

Beyond Timber

Certification and Management of Non-Timber Forest Products



Patricia Shanley • Alan Pierce • Sarah Laird • Dawn Robinson

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Patricia Shanley, Alan Pierce, Sarah Laird and Dawn Robinson

with contributions from:

Mauricio Almeida, Jenne de Beer, D. Cole, Peter Cronkleton,
Anthony Cunningham, Andre de Freitas, Carmen Garcia Fernandez,
Patricia Cota Gomes, Cyril Lombard, Pablo Pacheco, Pierre du Plessis,
Philippe Pommez, Silvia E. Purata, Susanne Schmitt, Sheona Shackleton,
Mary Stockdale, Loana Johansson and Alexandre Dias Souza

Researched by the Center for International Forestry Research
Jl. CIFOR, Situ Gede,
Bogor Barat 16115, Indonesia
Tel.: +62 (251) 8622-622; Fax: +62 (251) 8622-100
E-mail: cifor@cgiar.org
Web site: <http://www.cifor.cgiar.org>

Cover/Design: Ione Sena
Cover photo: Patricia Shanley

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Authors' Affiliations

Patricia Shanley: Center for International Forestry Research
Alan Pierce: Independent Researcher
Sarah Laird: People and Plants International
Dawn Robinson: ProForest

Shanley, Patricia

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List of Abbreviations and Acronyms

BOLFOR	Sustainable forest management project of Bolivia
CBD	Convention on Biological Diversity
CBMF	Brazilian Forest Management Council
CENAFLOA	National Center for Forest Management Assistance
CFV	Bolivian Center for Voluntary Forest Certification
CIFOR	Center for International Forestry Research
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
ECOLOG	Brazilian certified timber company
FASE	Federation of Organizations for Social and Educational Assistance
FSC	Forest Stewardship Council
GACP	Good agricultural and collection practices
GAP	Good agricultural practices
GFP	Global Forest Products
GTNA	National Agroecology Assistance Group
IFOAM	International Federation of Organic Agriculture Movements
IFT	Tropical Forest Institute
IMAFLOA	Institute for Agricultural and Forestry Management
INCRA	National Institute for Land Reform
INRA	National Institute for Agronomy Research
ISO	International Organization for Standardization
KGT	Kenya Gatsby Trust
NGO	Non-governmental organization
NSRC	Neo Synthesis Research Institute

NTFP	Non-timber forest product (an alternative term to NWFP)
NTFP-EP	NTFP Exchange Program for South and Southwestern Asia
NWFP	Non-wood forest product (an alternative term to NTFP)
OSR	Rubber-Tapper's Association of Rondonia
OXFAM	Confederation of International Development Organizations
PEFC	Programme for the Endorsement of Forest Certification schemes
PhytoTrade	Association of NTFP Producers of Namibia
PPI	People and Plants International
Precious Woods	Brazilian certified timber company
PROMAB	Bolivian Amazon Forest Management Program
PRONERA	Federal Rural Education Program
RMHC	Rocky Mountain Herbalist Coalition (a North American NGO)
SAFCOL	South African forestry company
SCS	Scientific Certification Systems (a US-based international certification body)
SFI	Sustainable Forestry Initiative
SFM	Sustainable Forest Management
SGS	Société Générale de Surveillance (an international certification body)
SLIMF	Small and Low Intensity Managed Forests (an FSC initiative)
SW	SmartWood (a forest certification program of the Rainforest Alliance)
UF	University of Florida
UPS	United Plant Savers (a North American NGO)
USAID	United States Agency for International Development
WWF	World Wide Fund for Nature (also known as World Wildlife Fund)

Preface

Forest certification is a market-based instrument that aims to encourage sustainable forest management for the multiple values of the forest beyond timber, to include non-timber forest products (NTFPs) and services, social and cultural values and future options. To date, there are over fifty commercial NTFPs for which certification standards have been approved and on-going evaluations of original products in new countries and forest types. Thus far, the share of certified timber in the marketplace makes up less than 1 percent of the total forest area and less than 3 percent of the total timber trade value, although it is growing significantly. The share of the commercial value of certified NTFPs is even smaller, as NTFP certification is still in its infancy.

There have been a range of studies of the status of timber and wood product certification and the issues and challenges for moving forward. However, there is much less documentation of the status of forest certification and NTFPs that look at either the impacts of forest certification for the sustainability and harvesting of NTFPs or the opportunities and challenges for incorporating certification standards for commercially important products into the various certification schemes.

The issues surrounding the certification of forests with significant NTFP values — for both subsistence and commercial use — are complex and varied. NTFPs cover a wide range of roots, barks, stems, exudates, leaves, fruits, flowers, seeds, fungi, invertebrates as well as birds, animals and related products. Some products are extremely important for subsistence use and traditional lifestyles and cultures. Others have high commercial values, some of which may be quite cyclical or volatile, while others may be fairly stable in value. Some products have a significant measured share of the market — 116 traded products generate US\$7.5 to 9 billion in global trade, while medicinal and cosmetic ingredients generate another US\$108 billion.

Demand for these products is changing, with dramatic increases in developing countries where rises in mean income and in population size have created interest in culturally significant foodstuffs, fibers, medicinal plant, and botanical ingredients of cosmetics and other products. There is a mushrooming demand in the developed countries for culturally important NTFPs and for products related to alternative medicines and alternative lifestyles. Such trends challenge the traditional economic characterization of NTFPs as inferior, elastic and substitutable, indicating that many products retain stable and growing markets, even in the face of rising incomes and increasing access to synthetic substitutes.

Many products are collected by harvesters who do not have secure access or tenure rights over the forest resource and many products are collected over a non-specific forest area, making area-based certification standards difficult to apply. There are a number of alternative standard-setting processes including wildcrafter standards, organic production, good agricultural practices, fair trade standards and validation of manufacturing methods.

Certification processes in tropical forests can be instrumental in raising awareness of commercial timber managers and producers of the interrelationship between timber and non-timber production and sustainability in specific forests and forest regions. This is extremely important for species that have both wood and non-wood values and markets and to ensure that timber operations do not negatively affect subsistence and commercial harvesting of NTFPs from the same forest area. In spite of protective standards, certification of timber can create additional pressures on NTFPs. For example, some tree species widely used for their medicinal barks and exudates in Brazil, and characterized as at risk by ecologists, are currently commercialized as certified timber in the United States. Growing interest by timber companies in extraction of not only timber but high-value NTFPs could either prohibit access of rural collectors to forest products or help NTFP harvesters to broaden their trade opportunities.

This book tries to provide answers to the following questions:

- How applicable are the forest certification schemes to the requirements and issues regarding the harvesting and management

of NTFPs? How compatible are the two sets of standards in cases where both types of products can be harvested from the forest?

- What models have been applied in cases where the harvesters of NTFPs are different from those who harvest or have the rights to manage and harvest timber?
- Under what conditions is certification a useful tool for NTFP collectors? In those circumstances when it is appropriate, how can forest certification be made accessible to different types of NTFP harvesters and users, many of whom are small producers?
- Where does the forest certification option fit in with other types of sustainable or just management and harvesting standards?
- What are the broader implications of setting standards for NTFPs for industry, governments, communities and small producers?

The experience to date shows both specific opportunities and significant challenges for NTFP certification. There is a need to better understand the appropriate role that forest certification can play and provide appropriate enabling conditions. Knowledge is key — both for generating effective management standards and for increasing the two-way flow of knowledge between collectors and buyers. Collectors often have highly developed management practices but poor market information, and commercial buyers, industries and government regulators are often unaware of traditional use and knowledge but understand and shape the market chain. There is a need to respect the knowledge and skills of small producers and harvesters, recognizing the mutual benefits of sustainably producing forest products — for the resource, for the harvesters and for the consumer.

Michael Jenkins
President, Forest Trends

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Introduction

Non-timber forest products (NTFPs) are critical to rural livelihoods in both temperate and tropical areas. They provide communities with important subsistence resources like medicine, food and shelter, and a source of cash income. NTFPs are also part of large regional and international markets, and for centuries products such as spices, medicinal plants, fragrances and resins have spurred explorations and sustained trade routes across the globe.

NTFPs are biological resources derived from natural forests, agro-forestry systems and plantations. They include medicinal and edible plants, fruits, nuts, resins, latex, essential oils, fiber, fodder, fungi, fauna and small diameter wood used for crafts¹. In recent decades, increasing government research and NGO attention has focused on the potential for NTFPs to play an important complementary role to timber and agriculture in rural livelihoods and to contribute to conservation and sustainable management of forests. In the mid-1990s this attention came to include certification of NTFPs.

Certification is a relatively new forest policy tool that attempts to foster responsible resource stewardship through the labeling of consumer products. The premise is that consumers will seek out and support products that are reputedly certified as hailing from well-managed sources. To date, forest management certification has focused on timber products, although some attention is now being given to

¹ The inclusion of wood for carving as an NTFP is potentially contentious since the entire tree may be harvested, resulting in similarities of management and ecological impact to timber harvest. However, on other occasions only tree branches — small diameter wood — are cut, giving the harvest common characteristics with other NTFPs. Moreover wood carving is generally an artisanal activity, frequently important for local rural livelihoods, and the wood used is commonly on land not owned by the collectors, giving wood-for-carving harvest many similarities with more ‘conventional’ NTFPs.

NTFPs. While many lessons can be drawn from timber certification, transfer of existing timber-based guidelines and procedures to NTFPs has proved challenging. Non-timber forest resources are a more difficult group of products to certify than timber due to a multitude of factors, including their exceedingly diverse and idiosyncratic nature, and social and ecological complexity. However, in spite of these challenges, opportunities exist to promote sound ecological and social practices in NTFP management and trade (Shanley *et al.* 2002).

This paper addresses the state of the art in NTFP certification, still in its infancy but rapidly evolving at present. We begin by providing an overview of NTFP certification today, review current standards applicable to NTFPs and then compare timber and non-timber product certification. Next, we discuss the challenges of making NTFP certification accessible to harvesters and producers, particularly small producers. This is followed by an analysis of NTFP certification through five lenses, ecological, social, economic, legal and technical, using illustrative case studies from Africa, Asia and Latin America. In closing, we describe broader implications of NTFP standard-setting processes on the development of industry standards, producer guidelines and policy guidance and offer recommendations for policy and practice.

The Value of NTFPs in Livelihoods and Trade

The most significant value of NTFPs lies in their subsistence uses (e.g. medicine, food, shelter) and trade in local markets. Farnsworth (1985) estimated that 80 percent of the world's population relies on traditional, largely plant-based, medical systems for their health care needs. NTFPs are estimated to account for as much as 25 percent of the income of close to 1 billion people (Molnar *et al.* 2004). Even in post-industrialized nations such as the USA, NTFPs provide a safety net that allows numerous people to survive in regions poorly served by the market economy (Emery and Pierce 2005). Forests are a source of food, medicine and shelter to all classes during wartime and famine (Pierce and Emery 2005). NTFPs also play vital roles in local culture, identity, myths, folklore and spiritual practices in every corner of the globe.

Table 1. Values and Volumes of Select Traded NTFPs

Common name	Scientific name	Origin	Habit, cultivated/ wild harvested	Plant part used (use)	Conservation status	Trade data
Brazil nut	<i>Bertholletia excelsa</i>	Brazil, Bolivia, Peru	Tree, wild harvested	Nut (food)	Reduction in forest area but protective legislation exists in Brazil, Peru and Bolivia (Ortiz 2002)	In 1998, in Bolivia US\$31 million
Palm heart	<i>Euterpe edulis</i> <i>Euterpe oleraceae</i> <i>Bactris gasipaes</i>	Bolivia, Brazil	Palm, wild harvested and cultivated	Shoot (food)	<i>Euterpe edulis</i> in the Atlantic Forest, Brazil — threatened	In 1998, Bolivia US\$12 million; Brazil, US\$27 million. (CIFOR 2004)
Maple syrup	<i>Acer</i> sp. principally <i>Acer saccharum</i>	USA, Canada	Tree, wild harvested	Exudate/sap (sweetener)	Asian long-horn beetle, a maple boring insect, may become a threat. Crown die-back may be result of climate change (Pierce 2002c)	2003 global production of 8 million gallons (USDA 2004)
Rattan	650 species belonging to 13 genera. <i>Calamus</i> sp. is the largest genus with circa 350 species (Sunderland and Dransfield 2002)	Southeast Asia, Africa	Vine, wild and cultivated	Vine (handicrafts furniture)	Four of the major traded species are threatened (Sunderland and Dransfield 2002); species-dependent overexploitation in Philippines, Vietnam and Indonesia (Kusters and Belcher 2004)	US\$6.5 billion per year (ITTO 1997)

Common name	Scientific name	Origin	Habit, cultivated/wild harvested	Plant part used (use)	Conservation status	Trade data
Bamboo	Over 1,000 species from numerous genera	Asia, Africa and South America (forests of the Andes and Amazon)	Woody, climbing and herbaceous species, wild and cultivated	Stem, shoot (construction, furniture, human food, provides shelter and food for endangered wildlife)	One half of the 1,200 woody species are in danger of extinction (UNEP/WCMC study 2004)	2.5 billion people trade in or use bamboo; international market over US\$2 billion per year (Nature News Service 2004)
Cork	<i>Quercus suber</i>	Mediterranean: Portugal, Spain, Algeria, France	Tree bark, wild harvested	Bark (stoppers, insulation)	Degradation from grazing, fuelwood collection, agriculture	Annually US\$240 million (Moussouris and Regato 2002)
Pygeum	<i>Prunus africana</i>	East, Central and West Africa, Madagascar	Tree, majority wild harvested; some efforts to cultivate	Bark (medicinal)	CITES Appendix II	Annual market value estimated at US\$150 million; annual harvest estimated at 3,500 metric tons (Cunningham <i>et al.</i> 1997)
Yohimbe	<i>Pausinystalia johimbe</i>	West-Central Africa	Tree, wild harvested	Bark (medicinal)	Secure – but perhaps not as ‘common’ as described (see Sunderland <i>et al.</i> 2002)	120 tons of bark shipped to Europe in 1996 (Simons 1997); yohimbe products worth US\$2.4 million in sales in USA in 2002 (Blumenthal 2003)

Common name	Scientific name	Origin	Habit, cultivated/ wild harvested	Plant part used (use)	Conservation status	Trade data
Ginseng	<i>Panax ginseng</i> , <i>P. quinquefolius</i>	Asia and North America, respectively	Herb, wild harvested and cultivated	Root (medicinal)	CITES Appendix II; UPS 'at risk' list	284,000 kg dried cultivated roots and 189,000 kg dried wild roots exported from USA in 2003 at a combined estimated value of US\$38.6 million (US ITA 2004)
Sandalwood	<i>Santalum</i> sp.	South Asia	Tree, wild harvested and some cultivation	Wood (essential oil)	Of concern, rare through over-exploitation in the wild	65 tons of sandalwood oil were exported from India in 1990/91 (Coppen 1995)
Butcher's broom	<i>Ruscus aculeatus</i>	Southern Europe east of Turkey	Shrub, wild harvested with little cultivation	Root (medicinal)	Listed in Annex V9b) of the EC Habitats, Fauna & Flora Directive, threatened in much of its range (Lange 1998)	2000 tons of fresh roots harvested per year in Turkey (Lange 1998)
Rubber	<i>Hevea brasiliensis</i> and other species	Southeast Asia (plantations), South America	Tree, cultivated, some still wild harvested in South America	Latex (industrial applications, mainly tires; vegetable leather)	World demand for natural rubber for tire manufacturing outpaces supply. Asian plantations may be susceptible to pests and pathogens.	World production of natural rubber was 6,850,000 metric tons in 2000 (Bank of Thailand 2004)
Sangre de drago	<i>Croton lechleri</i>	South America	Tree, wild harvested and cultivated	Latex (medicinal)	Secure, but species is patchily distributed and may be under pressure in some areas (Alexiades 2002b)	26 tons of latex shipped to USA in 1998 (Alexiades 2002b)

Notes: UPS = United Plant Savers, CITES = Convention on International Trade in Endangered Species of Flora and Fauna.

Source: Adapted from Pierce and Laird 2003.



Figure 1. Ver-o-Peso, Belém, Brazil. The most significant value of NTFPs is in their use for subsistence and commerce in local markets. (Photo by Trilby MacDonald)

At the same time, NTFPs supply diverse industry sectors with raw materials that are used in industrial applications or are consumed as medicines, food and personal care products. The global trade in NTFPs is estimated to be worth US\$11 billion (FAO 1993; Walters 2001). Global sales of botanicals, natural personal care and sports products and homeopathic remedies alone topped US\$45 billion in 2002 (Nutrition Business Journal 2003; see Table 1 for additional examples).

Through harvest, trade or use, NTFPs impact a vast number and range of individuals. For example, Dransfield and Marnokaran (1994) estimate that 0.7 billion of the world's population use, or are involved in the trade of, rattan and rattan products, while bamboo products are used and/or traded by a staggering 2.5 billion people (Nature News Service 2003). But demand for NTFPs is characterized by change. Demand for botanicals in the 1990s in the United States, for example, grew at a rapid pace, but is currently holding steady. During the last two decades the value of rattan exports increased

250-fold in Indonesia and 75-fold in the Philippines (Palis 2004). Species with once significant markets, which had been in decline, have seen demand surge as part of a post-modern revitalization of ancient traditions. These include vegetable ivory, panama hats, crafts, chicle (*Manilkara zapota* latex) for chewing gum and in some cases botanicals (Alexiades and Shanley 2004). Other species once used only by rural populations such as cat's claw (*Uncaria* sp.), sangre de drago (*Croton* sp.) and the fruit of açai palm (*Euterpe oleraceae*) in Latin America (Alexiades 2002), rattan in Africa (Sunderland *et al.* 2002), fiddlehead ferns (*Matteuccia struthiopteris*) in the USA (Pierce 2002b) and kava (*Piper methysticum*) in the South Pacific are now popular with urban elites in their native countries and around the world.

An Introduction to Certification, Standards Development and Codes of Practice

Prior to discussing the challenges and opportunities for certifying NTFPs, it is important to clarify the meaning of some of the common terms used in the field of certification.

Certification is an evaluation system to verify compliance with a set of standards that ensure product quality, consistency or safety. Certification is commonplace in industry and government and has recently evolved to address consumer concerns about social, environmental and ethical aspects of a product's manufacturing process.

A standard is an integral part of any certification system. Standards are agreed-upon norms that set out specific requirements, benchmarks or protocols against which a certification applicant's performance is judged.

A certification scheme generally includes a standard (or several standards), and a means of verification to determine if the operation, organization or individual to be certified is meeting the requirements set out in the standard. This verification often takes the form of an audit or assessment wherein documents and procedures are reviewed to evaluate the applicant's compliance with the standard(s).

If verification audits are carried out by organizations completely independent of the operation being assessed they are referred to as ‘third party’ certifications. The independent organizations that carry them out are known as ‘certifiers’ or ‘certification bodies’. If audits are carried out by an organization with a relationship to the operation being assessed (e.g., a supplier audit), it is known as a ‘second-party’ assessment or certification. ‘First-party’ assessments are more commonly known as ‘internal audits’ or ‘internal monitoring’ and refer to inspections carried out by the organization itself (Nussbaum and Simula 2005).

Accreditation is an evaluation process to ensure that organizations undertaking certification assessments adhere to established standards and provide competent, independent, credible results. This process ‘certifies the certifiers’ and effectively grants certifiers a license to operate (Bass *et al.* 2001).

Certification schemes and standards vary significantly, both in the issues they highlight and in their genesis and evolution. Of considerable relevance for NTFPs — and the focus of this book — are voluntary social and environmental standards, which are among the most visible of current standards and reflect a growing desire by civil society to ensure that social and environmental values are reflected in the production process. Such schemes generally include labeling rules, which govern how and when final products can display a label and make claims about the sources or production systems used.

Chain of custody certification is a frequent supplement to the certification of the origin of production, such as forest management certification. It involves verifying the successive links in the supply chain of products from their origin (in the forest) through different stages of processing, transport and distribution. It provides the link between the production site (e.g., a certified forest) and the claim on the label of the final product. Chain of custody certification is extremely important because it provides a way to guarantee that the product being sold to end consumers really is contributing to the type of environmental or social system they are hoping to support with their purchase.



Figure 2. Certified Brazil nut and medicinal copaiba oil. Global sale of certified non-timber forest products is growing among all social classes. (Photo by Imaflora)

Voluntary codes of practice or codes of conduct are terms that refer to any standards that relate to voluntary certification schemes. However, voluntary codes of practice do not generally have third party auditing, which is central to certification schemes and credible market claims. Nonetheless voluntary codes of conduct are often important foundation documents for subsequent certification standards. They include codes of conduct adopted by particular businesses (e.g., large supermarket chains have codes of conduct to guide their dealings with small farmer horticulture producers) or codes belonging to associations of producers. For example the Kenya Flower Council has a code of practice to cover environmental, social accountability and good agricultural practices standards to be met by their flower growing and exporting members. Codes of practice are now widely used in all aspects of business and agriculture, and are increasingly visible in the NTFP sector in Europe and North America (e.g., voluntary codes of conduct for essential oil producers, bee codes of practice for honey producers in New Zealand, and wild mushroom pickers' codes of conduct in the UK).

