easily accessible safety net for food and income, since external support, for example in the form of food aid from government and non-governmental organizations, may not fully meet local communities' requirements.

Mopane woodland products are key resources for rural communities and wildlife conservation in southeastern Zimbabwe. Where mopane is dominant, it assumes economic importance especially as a source of browse for both domestic and wild animals. The "mopane worm", which is actually the caterpillar of the emperor moth, *Imbrasia belina*, used as food, is one of the best-known and most economically important woodland resource products of mopane woodland. For rural households in southern Zimbabwe, the annual harvest of mopane worms may contribute up to quarter of a household's cash income, depending on the quantity of the worms harvested, the proportion sold and the household's other sources of income. Mopane worms can, therefore, contribute to improving rural people's livelihoods in various ways, including: (i) supplementing seasonal shortages in cash or food; (ii) buffering families against unexpected shortages in food or income, for example, caused by droughts; (iii) supplementing expenditure on important factors such as education, food, health, clothing and agricultural tools; and (iv) providing cash for investment in various productive enterprises, such as purchasing agricultural inputs. (Source: Importance of savanna woodlands in rural livelihoods and wildlife conservation in southeastern Zimbabwe. In *Nature & Fauna*, 26(1).)

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Time is the one thing we possess. Our success depends upon the use of our time, and its by-product, the odd moment.

Arthur Brisbane