Recent Efforts to Develop Standards and Certify NTFPs

Numerous standards and voluntary codes of practice applicable to NTFPs have been developed in organic food, forest management, fair trade, quality control and other sectors (Pierce *et al.* 2002). Examples of certification schemes, standards, and codes of practice that can apply to NTFPs include (adapted from Pierce and Laird 2003):

- Forest management certification and standards that may focus mainly on environmental practices (e.g., the Sustainable Forestry Initiative, Programme for the Endorsement of Forest Certification schemes) or may cover both environmental and social aspects including local community access and indigenous peoples' rights, (e.g., Forest Stewardship Council);
- Organic standards for agricultural and livestock production that restrict the use of artificial chemical fertilizers and pesticides and place emphasis on soil fertility and animal welfare (e.g., those produced by members of the International Federation of Organic Agriculture Movements);
- Fairtrade certification standards that are designed either to ensure fair prices for smallholders organized in co-operatives or other organizations with a democratic, participative structure or to ensure decent wages, the right to join trade unions and minimum health and safety standards (e.g., standards developed by Fairtrade Labelling International);
- Wildcrafter guidelines that outline best harvesting practices for gatherers (e.g., European Herb Growers Association Guidelines for Good Wildcrafting Practice of Medicinal and Aromatic Plants);
- Good agricultural and collection practices (GACP) guidelines that set standards for proper handling and sanitation of starting materials during harvest, storage and shipping (e.g., the GACP for herbal raw materials drafted jointly by the American Herbal Products Association and the American Herbal Pharmacopoeia);
- Good manufacturing practices (GMP) criteria that set guidelines for facilities, personnel and processing procedures for herbal medicines; and
- Quality control and methods validation programs that assure the proper preparation of materials, including species authentication, absence of heavy metals and pesticide residue and correct chemical composition in standardized products.

Producers must weigh the costs and benefits of various schemes to determine whether or not a particular set of standards is a good fit for their product, their consumer base and their organizational capacity. This can prove challenging in many countries, since information about the different schemes, their market acceptability, and the costs and requirements involved may be difficult to obtain, particularly in languages other than English. Information availability frequently depends on the presence of national or regional representatives of the standards setting or accreditation bodies, or of certification bodies that can provide relevant information.

Box 1 provides an example of a maple syrup producer in Vermont that weighed the pros and cons of organic and Forest Stewardship Council (FSC) certification. The operation chose organic certification over FSC certification because of its greater relevance to consumers, lower cost, and program assistance with product tracking. It is worth noting that this organization was well-capitalized and undertook the dual assessment because of its educational mission to promote sustainable management of forests and farmland. Most NTFP harvesting operations in less developed countries cannot afford the luxury of such experimentation; for them NTFP harvest and sale is a question of survival.

Box 1 – Maple Syrup Certification in the USA

By Alan Pierce, Independent Researcher

In January 2000, SmartWood, an FSC-accredited certification body, finalized a set of maple syrup certification standards in consultation with foresters, maple experts and maple producers (see Pierce 2002c). In February of 2000, the Merck Forest and Farmland Center in Rupert, Vermont, requested to have its maple stands (sugarbushes) evaluated under the new guidelines. Merck had already obtained FSC endorsement for its timber operations in 1999, thus the sugaring assessment was an ‘add-on’

certification rather than a holistic assessment of timber and non-timber products.

Merck Forest and Farmland Center is a non-profit organization with a strong environmental education component. Revenues from the timber, farming and sugaring operations supply about 25–33 percent of the annual operating budget. Merck's farmlands are organically certified and in 2002, the maple sugaring operation was awarded an organic certificate. Merck staff viewed the attainment of certification as an information seeking process, a method to explore the increasing value of forest and farm products, a way to assess their overall management quality and an avenue to justify management practices with the public.

In 2000, Merck had roughly 1,500 taps spread over an area of about 15 ha. Today, Merck has expanded its sugaring operation to 4,800 taps, installed a brand new tubing system and constructed a new, more centrally located sugarhouse. The investment in new equipment and infrastructure was significant and due in part to the attainment of the dual certificates from the FSC and the Northeast Organic Farming Association. Merck's staff is committed to making the maple operation a showcase demonstration project. Unfortunately for Merck's educational mission, maple certification has not yet generated a great deal of interest among local landowners, only calls from certification researchers.

When asked to compare the organic certification process with the FSC assessment process, Merck's staff stated that the organic certification was smoother, less expensive and more rigorous than the forest certification audit, particularly with respect to issues that influence product processing and quality such as lead testing, packaging and batch-tracking. Staff also reported that "green certification (for syrup) has no value right now." That is, consumers do not understand the relevance of the FSC label on the syrup and perhaps have never considered that sugaring and sugarbushes could be unsustainable. Organic certification

is considered to provide a marketing advantage, and staff cited statistics from an organic certifier which report that organically certified syrup can realize a premium of as much as US\$0.15 per pound over 'conventional' syrup.

Merck reported that its annual audit costs for FSC endorsement (of both timber and non-timber operations) were US\$1,700 while their organic certification (for farm and sugarbush) costs about US\$350 per year. Organic certification charges a percentage of final product sales and the annual fee is expected to rise by US\$100 or more next year. Comparing the cost of the two systems is difficult with limited information, because the forest acreage is larger than the farm acreage, an FSC assessment is more complex than an organic assessment, and the majority of SmartWood's fees relate to the timber assessment and not the maple assessment. In general, the cost of the FSC label appears to be far greater than the cost of an organic label. While Merck was proud of its FSC endorsement it decided not to renew the FSC certificate for either timber or maple syrup. This is not a reflection on any changes in forest management practices. Rather, in Merck's estimation "the cost of being FSC became too expensive" (pers. comm. Mandy Smith, Merck 2006). The organization has not lost its enthusiasm for the 'green' label and is looking into ways to become FSC certified again.

In summary, there is a wide and growing range of different schemes and codes of conducts that may be of relevance to NTFP producers. Table 2 provides an overview of the foci, strengths and weaknesses of some of the existing standards relevant to NTFPs, particularly those relating to medicinal plants.

One system that does not fit well within the categories of standards and certifications systems listed above is Analog Forestry's Forest Garden Products certification. Analog forestry is a system of forest management that combines organic crop cultivation with the enhancement of forest biodiversity. It seeks to establish a forest-like

Table 2. Attributes of Various Standards and Certification Programs for Non-Timber Forest Products (adapted from Pierce and Laird 2003)

Program → Attribute ↓	Wildcrafter Standards	Organic Certification	FairTrade Certification	Forest Management Certification	Good Agricultural and Collection Practices	Good Manufacturing Practices	Methods Validation Programs
Emphasis	Guidelines for harvesters	Pesticide-free standards; organic-processing guidance	Assures fair wages and good working conditions	Assessment of forest management, including management and monitoring of ecological and social impacts	Guidelines covering planning, harvesting and handling of both agricultural and wild harvested products	Standards for appropriate facilities and trained personnel	Standards for proper preparation of botanical remedies
Weakness when applied to NTFPs	Difficult to implement; relies on harvesters to be organized or accept organization	Single species orientation; weak forestry and ecosystem standards	Requires individual product endorsement and standards; weak environmental components	No attention to processing or manufacturing stages of production	Little to no ecological or social criteria for sourcing	No attention to sourcing issues	Overlooks sourcing issues, variable standards and applications
Main Message	Trained or certified ecologically sensitive harvesters	Products are virtually free of artificial chemical fertilizers and pesticides and good for the environment and for health	Equitable trade with producers, fair labor conditions	Sustainable forestry and harvesting, healthy forest ecosystems	Contaminant-free (and increasingly 'sustainably harvested') starter materials	Clean and safe manufacturing	Botanical medicines produced by standardized methods

Program → Attribute ↓												
Mechanisms	Wildcrafter Standards	Organic Certification	Fair Trade Certification	Forest Management Certification	Good Agricultural Practices and Collection	Good Manufacturing Practices	Methods Validation Programs					
	Voluntary or mandatory guidance	Independent, third party certification to independent standards or government standards	Independent verification by third-party certifiers	Independent verification through third-parties	Second- or third-party oversight	Second- or third-party oversight – usually a government regulation	First- or third-party companies and laboratories					
Agents	Private companies, associations and NGOs (e.g., Canadian Ethical Wildcrafting Association, United Plant Savers)	Independent voluntary schemes established by NGOs (e.g., Soil Association, Organic Crop Improvement Association –OICA) or government programs (e.g., U.S., National Organic Program)	National schemes affiliated with the Fair Trade Labeling Organization (e.g., Max Havelaar)	Certifiers accredited by an accreditation body such as the Forest Stewardship Council (e.g., SCS, SGS, Smart Wood, Soil Association)	Governments, trade associations and international organizations (e.g., the European Agency for the Evaluation of Medicinal Products, the World Health Organization)	Governments and trade associations (in the USA for herbal products) (e.g., NSF International, National Nutritional Foods Association)	Internal company programs, independent laboratories (e.g., Indena, Institute for Nutritional Advancement, Shuster Labs)					

environment, similar in architectural structure and ecological function to the original forest ecosystems that once existed in the area, while also empowering rural communities, both socially and economically, through the use of species that provide marketable products (Falls Brook Centre 1997, in IFAN webpage, 2007). It was developed in Sri Lanka and modeled on traditional forest gardens, and can be applied to regeneration projects. It is targeted toward farmers interested in achieving a more integrated agricultural-forestry income base. A certification scheme was developed to reward those farmers practicing sustainable agriculture and biodiversity conservation that supports environmental stability (see Box 2). There are now promoters of analog forestry in various regions of the world, but the scale of projects and their focus on regeneration (rather than the management of existing forests) means that relatively little has been written about its impact.

One important difference between the various standards and codes is that they operate at different parts of the supply chain. Some

Box 2 – Forest Garden Product Label: Analog Forests in Sri Lanka

Studies in some tropical countries suggest that a process mimicking ecological succession is practiced in many rural areas where farmers' know-how plays a strong role. The Neo Synthesis Research Center (NSRC) in Sri Lanka conducted a series of experiments to establish forests analogous to native forests in structure and ecological function. The work demonstrated that many species of animals and birds once confined to native forests could establish populations in organically certified agroforestry systems. This became known as analog forestry or 'forest gardening.' The first Forest Garden Product Certification inspections occurred in 1987. The crops were coffee and cardamom. From the beginning, this certification system sought to look at biodiversity and system sustainability as fundamentally important performance indicators. During early field trials, developers of the certification system were impressed by the ease with which local communities

‘internalized’ the information. The ecological information they received explained their daily experience logically.

In analog forestry, the farmer is certified for a particular land area and products that the farmer sells from his chemical-free land can carry the ‘Forest Garden Product’ label. Today numerous villages in Sri Lanka participate in the program. To become certified, the grower is expected to understand the management principals involved; prepare a farm plan; complete a farm questionnaire; demonstrate non-use of pesticides or toxins in the agricultural system for at least three years; and be able to maintain a record book for production and crop sales. Inspectors, with a minimum of a master’s level in biological sciences, assess the sites using organic production and social development criteria. The system has a multi-level scale: full certification, wherein all requirements are met; transitional certification, where a farm does not yet have 3 years free of pesticides and artificial fertilizers but is weaning off of them; and decertification, whereby some or all of the land certified may be removed from certification for a prescribed length of time. Growers can also be decertified for failure to meet the requirements of the production standards or the conditions of the certification contract.

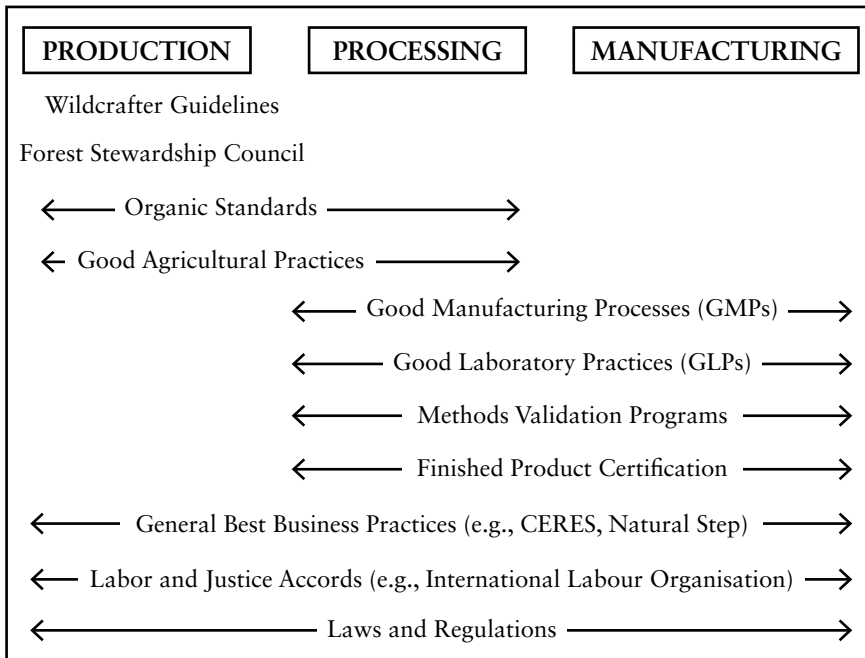
Source: Forest Garden Products Certification Service Products Manual, NeoSynthesis Research Center, Sri Lanka (n.d.)

initiatives emphasize production while others evaluate processing and/or manufacturing. Figure 3 shows the focus of different standards and codes along the supply chain.

Another factor is the degree to which standards are recognized in different markets, or by different countries or organizations. NTFP producers wishing to sell their products in a particular country or to a particular sector (e.g., cosmetics) may find that certain codes of conduct are more commonly requested than others.

What is common to all of these initiatives, including some of the longest established, such as the organic movement and FSC certification, is that their capacity to deal with NTFPs – products other than timber which originate in forest landscapes – is embryonic. Development of NTFP standards and certification is inchoate, applications of NTFP standards and certification have been few and groups are still learning how to address NTFPs as they proceed (Pierce and Laird 2002). One possible exception is the analog forest certification scheme in which NTFP products play a central role (see Box 2). However, this scheme has had only limited uptake and applies principally to ecosystem restoration (from agricultural areas to climax forests). The next chapter presents in more detail the way forest management schemes have been addressing NTFPs, and focuses specifically on FSC as the forest management certification scheme with the largest portfolio of experiences with NTFP certification.

Figure 3. Major Focus of Standards along the Supply Chain








Source: Pierce and Laird 2003.

A Focus on Forest Management Standards

Standards in the forestry sector blossomed in the past decade and the concept of certification as a tool to assure consumers that their wood purchases support ecologically sensitive forestry practices is now firmly established (see Pierce and Laird 2003). A range of forest certification schemes with national, regional and global reach are now in place. Table 3 shows the key schemes at a global level.

Table 3. Forest Management Certification Schemes

Certification Scheme	Abbreviation	Scope	Logo
Forest Stewardship Council	FSC	Global: certifiers can assess an operation in any country, providing they adapt their standards appropriately.	
Programme for the Endorsement of Forest Certification schemes	PEFC	Global: a program for mutual recognition of national schemes (currently only two national programs in the south are members: Chile and Brazil)	
Sustainable Forestry Initiative	SFI	Regional: N. America (USA, Canada)	
Canadian Standards Authority	CSA	National: Canada	

Certification Scheme	Abbreviation	Scope	Logo
Malaysian Timber Certification Council	MTCC	National: Malaysia	
Lembaga Ekolabel Indonesia	LEI	National: Indonesia	

While timber harvesting is the dominant concern of all of these systems, some of them have also addressed NTFP harvesting within their procedures and/or standards. Both FSC and PEFC have certificates that include NTFP production and chain of custody, and consumers may now purchase products such as FSC labeled Brazil nuts, cork, and herbal teas as well as PEFC endorsed pine oil. Below, we summarize how the FSC and PEFC have addressed NTFPs within their respective accreditation programs and provide available information about NTFP certificates issued to date.

PEFC and NTFPs

Prior to 2006, the Programme for the Endorsement of Forest Certification schemes (PEFC) had no procedures to certify NTFPs (which they term Non-Wood Forest Products, following the UN's Food and Agriculture Organization's nomenclature). The impetus to include NTFPs came from member nations including Australia, Brazil, France, Italy, Portugal and Spain. Proponents of NTFP certification highlighted the economic importance of products such as truffles in Italy and essential oils in the Alps region. Such products can produce revenue that rivals or exceeds timber revenue in certain regions and provides important supplemental income to rural farmers (pers. comm. A. Brunori 2007). A working group was formed to address

NTFP certification and after a year and a half of work, determined the necessary systems changes needed (pers. comm. A. Brunori 2007). However, there are no *specific* PEFC documents or guidelines for assessing NTFPs within forest management units, nor is there any guidance about how national schemes should incorporate NTFPs into their standards development. The changes made simply allow for the possibility of certifying NTFPs by making reference to them in an appendix¹ about labeling and declarations of NTFPs, which forms part of the PEFC norms on Chain of Custody (Annex 4).

Because NTFP certification under the PEFC scheme is so new, it is difficult to gauge the likely uptake of this option among national schemes. A quick survey carried out for this paper generated responses from six national schemes: Brazil, Canada, Denmark, Germany, Italy and Slovak Republic. With the exception of Italy, none of the countries expected to see an increase in certified NTFPs over the short or medium term.

The list of PEFC certificates for NWFP currently includes:

Cork	<i>Quercus</i> spp.	Spain
Cork	<i>Quercus</i> spp.	Portugal
Pine essential oil	<i>Pinus mugo</i>	Italy

Source: Pers. comm. A. Brunori 2007, e-mail responses from PEFC country initiatives, March–May 2007.

The likely certificates in the next 12 months include:

Honey, chestnut, berries	Honey, berries, <i>Castanea</i> spp.	Italy
Truffle, mushrooms	Spp. not known	Italy, France, Spain
Animal meat	n/a (possibly deer, <i>Cervus</i> spp.)	Italy, Spain

Source: Pers. comm. A. Brunori 2007, e-mail responses from PEFC country initiatives, March–May 2007.

¹ Appendix 8: PEFC Council specification for the origin for the purposes of PEFC label and declarations for non-wood forest products, 27 October 2006.

The Forest Stewardship Council and NTFPs

Given the promise of timber certification under the FSC system in the early 1990s, many different actors, including forest conservationists and those promoting sustainable forest-based livelihoods, sought to incorporate NTFPs into the FSC system. In 1996, an NTFP Working Group was formed to make recommendations about how to best address this category of products. In part, this was due to pressure from southern countries with high biodiversity and large forest dwelling populations. The incorporation of NTFPs into the certification agenda also grew from widespread attention given to NTFPs by the conservation and development communities in the late 1980s and 1990s. NTFPs were seen as significant contributors to potentially sustainable local livelihoods and in some cases were promoted internationally to the ‘green’ consumer (see Plotkin and Famolare 1992; Clay 1994). Most of these early efforts to market NTFPs to international consumers involved brokering and partnerships between northern NGOs and companies and local producers. Certification was viewed as another way to help leverage the buying power of informed consumers and to promote sustainable livelihoods in forest areas.

The FSC NTFP working group proposed that an NTFP-specific principle be added to the organization’s existing Principles and Criteria for forest management (Brown *et al.* 2002). The FSC board of directors rejected the proposed additional principle, opting instead to authorize certification of NTFPs on a ‘case by case basis’. The FSC board ruled that certification bodies could develop their own NTFP standards and issue certificates for non-timber products using the existing chain of custody guidelines for timber based products (Brown *et al.* 2002). The intention at the time was to conduct a review of the NTFP policy within a year’s time; however, to date such a review is still pending². The certification of NTFPs within the FSC system – as with the system now adopted by PEFC – is therefore essentially conducted using guidelines for general forest management. Of the twelve certification bodies accredited by the FSC, four indicated that they have awarded certificates that include NTFPs in their scope:

² A motion was approved by the FSC General Assembly in 2005 to request that FSC carry out a review of its policies with respect to NTFPs (FSC 2006).

Table 4. NTFPs Included in the Scope of FSC Forest Management

Non-Timber Forest Product	Product Description	Scientific Name	Date Certificate Issued	Country or State	FM/CoC	CoC Only	Certifier
Cork	Bark for bottle stoppers, flooring etc.	<i>Quercus suber</i>	2005–2007	Portugal, Spain, Oregon (CoC)	4	4	SW, SA
Mate	Leaf for making mate tea	<i>Ilex paraguariensis</i>	2003	Brazil	1	2	SW
Breu resin	Cosmetic (perfume)	<i>Protium</i> spp.	2004, 2005	Brazil	2		SW
Chicle (latex)	Ingredient in chewing gum	<i>Manilkara zapota</i>	1999, 2005	Mexico	1		SW
Brazil nuts	Edible nut, and oil derived from nut (food and cosmetic use)	<i>Bertholletia excelsa</i>	(2000) 2006, 2007	Brazil (previously also Peru)	2 (1*)	2	SW
Maple syrup	Food product (sweet syrup)	<i>Acer saccharum</i>	(1999) 2000	USA	1		SW
Acai juice Palm hearts	Beverage and food product	<i>Euterpe oleraceae</i>	(2000) 2005	Brazil	1		SW
Rubber	'Vegetable leather' sheets (for handcrafts, bags etc.)	<i>Hevea brasiliensis</i>	2005	Brazil	1	1	SW
Pine resin	Input to chemical industry	<i>Pinus</i> spp.	2006	Belarus	3		SW
Dried bark	Handmade paper	<i>Daphne bholua</i> , <i>Edgeworthia garsenerii</i>	2005	Nepal			SW

Non-Timber Forest Product	Product Description	Scientific Name	Date Certificate Issued	Country or State	FM/CoC	CoC Only	Certifier
Multiple species of plants (>16)	Essential oils, Ayurvedic medicines and supplements, herbal teas, crude herbs	16+ spp.	2005	Nepal	1		SW
Buriti	Fruit (food product) and oil for cosmetic product	<i>Mauritia flexuosa</i>	2005	Brazil	1	2	SW
Janina seed	Seeds for handicrafts	Vegetable ivory	2004	Brazil	1		SW
Tree seeds	Nursery input	<i>Picea abies</i> , <i>Pinus sylvestris</i> , <i>Pinus</i> spp.	1998, 2003	Lithuania, Brazil	2		SW
Copaiba oil	Medicine and cosmetics	<i>Copaifera</i> spp.	2002, 2004	Brazil	2	1	SW
Multiple species of plants (>30)	Ingredients for cosmetics and herbal medicine	30 spp.	1998	Brazil	1	1	SW
Herbs, bark	Herbal tea	<i>Galium</i> spp., <i>Crataegus</i> spp.	n/a	Denmark	1*		SA
Evergreen foliage	Decorative use	Variety of species	n/a		9	1	SA, SGS
Essential oils	Health care	Variety of spp. (e.g., <i>Candeia</i> , <i>Eremanthus erythropappus</i>)	2005	Nepal, UK (CoC), Brazil	5	3	SW

Non-Timber Forest Product	Product Description	Scientific Name	Date Certificate Issued	Country or State	FM/CoC	CoC Only	Certifier
Charcoal	Fuel	Various spp.		Guatemala, Mexico, Poland, Estonia, Spain, Denmark	4	7	SW
Cosmetics				Brazil		2	SW
Venison	Meat (food product)	<i>Cervus elaphus</i>	n/a	CoC		2	SGS
Bed logs	For mushroom production	n/a	n/a	Japan	1		SGS
Mushrooms, herbs, fruits, game	Food products	n/a	n/a	Poland	1		SGS
Wood for carving	Carvings of animals (tourism)	Neem (<i>Azadirachta indica</i>), Mango (<i>Mangifera indica</i>)	2005	Kenya	1	1	SA
Wood for carving	Carvings of fantastical creatures (tourism)	<i>Busera</i> spp.		Mexico	1		SW
Small evergreen trees	Christmas trees	Various spp.		Germany, UK, Switzerland, Denmark, Lithuania, USA	13	1	SGS, SW
Wood	Firewood	Various spp.		Romania, Belarus, USA, Brazil, Mexico, Guatemala, Spain, Canada, Latvia, Poland, Russia, Lithuania, Estonia, Denmark, Switzerland, UK, Germany	43		SW, SGS

* = joint FSC and organic certification. Certificates in parentheses now renewed or expired.

Sources: E-mail information sent by FSC-accredited certification bodies February–May 2006, FSC Brasil web site (Jan. 2003), Smartwood certified product on-line database (March–June 2006).

SmartWood, Soil Association, SGS and Control Union Certifications. A list of NTFPs certified under the FSC system is provided in Table 4.

Chicle, a tree exudate used for manufacturing chewing gum and edible sweets, was the first NTFP certified under the FSC umbrella. The forest management operation, a community forest in Mexico, was already certified for timber production. The chicle certification process was relatively simple because it involved the addition of only one product to a management plan that had included its harvest for several generations (Shanley *et al.* 2002). The greater challenge to the community was demonstrating the ecological sustainability of their management practices and organizing individual resin tappers to fulfill the requirements of standard.



Figure 4. A Kenyan sculptor cutting a hundred year old tree *Brachylaena huillensis* (muhugu) to sculpt rhinoceroses and salad spoons, before the program ‘Good Wood’ (Photo by Anthony Cunningham)

The earliest awarded certificates were given to internationally recognized products characterized by long histories of use such as chicle, Brazil nuts and maple syrup. In some cases, centuries-old local knowledge contributed to the formation of certification standards. The first certificate to cover a number of NTFPs was awarded to Klabin, a forest management company in Brazil. Klabin originally sought certification for its plantation and natural forest timber industries. The company later requested certification of 30 NTFP species, many of which are cultivated or weedy herbaceous species and thus relatively easy to incorporate into a sustainable management strategy.

The complexity of NTFP certifications has grown over time to include multiple species and products involving numerous harvesters. A certificate awarded in 2005 to a Nepali community forestry organization, FECOFUN, for example, covered more than 16 species, managed by 11 community forest user groups, which rose to 21 groups in the second year. By contrast, early FSC certificates were issued either for single products (albeit usually managed by multiple collectors) or for multiple species managed by a single company (such as Klabin). NTFP certification poses a variety of challenges to the FSC system and has required flexibility with respect to tenure as well as issues such as site-based conservation versus area based conservation (see Box 3 for more details).

Box 3 – Good Woods in Kenya

By A. Cunningham, People and Plants International

The woodcarving industry in Kenya has provided remarkable opportunities to allow poor people to enter the cash economy, but ecological limits to exploitation pose environmental consequences. A major challenge to the Kenyan woodcarving trade is serial exploitation of one indigenous hardwood species after another. Over 50,000 trees are currently cut per year for Kenyan carvings and depletion of ebony (*Dalbergia melanoxylon*) and muhugu ‘mahogany’ (*Brachylaena huillensis*) for woodcarving has spread

from Kenya to northern Tanzania in response to market demand (Choge 2002). By the 1990s, 60,000 Kenyan woodcarvers produced commercial carvings, primarily for export, providing household income to an estimated 300,000 dependents (Obunga 1995). On the assumption that market-led demands for ‘Good Wood’ carvings would change wood selection practices, the WWF/UNESCO and the People and Plants Initiative (PPI) supported the process of seeking FSC certification. Studies by Kenyan researchers on the economic, social and ecological aspects of the Kenyan woodcarving industry indicated that fast-growing on-farm cultivated species such as neem (*Azadirachta indica*) and *Jacaranda mimosifolia* could offer a viable alternative to wild harvest of slow-growing indigenous species whose population was in drastic decline due to overexploitation to support the wood carving industry.

An assessment of the opportunities and benefits potentially arising from certification offered positive results. First, there had been high international demand for crafts produced in ways that improve local livelihoods while reducing pressure on forests. Second, the Kenyan case was conceived as an important global precedent for sustainable woodcarving and certification. Third, “conservation through cultivation” while “atypical” to the FSC, had been a common strategy characterizing the medicinal plants trade and fiber production for commercial basketry production (Cunningham 1993; Cunningham and Terry 1995). There was no doubt that promoting the substitution of indigenous hardwoods with neem or jacaranda could have major conservation benefits for remaining coastal forests – yet these off-site conservation benefits do not fit easily into the FSC framework. The problem is that the FSC certification is “site-based” focusing on forest stewardship of a given area whereas the ‘Good Wood’ model is “species-based” with conservation benefits derived from neem agroforestry production in the landscape matrix surrounding the last remaining East African coastal forests. In other words, the sustainable management of small farm woodlots of one species is designed to take the pressure of a distinct forest ecosystem. Such a model presents challenges for a system more used to concerning

itself with on-site impacts or adjacent-site impacts. Nonetheless, following several years of work with the hundreds of participating neem-producing farmers, plus support from certification body Woodmark (Soil Association), this initiative did achieve FSC certification in 2005, becoming the first FSC certificate in Kenya.

In summary, FSC has relatively loose guidance documents for NTFPs and allows accredited certification bodies to create their own standards on a case-by-case basis. This situation is also true for the organic movement and IFOAM. The creation of such *ad hoc* systems is due, in part, to a lack of expertise within the accrediting bodies, as well as a tepid commitment to this category of products, which are generally perceived to lack strong market demand. The lack of an overarching structure for NTFPs within both IFOAM and FSC has resulted in the creation of widely varying standards for NTFPs and inconsistent field applications (Pierce and Laird 2003), which is problematic generally, and particularly so for attempts at collaboration (see section 10).

NTFPs within the Forest Management Certification Framework: Challenges and Recommendations

Timber certification is complex and politically charged but development of NTFP standards and certification systems has proven to be even more challenging to implement than timber certification (see Pierce 1999; Shanley *et al.* 2002). This is due to a range of factors, including:

- the wide array of products encompassed by the term “NTFP”;
- the complexity of chain of custody systems for NTFPs, which often involves a number of middlemen;
- the diverse plant forms and plant parts used (e.g., exudates, vegetative material, reproductive propagules) compared with only trees and stems;
- the wide range of NTFP end uses (e.g., food, personal care products, botanical medicines, handicrafts etc.) compared with the timber and pulp market;
- the greater degree of overlap with other certification schemes (e.g., ecological, organic, fair trade, quality control), which makes collaboration across schemes more important (Jones *et al.* 2002; Pierce and Laird 2003).

Contrasting NTFP and Timber Assessments— Socioeconomic and Ecological Issues

Consumer demand for certified timber is more established than demand for NTFPs, a diverse and complex group of products that are poorly understood by consumers. Consumer consciousness regarding timber is due, in part, to the efforts of environmental campaigners who have used highly emotive images of forest clearance by fire, tree felling, and industrial clear-cuts, to highlight the potentially destructive impacts of

unsustainable logging on habitat, landscape and livelihoods. Therefore, while many consumers are aware of sustainability issues surrounding timber, few consumers are aware that many of the medicinal barks, resins and edible nuts sold in international markets are harvested unsustainably, with relatively little benefit to local collectors. The lack of awareness about the environmental and social aspects of the management of these products among consumers is therefore a major challenge to the widespread adoption of third-party verification of harvesting practices. Without a demand for labeled products, there is little incentive for producers to undertake the necessary steps to become certified. This demand is ever-increasing within the timber sector, especially as company and government procurement policies start to specify well-managed timber, but this cannot yet be said of most NTFPs.

In addition, development of certification guidelines for timber is relatively straightforward when compared with the development of NTFP guidelines. Design of effective certification guidelines depends upon detailed, species-specific knowledge regarding the density, distribution, regeneration, harvesting and management practices for particular species in particular areas, as well as the plant part being harvested. However, little information of this type is documented, as worldwide forest management has largely been confined to traditional timber extraction, neglecting to recognize other forest resources. Evaluating a forest for NTFP production is inherently different from an evaluation for timber production (see Table 5), and a new generation of foresters and assessors will be needed. Ideally such personnel should be competent in NTFP management, knowledge of the target species managed, social sciences and various certification systems (organic, Fairtrade, International Organization for Standardization). Training of forest managers and certifiers in the basics of NTFP ecology, use and market value can be an important first step in moving forest management practices toward a more holistic approach (see Box 4).

Table 5. NTFPs and Timber's Relative Characteristics with Regard to Certification

Key Issues	Timber	Non-Timber Forest Products
Technical issues involved in assessments	<ul style="list-style-type: none"> - less complex chain of custody - relatively well-established guidelines - clear procedures - ecological standards widely accepted (FSC, PEFC, SFI) - timber and derivatives not ingested, therefore no hygiene and quality control issues 	<ul style="list-style-type: none"> - complicated, lengthy chain of custody, - incipient, <i>ad hoc</i> guidelines - uncertain procedures - multiple standards apply (i.e., organic, fair trade, ecological) - site-specific standards difficult to apply to some NTFPs - quality control issues are paramount for edible and medicinal plants, adding an extra layer of complexity
Ecological	<ul style="list-style-type: none"> - considerable data for developing management plans (less for lesser known tropical species) - predictable production/yield - moderately variable quality 	<ul style="list-style-type: none"> - lack of ecological data to design management plans (except for a few highly valued species) - highly irregular and unpredictable production - highly variable quality
Economic/markets	<ul style="list-style-type: none"> - moderate to high economic return (except for lesser-known tropical species) - stable to growing national and international markets - gradually emerging demand for certified wood, especially in Europe and N. America - certification affordable to larger industries (more challenging for smaller operations and communities) - incipient consumer demand 	<ul style="list-style-type: none"> - low economic return - local markets and direct use predominate - unpredictable, niche markets; international NTFP markets subject to 'boom-bust' and substitution - certification generally unaffordable without subsidies, unless carried out as part of a forest management certification that includes timber - low consumer demand, confusion over labeling of NTFPs
Social	<ul style="list-style-type: none"> - social issues range from simple to complex (depends on context) - some cases of local incentives in temperate forests triggered by consumer demand - industries possess organizational capacity, capital and information (not so for community forestry and small operations) - tenure less of an issue for timber extraction than non-timber harvest 	<ul style="list-style-type: none"> - social issues usually exceedingly complex (especially in developing countries) - little to no local incentives for NTFP certification - low-intensity producers lack organizational capacity, capital, information, and power - many gatherers have insecure tenure or access to NTFP resources - poor wages/prices for goods and difficult working conditions

Box 4 – Reforming Forestry Training to Include NTFPs: A Case in Brazil

By Andre Dias, CENAFLOR and Carmen Garcia, CIFOR, Brazil

The Fundação Florestal Tropical based in Belém, Brazil, has demonstrated innovative training in forestry, integrating a component of the market value and ecology of non-timber forest products into their forestry curriculum. Collaborating with the Brazilian certification agency Imaflora and the Center for International Forestry Research, they have developed a module that trains foresters to inventory both timber and non-timber forest products and to consider local values of forests for communities (Shanley and Medina 2005). Similar training of rural communities along Brazilian logging frontiers is being promoted as part of adult literacy training, supported by the National Institute of Land Reform and the federal rural education program Pronera. Such training is integral to creating a new generation of foresters, certification assessors and rural leaders who can effectively evaluate which species to extract and which to retain.

Technical Issues

An NTFP certification assessment follows the same general process, and addresses the same general subject areas, as a timber assessment. However, the focus of an NTFP assessment may differ from a timber assessment, particularly with regard to social issues and management planning. The timing for certification audits may also be more critical for NTFPs than for timber as fruits, some exudates, fungi and herbs have particular harvesting seasons. Areas harvested for timber can be easily monitored post-harvest by looking at basal area, evaluating regeneration, assessing residual stand damage, inspecting road and skid-trail construction and viewing the size and number of stumps left behind. By contrast, assessors visiting areas managed for mushrooms or forest herbs may not get an accurate picture of the resource, its abundance, worker conditions and the harvesting practices employed unless the assessment visit occurs during or shortly after harvest.

Increasing the attention given to NTFPs can heighten their visibility to forest product certifiers who might otherwise focus solely upon timber. Heightened awareness of the role of NTFPs in forest use and management could encourage timber certifiers to press for the retention of species more valuable for their non-wood products than for their timber (see Box 5). Optimally, certifiers will recommend

Box 5 – Certified Timber or Threatened Medicinal?

By M. Schulze, University of Florida

Ipê roxo (*Tabebuia impetiginosa*) and jatobá (*Hymenaea courbaril*) are valuable timber species. Ipê roxo is currently marketed in the USA as a certified, “green alternative” to mahogany. However, ipê roxo is an example of an Amazonian species that is likely to be extremely difficult to manage for sustainable production. First, seedlings are found in very low densities in the forest and second, the rate of growth of the species is relatively slow — one plant may take 100 years to become an adult. Typical timber extraction removes the majority of adults, leaving too few seed-producing trees (Schulze 2005; Schulze *et al.* 2005). Both species are removed in a predatory manner and regenerate poorly in exploited forests. The grey bark and the red, watery exudate of jatobá are used for respiratory problems, as a tonic after chronic illness such as malaria, for flu, bronchitis, worms and prostrate cancer. One of the top ten selling medicinal plants in eastern Amazonia, medicinal use of the bark of ipê roxo is widespread among all sectors of society, serving for anemia, gastritis, diabetes and cancer (Shanley and Luz 2003). Besides a high level of subsistence and market sales within the region, ipê bark is exported as a phytotherapeutic to Europe and the United States. In Brazil, the bark of ipê is currently obtained in sawmills, but the predatory exploitation of the timber could result in diminished future sources of both bark and timber. Before expanding commercialization of ipê roxo and jatobá as “certified” timber, it is critical to weigh the costs and benefits to public health care that could result from harvesting future populations of these species (Shanley and Medina 2006).



Figure 5. Medicinal plant collector extracting *Tabebuia* spp. bark in a sawmill in the state of Pará, Brazil. The use of timber and non-timber forest products can be compatible if the population of high-value timber species is not overexploited. (Photo by Murilo Serra)

that NTFPs are factored into harvest planning and felling operations, silvicultural treatments and management plans.

Integrating NTFPs into Timber Certification

NTFPs need to be more effectively integrated within timber certification efforts, which to date have inadequately addressed the interrelationship between these types of forest products. A species-specific appendix for certification of NTFPs from forest areas where timber is the primary product is one approach. A more integrated approach to addressing NTFPs – many with important local uses that are not always recognized – is also required. Such an approach would entail accounting for NTFPs in management plans and harvesting activities. Integrated plans would identify species with high subsistence, market and cultural values – species that may be more valuable for their public health or cultural importance than timber (see Box 5).

The Brazilian NGO Imaflora (Institute for Agricultural and Forestry Management) observes that after attaining timber certification, communities in Brazil may seek NTFP certification because the cost to include additional species is much lower and the process less complex to add NTFPs to an operation already certified for timber. In the Southern Atlantic Forest region of Brazil, many environment groups support NTFP certification over timber certification because they do not want to see any further logging in a region that has experienced nearly 95% loss of its original forest cover. In addition, forest communities often have a strong extractivist tradition where NTFPs play a critical role in the portfolio of productive activities. After receiving certification for timber for example, the Brazilian Associação Seringueira Porto Dias sought certification for copaiba oil production. To operationalize NTFP assessments where timber is already certified, some certifiers simply attach NTFP generic guidelines as an addendum to their timber standards.

Of the 20 (formal, donor-supported) community forestry management initiatives in Brazil, several encompass both timber and non-timber forest products. In the case of Rhondonia's Rubber Tappers' Association (OSR), motivation to develop a management plan may have been driven more by a desire to protect the rubber tree forests to ensure the collection of rubber latex than by income generation. Communities have become involved in part due to a belief that certification will distinguish their enterprises from those of large companies that operate illegally and in a predatory manner (Azevedo and Freitas 2003).

The Impact of Forest Management Certification on NTFP Harvesting

Forest management certification requires that operations seeking timber certification manage their forest for “the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits” (FSC 2002). It follows that FSC certified operations should generally attempt to minimize the negative impact of timber harvest on locally important

NTFPs, where they are known. The FSC Principles and Criteria make specific reference to maintaining the legal and customary rights of local communities to harvest forest resources. The Principles and Criteria also require forest operations to conduct a social impact evaluation, which, at least in theory, should identify those communities that depend on NTFPs and could potentially be affected by management operations (see Box 6).

Despite the best intentions of the Principles and Criteria, timber certification can have unintended negative consequences on local populations' access to and use of NTFPs. In the course of ensuring sustainability and protecting forests from over-harvest, certification bodies may require forest operations to impose management actions that occasionally result in lands and resources being placed off limits to local groups. A case in Limpopo Province in South Africa raises questions about the negative impact of timber certification on the availability of resources used by local women for broom-making (see Box 7). This is not to imply that certification always trumps local rights. Rather, the landowner has an obligation to act as a good neighbor and recognize traditional gathering rights unless such activities can be clearly shown to be having an adverse ecological impact.

Integrated management of forests for timber and NTFPs is increasingly seen as economically as well as socially desirable. In

Box 6 – FSC Principles and Criteria Related to Access to Resources by External Communities

Criterion 2.2. Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.

Criterion 4.4. Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups (both men and women) directly affected by management operations.

Box 7 – Impact of Timber Certification on Resource Access in South Africa

By S. Shackleton, Rhodes University, South Africa

In the Bushbuckridge district of Limpopo Province in the northeast of South Africa the production and sale of traditional twig and grass brooms provides an important source of income for several hundred poor, rural women. The trade is well established and extensive with an annual turnover of some 400,000 brooms. The natural distribution of the two species used for crafting the brooms, namely *Athrixia phylicoides* and *Festuca costata*, coincides with areas suitable for pine afforestation for the pulp and paper industry. Consequently, several of the sites where producers harvest are wild lands forming part of large company-owned forestry estates. Recent interviews revealed that 81 percent of harvesters found obtaining access to raw material one of their major constraints. Many complained that they no longer had entry to areas where they had previously collected and that they often feared arrest. These changes appear, in part, to be the result of timber certification.

Interviews conducted with officials from the two forestry companies operating in the area, Komatiland Forests and Global Forests Products, revealed that any decisions regarding the collection of natural resources on company land was influenced by different interpretations of the requirements for certification with the Forest Stewardship Council (FSC).

Global Forest Products (GFP) was not opposed to providing access to natural products on their lands and indeed stated that the conditions for certification required this in terms of the social responsibility obligations. This is encapsulated in its Social Responsibility Self-Assessment program, which states that “ongoing attention will be given to encourage employees and other stakeholders to participate in Global Forest Products multiple resource utilization programs with a view to promoting

openness, access to resources and opportunities...” However, the company tends to give priority to its own employees, dependents of its employees and immediate neighbors and so broom producers from Bushbuckridge are often turned away. The entry permit is free, but is rigorously policed and enforced. People found on GFP land without a permit are removed or requested to obtain a permit unless they are wildlife poachers, in which case they are arrested and handed over to the police.

Komatiland Forests (SAFCOL – or South African Forestry Company) did not appear to have any policies in place specifically relating to the harvesting of broom raw material, and in general authorization to harvest any products was limited. The previous environmental manager for the company mentioned that access to a variety of natural resources had been allowed via a permit system (established under its Environmental Management System), but difficulties controlling this and constant abuse of permits by harvesters (harvesting for longer or taking more than the permit allowed) resulted in Komatiland Forests closing all access in early 2002. Adding to this decision was the fact that SAFCOL land was also being used to illegally gain entry to neighboring parkland. The misuse of entry permits and the company’s inability to accurately monitor off-take was said to be compromising its FSC certification. The company understood that while certification supports opportunities for natural resource use by local people, this cannot be at the expense of the environment. New models for access were, however, being considered based on more formal contracts with fewer people.

These examples beg the questions: i) What impacts does timber certification have on access to non-timber forest products and the livelihoods of the poor people dependent on these products? ii) How is it possible that certification requirements can be interpreted in different ways with regard to access to NTFPs? And iii) What can be done to ensure that access to NTFPs is not compromised by timber certification in the future?

Brazil, export timber producers Precious Woods and Mil Madeireira are developing partnerships to manage NTFPs (de Freitas 2003b) (see Box 8). Cosmetics giant Aveda has supported NTFP management and harvesting efforts, which led to the certification of community forestry users in Nepal (Subedi 2006). Certification, by providing premiums, market access, and marketing and public relations benefits for companies, can help to make this more the case. The costs of certifying NTFPs will likely be relatively minor for well-known international retailers and large forest companies undergoing timber certification. Engagement with the certification process could conceivably raise awareness within industry of the pressing livelihood concerns of

Box 8 – Developing Standards for Brazil Nuts in Bolivia

By P. Pacheco and P. Cronkleton, Center for International Forestry Research, Bolivia

Over a three-year period, a collaborative effort led by the Bolivian Council for Voluntary Forest Certification (CFV), with strong support from the Program of Forest Management in the Bolivian Amazon (PROMAB), brought together the owners of processing plants, representatives of producer organizations and other experts to develop certification standards for Brazil nut forests. In 2001, after eight different drafts, the effort resulted in the Bolivian Standards for Forest Management Certification of Brazil Nut (*Bertholletia excelsa*), which were then submitted to the Forest Stewardship Council (FSC) for acceptance (Soldán 2003). The Bolivian standards were conditionally approved in 2002, although it was not until 2006 that all conditions were met (pers. comm. Baqueros). Initially there were high expectations that certification would bring financial benefits and would encourage the owners of Brazil nut estates (*barraqueros*) to comply with social and ecological standards in return for this formal recognition and validation of their forest use. Unfortunately, the difficulty in meeting required standards to attain certification, compounded by continued property rights insecurity in the Bolivian Amazon,

has meant these standards have had little impact. As of mid-2007, no Bolivian stakeholders have attempted to certify their forest management under these standards.

At the same time the FSC standards for Brazil nut certification have not taken root in Bolivia, a growing number of producers are gaining important market advantage and market access through organic certification and compliance with Fairtrade Standards. At least two processing plants, Tahuamanu and El Campesino, have attained organic certification (Soldán 2003) as has the small producers' cooperative COINACAPA (Cooperativa Integral Agroextractivistas Campesinos de Pando). Organic certification's main advantage is that it opens specialized markets to these producers. Organically certified Brazil nuts occasionally command premium prices and prices for organic nuts are reportedly less volatile (pers. comm. Quispe). Fairtrade markets provide clear advantages for small producers who qualify. Since achieving Fairtrade status in 2001, COINACAPA members have received almost twice the local market price for Brazil nuts delivered to the cooperative. In addition, COINACAPA has used its Fairtrade premium to provide health care and other services to its members. As a result of these benefits, COINACAPA's membership has grown from 41 families in 2001 to 391 families in 2006.

forest-reliant communities and create innovative mechanisms to ensure mutual benefits.

How certification will impact equity and access to forest resources under different conditions must be fully considered. Instead of leading to increased benefits for communities, commercial interest in NTFP certification could lead to private sector appropriation of forest resources that were once the domain of the rural poor (Dove 1993). If not carefully monitored, certification could exclude collectors from independent harvesting and marketing initiatives. Nascent private sector-community initiatives deserve close attention and input from multiple stakeholders. Toward this end, the Forest Stewardship

Council's Social Working Group in Brazil has held numerous workshops to evaluate the obstacles and opportunities inherent in certification (see Table 6).

Table 6. Relations between Communities and Industries: Obstacles and Recommendations

Obstacles	Recommendations
Communities lack information regarding their rights in relation to certified industries	<ul style="list-style-type: none"> - Establish obligatory criteria for communities before the public hearing - After forest certification, clarify industry obligations
Social movement is too fragile to adequately articulate the concerns of forest-reliant communities	<ul style="list-style-type: none"> - Create commissions of NGOs that accompany the process of forest certification mobilizing communities with debates - Create mechanisms for monitoring during the certification process
Lack of community participation in the public hearings on certification	<ul style="list-style-type: none"> - Create a data base of key entities at local, state and national levels to ensure broad participation of the public audience in the full process of certification
Social indicators fail to measure all of the social impacts on communities	<ul style="list-style-type: none"> - Refine the social indicators - Review criteria for implementation, monitoring and accountability, including the social costs and benefits to the communities neighboring the certified area
Some non-certified industries feign certification as propaganda and leverage in negotiations	<ul style="list-style-type: none"> - Certifiers need to communicate to surrounding communities if and when a company is certified
Professionals in certified industries have little ability to build relationships with forest-based communities	<ul style="list-style-type: none"> - Greater investments need to be made in developing relationships and communication between industries and communities

Source: Certificação Florestal e Movimentos Sociais na Amazonia, Relatório de Seminário FASE, GTNA, IMAZON.

Species-specific Guidelines

The first NTFP certifications were largely focused on high-volume, high-value NTFPs and resulted in the development of species-specific guidelines. This is the case for maple syrup (see Box 1) and Brazil nuts

(Box 8). The primary reasons for this approach are mainly attributable to the unfamiliarity with NTFP management and assessment. By creating species-specific guidelines, certifiers have been able to justify their NTFP assessments to critics who argue against including NTFPs in accreditation programs. The process of creating species-specific guidelines is labor- and capital-intensive. It also runs contrary to the spirit of the FSC system, an accreditation system that takes pride in creating rules for forest management certification, not individual forest product certification. The few NTFP-species standards created to date have served as pilot studies and have been useful for pointing out the distinctions between NTFP certification and timber certification. In the future, plant class guidelines (e.g., for roots, leaves, fruits, etc.) may be the most sensible approach to NTFP certification. There are hundreds of tree species in diverse tropic forests, yet certifiers do not justify the harvest rate for each timber species in a management plan. A broader approach to NTFP certification may thus be warranted. Alternatively, the case could be made that because NTFPs are so diverse and very few NTFPs are likely to be certifiable internationally, species-specific guidelines are essential. In the case of palm heart, for example, certain species of palm can be sustainably harvested while others cannot, necessitating completely different management systems. Certainly, questions about equity in the application of certification could arise if accreditation bodies insist upon the creation of individual certification standards for NTFPs while timber continues to be assessed as an undifferentiated assortment of species.

Brazil nuts may potentially be managed in conjunction with timber, and Brazil nut guidelines are being drafted in Bolivia, Brazil and Peru (SmartWood 2002; see Box 8). Hundreds of thousands of Amazonian residents derive income from Brazil nuts and their collection and marketing are responsible for the protection of millions of hectares of forests. Attempts at domesticating Brazil nuts have been ineffective, thus forests remain the only viable commercial source of nuts. The organic and environmentally friendly attributes of Brazil nuts may make the product readily certifiable for certain markets. However, the social aspects of the industry require close attention (Ortiz 2002).

Certifying the Harvester

Most certification systems for NTFPs are area-based programs; they assess forest management units – an area of forest that can be delimited and where access and management are under the authority of the certificate-holder. Many gatherers of NTFPs are not landowners, however. NTFPs collected from wide geographic ranges by independent gatherers with no clear title to lands – for example, mushrooms from federal lands in the USA – present complexities that the FSC system has yet to address because it is an area-based system and not a product- or harvest-based system (pers. comm. Cunningham; also see Box 4).

Accreditation systems like FSC or PEFC find it difficult to consider more flexible, cost-effective certification systems for gatherers since their whole certification is based on a ‘forest management unit’ concept. An alternative certification system could focus more on the training and ‘professionalization’ of environmentally responsible gatherers, perhaps using existing wildcrafter guidelines as models. Issues of tenure and access, management planning and monitoring would be challenging to incorporate into a rigorous certification program for gatherers, but it may be possible. Gatherer certification might be a useful first step in instilling the ethics of sound NTFP harvest and could provide a valuable complement to area-based NTFP certification programs, much as forester certification is complementary to the implementation of certifiable forest management.

Accessibility and Applicability of NTFP Certification

A common challenge in NTFP certification is the difficulty of marrying a system driven by international scientific and bureaucratic norms with rural community practices and cultures. Globally applicable certification standards and procedures are generally conceived in developed countries, albeit usually with input from developing country representatives. However, these approaches may not result in adequate participation of local communities or indigenous peoples in the setting of standards or ensure that affected parties are allowed to take part in certification evaluations. Participation in standards-setting by different interest groups is vital and yet it is frequently difficult for ‘social organizations’ (e.g., Indigenous People groups, NGOs working on land tenure, etc.) to make the huge investments in time to participate in them. This is especially true given local people’s uncertainty of the relevance of standards to them. Indigenous groups often have more immediate battles to fight, such as pushing for legislative reform. This is therefore one factor that helps to explain why NTFP harvester issues are often poorly covered or completely overlooked when drawing up regional and national standards for forest management, in the same way that indigenous people’s and local communities’ rights — whether or not related to NTFP collection — may be poorly addressed.

In addition to unwieldy administrative burdens, certification poses financial costs that few communities can afford. To date, the most successful NTFP certifications have been subsidized either by donors or by sales of certified timber. FSC members and observers were quick to point out that certification was disproportionately accessible to certain groups (e.g., large-scale industrial forest organizations in the developed world) due to economies of scale, access to information, and familiarity with formalized, documented auditing procedures, among other things (EFTRN 1999; Weban-Smith *et al.* 2000; Higman

and Nussbaum 2002). FSC eventually responded to pressure to act on this imbalance, and took a range of steps to simplify the certification process (FSC 2003). Proposed solutions include more flexible rules, less frequent audits and fewer requirements in cases with low environmental risk. This is explained in more detail below.

Following is a list of some of the major challenges facing NTFP certification and a brief discussion of FSC's efforts to address these issues for timber certification by introducing, first, group certification and later, small and low intensity managed forests (SLIMF) procedures.

Challenges

- *Inaccessibility of certification to small producers* – Institutional infrastructure and built-in costs are often excessive for most small producers and forest communities. Small producers and community operations in developing countries rarely have the funds to cover the direct (e.g., assessment fees) and indirect (e.g., additional investments in management and marketing) costs of certification and annual reevaluations (Robinson 2000).
- *Inappropriate standards* – Forest management standards are generally written by working groups – sometimes over many years – and tend to be written with large forest operations in mind. They can therefore be excessively onerous for smaller operations (Higman and Nussbaum 2002; Robinson and Brown 2002).
- *Complex chain of custody* – NTFPs are composed of an enormous variety of products scattered over a wide geographic range with extremely complex marketing networks. Tracing products from source to sale presents substantial difficulties.
- *Lack of capacity to address the topic in the forestry sector* – New experience and species-specific knowledge will be required to undertake a thorough evaluation of candidate NTFP operations. Forest operations and certifying agencies will need the skills of trained individuals familiar with NTFP management and ecology.
- *Philosophical divide between traditional management systems and formalized, documented management* – Highly sophisticated forms of local forest management systems exist, most of which have unwritten norms; however, to become certified, a written

management plan and documented systems are generally required.

- *Lack of market demand for NTFP products certified as environmentally friendly, or as originating from 'well managed' areas* – The public is often unaware of issues of poor management, over-harvest and social injustice that occur during the harvest of some NTFPs and demand for responsibly harvested NTFPs is generally low or non-existent.
- *Lack of ecological information to be able to prove the sustainability of any given harvesting operation* – The biology and ecology of many NTFPs is poorly understood and few NTFPs are harvested under long-term management plans.

Responses to the Challenges Identified:

a) Group Certification

Group certification is used by several certification systems, including organic certification, fairtrade certification, and FSC and PEFC forest management certification. Whereas Fairtrade certification systems were in fact designed with groups of small producers (e.g., cooperatives) in mind, organic and forest certification systems have generally had to adapt their systems and introduce rules specifically tailored for groups.

FSC introduced group certification very early on in the evolution of its system (1998). Group certification allows forest managers to organize collectively to achieve certification. The theory is that by sharing administrative and reporting requirements, achieving certification becomes more cost-effective and less time-consuming for group members (Robinson and Brown 2002). Advantages of group certification include:

- Reduced evaluation costs per member;
- Reduced planning, management and other implementation costs;
- Increased opportunities to access new markets by members pooling timber and increasing available volumes; and
- Increased training and educational opportunities for group members.

PEFC also introduced group certification and allows a form of group certification it calls “regional certification,” which is a type of group certification restricted by geographical boundaries.

Communities can most effectively participate in marketing of forest products, including certified products, when they are organized into groups. Group certification signifies the joining of individual producers into groups such as cooperatives. By joining together ideas, products and skills, smallholders can gain greater power when negotiating prices and conditions of sale. They can jointly set up better storage facilities, transportation infrastructure and information networks to monitor prices and to gauge opportunities and risks. Sharing responsibility among producers, smallholders can better navigate the arduous requirements involved in certification such as formal management plans, monitoring the resource base and marketing. The case of PhytoTrade’s producers association in Namibia demonstrates how markets can be effectively captured by small producers when they are well organized, identify stable markets and, using local knowledge, determine sustainable off-take (see Box 9).

Box 9 – Social Benefits of Certification

By C. Lombard, D. Cole and P. du Plessis, PhytoTrade, South Africa

An example of organic NTFP certification that benefited from investment in improved social organization is that of PhytoTrade (formerly SANProta/CRIAA) in Namibia where producers are part of an association that negotiates with European buyers. Well-substantiated clinical evidence of efficacy, an increase in people suffering from arthritis and increased marketing initiatives by product manufacturers triggered a dramatic increase in sales of devil’s claw (*Harpagophytum procumbens*). In 1998/9 export sales from Namibia reached over 600 tons, involving between 5,000 and 10,000 Namibian harvesters in tuber extraction. To combat the problem of unsustainable harvest, donors funded a service NGO to organize groups of registered harvesters.

Harvesters exchanged knowledge about sustainable resource use and voluntarily adopted sustainable resource management practices that they helped to formulate. An exporter signed a contract to purchase all of the devil's claw produced by the project, paid the harvesters immediately upon delivery and gained access to a reliable premium product (Lombard *et al.* unpublished).

Conservation impacts of the devil's claw project include recognition of traditional knowledge about sustainable harvesting and extending "best practices" to harvesters who were too young or who did not come from a traditional harvesting background. Conservation practices should help slow genetic erosion, thus allowing for increased diversity that can later be tested in screening programs for desirable traits. Financial success is less certain. Namibia currently captures at most 1 percent of the N\$10 million trade in devil's claw extracts and the market sector where devil's claw is currently sold does not place a high premium on organic standards or sustainable management. NGOs supporting the harvesters have concluded that unless consumers demonstrate a firm commitment to certification, manufacturers can afford to ignore certified producers.

b) The FSC SLIMF Initiative

FSC's SLIMFs initiative – 'Increasing Access to Small and Low Intensity Managed Forests' – was developed to try to reduce the barriers to obtaining and retaining certification for small forest operations, and those practicing low-intensity activities, albeit over very large areas (this latter case specifically intended to include NTFP harvesters and operations removing very few trees from large tropical forest regions).

The SLIMFs initiative, which began in 2001 (and whose policies were formally adopted by FSC in 2004), actively tackled some of the central problems of certification for NTFP harvesters. The initiative worked to streamline procedures, reduce both direct and indirect costs of certification and create a more practical evaluation process for small producers and NTFP harvesters. The initiative



Figure 5. Small land-holders collecting garra-do-diabo (*Harpagophytum procumbens*) in Namibia, where producers' associations were fundamental in the creation of directives for collection. (Photo by David Cole, Phyto Trade)

resulted in the modification of requirements for certification by smallholders, including shorter, more concise reports, and options for fewer evaluators, desk audits and fewer peer reviews. All of these modifications are designed to reduce costs to small- and low-intensity operations. In the light of the recommendations made by a technical working group, the FSC has produced a set of new standards for this streamlined auditing approach for SLIMF operations, a set of eligibility criteria to define those operations that can be considered as SLIMFs, and a set of guidelines for the development of national forest management standards that take better account of operations that are of different scales and intensities. The objective of this latter guidance is to promote national standards that take into account the social and economic realities of community operations, small-scale timber harvesters, and NTFP gatherers. However, to date national standards setting bodies have been slow to respond to this guidance.

The Brazilian certifier Imaflora (Institute for Agricultural and Forestry Management) reports that before the implementation of SLIMFs, the least costly evaluation for a community seeking joint timber and non-timber certification was approximately US\$6,700. After operationalizing SLIMFs, a simple evaluation may cost US\$1,500. The price differential is due to three factors: a smaller team of auditors (1-2), less time in the field (1-2 days), and a simplified report (1-2 days to complete). Communities requesting certification of NTFPs qualify for SLIMFs guidelines. If a community is seeking certification of both timber and NTFPs, the scale (in Brazil <1000 ha) and the intensity of extraction are taken into consideration. Further work is needed to investigate whether the anecdotal evidence of considerable cost savings being reported by certifiers in Brazil is being experienced in all regions, and whether there is a corresponding increase in access to certification. There are already around 50 certificates issued using the SLIMF procedures, which would provide a reasonable sample to determine the impacts as well as the type of operations being certified. No figures are available to determine how many of these 50 certificates include NTFPs.

While the SLIMFs guidelines may facilitate access to certification among smallholders, NTFP producers still face a number of post-certification obstacles. The FSC and its certifiers do not, for instance, provide technical assistance to communities in areas such as marketing, quality assurance and business planning. The Kenyan Woodcarving Project (see Box 10) shows that post-certification technical assistance is often critical to the success of NTFP projects.

Box 10 – The Importance of Organization, Training and Marketing: The Case of Kenyan Woodcarvers

By A. Cunningham, People and Plants International and S. Schmitt, WWF-UK

Although we considered developing a simple eco-label (2nd party certification) for carved ‘Good Woods’, we decided to aim for an FSC label for Kenyan ‘Good Wood’ carvings for three reasons.

First, we were reluctant to contribute to the proliferation of labels that has posed a problem in ‘certification’ of wood products. Second, we hoped to contribute to changes within the FSC that would result in greater sensitivity for small producers. Third, aiming high for the FSC label would offer a label with widespread brand recognition and ultimately more benefit for carvers in Kenya – and in the longer term, further afield.

It was a slow process. Nearly 10 years after work on ‘Good Wood’ carvings began, FSC certification (under the new SLIMF system, and as a group certification) was achieved in January 2005. Conservation and certification expertise, however, was not enough. It was crucial to work in partnership with organizations such as Oxfam and their partner Kwetu and the Kenya Gatsby Trust (KGT), who brought crucial expertise in farmers’ organization and training and business skill and quality assurance training, respectively. With their help a stakeholder-owned company, Coastal Tree Products, has been set up to market and trade certified carvings and to manage the certification scheme and pay for the certification, marketing and design costs.

On a positive note, trying to achieve carving certification has had some non-monetary benefits. First, the neem management plan was acceptable to the Forest Department without excessive bureaucratic requirements. Second, the carving certification experience has led to the formation of a FSC National Steering Committee in Kenya. Third, the certification attempt has highlighted the lack of business skills and quality assurance systems of co-operatives, leading to the partnership with KGT. Fourth, it has stimulated engagement at forestry policy level, such as proper enforcement of logging ban and recognition that carving adds higher value and more jobs per cubic meter of wood than any other wood use in Kenya. Finally, it has encouraged carving certification efforts in other woodcarving countries, such as India.

c) FSC Group Chain of Custody Certification

As forest management certification became more established, and smaller operations and communities became certified, concerns were also raised about the ability of small carpentry workshops or small-scale wood processors to obtain chain of custody (CoC) certification. A CoC certificate is necessary at all stages of the processing and supply chain if the certified product is eventually to carry a label that informs the consumer of its certified origin. In Mexico, certified community forests found that despite their having achieved the international benchmark of FSC standards (el 'sello verde' or 'green seal' as they call it), local carpenters and stores were not permitted under FSC rules to use the FSC label on their pine lumber or copal (*Bursera* spp.) resin (see also Box 11) because they did not have a CoC certificate. One consequence of having small processors in the supply chain globally, whether of NTFPs or timber products, is to reduce the use of the FSC logo on certified products. This certification bottleneck limits opportunities to promote the FSC logo among consumers, encourages informal, unregulated use of the logo in some cases, and, most important, breaks the link between producer and consumer.

The FSC addressed the problem by introducing a policy for group chain of custody certification that works on similar principles to forest management group certification. The policy allows collaboration between small operations. A joint certificate is awarded to the group of operations and a group manager is charged with monitoring the systems of each member. However, the group certification model, whether for forest management or chain of custody, poses challenges for producers because it requires strong organizational and administrative capacity and a bringing together of groups with various institutional arrangements and possibly competing aims (Stewart *et al.* 2003). The challenges are particularly problematic for rural communities in the developing world. While the group certification model is permitting the inclusion of dispersed smallholders and their products, the process is still young and undergoing revision (Pierce *et al.* 2002).

Enabling Conditions

The difficult work and many steps required to attain sustainable harvest of NTFPs are often given less attention than the end goal of certification itself. Lack of adequate attention to the many steps that underlie sustainable harvest and lack of know-how can result in the failure not only of certification, but of community forestry conservation initiatives more broadly. The need for less glamorous but workable initiatives has been well captured by Kammen and Dove (1997) in the phrase ‘the value of mundane science.’ Conducting long-term forest inventories to determine production/yield, studying regeneration, evaluating species resilience to harvest, assessing realistic market opportunities and strengthening of community organization are necessary prerequisites for sustainable management and marketing of NTFPs. Farmers and forest inhabitants demonstrate resourceful means to collect and deliver market information, assess ecological status, refine management practices and move products toward emerging markets. As the bar held by donors and NGOs rises higher to include health, safety and environmental certification, however, few communities may possess adequate technical experience to tackle the additional workload and arduous administrative requirements that attaining and/or maintaining a label entails.

Partners working with the NTFP-Exchange Programme for South and Southeast Asia (NTFP-EP) have learned that achieving sustainable supply and successful marketing is not a short-term commitment. Working for over a decade, the network has promoted farmer-to-farmer exchanges, facilitating the sharing of appropriate technologies among remote communities. Communities working with the NTFP-EP network on sustainable harvest of rattan cannot yet meet the requirements to attain international forestry certification. While they struggle to attain the necessary foundation, they are gaining an array of other skills and developing other valuable experience, such as community monitoring systems, producer harvesting guidelines and familiarity with use of local labels (see Box 11).

Box 11 – Moving On from a Certified Source: The Challenges of Chain of Custody Certification for Woodcarvers in Mexico

By Silvia E. Purata, People and Plants International, Mexico

Researchers working with communities of woodcarvers and wood harvesters in Mexico had hoped that certification of the *Bursera* wood, which is used to create colorful wooden figures (*alebrijes*) widely sold in the tourist market, could foster more positive social and economic trends in the Oaxacan woodcarving market. Recently, great strides have been made toward realizing this ambition. A wood-harvesting community has obtained an FSC certified source of copal wood (see Box 24) and a group of artisans have formed a collective that markets ‘environmentally friendly’ wood carvings. The final products do not yet carry the FSC label, but nonetheless there have been benefits to both wood producers and carvers. The certification process has brought together two groups that previously traded via intermediaries. Artisans now buy directly from producers at pre-agreed prices, guaranteeing a steady supply and removing middlemen.

For the wood carvings to be labeled as ‘FSC certified,’ the artisans need to have a ‘chain of custody certificate’ themselves. The researchers, who have also served as advisors, are reluctant to promote this option at present since there is currently limited demand for ‘eco-friendly’ carvings. Researchers also question whether the costs involved in obtaining certification will be met by tangible benefits. As a compromise, the communities are making do with a second party ‘eco-label’ which announces that their products come from sustainably sourced wood. The response from the market has been positive but slow. Informed tourists demanding good wood carvings are scarce as yet and new market niches are insufficient to spur new market opportunities.

A Country Case Study: NTFP Certification in Brazil

Brazil is without a doubt the current global leader in the certification of NTFPs within forest management certification systems. It is here that the largest number of NTFP species certified under the FSC system can be found, and this is also where the world's largest area certified exclusively for NTFP extraction can be found (see Table 4). The Brazilian NGO Imaflora has been an innovator in its work with community certification, including NTFP certification, and was the first national certifying body to adopt NTFP generic guidelines developed by international experts and revise these to meet local geographical and ecological realities. Imaflora has also invested time in informing forest communities and the private sector about the potential of certification and trying to improve communication between these two very different groups. To further collaboration between the private sector and NTFP producers, Imaflora hosted a workshop entitled "NTFPs and Cosmetic and Phytotherapeutic Industries" at which industry leaders and harvesters discussed raw material needs, marketing strategies, access issues and general opportunities and obstacles. The meeting, held in August 2002 in the small Amazonian town of Alter do Chão is cited by Imaflora as a key event in raising the awareness of both producers and industries about the market and certification potential for NTFPs (pers. comm. Souza 2004).

Brazil is the first country to develop a regional forest management certification standard for a forest type in which no timber harvesting is permitted. This standard – for remaining remnants of the threatened Atlantic Forest – is therefore by default an NTFP harvesting standard, since these are the only forest extractions that could be certified in this region. The standard is not yet accredited under the FSC system; it is undergoing revision by the FSC working group (pers. comm. Bruno Martinelli, FSC Brasil).

Large forest industries generally find it easier to obtain certification than small community operations owing to economies of scale, access to information and the ability to devote greater resources to certification. Nonetheless in Brazil there are now several NTFP FSC certificates held by communities or smallholder harvesters, as well as certificates for industrial forest operations that include NTFPs in

their certificate scope subsequent to the initial forest management certificate for timber, such as Klabin, which has at least 30 plant species included in its FSC certificate (see Table 7).

Table 7. Native and Exotic Medicinal Plants of Klabin Pulp and Paper Company Certified in 2000

Trade Name	Scientific Name
1 Agrião	<i>Nasturtium officinale</i>
2 Aipo	<i>Apium graveolens</i>
3 Arnica	<i>Arnica Montana</i>
4 Artemisia	<i>Crysantemium partnenium</i>
5 Avenca	<i>Adiantum cunneatum</i>
6 Barbatimão	<i>Accacia adstringens</i>
7 Bardana	<i>Arctium minus</i>
8 Urucum	<i>Bixa orellana</i>
9 Boldo	<i>Coleus barbatus</i>
10 Carqueja	<i>Bacharis articulata</i>
11 Casca d'anta	<i>Rauwolfia selowii</i>
12 Cavalinha	<i>Equisetum arvense</i>
13 Chapéu de couro	<i>Echinodorus macrophyllus</i>
14 Cipo cabeludo	<i>Mikania hirsutissima</i>
15 Cipo mil homens	<i>Aristolochia triangularis</i>
16 Confrei	<i>Symphytum officinale</i>
17 Dente de leão	<i>Taraxacum officinale</i>
18 Erva de bicho	<i>Polygonum acuminatum</i>
19 Erva mate	<i>Ilex paraguariensis</i>
20 Erva de Sta. Maria	<i>Chenopodium ambrosioides</i>
21 Espinheira santa	<i>Maytenus ilicifolia</i>
22 Eucalipto	<i>Eucalyptus globulus</i>
23 Fel da terra	<i>Erythraea centaaurium</i>
24 Gervão	<i>Stachytarpheta dichotoma</i>
25 Goiabeira	<i>Psidium guajava</i>
26 Guaco	<i>Mikania glomerata</i>
27 Maria preta	<i>Solanum nigrum</i>
28 Mentrasto	<i>Ageratum conyzoides</i>
29 Pata de vaca	<i>Bauhinia forficata</i>
30 Ipê roxo	<i>Tabebuia avellanadae</i>
31 Picão	<i>Bidens pilosus</i>
32 Quebra pedra	<i>Phyllanthus spp.</i>
33 Rubim	<i>Leonorus sibiricus</i>

Trade Name	Scientific Name
34 Sabugueiro	<i>Sambucus australis</i>
35 Sete sangrias	<i>Cuphea carthagenensis</i>
36 Tanchagem	<i>Plantago major</i>
37 Taquara	<i>Guadua</i> spp.
38 Tenente Jose	<i>Picrasma excelsa</i>
39 Umbauba	<i>Cecropia</i> spp.
40 Verbasco	<i>Conyza virgata</i>

The rise in community certificate holders in Brazil (both with and without NTFPs in their scope) has been made possible by Imaflora's dedication to decrease administrative bureaucracy, simplify reporting requirements and customize standards. The FSC's SLIMF procedures have enabled the proliferation of smallholder certificates in Brazil. To improve cost-effectiveness for community forestry, Imaflora developed a social fund for certification to subsidize assessments of small-scale forest management projects. Funds to support the fund are drawn from a 3 to 5 percent cost added to the costs of certification for private companies. This fund have helped to decrease the cost of certification by 20 to 40 percent (pers. comm. Souza 2004). In addition, a volunteer auditor's bank introduces a means for specialists to offer their services at no cost or discount rates (Azevedo and Freitas 2003).

It is also important to note that NTFP certificates have been issued in Brazil for both forest management (i.e., the harvesting stage) and for chain of custody (i.e., the processing, transformation and sale stages) (see Tables 8 and 9).

The Brazilian PEFC accredited certification scheme CERFLOR (The Brazilian Forest Certification Program) has reported that NTFPs are now included in the scope of its system (pers. comm. Maria Teresa R. Rezende, Executive Secretary of Cerflor/Inmetro, Feb. 2007). Since it was accredited by PEFC only in 2005, and PEFC included NTFPs only in late 2006, it is not surprising that to date it has no NTFPs certified, nor operations requesting NTFP certification.

Table 8. Current FSC Certificates That Cover NTFPs in Brazil

	Name of operation	Type of forest (plantation or natural) and type of operation (community or business)	Type of certificate	NTFP products covered by certificate	Year of certification	Certified area (hectares)
1	Klabin S/A. (Klabin Florestal PR)	Plantation / business	Timber and NTFPs	Medicinal plants, pine seeds	1998	236,873.00
2	Associação dos Seringueiros de Porto Dias	Natural / community	Timber and NTFPs	Copaíba oil	2002	4,208.90
3	Ervateira Putingense Ltda.	Natural / business	NTFP only	Maté tea herb (fresh)	2003	69.00
4	Coop. Mista Extrativistas do Rio Iratapuru – COMARU	Natural / community	NTFPs only	Brazil nuts, Copaíba oil, Breu resin (<i>Protium</i> spp.)	2004	21,380.00
5	Associação dos Seringueiros da Reserva Extrativista São Luiz do Remanso – ASSER	Natural / community	Timber and NTFPs	Copaíba oil, jarina seeds (<i>Phytelephas macrocarpa</i>)	2004	7,205.00
6	Cooperativa dos Produtores Agroextrativistas da Reserva Extrativista do Rio Cajari “COOPER-CA”	Natural / community	NTFP only	‘Wild harvest’ acai palm heart	2005	990.00

Name of operation	Type of forest (plantation or natural) and type of operation (community or business)	Type of certificate	NTFP products covered by certificate	Year of certification	Certified area (hectares)
7 ATINA - Indústria e Comércio de Produtos Florestais Não Madeiros	Natural / business	NTFP only	Candeia essencial oil	2005	69.00
8 Associação de Produtores de Artesanato e Seringa - APAS	Natural / community	NTFP only	Sheets of vegetable leather (made from rubber)	2005	1,638.00
9 Comunidade Kayapó na Terra Indígena do Baú - (TI-Baú)	Natural / community	NTFP only	Wildharvest brazil nuts, and brazil nut oil	2006	1,543,460.00

Source: FSC Brazil web site certificate data base (accessed 3 January 2007) and personal communication, Patricia Cora Gomes, Coordinator, Forest Certification, Imafloira (February 2007).

Table 9. Industries Marketing Certified NTFPs in Brazil: Holders of FSC CoC Certificates for NTFPs

Name of Company or Community	Products	Certification Date
Klabin do Paraná Produtos Florestais Ltda.	Phytotherapeutics* and Phytocosmetics	2001
Ervateira Putinguese Ltda.	Dried maté herb for tea (<i>Ilex paraguariensis</i>)	2003
Coop Mista Prod Estrativistas do Rio Iratapuru - COMARU	Unrefined brazil nut oil, brazil nut biscuit, brazil nut flour, brazil nut	2004
Crodamazon Ltda.	Buriti oil, brazil nut oil, copaiba oil (<i>Copaifera</i> spp.)	2004
Beraca Sabará Químicos e Ingredientes Ltda.	Essential oils, and plant-based aromatics	2004
Croda do Brasil Ltda.	Buriti vegetable oil and brazil nut oil	2005
Associação de Produtores em Artesanato e Seringa – APAS	Sheets of vegetable leather and rubber	2005
Indústria e Comércio de Cosméticos Natura Ltda.	Cosmetics	2005
Cógnis do Brasil Ltda.	Brazil nut oil	2005
ATINA - Indústria e Comércio de Produtos Florestais Não Madeireiros S.A.	Candeia essential oil	2005

Source: FSC Brazil web site certificate data base (accessed 3 January 2007) and personal communication, Patricia Cota Gomes, Coordinator, Forest Certification, Imaflora (February 2007).

*Plants or herbs used to treat diseases or to alleviate pain.

Opportunities and Challenges of NTFP Certification

NTFP certification requires a base of knowledge regarding the ecology, socioeconomics and legal aspects of non-timber forest resource use, much of which is undocumented and/or unknown. Therefore, one of the great challenges and opportunities of realizing certification is to document and synthesize what is known. Certification requires a basic understanding of the biology and ecology of the target species. Furthermore, a myriad of complex social and legal issues are present where NTFPs are harvested and used, including tenure, resource access, worker rights and community benefits. The political powerlessness of most NTFP gatherers has marginalized their issues from the scope of political concern. Because few statistics exist to quantify the magnitude of sales of locally and regionally traded NTFPs, the large, accumulated economic value of NTFPs goes undetected. Driven by established industrial interests, policies often overlook the socioeconomic and policy interests of forest-reliant people. NTFP policies often impede harvester rights to resources and fetter harvesters from gaining a fair profit in sales.

Certification of NTFPs in its current format is a viable strategy for only a few 'charismatic' forest products with high profiles and significant international markets, such as Brazil nut, chicle, palm heart and rattan, and widely sold medicinals (i.e., cat's claw, yohimbe). Nonetheless it is precisely these species which, due to high international demand, are most likely to be jeopardized, as high demand can lead to higher prices and an increased temptation to over-harvest the resource. Therefore, NTFP certification, even for a limited number of species, could have an important impact on forest management. Furthermore, although its application internationally may be limited to a specific set of products, certification has the potential to raise consumer and industrial awareness of the conditions under which forest goods are harvested and traded, and to press for increased transparency and improvements in policy and practice.



Figure 7. Mr. Joel da Serra Norte de Oaxaca collecting mushrooms (*Boletus edulis*). Even the collectors who sell high-value NTFPs face many obstacles to certification. (Photo by Fabrice Edourad)

In the following sections, a series of issues related to NTFP harvesting are given more detailed attention, and for each issue, opportunities and challenges are identified.

Sustainable Resource Management

Determining sustainable harvest levels for NTFPs is difficult and has best been accomplished through years of field observation and experimentation termed ‘adaptive management.’ Most operations applying for NTFP certification rely upon the principal of adaptive management and set harvest levels based upon observation and experience, supplemented by information gained from monitoring the impact of harvesting over time, what Peters (1996) calls ‘successive approximation.’ Few operations have the technical expertise, equipment, time and finances to perform more in-depth scientific analyses. Because so little information is available regarding the

ecology and management of NTFPs, the process to attain NTFP certification can assist in correcting this by documenting centuries-old practices as well as smallholder innovations.

Management planning is the most basic and formidable requirement for achieving certification of an NTFP. Most existing guidance for forest management revolves around timber objectives. Despite their long history of harvesting, there are few examples of good management plans for commercially harvested NTFPs, although increased efforts to develop effective and affordable management regimes are underway (Peters 1996). For example, Brazil nuts have been harvested in Bolivia for over 30 years, but the first Brazil nut management plan was not designed until 1998 under the auspices of the U.S. Agency for International Development and the Bolivia Sustainable Forestry Management Project (BOLFOR). Many widely collected medicinal herbs have never been included in forest management plans, nor have sustainable harvesting regimes been created for their collection.

Opportunities

- *Inform consumers and companies* – Certification can provide companies and consumers with a real alternative to the exploitative use of resources and local labor by highlighting the source and management practices associated with forest goods.
- *Integrating NTFPs into timber assessments* – A heightened awareness of the role of NTFPs in forest use and management could encourage timber certifiers to press for the retention of species more valuable for their non-wood products than for their timber.
- *Decreasing logging of valuable non-timber species* – NTFP certification can increase awareness of important local and regional values, generate commercial revenues and slow logging of what otherwise are considered ‘minor’ species.
- *Managing for long term prospects* – Managing for sustainability ensures the resource for the long-term, avoiding a boom-bust phenomenon in resource extraction and providing for local livelihoods in a consistent manner over time.
- *Distinguishing legal gathering from predatory, illegal harvesting* –

Certification guidelines require that products are harvested from legal and sustainable sources, thus discouraging rampant collection and encouraging the private sector to pay more attention to where raw material is sourced.

- *Training certifiers and forest managers in the ecology, use and management of NTFPs* – Training of forest managers and certifiers in the basics of NTFP ecology and use can be an important first step in moving forest management practices toward a more holistic approach.

Challenges

- *Lack of ecological knowledge* – The ecology of many species is poorly understood, which makes it difficult to determine sustainable harvest levels, harvest techniques or monitoring requirements.
- *Unpredictable resource production* – Many NTFPs are characterized by uneven, unpredictable and inconsistent production. Such natural variation makes reliable and continual sourcing difficult. Volumes required for international markets may exceed production potential of wild resources.
- *Cost of NTFP certification* – The cost of certification can exceed harvesters' ability to pay.
- *Differences in assessment* – Social and economic considerations from local people's perspectives will need to be included in assessments. To accomplish this, the traditional forestry curriculum will need to be expanded and these changes reflected in forestry training.
- *Chain of custody* – Ensuring ecological sustainability from source to sale is difficult for NTFPs.

Ecological Basis for Sustainable Management and Marketing

Sustainable and equitable marketing of NTFPs depends greatly on the species, its ecology and the degree of management. Although efforts to promote intensified management and cultivation of widely used species are underway, the majority of NTFPs are still collected from wild sources. In India, 95 percent of the 400 plant species used by the Indian herbal industry are sourced from the wild (Uniyal *et al.* 2000).



Figure 8. Mr. Domingos in Ponto de Pedras, Brazil, collecting bitter amapa latex (*Parahancornia fasciculata*). Local knowledge and practices are especially valuable for species that supply latex, barks and roots, which are little studied. (Photo by Murilo Serra)

In Germany, 93 to 98 percent of the over 1500 medicinal plants traded are harvested from wild populations (Lange and Schipmann 1997).

It is estimated that between 4,000 and 6,000 non-timber plant species are of commercial importance worldwide (Iqbal 1993). Of these, a handful has large export markets and the appropriate ecological and socio-political conditions for certification. NTFPs such as epiphytes, mushrooms and primary forest herbs present particular challenges to certification systems.

Barks, roots, bulbs and plant exudates such as resins, gums and oleoresins represent a large portion of commercially wild-harvested forest resources; however, the ecological consequences of harvesting these plant parts remain poorly studied (Cunningham 1993). Most studies entail an insufficient amount of time to gain ecological understanding and focus on species and product types that offer

fewer ecological challenges to study such as palms (40 percent of the 70 reviewed studies) and fruits, seeds and leaves, neglecting valuable and vulnerable species exploited for their exudates, roots and barks (Titkin 2004). Complicating the task of understanding the ecological underpinnings of management practices is that practices may be so subtle and be implemented over such lengthy time frames that they are undetected by outsiders.

When large, international markets place pressure on species, some species may succumb to increased harvesting and become vulnerable, while others are able to sustain continued pressure. Key characteristics of species such as life span, sprouting ability, habitat and capacity to regenerate determine their vulnerability or resilience. By understanding the characteristics of species and their habitats, it is possible to predict responses to elevated levels of harvesting (Peters 1994, 1996; Cunningham 2000). Root and bark harvest may be particularly problematic, especially from longer-lived species or those without the ability to resprout. By contrast, responsible harvest of reproductive plant parts – fruits, seeds, leaves or shoots – may pose relatively less risk to species populations. Species must be selected taking into consideration a host of social, ecological and economic criteria.

Characteristics That Can Facilitate Certification of Species

Certain plant attributes make some species easier to manage, and thus certify, than other species. These characteristics include:

- common and widespread species
- species that are quick to reproduce
- use of plant parts rather than harvest that results in the death of individual plants managed (e.g., leaves, reproductive propagules vs. roots and bark)
- sustainably harvested over a long time period
- well-developed market
- interested buyer
- tenure and access issues resolved
- does not endanger locally important (medicinal, religious, cultural) plants and sites.

Of internationally traded forest products, bamboo, Brazil nut, rattan and palm heart are among those that have been identified as good candidates for certification. Palm heart provides a useful example of the importance of species selection and farmer innovation in sustainable management. Depending upon the species, palm heart may be harvested sustainably or unsustainably. *Euterpe edulis* from which palm heart is extracted in the Atlantic forests of Brazil is nearing local extinction. By contrast, *Euterpe oleraceae*, is a multiple stemmed palm that can be sustainably harvested by leaving some stems for future growth. With growing markets in Europe for certified palm heart and increasing domestic sales of a drink made from palm fruit, rural producers who manage for both fruit and palm heart have ingeniously devised means of managing the species to produce high quality palm heart and the locally beloved fruit (see Box 12).

Box 12 – Rural Amazonians Devise Ways to Manage Palm for Palm Heart and Fruit

The fruits and palm hearts of multi-stemmed *Euterpe oleraceae* are products of both local and international importance from the Brazilian Amazon. The small, purplish açai fruits cut from high in the palm are processed into a nutritious beverage which is avidly consumed by most eastern Amazonians. In 2000, 121 thousand tons of fruit were sold in Brazil generating about US\$30 million (IBGE 2002). Palm hearts are harvested from the same species, but are not consumed by harvester families, being targeted to the domestic and international market only. Palm hearts are processed and canned in factories on the banks of the Amazon and are worth about US\$120 million annual in domestic consumption and trade (van Andel 2003). To harvest the palm heart, the entire stem is cut down and its crown shaft removed. A palm with a diameter at breast height of 8.5 cm can yield a palm heart of 2 cm diameter (Johnson 2002). One regulation that is codified for the industry, but not always followed, is the minimum diameter size of the palm heart purchased from harvesters. To increase yield, some palm heart harvesters remove all the stems from a single

palm, negating the possibility of fruit harvest. Hired labourers extracting for palm heart companies often harvest all stems for industrial use, while small producers with land rights are more likely to manage for açai fruit. Over-harvesting and harvesting of immature palm hearts have weakened Brazil's position in the world market (van Andel 2003). Rising prices in local and national markets for fruit and increased demand from Europe for certified palm heart have led to increased management of açai for both products.

Harvesting palm heart at longer intervals (4–5 years) causes less damage to the natural stands and produces higher palm heart yield. Leaving intact one or more mature stems per cluster increases the vitality of the clump and supplies the extractor with fruit.

Because of its frequency and clonal self-regenerative habit, *E. oleracea* is able to sustain a viable industry as long as rotation periods are long enough and producers strictly adhere to their management plans (van Andel 2003).

Adapted from van Andel, T. "First FSC-certified non-timber forest product from the Brazilian Amazon, background paper for Congress on Globalisation, localisation and tropical forest management in the 21st century, Amsterdam, 22–23 October 2003; and Johnson, D. "Palm heart case study" in Tapping the green market, 2002.

Species vs. Site-based Certification

An important issue to resolve for NTFP certification is whether the traditional site-based approach of timber certification works for NTFPs or whether a species-based approach is required, given the ecological diversity of products found within a given area.

According to FSC standards, survival of individual plants or the species population is not enough. Plants are part of an ecosystem. They provide food, microclimates and environmental services. Besides

assessing the health of the target species, FSC's 'gold bar' standards also invoke assessment of the overall health of the forest and the interrelationship between the target species and its environment. Similar to FSC in this regard, the Analog certification system also views individual species as part of a wider ecosystem (see Box 2).

The diversity in NTFP plant forms and parts used has been a challenge for certification systems. To cope with the diversity of NTFPs, FSC endorsed certifiers have devised several different approaches to NTFP certification. These approaches are discussed below.

One approach involves the development of species-based standards, which essentially define the 'best practices' for managing forests for the extraction of specific NTFPs. This has been done for several high-volume, high-value NTFPs such as maple syrup (in the USA) and Brazil nuts (in both Bolivia and Peru). This approach has allowed certifiers to justify their NTFP assessments to critics who argue against including NTFPs in accreditation programs, and seems therefore to be partly motivated by an unfamiliarity with NTFP assessment and management. The process of creating species-specific guidelines is labor and capital intensive. It also conflicts with the FSC system, which takes pride in creating rules for forest management certification, not individual forest product certification. In the FSC's first 10 years, only one NTFP standard (for Brazil nuts) has been officially endorsed (the maple syrup standards were actually a species-specific annex for certifier guidance developed by the certification body SmartWood). Species-specific standards have not been actively promoted within the FSC because the approach clashes with the central forest system philosophy of the organization.

In parallel to the development of species-specific standards, some FSC accredited certification bodies have developed additional annexes to their existing forest management certification standards to deal with NTFPs. This is the case with Soil Association (Woodmark) and Rainforest Alliance (SmartWood). Soil Association has an NTFP standard that conforms to both IFOAM (organic) and FSC (forest management) systems. As part of a broader NTFP project, SmartWood produced an NTFP addendum for use in Latin America in the late

1990s and a species-specific annex for maple sugaring operations in January 2000 (Donovan 2000). During this time, and in collaboration with their Brazilian partner Imaflora, SmartWood led the way with NTFP certifications. SmartWood now uses a single addendum, developed in 2002, which applies to all NTFPs harvested worldwide. The NTFP addendum is used in conjunction with the organization's generic forest management standard.

Both the Soil Association and SmartWood NTFP standards are generic and may be used for any type of NTFP, with the exception of animals. However, SmartWood recommends that certifiers also consult an additional document, which provides performance indicators and verifiers by plant part for additional guidance on sustainability issues. Indeed, plant class guidelines (e.g., for roots, leaves, fruits, etc.) may be the most sensible approach to NTFP certification.

Many researchers who work closely with community NTFP harvesting operations would argue that broad, generic guidelines are sufficient, and that increased regulation and bureaucracy are inappropriate. However, the case can also be made that, for such a wide diversity of species with wide-ranging tolerances to harvesting, species-specific guidelines are essential. In the case of palm heart, for example, certain species of palm can be sustainably harvested while others cannot, necessitating completely different management systems. It is worth noting that there are hundreds of timber tree species in diverse tropic forests, yet certification standards do not require specific management regimes for each timber species. A broad approach to NTFP certification may thus be warranted. Certainly, questions about equity in the application of certification could arise if accreditors were to insist upon the creation of individual certification standards for NTFPs while forest management only required general management guidance.

Certifying Cultivated vs. Wild NTFPs

NTFP management falls within a continuum that ranges from intensive management to subtle manipulation. Numerous species still cited as NTFPs have moved from being extracted in the wild to being domesticated. Examples include rubber, bamboo, ipecac and

pine resin. Brazilian economist Alfredo Homma's (1992) model posits that most NTFPs are harvested from the wild during an expansion and stabilization stage, but that extractivism eventually declines through either product substitution or through intensification of the production system, namely cultivation. The case of woodcarvers in Kenya supports this thesis (see Box 13). This is also commonly the

Box 13 – Wood Carving: Introduced Species Take Pressure off Slow-Growing Indigenous Species

By A. Cunningham, People and Plants International and S. Schmitt, WWF-International

'Serial exploitation' of indigenous long-lived hardwood species has serious implications. First, tree felling for carvings has a high impact on forest-dependent animals and East African coastal forest structure. This endangered forest type is one of 200 priority eco-regions and the habitat for endangered endemic species like the Sokoke Scopes owl and golden-rumped elephant-shrew which use hollow trees for nesting or shelter. As most indigenous tree species favored for carving are slow growing, farmers' incentives to cultivate them are limited. In Kenya, the on-farm cultivation of fast-growing introduced species such as neem (*Azadirachta indica*) and jacaranda (*Jacaranda mimosifolia*) offers a viable alternative to wild harvest and relieves shortages in wood supply. We have termed these two alternative species "Good Woods" promoting them through posters, videos and local language drama. Carved animals from *Brachylaena huillensis* and neem are not easily distinguished by buyers, yet the growth rates of the two species differ greatly. *Brachylaena huillensis* trees reach 40 cm diameter at breast height (dbh) in 100 years (Kigomo 1989). By contrast, *Azadirachta indica* (neem) reach 40 cm dbh in 16–25 years (Lemmens *et al.* 1995; KEFRI unpublished).

From Cunningham and Schmitt, Certifying woodcarvings: Opportunities and constraints in East Africa, CIFOR NTFP case study.

case for ornamental plants such as bromelias and orchids, and palm fronds used in flower arrangements.

As NTFP certification proceeds, it will be important to determine where potential candidates are positioned on the management gradient (whether species are cultivated, wild extracted or from a managed source) and if they are natives or exotics (see Box 14). If NTFPs are cultivated, assessments will need to determine whether cultivation or domestication has occurred at the expense of forests or whether management contributes to conserving forest resources. Reflecting the distinction between natural forests and plantations, FSC's work on plantation standards could yield useful lessons for NTFP certification. Living up to standards in natural forests is more difficult and expensive than for plantations, thus caution will be needed as plantations are generally easier to certify (Ros-Tonen 2004).

Box 14 – Certification of a Mix of Native and Introduced Phytotherapeutics

By Loana Johannsson, Klabin S/A

Klabin pulp and paper has over 85,000 hectares of native forests and commercially planted low-growing vegetation. Since 1984, a program of biodiversity prospecting has inventoried 240 plant species, all of which possess therapeutic potential and 130 of which have possibilities for practical use. Certified by the FSC for its forestry management practices in 1998, Klabin's was also certified for NTFPs – phytotherapeutic and phytocosmetic products – in 2001. The approximately 60 species used per season are obtained through good forest management, supporting phytotherapy for the improvement of community-living standards and company employees and their families. Of the 60 species, 20 are native (taken directly from the forest) and 10 are domesticated native species that require special growing techniques. The remaining 30 species are exotic, having been introduced into the region by settlers.

The success of plantation forest management in obtaining forest certification may be due to fewer problems related to land tenure, high levels of organization within the plantations sector, good access to information and human and financial resources (Freitas 2003). This sounds a note of warning for NTFP certification as, in most cases of smallholder NTFP harvest, few if any of these conditions are met.

Certification of Native, Exotic and/or Naturalized Species

Many commonly produced agricultural products (e.g., cocoa and coffee) were originally forest products that have been domesticated under plantation systems in response to market demand. It is often difficult to classify a species along the cultivated-to-wild continuum, as species move along a gradient between these classifications in both time and space. Close to cities, rural farmers respond to market



Figure 9. Medicinal plant, Veronica (*Dalbergia subcymosa*), being collected in Amazonia. The majority of NTFPs around the world are still collected from wild places, very often by collectors that do not have title to the land where species are found. (Photo by Murilo Serra)

incentives by investing time in intensification; thus species that remain unmanaged in remote regions may be intensively managed in peri-urban areas. Such harvesters may increase the density of a species, but, in some cases, it may remain part of a forested ecosystem, such as açai palm (*Euterpe oleraceae*). Other species may present more obstacles to domestication, such as Brazil nut, which is still largely collected from forested regions in which it occurs in relatively low densities.

Most of the more visible pioneer NTFP certificates issued under the FSC system were for products derived principally from natural forests. The aim was to distinguish such goods as contributing to forest conservation and to try to generate an added value for the producers or collectors (e.g., Brazil nuts in Brazil, chicle in Mexico, and acai palm hearts and acai fruit in Brazil). However, the system is equally able to certify NTFP production in a more intensively cultivated tree landscape or planted system (such as that created by cork oak and livestock farming in Spain and Portugal, or rubber plantations in Asia). The FSC system does not distinguish between natural forest and plantation forest management, except in requiring plantation managers to comply with an extra set of plantation-specific criteria. There is no differentiation in labeling.

In addition to determining whether NTFPs are cultivated or intensively managed, it is also important to determine which NTFPs are products of native species to the area being certified and which are exotics and/or naturalized. This information is fundamental to understanding whether the act of certification is meaningful from the standpoint of conservation. Thousands of annual and perennial 'weeds' feature prominently in pharmacopoeias throughout the world (Stepp and Moerman 2001). Many of these are part of the international trade in botanicals and other products. What does it signify when widespread 'weed' species are certified ecologically sustainable as part of forestry operations? Of the list of herbaceous medicinal herbs certified within Klabin Pulp and Paper's forests, for example, a handful of species are designated by the company as 'exotic' but many of the species on the list are cosmopolitan weed species found throughout the world (see Box 14). Issues such as this are useful for illustrating some of

the benefits of the current certification systems' emphasis on 'forest management' as opposed to species-specific certification, since there is an inherent need to address forest management in a holistic way.

There is a credible argument that to ensure that the message behind labels is clear to consumers, plantation-derived species, exotics and cultivated plants may need to be distinguished from wild harvested, forest-derived goods. However, there is rarely a clear division between 'good' and 'bad' with regard to conservation impact. Cultivation of certain species can reduce over-exploitation of natural forests (see Box 14). Therefore rewarding the growers of those particular plantations with a certification label might be evaluated as having a positive impact on natural forest conservation.

The level of social and ecological complexity involved in managing forest species in remote areas with scant transport exceeds that involved in sourcing domesticated species. Furthermore, the time, effort and expenditure to identify and organize the extraction of plants from forest communities far exceeds that of contracting harvesters to collect a crop of planted annual or perennial herbs. Nonetheless there are companies that have been prepared to try to work with communities to source forest species from remote regions, such as the Brazilian cosmetics giant Natura. Due to increasing pressure on corporations to have strong ethical and environmental credentials, it is possible that others may follow its example. Natura underwent a steep learning curve — along with the certifiers and harvesters — in order to obtain certified natural ingredients. During this process, Natura learned to restrain initial enthusiasm by reducing the number of communities with which it worked and carefully selecting only promising species. However, by 2005, Natura had 12 FSC-certified raw materials, including Brazil nuts, copaiba, breu-branco, rosewood, cocoa and the herb used to make yerba mate, a tea growing in popularity outside of Latin America. The company then set itself an even more ambitious target of 21 certifications by 2006, or 60 percent of all raw materials used or planned for use in its processes (WBCSD 2006) (see Box 15).

Box 15 – Lessons Learned from Industry Working with NTFP Harvesting Communities

The Brazilian cosmetics company Natura, which has a global market for its products, developed a policy for the sustainable use of Brazilian natural materials in order to deliver in practice its commitment to using Brazilian natural flora economically while ensuring sustainable extraction and supporting communities in developing more secure livelihoods. Natura developed a specific brand line, 'Ekos,' in 2000 and began to develop relationships with harvesting communities that supply their raw materials such as Brazil nuts, fragrant breu resin, and cocoa. The path was not an easy one, and challenges remain, including how to ensure that communities are not dependent on Natura, since the fickle nature of the cosmetics market will mean an inevitable decline in the volumes of products sourced by the company.

From its experiences in working with communities, Natura offers a number of 'lessons learned':

- Integrate logistical complexity into business plans.
- Limit the introduction of new active ingredients in products.
- Be vigilant about community dependence on one ingredient by helping communities widen their base and doing product line extensions from the same ingredient and getting community input for idea creation.
- Mobilize third parties in developing local capability.
- Be prepared for unpredictability.
- Invest in training.
- Manage the risks of depending on distant communities.
- Get and appreciate external political support and advice.
- Be determined and invest in negotiating.
- Trust and make sure the company is seen as trustful.

Adapted from WBCSD 2006.

Monitoring

Monitoring is one of the most critical components for a sustainable NTFP management system. Monitoring must not only reflect



Figure 10. Rattan collectors Alangan Mangyan dragging fibers in the Philippines. Accessing sustainable supplies and creating a successful marketing strategy requires a long term commitment. (Photo by Mangyan Mission)

population demographics but a species' response to a particular harvest regime. Monitoring also has to be financially viable. For many NTFPs in high diversity tropical forests, calls for statistically accurate, random plots in NTFP assessment (Wong *et al.* 2000) are simply not practical with regard to the investment of time or money. In their study of rattan inventory costs in Laos for example, Evans and Viengkham (2001) found that a survey precision of <20 percent was very time consuming and 5–10 percent was impractical. Local people's knowledge and skills can help solve this problem, but verifying undocumented monitoring such as is used by traditional communities is generally challenging. "Third party" certification auditors and ecologists tend to demand exacting scientific studies prior to accepting traditional or indigenous monitoring mechanisms. While certain tools have been designed to set harvest levels and to help monitor population dynamics post-harvest (Hall and Bawa 1993; Peters 1996; Cunningham 2001), rural communities have generally devised their own methods to monitor the vigor of the plants they rely upon. Such locally devised systems can provide valuable information to ecologists and forest managers. In the case

of maple sugar, experienced harvesters revealed that rapid tap hole closure is one effective indicator of a tree's ability to sustain tapping. Tap hole closure is easy to observe in the field by forest managers and certification assessors and trees showing poor tap hole closure may indicate reduced vigor in trees, poor soils, poor tapping methods or other issues in need of further assessment. The case of rattan harvest in Indonesia provides an example of how communities are beginning to systematize their knowledge base regarding sustainable off-take (see Box 16).

Box 16 – Community Monitoring of Sustainable Harvests of NTFPs

By J. de Beer, The South East Asian NTFP Exchange Programme

Monitoring has left the realm of biologists, foresters and scientists. As new demands on forests and user groups have arisen and as resource bases dwindle, local communities are seeking more formal monitoring to guide their management. Incentive to monitor the resource base is driven by many factors. To gain access to resource rights in the Philippines, communities are required by the government to prepare resource management plans. In India, alarm over rapid depletion of the resource base and diminishing production of goods such as tendu leaves and wild mango catalyzed community interest in self-monitoring. In Indonesia, rattan harvesters look toward monitoring to gain recognition and credibility for their age-old sustainable management practices and to serve as a useful foundation for certification.

While community interest is high, the practical challenges of monitoring the sustainable harvest of NTFPs involve many factors such as the objectives, the skill level of those conducting the monitoring, the level of accuracy and rigor required, and cost. Though certification standards such as those developed by FSC are comprehensive and well thought out, they are stringent and applying them to communities with minimal resources is difficult. Therefore, it is important to explore monitoring methods for

communities that are doable and are backed by solid documentary evidence to make those methods credible to the broader public, especially consumers.

Communities within India, Indonesia, the Philippines, Sri Lanka and Vietnam are experimenting with self-monitoring systems, catalyzed by a network of NGOs which exchange information and experiences as part of the South East Asian NTFP Exchange Programme. Their experiences to date indicate that a great deal of work is needed to formalize and document management and knowledge systems that have a historical basis. Translating what is locally known to the language and style of certification as well as making the language and style of certification understandable to communities is a large task. The question that communities, NGOs and donors need to increasingly ask is: will the benefits outweigh the costs?

Social Opportunities and Challenges

One way of viewing certification is as a means to incorporate the true social and environmental costs of producing goods, thereby internalizing formerly externalized costs. However, the current economic model is ill equipped to measure not only the commercial but the subsistence, social and spiritual value that forest goods and their collection confer to individuals and communities in both rural and urban areas. Green marketing initiatives have been critiqued on the grounds of producing negative social impacts and few benefits for local people, concentrating the benefits in the hands of the marketers, and not addressing the root causes of deforestation (Gray 1990; Dove 1994). These problems are specific not only to NTFP certification but to markets and market-based mechanisms in general. Colchester (2004) states that the new political, institutional and partnership requirements of market-based schemes do not often link up well with the priorities, institutions or customary systems of decision-making of local communities. Rather than creating more social and financial equity, the changes required to enter market-based conservation schemes may exacerbate division within communities based on class, wealth, gender and power.

However, in some cases, certification may have the potential to validate, reinforce and reward good NTFP management, to provide a buffer in between communities and the international market, and to strengthen social and cultural norms involving NTFP harvest and sale. Opportunities and challenges offered by NTFP certification are listed below.

Opportunities

- *Strengthening community forest management* – Certification can elucidate best management practices for NTFPs and develop easy-to-use field guidelines for assessing management efficacy.

Certification standards may provide positive models for managers, donors, companies and non-governmental operations.

- *Recognition* – Certification by internationally recognized bodies has been seen to help communities who are managing forest resources gain recognition within their own country for their responsible stewardship of natural resources, often in the face of widespread generalizations linking communities to over-exploitation.
- *Increasing pride in management* – Smallholders have felt increased pride in their management techniques, which has helped to reinforce customary practices that ensure long-term supply.
- *Improving relationships* – Strategic partnerships between industries and communities can lead to better understanding and improved resource management (see Box 8).
- *Promoting consumer education on sustainable forestry and fair trade* – Campaigns will help to increase consumer awareness of the environmental and social conditions in which products are harvested and of the need for sustainable and fair trade models of forest product extraction.
- *Strengthening community institutions* – Certification can help support collaboration and organization among community members.
- *Opening access to new markets* – Certification may allow communities to tap new niche markets for their products, particularly in areas where consumer concern over forest conservation and equity in trade are well developed.

Challenges

- *The need for formal recognition of land tenure or legal rights to resources* – Many NTFP gatherers do not own title to the lands upon which they collect and recognition of gathering rights is a chronic obstacle for NTFP harvesters to attain certification.
- *Lack of organization and power* – Small producers have inadequate market information, legal knowledge, negotiation skills or levels of organization to assert their rights or to assess the pros and cons of certification.
- *Inadequate technical capacity on the part of many producers to meet certification standards* – Administrative and institutional requirements to ensure quality control, marketing and negotiation

are important elements of success, yet few communities have the requisite knowledge, capacity and expertise. Community groups find it difficult to meet the volume and quality demands of certified markets.

- *Unrealistically high expectations for producers* – Externally driven certification is often poorly understood by small producers who often overestimate opportunities and underestimate limitations and obstacles.
- *Difficulty in striking a balance between the need to improve existing working conditions and over-regulation* – Harvester living conditions, levels of education and working conditions are often considered sub standard.

A primary characteristic of many NTFPs is that they are often harvested ‘under the radar screen’; that is, they are gathered on federal, private and state lands which are often not the domain of the harvester. In many cases, harvesters are either landless poor or own or have use of small plots of property. Since a large portion of NTFP gatherers worldwide do not have secure land tenure, or guaranteed access rights – a fundamental prerequisite for the FSC certification scheme – most NTFP gatherers are all but excluded from consideration for certification. In addition, the process of identifying ownership and access often favors the elite and excludes independent gatherers. After land and resources are demarcated for the purposes of certification, the collecting activities of some gatherers may be curtailed or designated illegal, thereby resulting in the loss of access to subsistence and trade goods (Pierce *et al.* 2003). In Bolivia, in spite of long-term efforts to develop NTFP certification standards, issues regarding land tenure inhibit successful certification evaluations (Box 17). Certification’s focus on the land base rather than the harvester may be problematic for many NTFPs. In such instances, more appropriate mechanisms to foster better NTFP stewardship, in addition to land-based certification, may include NTFP harvester training or certification of NTFP harvesters.

Harvesters of forest resources are often poorly organized and powerless, peripheral to economic and political power circles. Some communities have great difficulties in preparing their NTFPs for sale at even simple local or regional markets (Shanley 1999). For

Box 17 – Land Tenure Struggles One of the Barriers to Brazil Nut Certification in Bolivia

By Pablo Pacheco and P. Cronkleton, Center for International Forestry Research

A major obstacle inhibiting certification initiatives for Brazil nuts in Bolivia's northern Amazon has been protracted conflicts and competing claims to forest land due to ill-defined and insecure property rights. Traditionally, since the end of the 19th century, *barraqueros* had *de facto* rights over the forests, however, over time their claims have been increasingly contested — mainly since the late 1980s and early 1990s — by the emergence of independent extractive communities, agricultural settlements, the growing strength of indigenous movements from five distinct ethnic groups, and the introduction of timber concessions by the government. These conflicts were exacerbated in the mid-1990s when policy changes addressing forestry legislation and agrarian reform failed to seriously consider the legal status of *barraqueros*, leaving unresolved questions related to access to northern forests. In response to the uncertainty over land tenure each interest group laid claim to as much land as possible; indigenous groups claimed 800,000 ha, timber concessions covered more than 1.5 million ha, while *barraqueros* and communities each demanded 3.5 million ha. These claims frequently overlapped, particularly in accessible, resource rich areas.

In this struggle for property rights, grassroots pressure eventually began to shift the balance in favor of indigenous people and extractive communities. The indigenous claims have been attended, and in 2007 titles were issued for 843,968 hectares in favor of 787 families of indigenous people — *Chacobo*, *Pacahuara*, *Cavineño* and *Tacana*. In 2000, the government agreed to a standard of 500 hectares per family for the allocation of communal lands for extractive communities. Allocation of land rights involved a lengthy and complex technical process of title regularization implemented by the National Institute of Agrarian Reform (INRA). Once communities are registered, INRA technicians

carry out field visits to mark the limits of the polygon that defines the settlement's communal lands. Currently, in the department of Pando alone, there are 132 communities occupying approximately 1,865,000 ha undergoing this process (pers. comm. Gira, INRA Pando). Unfortunately, a frequent problem is that the demarcated areas do not fully correspond with the forests traditionally used by the community, thus generating new conflicts with neighbors and prolonging insecurity. Eventually, once community demands are accommodated, remaining areas will be allocated to *barraqueros*, likely as non-timber forest concessions, in an area that will possibly cover 1.5 million hectares.

In 2006, technical norms for Brazil nut management were issued by the Bolivian government, spurring a number of NGO initiatives to assist extractive communities to develop management plans for their traditional Brazil nut production systems. To date much of the work has focused on mapping and census activities and no Brazil nut management plans have been presented to Bolivia's Forest Superintendence. Greater coordination between these initiatives and the Bolivian Council for Voluntary Forest Certification would greatly enhance the possibility of Brazil nut certification becoming a useful and sought after mechanism in the region for improved forest management.

such actors, certification requires a marketing sophistication and an institutional and administrative infrastructure that is generally far beyond their reach. Management plans, monitoring, unfamiliarity with national laws, uncertain knowledge of market opportunities and other factors combine to make certification a difficult enterprise for the small producer (Markopoulos and Thornber 2000). Even well-organized harvesters may be reluctant to comply with the additional regulations and oversight required by certification. This is not only because the regulations are anathema in and of themselves, but also because such added oversight involves extra costs and monitoring that may lower or negate their profits or compete with subsistence activities (Pierce *et al.* 2003).

NTFP harvesters are often seasonal workers. Harvester living conditions, levels of education and working conditions are often sub standard as defined by labor and education laws. From a rural perspective, rural education and child labor involves the passing on of complex management practices and sophisticated discoveries, many of which are central to their livelihoods and sustainable management. However, according to modern standards, NTFP gathering systems involve child labor, lack of health care, debt peonage, and difficult or dangerous working conditions, posing potentially insurmountable impediments for certification. Formalizing NTFP harvests may also change the terms and conditions of labor among gatherers and limit or eliminate access to products and the ability of laborers to maintain independence and control the terms of labor (Emery 2002).

In many regions, NTFPs are imbued with cultural and spiritual significance and are linked to a sense of personal, communal or cultural identity. Certification requires that forest operations respect sites of cultural or religious significance such as sacred groves. This provision may need to be extended to certain species used for spiritual purposes. However, the cultural context of NTFP-dependent people is so complex that certification itself will not be adequate to ensure preservation of local traditions, customs and cultures.

Under particular circumstances, certification may provide a platform to raise awareness and spur social change. Nelson *et al.* (2002) found that ethical trade certification improved pricing as well as weighing and grading transparency among cocoa farmers in Ecuador and had a spill-over impact among adjoining communities and competing companies. In Mexico, smallholders report that certification has helped their centuries-old forest management practices to be recognized (Molnar *et al.* 2003). In Brazil, an attempt by smallholders to certify their palm heart production catalyzed interaction among collectors and exchange of useful details regarding forest management practices. Innovative health care arrangements between company employees and the Brazilian company Klabin have been implemented, whereby medicinal plant preparations grown and processed on the company's premises are used for the health care of employees (Klabin 2002; May 2002; see Box 14). In Bolivia, national certification standards demand attention to areas like conflict resolution and community

organization, and in Brazil concessionaires have improved worker conditions and compensated local communities (Contreras and Vargas 2002). Certification may be one of the few tools in certain regions that permit harvesters a voice in issues relating to land, labor and resources. As part of the certification process, difficult issues such as worker rights, land tenure and employee health care must be discussed and addressed. In some cases, certification can foster new relationships among timber companies, industries producing NTFPs and communities.

Market and Economic Opportunities and Challenges

Certification is designed to create incentives for improving forest management systems and allowing producers to access markets and gain premiums for their well-managed products. Through eco-labeling, retailers and consumers can feel sure that products they buy and sell meet standards for ecological sustainability and social responsibility. Increasing numbers of companies are seeking certified sources of raw materials as part of wider efforts to position themselves as socially and environmentally responsible, to secure reliable sources of well-managed raw materials or to enter new markets (Shanley *et al.* 2002; Freitas 2003a).

As a market-based tool for social and environmental change, certification is dependent upon companies and consumers sharing the common values and goals articulated in certification standards and guidelines. In some cases, this means companies and consumers will need to pay more. In other cases, it means that companies and consumers will need to make additional efforts to seek out certified products. European consumers and companies have proved most committed to creating change through the consumption of eco-labeled products, but consumers around the world are increasingly receptive to certified products. Certified products have limited consumer bases in countries with widespread poverty where immediate livelihood concerns are a priority. However in some countries (e.g., Mexico and Brazil), a growing urban middle class, and greater awareness about environmental services, habitat conservation and deforestation, open up new possibilities for domestic markets for certified forest products. While certification of NTFPs may work best for those products with significant markets in countries with consumers willing to pay a premium to support social equity and environmental sustainability (Shanley *et al.* 2002), encouraging social and ecological labeling within producer countries should not be ruled out. However, it is

important to note that initiatives to promote the purchase of certified goods, whether nationally or internationally, have little or no impact on the majority of users and harvesters of NTFPs who use them on a subsistence scale or who market them locally.

Opportunities

- *Enter emerging markets* – Globalization is creating niche markets that provide potential avenues for certification.
- *Increase the competitiveness of smallholders* – Opportunities are created for smallholders to meet new consumer demands for “green” and sustainably sourced products and receive higher prices for well-managed raw materials.
- *Corporate responsibility* – Third-party certification can separate responsible companies from companies that engage in marketing hype, alleviate consumer confusion and reward sound management and marketing.
- *Greater recognition nationally and internationally* – Certification has helped to bring attention to and affirm the sound and sophisticated forestry practices of community based forestry enterprises.
- *Donor interest or support* – Donors have shown strong support for certification as a market-based tool to achieve conservation and development objectives.
- *NTFPs feed niche markets with consistent demand for ‘new’ products* – While the potential to develop new timber markets is limited, and efforts to market ‘lesser known’ timber species have met with resistance, interest in new foods, medicines, and other NTFPs is significant and growing in some regions.

Challenges

- *Narrow and unpredictable markets for NTFPs (boom and bust)* – Markets for many NTFPs are shallow and inconsistent, with demand changing rapidly, exposing producers to significant risk.
- *Meeting commercial specifications can be difficult* – NTFP producers often have problems meeting marketplace specifications (e.g., for quality control) and volumes. As Jason Clay (1992, p. 306) said of Cultural Survival’s work with Brazil nuts in Brazil:

“We spoke with a large candy company about the possibility of using rain forest nuts in a candy bar. They use 70 metric tons of nuts per eight-hour shift, a *year’s* production of the Xapuri nut-shelling plant.”

- *Little consumer demand* – Certification of NTFPs is a low priority for most consumers. Raising awareness about the implications of purchasing the wide range of NTFPs – e.g., medicines, resins, fungi, bird’s nests and nuts – requires a great deal of marketing and awareness-raising in consumers.
- *Uneven quality of products* – The quality of NTFPs is highly variable, leading to obstacles in processing and marketing.
- *Inappropriate tool for this category of products* – Only in exceptional cases do NTFPs find their way into international markets that may be receptive to eco-labeling like the luxury food, medicinal herb and floral trades.

The majority of wild harvested goods are consumed by low-income rural families who are reliant on seasonally available wild resources. Invisibility is often an essential characteristic of this informal economy. When reappraised as valuable or “certifiable,” formerly undervalued products, once safely the realm of the poor, are likely to be appropriated by powerful interests such as larger industries and governmental agencies (Dove 1993). As a market-based mechanism, certification can threaten the livelihood strategies of rural people by creating new market demands, making visible harvesters who formerly operated under the radar screen, fueling potential overexploitation of the resource base and imposing permitting systems where none existed before (Emery 2002; Pierce *et al.* 2003).

In addition to newly created regulations that impede access to forest products, certification has built-in costs that few gatherers and small community groups can afford. Even multinational companies weigh the costs and benefits of certification carefully before committing to such programs and often balk at the financial and human resources demands required by certification. Small producers rarely have the funds to cover the direct (e.g., assessment fees) and indirect (e.g., additional investments in management and marketing) costs of certification and annual re-evaluations (Robinson 2000). Donors that provide external financial support for communities to meet

certification requirements may create a situation of dependence that proves to be untenable in the long term (Pierce *et al.* 2003).

While trade in particular forest products is skyrocketing (botanicals, rattan, crafts and specialty foods) (see Box 18), optimistic expectations of higher income, new niche markets and international trade simply have not materialized for many forest products as a result of certification. Certified products frequently occupy niche markets that target well-off consumers who demand a superior and uniform level of quality in their products. Such rigorous quality demands are difficult for NTFP harvesters to achieve (Mallet 2001). Market premiums may be low or nonexistent, thus giving limited incentive to harvesters to invest in certification. In part, this may be due to the incipient nature of NTFP certification. Perhaps over time more benefits will be captured. Producer wariness of certification may also be linked to the difficulty of tracing the direct financial benefits of labeling. The NGO PhytoTrade in Namibia has successfully become an intermediary commercializing large quantities of devil's claw to European nations. Because the manufactured end product – an herbal



Figure 11. Bolivia and Brazil are pioneers in the certification of NTFPs, especially Brazil nuts. (Photo by Imafloira)

Box 18 – Brazil Nut: Economic Incentives and Obstacles to Developing Certification Guidelines

By Pablo Pacheco and P. Cronkleton, Center for International Forestry Research

Brazil nut certification appears to hold much potential for supporting and stabilizing an important NTFP sector in Bolivia's Amazon. Bolivia has one of the largest areas of certified natural tropical forest for timber production in the world, about 2 million hectares. In northern Bolivia, forests rich in Brazil nuts cover an area of approximately 9 million hectares. Since early 2000, Brazil nut export values have exceeded those of timber products. In 2005, shelled and unshelled Brazil nuts were Bolivia's most important forest export, with a value of almost US\$74 million, practically 45 percent of all forest related exports, while unprocessed or semi-processed wood accounted for only just over 19 percent of the total and manufactured wood products accounted for 31 percent of the total (Camara Forestal 2006). Historically Brazil nut collection, processing and export constitute the main economic activity in Bolivia's northern Amazon and generate approximately 22,000 direct and indirect jobs (Bojanic 2001). This regional economy supports a range of stakeholders from capital intensive enterprises operating processing plants, to traditional forest estate owners (*barraqueros*) who, as a group, claim huge expanses of forest, to small producers in independent extractive communities and migrant collectors of modest means. Nevertheless, as in most cases of extractive economies, the distribution of benefits is skewed, with a large share of the profits captured by those at the top, owners of processing plants and *barraqueros*.

remedy – contains a mixture of ingredients and small quantities of devil's claw, they remain unsure if and how organic labeling of their own ingredient helps.

Many small-scale producers and communities have limited information on new markets into which their certified products will

feed and need support to acquire this information. As one Brazilian certifier observed, “community forest management projects often try selling whatever they produce and not the other way around – what the market demands.” NTFP certification, along with other export-driven trade, often benefits primarily larger producers and capitalized community operations through access to new markets and better prices (de Freitas 2003a). For both small farmers and large industries, disappointment can result when certification fails to create price premiums and market access. In Mexico, certification of chicle failed to end a multi-year slump in sales or to open new markets. In Southern Africa, industry demand for high-quality certified sustainable — but more expensive — material has not been significant (Lombard *et al.* 2003; see Box 9).

In addition, labels are not always known by consumers – some producers report that ignorance of the message behind a label – e.g., the case of FSC certified maple syrup (see Box 1) – acts as an obstacle to achieving market access or premiums for their products. The growth in such “green” markets for NTFPs has been accompanied by a mushrooming of claims of environmental responsibility by numerous companies. Because sustainable extraction of NTFPs represents a complicated concept, any attempt to promote NTFP certification will require a wide-spread consumer education campaign highlighting the source and practices associated with the collection and processing of forest goods. A result of this campaign could be greater consumer awareness of the environmental and social conditions in which products are harvested and the need for sustainable and fair-trade models of forest product extraction. Such efforts could help to distinguish reputable companies from companies that engage in unsubstantiated marketing hype, ensure accountability, alleviate consumer confusion and reward sound management.

Rather than pursuing certification, other communities have opted to develop local and regional markets for their products, a less arduous and risky path. The NTFP Exchange Programme for South and Southeast Asia offers an example of a group that is attaining national and regional sales with the help of specific technical guidance regarding the marketing of its product (see Box 19).

Box 19 – Local Labeling for ‘Green’ Jam and Wild Honey Boosts Sales

By J. de Beer, Southeast Asian NTFP-Exchange Programme

The NTFP-Exchange Programme for South and Southeast Asia (NTFP-EP) is a regional network formed in 1997 to strengthen the capacity of local groups (primarily indigenous and other forest dependent peoples) in Asia and to implement activities directed at sustainable forest use and NTFPs (www.ntfp.org). The NTFP-EP distinguishes itself from most other networks by striving to concretely address the practical needs of community groups. The organization facilitates information exchange focused on the interrelated themes of resource management, land tenure, product development and marketing, and assists in building linkages with partners in Cambodia, India, Indonesia, Malaysia, the Philippines and Vietnam. One NTFP partner, the Kalahan Educational Foundation, worked with villagers in the Philippines to produce jams and jellies sourced from forest fruit trees. The villagers’ fruit jams are now widely sold in Manila supermarkets. Pastor Rice, who helped to found the Kalahan Educational Foundation initiative states, “We are far from Manila, we cannot do marketing, but we can produce a good end product.” Background forest inventories, product development and adding value in the community ensure the quality and quantity needed to reach national markets. A link with the Upland Marketing Foundation helped to explore market links and to develop an own label, indicating the fruit is sustainably sourced and processed by a forest-based community. The good taste of the unusual fruit and its local label have been sufficient to secure high-end marketing.

Another initiative, in which NTFP-EP is involved, is The Indonesian Forest Honey Network (JMHI). The network comprises groups of honey collectors and NGOs in eight areas on the islands of Kalimantan, Sulawesi, Sumatra and Sumbawa. A trade outlet in

Jakarta, Dian Niaga, coordinates marketing efforts, while certifier BioCert is in the process of preparing organic certification for the network.

Meanwhile, JHMI aims to collectively promote sustainable harvesting, conservation of the forests upon which the bees depend, better quality standards — to be achieved through improved post-harvest handling of the product — and successful marketing.

The partners in the honey network have benefited greatly from tapping experiences elsewhere in the region. So far, lessons have been learned from Vietnam in relation to sustainable harvesting (BRDC), from India on processing and quality control (Keystone) and marketing in the Philippines (UMFI).

Legal and Institutional Opportunities and Challenges

The legal and institutional framework regulating NTFP use, management and trade in most countries is a complex and confusing mix of measures, overseen by a wide range of (sometimes competing) institutions (e.g., Tomich 1996; Antypas *et al.* 2002; Wynberg and Laird 2007). This framework includes measures directly targeted at conservation of the resource, improved rural livelihoods or broader economic growth in a region tied to the traded species (Deweese and Scheer 1996). These measures operate in conjunction with others that, indirectly, can have equal or greater impacts on NTFP use, management and trade, including taxation, land and resource rights and regulations relating to quality control (Ndoye and Awono 2007; Laird *et al.* in press). At the same time, in many parts of the world, customary laws regulate the management and use of NTFPs with varying degrees of effectiveness, depending upon social, economic and political pressures and change (Wynberg and Laird 2007).

In many countries, the hodgepodge of laws that make up NTFP regulation creates confusion, can negatively impact producers and harvesters and makes investments in long-term management of species unattractive (McLain and Jones 2001; Ndoye and Awono 2007), as is the case with rattan in Indonesia (see Box 20). Certification, as a market-based tool dependent upon formalizing what can be chaotic legal arrangements, has the potential to further alienate local producers and undermine local control over resources important for local communities (Arnold and Ruiz-Perez 2002; see Box 7). It is critical, therefore, that the potential for certification to promote sustainable management and equitable sharing of market benefits be assessed in light of legal and institutional realities. Unintended consequences are far too often the result of interventions seeking to formalize relations in the NTFP trade (Arnold and Ruiz-Perez 2002; Laird *et al.* in press).

Box 20 – Rattan

Theoretically, rattan has been identified as one of the few excellent NTFP candidates for certification (Sunderland and Dranesfield 2002). Baseline information is available and in certain sites there is adequate land and resource tenure as well as long-term local knowledge of sustainable management regimes. Indonesia is the largest supplier of rattan in the world, producing close to 80 percent of world supply. While in the past, most rattan entering world trade has been harvested from wild growing resources, growing numbers of forest communities in East and Central Kalimantan manage complex cultivation systems including rattan, which account for an estimated 50 percent of national commercial production. Between 1988 and 1998, the Indonesia rattan trade was dominated by a cartel system that weakened the position of farmers causing farm gate prices to drop dramatically, damaging their intricate trade networks. Beginning in 1998, the export ban was withdrawn and prices slowly began to improve and farmers became motivated to invest in harvesting and marketing rattan. In May 2004, the export ban was reinstated, thwarting harvester initiative and weakening their position and trade opportunities.

Most critical is the issue of resource and land rights, since a large portion of wild NTFP harvests do not take place on land owned by harvesters and certification can end up excluding local communities. Trends to legally require detailed management plans for the harvest of species should also be tempered by the realities of what communities can produce, or technical assistance for local groups should be built into the regulatory framework (Purata *et al.* 2004; see Box 24). In Brazil, it is commonly believed that it is easier to get legal permits for deforestation than to get approval for a forest management plan (Freitas 2003). On the other hand, certification has served a positive role in these very areas by bringing to light inequities in resource and land rights, the inappropriateness of some bureaucratic requirements for sustainable management and by catalyzing national and local dialogues on trade and equity issues and amendments in policy related to NTFPs (see Boxes 21 and 22).

Box 21 – Community Monitoring of NTFPs

By Mary Stockdale, PhD: University of British Columbia Okanagan, Kelowna, BC, Canada, Adjunct Professor

In May 2006, a workshop was held in the Philippines by a regional network called the NTFP-Exchange Programme for South and Southeast Asia (NTFP-EP), together with a national NGO, the NTFP Task Force (NTFP-TF), a number of smaller local NGOs and forest-based communities, and a forestry consultant/researcher. NTFP harvesters from across the country worked with the other participants to explore the possibility of replacing the government's requirement that communities conduct NTFP resource inventories with a simpler, less expensive requirement — that of Participatory Monitoring and Evaluation (PAME) of NTFP sustainability.

There is a precedent for this proposal: PAME of Biodiversity (PAMEB) has been used to manage various Protected Areas around the world. In the Philippines, a law has been passed enabling this form of monitoring to replace the use of scientific monitoring of biodiversity. NTFP-EP and partners proposed to do the same for NTFPs (instead of for Biodiversity), and for use in community-managed forest areas (instead of in Protected Areas), whereby PAME of NTFP sustainability would replace NTFP resource inventory as a tool of management.

The workshop included an exercise that assessed the potential for PAME of NTFP sustainability for the management of the top three NTFPs in the Philippines: almaciga resin (from *Agathis philippinensis*), rattan stems (mainly from *Calamus* and *Daemonorops* spp.), and honey from the wild honey bee *Apis dorsata*. Participants were asked to develop PAME criteria and indicators, and propose methods for measuring them that emphasized simplicity, low cost, and the ability to fit in with the regular routines of community members.

The result was three sets of criteria, indicators and methods for the three NTFPs. A variety of indicators for the three main criteria

of resource vigor, regeneration and NTFP productivity were developed for each NTFP, as well as a variety of measurement methods, including harvest records, transect walks and focus group discussion. One interesting outcome was the holistic approach taken by the participants; for example, their indicators of NTFP sustainability for wild honey also included the monitoring of water sources, of trees that are known to be important flower sources, and of trees that provide the right environmental conditions for placement of hives (NTFP-EP/NTFP-TF 2006).

NTFP-TF and partners are now proposing a larger project to develop, test and assess a PAME of NTFP sustainability for a larger group of NTFP resources. If successful, they hope to have this tool made a legal requirement, in place of the more onerous resource inventory requirement, for communities seeking permits to harvest these NTFPs.

Opportunities

- *Certification can strengthen community claims to land and resource rights* – The process of industries applying for certification can offer a platform for neighboring communities to raise sensitive land tenure and resource issues that otherwise have few outlets to be addressed.
- *Certification can provide background and conceptual frameworks for better policy and can catalyze national dialogues.*
- *Growing interest in better NTFP regulation* – In some areas, new measures have already positively impacted producers' livelihoods and species management (e.g., the 1999 Chico Mendes Law in Acre, Brazil; see Box 22).

Challenges

- *Uncertain tenure and access to forest resources* – Certification focuses on land units, not products or harvesters, and is restricted to landowners with formal land rights. This excludes those with no legal resource or land rights, which characterizes many NTFP harvesters. The process of identifying ownership and access can

favor elites and exclude independent gatherers (see Box 17).

- *Negative impact on subsistence needs* – After land and resources are demarcated for the purposes of certification, the collecting activities of some gatherers may be curtailed or designated illegal, thereby resulting in the loss of access to locally important subsistence and trade goods (Pierce *et al.* 2003; see Box 7).
- *Regulatory burdens* – Laws regulating access, use and marketing of NTFPs can already over-burden harvesters. Certification has the potential to exacerbate this problem. The need to regulate trade in forest products must be balanced with the need to make laws realistic and accessible to smaller producers.
- *Adapting to scale* – Standards need to be adapted to fit different scales of land ownership as well as a range of NTFP species. Studies conducted in the United States and Canada indicate that the complexity of products, harvesting rights and forest types requires not one set of standards but a variety of instrument types (Jones *et al.* 2002).
- *Supporting advances in recognizing rights over traditional knowledge* – Certification must address legal and policy advances in recognizing indigenous peoples' and local communities' rights to control the use of their traditional knowledge, images and resources.

When certification takes place in countries that promote sustainable forest management, participation of civil society and secure land tenure for local stakeholders, certification has proven more effective (Richards 2004). This is the case in Brazil where new measures have positively impacted producers' livelihoods and species management (e.g., the 1999 Chico Mendes Law in Acre, Brazil; see Box 22).

Box 22 – Policy in Support of NTFP Harvesters: The 1999 Chico Mendes Law

In Brazil, the 1999 Chico Mendes Law created an environmental and social subsidy for rubber tappers to favor pro-forest, pro-poor development. The initiative was designed as an innovative financial incentive to help the rural population of Acre not only

to tap rubber, but to diversify the base of their extractivist activity using the rubber trails as a natural pathway to a variety of other NTFPs. During a time of decreasing rubber prices, the law has been critiqued on the grounds that it attempts to revive an anachronistic industry. By contrast, the law has also been viewed as a progressive policy to directly pay rubber tappers for environmental services associated with keeping forest cover intact.

This law provides rubber tappers in the state of Acre, Brazil, with an additional payment per kilogram of rubber extracted. The payment is in recognition of the environmental services and related economic benefits of retaining forest cover. To receive the monetary benefit, tappers must belong to a producer association or cooperative. The law was created to stabilize extractivist populations by supporting their principal economic activity. Additional goals of the law include:

- To stem rural-urban migration and retain a rural workforce for current and future sustainable forest development.
- To promote organization and administrative capacity of rubber tappers and facilitate marketing.
- To improve rubber quality through more intensive monitoring and documentation of rubber transactions.
- To facilitate documentation and legal authentication of the rubber tapper service required to receive future federal retirement benefits.

Some evidence shows that the law is achieving its desired objectives. Since 1999, when the law was enacted, state rubber production more than tripled. From 1998 to 2001 the number of tappers has increased from 1,480 to 6,154. In addition, 30 percent of all 87 cooperatives were created since the Chico Mendes Law. The impact of such additional income at the household level can be substantial.

Source: Kainer et al. 2003.

In the Brazilian context, local and national governance structures attempting to curb illegal logging have also helped timber and NTFP certification to flourish (see Box 23). Governments working with certifiers can make use of the consultations that develop guidelines and can draw upon the final text of guidelines to improve the laws and policies regulating NTFPs. For example, the 20 multi-stakeholder meetings held to develop national certification standards in Brazil helped spur a national dialogue on sustainable forest management, the rights of harvesters and the need for social equity (Viana 2003).

Box 23 – Regulatory Framework Amended for NTFPs – Promoting Community Forest Management and Certification in Brazil

External factors and changes in governance throughout Latin America, specifically Brazil, have contributed greatly to the evolution of certification throughout the region. Pro-poor, pro-forest initiatives are helping to lay the legal foundation to allow certification to flourish. The 1992 Earth Summit held in Rio de Janeiro catalyzed pioneers in the private sector to seek environmentally sustainable ways of doing business. Some Brazilian industries interested in certification, such as Klabin Pulp and Paper, Ecolog and Natura, demonstrated prior commitment to sustainability and social equity, having built these values into their mission statements, but certification offered an immediate and practical means to put these values into practice. By 1997, the Brazilian FSC Working Group was created, with 18 organizations representing social, environmental and economic interests. During the last two years, Brazil's FSC Working Group, The Brazilian Council for Forest Management has continued to develop standards for Brazil nuts, non-timber forest products in the Atlantic forest and standards specifically for small producers (Freitas 2003a).

Working toward sustainable forest management required negotiations with the federal government and state agencies to alter legislation to facilitate and make community forest management viable. Certain requirements were relaxed regarding

documentation as proof of land title and rules for preparing management plans were simplified. In addition, certification standards were adapted to make them more appropriate to community forest management. As part of this process, field trials were conducted in different forest types and specific standards developed for community forest management in the Amazon region (Azevedo and Freitas 2003).

Interest in better NTFP regulation around the world has prompted governments, community organizations, NGOs and others to address the poor regulatory framework for NTFPs.

Disputes regarding land tenure have paralyzed some of the sustained efforts to promote certification in Bolivia (see Box 18). Disregard of land disputes has also featured in some certification operations near small-scale landholders bordering forested areas (Johansson *et al.* 2000), but if done properly, certification can offer communities a means to challenge companies and others regarding land and resource rights. For example, in 2002 the Brazilian pulp and paper company Klabin expanded the management area included in its certification assessment to incorporate local communities; this led to resolution of land tenure disputes while also guaranteeing additional volume of certified material.

Getting the NTFP regulatory framework 'right' is a complex and difficult task, often resulting in unintended consequences. Drawing government attention to NTFP trade can create fewer benefits and less control for local producers and harvesters dependent upon NTFPs for their livelihoods (Arnold and Ruiz-Perez 2002; Wynberg and Laird 2007; Laird *et al.* in press; Purata case study). On the other hand, better and more visible organization of rubber tappers in Acre, Brazil, under a new law has improved earnings and production (Kainer *et al.* 2003; see Boxes 23 and 24).

Box 24 – Legal and Institutional Obstacles to Certification for Mexican Woodcarvers

By Silvia Purata, People and Plants International

The central valley region of the state of Oaxaca in southern Mexico is the source of carved wooden figures known as *alebrijes*, which are distinguished by their bright colors and intricate patterns. The wood used to carve these figures comes from various species in the genus *Bursera*, locally known as copal or copalillo. Growing demand during the last three decades led to increased wood harvesting and resource depletion at ever-increasing distances from the principal artisan villages. As support to a community wood carving initiative, a group of researchers worked in the nearby community of Jayacatlán, to determine sustainable off-take of *Bursera* species, basing preliminary recommendations on studies of population structure, growth, and harvest trials with various frequency and intensity of off-take. Post-harvest studies are assessing the effect of extraction on the growth and regeneration of remaining trees. While the group was able to generate the necessary ecological data through field trials, legal issues presented another obstacle. By Mexican law, any small producer extracting and selling timber or non-timber forest products must have a formal management plan produced and approved by an accredited forester. Bureaucratic and costly delays in the process of approving the management plan took more than one year.

However, the community of Jayacatlán now has permission to harvest. The harvesting of this wood is also covered by an FSC forest management certificate, which the community first obtained for their pine-oak forest management. With the collaboration of an artisans association from Arrazola – a traditional *alebrije* producing village, the Eco-alebrije brand was launched at the end of 2005. Eco-alebrijes are only carved from ‘good wood’ (i.e., from managed forests) produced in Jayacatlán. The efforts of the researchers, forest community and the artisans are beginning to bear fruit; some new market niches for the Eco-alebrije woodcarvings

have emerged, however many market-related challenges remain. One important one is that recent social unrest in the region has led to a severe reduction in the number of tourists, who represent the main market for the woodcarvings. Even if numbers recover soon, the problem remains that most tourists are unaware and uninformed of the ecological linkages when they purchase their colorful souvenirs from Oaxaca.

Source: Purata et al. 2004.



Figure 12. Collectors and sellers of NTFPs face substantial, and often unnecessary, legal obstacles. Regulation must be carefully constructed and result from the input of a wide range of stakeholders. (Photo by Jamison Ervin)

Broader Applications for Standards and Certification

As we have seen, NTFP certification offers many opportunities as well as challenges. For a narrow suite of internationally traded, high-value species, it can offer producers, companies and consumers a tool to sell and purchase products that are sustainable and equitable. The process of developing NTFP certification can also produce a range of spin-off benefits for the environment and rural people. Development of standards requires a consultation process that in many regions has produced dialogue among government, NGOs, researchers and community groups about the nature of equity in trade and what constitutes sustainable and socially responsible business practices and management of resources. Contentious issues like land and resource rights have featured in these discussions, as has the nature of benefits accruing to different actors along the chain of custody. Attention has been paid to the complexities of ecologically sound management and the need for social structures that support, rather than undermine, communities involved in trade. The involvement of civil society in the process of developing forest management standards in countries like Brazil, for example, is reported to have empowered marginalized groups and has the potential to impact forestry far beyond certified operations (Freitas 2003b).

The process of developing guidelines and standards for certification can also have a much broader range of applications which are complementary to certification and in many cases more appropriate and effective. These include (Laird and Pierce 2002):

- Wild-harvester guidelines and education programs that work through herbalist, harvester and other groups. Examples include the United Plant Savers and Rocky Mountain Herbalist Coalition guidelines in the United States. Similarly, Phytotrade Africa has developed producer guidelines for a wide network of producers across Southern Africa.

- Corporate policies that define what constitutes sustainable management and details ways that harvesters should benefit from the trade.
- Industry association policies that provide general guidance to members about sustainability and equity in trade and commit industry to core principles.
- Best practice documents for international organizations. For example, the World Health Organization recently developed a Good Agricultural and Collection Practices (GACP) guideline for member organizations that will complement work on Good Manufacturing Practices (GMP) and harvester guidelines worldwide.
- National and international laws regulating NTFP harvest, use and trade. These measures are often catalyzed by national dialogues of the kind certification provokes. In addition to environmental treaties like the CBD and CITES, which rely on this type of contribution, national and multinational bodies regulating medicinal plants have increasingly shown interest in incorporating sustainability into standards for quality control, good agricultural practice and other areas. For example, the European Union has expressed interest in endorsing wild crafting guidelines that would become the basis of legislation.

Setting standards for the management, use and trade of NTFPs has catalyzed dialogue, raised awareness and established a floor for acceptable practice associated with species in trade. Certification and each of the above approaches address distinct activities and actors and create change in unique and complementary ways. National and international laws set broad standards for acceptable practice, while corporate and industry association policies target company purchasing practices, and wild-harvester guidelines provide technical assistance on sustainable harvesting techniques for individual species. Certification is an important part of this whole, offering alternatives to producers, companies and consumers for a group of species in international trade. In addition, by spurring dialogue and drawing attention to the ecological, social, legal and other issues integral to the sustainable and equitable trade in NTFPs, certification contributes in lasting ways to the evolution of responsible practices for the harvest of wild plants.

Collaboration and Harmonization: The Way Forward?

Increased collaboration between certification schemes and harmonization of standards or of accreditation systems in order to lower costs for producers and comprehensively address issues of environmental sustainability and equity has been a topic of discussion for many years, specifically referring to the case of NTFPs (e.g., Mallet 1999; Brown *et al.* 2002; and more recently in the context of ‘fair trade timber,’ Macqueen 2007). It is interesting to note that comparative analyses of standards with a view to facilitating collaboration around NTFP certification (Mallet 1999) were carried out when FSC was less than 5 years old, coming much earlier than similar comparative analyses for the timber certification (Vallejo and Hauselmann 2006; Macqueen 2007). This is because NTFPs represent a point of intersection between the various schemes. For example, many products commonly categorized as NTFPs may also be found in cultivated landscapes and therefore be potentially eligible to use forest management standards and/or organic agricultural standards and/or good agricultural practice codes by certain food industries. Because many traditional NTFP producers fall into a category of marginal producers or organized smallholders, there is also an intersection with fair trade standards.

When people speak of better collaboration between certification schemes regarding the certification of NTFPs, they are generally proposing one of two options:

1. Joint assessments. A single assessor or team evaluates against two or more standards (e.g., FSC, organic or fair trade). The expected gains from such collaborations are a reduction in evaluation time and costs, particularly the cost of the evaluation audit.
2. Harmonization of standards, or even entire schemes, to create a single standard that incorporates important elements from the distinct schemes. The expected benefits here are again time and cost

reductions, but also a reduction of bureaucracy and paperwork required of the applicant operation. Proponents of this solution envision a general streamlining of standards, which would result in the elimination of duplicative requirements.

To date there have been more experiences with the first option than with the second. This is likely to be the case in part because collaboration in field assessments is something that can occur without the need for involving the accreditation and standards setting organizations; that is, it can be done as a collaboration between two or more certification bodies. Even so, these joint assessments have been few, and not always well documented. An early example is the case of chicle in Mexico, which was triple-certified (organic, fair trade and FSC) in the late 1990s (Shanley *et al.* 2002). There were also some interesting collaborative efforts in 1999 around the certification of shade-grown coffee, also in Mexico, including a joint evaluation between a national organic certifier (CERTIMEX), FLO and an FSC accredited certifier, SmartWood, which used the opportunity to try out an appendix to its standard on NTFP certification.

A desire to offer lower evaluation costs to community operations and NTFP producers prompted a FSC-certifier in Brazil, IMAFLORA, to apply to become an accredited certifier of the organic label IFOAM. In spite of differences between the FSC and IFOAM programs, they have promoted joint assessments to reduce the costs derived from two separate audits and work toward merged guidelines. To date they have only carried out one combined certification evaluation. The joint evaluation was for an indigenous Kayapo Indian community landholding in northern Brazil (see Box 25). The community was jointly certified for Brazil nut production, using FSC forest management standards and IFOAM/Biodynamic standards for the organic certification of extraction products.

Soil Association's forest certification program, Woodmark, has also begun offering joint organic certification with FSC certification. Soil Association (best known as an organic agricultural certifier) has approved a woodland organic standard, which means that Woodmark now offers joint evaluations (forest management and organic) specifically for NTFP harvesting. A Danish operation was used as a

Box 25 – A Joint NTFP FSC-Organic Certificate

By Patricia Cota Gomes, Imaflora

A new landmark in community certification was achieved in Brazil, with the joint certification — FSC and IFOAM organic — of Brazil nut extraction and processing in an indigenous territory of 1.5 million hectares. The evaluation of the Kayapó Baú Indigenous Territory (TI Baú) in Pará state took place in March 2006, with a multidisciplinary team of four people including a Kayapó-speaking anthropologist. In order to reduce costs, the evaluation was carried out as a joint initiative between the Instituto de Manejo e Certificacio Florestal (Imaflora) and the Instituto Biodinâmico Certification Association (IBD) — a Brazilian organic certifier with IFOAM accreditation. The joint evaluation resulted in the issuing of two certificates, but just one report. The report was produced by Imaflora and is considered by IBD to contain sufficient information to certify the production as organic. Since this was a case of NTFP collection by family groups over a vast area, the operation was classified as ‘low intensity’ and the FSC’s streamlined audit procedures (from the SLIMF initiative) were used. Both certifiers treated the TI Baú operation as a group certification.

One novel element was the way that the traditional Kayapó model of organization, management and division of work, via family units, worked with the group certification requirements. Rules, controls, responsibilities and sanctions in case of non-fulfillment of the rules were designed by the individual family groups themselves. Another novel element was the way that the evaluation was able to take into account the traditional management and monitoring practices used by the Kayapó, in large part due to the simplified procedures and the low collecting intensity and the historical tradition of Brazil nut collection.

The dual certification also resulted in the generation of three interesting products: 1) a ‘traditional management plan’ which includes the recovery of the myth of the creation of the Brazil nut

tree; 2) a proposal for benefit sharing; and 3) maps identifying areas where significant resources are found (e.g., hunting, fishing, fruit, seeds, oils, vines, straw and endemic species). These maps also identify the distribution of areas of cultural and religious importance for the indigenous community, such as the location of cemeteries or the first site of contact with ‘white people’.

The Kayapó Brazil nut operation is designed to offer an economic return on a traditional Kayapó activity; a sustainable production model which also safeguards traditional knowledge, and represents an alternative to illegal timber extraction and mining which were previously the only source of revenue for the community. Its success will depend in part on the demand for certified Brazil nut oil. Currently in Brazil there is a growing demand for oils and other NTFPs for the cosmetics industry, which is driving the certification of community NTFP operations and their production chains in order to seek a guarantee of sustainability in the sourcing of raw materials.

Overall, in spite of the enormous achievement of certification for the Kayapó community of TI Baú, the biggest challenges lie ahead. These challenges include maintaining the certification by complying with the timelines and the rules that the system demands, and taking the necessary actions for improving management, all while respecting the customs and beliefs of their own culture.

pilot case study, achieving both FSC and organic NTFP certification. (Soil Association 2007; and pers. comm. Gus Hellier 2007).

Recognizing the complementarity of systems and high degree of overlap between schemes, several environmental and social certifications schemes came together in 1999 to discuss the feasibility and benefits of working more closely together. They went on to form the International Social and Environmental Accreditation and Labelling Alliance (ISEAL Alliance), an organization that aims to support and strengthen credible voluntary standards-setting and conformity assessment practices, and promote them as effective policy

and market mechanisms for positive environmental and social change (ISEAL Alliance 2007). Members include FSC, IFOAM, FLO, IOAS, SAI and SAN. In practice this organization provides one of the most promising fora for dialogue around the sort of formal cooperation and harmonization which could benefit NTFP certification. ISEAL is currently undertaking research to map overlaps between member organizations at the certification body and producer level and is documenting overlaps in the content of members standards (ISEAL Alliance 2007a).

Conclusion

“Certification should be seen as an instrument that can promote forest management and not an end in itself. It is a process.”

(Osvaldo C. de Oliveira, Director of the Rubber Tappers Union in the state of Rondonia, Brazil, Seminario Certificação Florestal e Movimentos Sociais na Amazônia 2002)

NTFP certification is a young and developing concept. There exist but a small sample of certified products and incipient initiatives. The few cases surveyed in this compendium reveal that NTFP certification entails a generally lengthy and sometimes painful learning process. Certification — whether for forest management, wild-harvest or organic production — entails a myriad of requirements described in unfamiliar terms and a lengthy, cumbersome format that is conceptually distant from smallholders who make up the majority of NTFP harvesters. Making certification understandable and accessible to smallholders, groups of collectors, and communities, particularly in the tropics and other less-developed regions, is crucial for NTFP certification to become more broadly available. The future of NTFP certification will, in large part, depend upon the future of community and smallholder certification (Molnar *et al.* 2003) as well as the resolution of outstanding issues relating to the balance between timber harvests and non-timber products and access for the different stakeholders that use them. As new mechanisms to increase access to certification for community and smallholder certification evolve, it will be important to gauge and monitor their effectiveness.

A fundamental first step for international certification is to critically evaluate products and forest management operations that may be appropriate for certification. The tool of certification needs particular governance and market conditions to function and cannot be broadly applied to the class of products labeled NTFPs. Analyzing the applicability of international certification schemes to NTFPs

and restricting their implementation to conditions where success is most likely (e.g., for internationally traded products) should prevent frustration on the part of participating collectors, industries, donors and NGOs.

Although currently most international certification schemes are inappropriate tools for the majority of NTFPs and for small producers, the principles embedded in certification – social equity and environmental sustainability – are values that most operations strive for and that many customary management systems have embodied for centuries. Local harvesters have an intimate relationship with the plants that they rely upon for food, medicine and shelter, testing and adapting management traditions to ensure their supply (Titkin 2004). In the case of chicle, maple syrup and rattan, it is long-held knowledge embedded in local management practices that informs the creation of the most workable guidelines for sustainable management.

The effectiveness of certification should not be measured by the number of labels, products or hectares certified but rather by its conceptual influence and the broader initiatives it helps to spawn. Bold redefinition and reassessment of the aims and scope of NTFP certification could make it more useful to a wider range of smallholders by focusing on enabling conditions and broader efforts to legitimize and value NTFPs. For example, NGO and research efforts to support sustainable management should help harvesters to document and monitor management practices for not only the charismatic export species, but also for the broader suite of valuable, locally important NTFPs. Forestry operations and forestry training programs could routinely include top-selling and locally valuable NTFPs as part of their inventory procedures. In addition, to generate meaningful and rigorous national statistics on the value of forest products in trade, studies of forest product markets need to be broadened beyond timber to include a full range of widely harvested and marketed species, especially where these do not necessarily enter a formal or money-economy.

For all NTF products and producers, it is important to recognize that the goal is not the label, but sustainable management and sustainable economic development. For small-scale production in particular, even

without pursuit of a label, the promotion of sustainable practices through certification or local regulations and incentives can indirectly add value to local and indigenous management systems, most of which have been ignored and/or undervalued by researchers.

Small-scale, low-intensity harvesters have called certification not a silver bullet but a 'black box'. In many community-based forest management projects, the incentive for certification has not come from NTFP harvesters, but has been top-down, fully financed by donors and industries and implemented by NGOs as a built-in project objective (Amaral and Neto 2002). This is the case even when it is clear that the fit is inappropriate and the timetable an impossibly accelerated one, based on project milestones and donor demands. Redressing certification to avoid such calamities will demand recognition of its limits. It will also demand exploration of more broad-based instruments and locally generated initiatives which will reduce costs and ensure ownership.

The impediments to NTFP certification are many. They include a lack of knowledge about species biology, ecology and management, complex supply chains, unorganized and powerless producers, poor working conditions, illegal or quasi-legal harvest and an inability to pay for certification. Certification systems are still young and evolving and have yet to address the topic in a flexible, practical manner. Businesses and consumers are only slowly responding to certification messages, and markets for certified products remain narrow. Furthermore, in order to flourish, NTFP certification requires political support, social stability and the existence of strong local institutions. Research to date suggests that species with large, established markets will be the best candidates for NTFP certification but that even for those products, further consumer education efforts are sorely needed.

Efforts over the last five years to realize NTFP certification in practice have yielded a number of important lessons. Perhaps foremost is the importance of realistically assessing the role that certification can play for this category of products, most of which are consumed on a local basis and for which, therefore, international market-based tools of this kind have little relevance. Also important is the need for integration and collaboration among the wide range of standards-setting

agencies and certifiers addressing this class of products (e.g., organic, fair trade, ecological, and quality-control assessors). Harmonization of such international schemes with local and regional regulatory systems, which can often add extra burdens to NTFP harvesters, is a critical need. It is essential that NTFP certification, while promoting consistency and credibility, incorporate the complexities inherent in addressing such a diverse set of products and production contexts. Such a task will entail a difficult balance. Additional critical analysis of research and development directions is required to ensure that market-based incentives for forest conservation, such as certification, do not overshadow other critical rural livelihood issues such as preserving the safety-net functions of forests.



Figure 13. Piquiá, *Caryocar villosum*, a species used in boat construction because of its durability, also produces a highly nutritious fruit. In areas where timber is harvested intensely, domestic consumption of the fruit declines. Policies and practices related to forest use need to consider multiple uses of forests for the benefit of all of society. (Photo by Murilo Serra)

Recommendations

Actions That Research and Education Institutions Can Take

Identify the key species under threat

Key species under high demand by the international market that are becoming vulnerable to exploitation need to be identified for study. Long-term data is needed on post-harvest impact assessments to determine the impact of various extraction practices over time. Species under significant threat (including long-lived species and those of which the bark or root is harvested) should receive priority attention. Some examples of species meriting attention include pau d'arco (*Tabebuia* spp.), devil's claw (*Harpagophytum procumbens*), yohimbe (*Pausinystalia yohimbe*) and marapuama (*Ptychopetalum olacoides*).

Identify and value local management systems

Local knowledge of traditional management practices is extremely valuable. Participatory research with local communities should focus on the field-testing of management practices to determine those that promote long-term viability. It is especially important that local and national government officials take part in this type of research in order for them to recognize the potential value of traditional management practices, and that legislation is supportive of these practices.

Develop and support simple tools for capacity building of producers and traders to organize, plan and manage for sustainable NTFP production

Many attempts to foster sustainable development and rural development through NTFP harvesting have gone awry with regard to the internal conflicts that can arise within producer groups or communities, or have foundered due to problems of transparency, corruption, leadership or financial planning. Tools designed for urban businesses are often inappropriately transferred and fail to

take account of historical and traditional norms and institutions. Participatory research therefore should embrace these challenges and work with local people to produce and disseminate solutions.

Evaluate policies that impact NTFP trade

Critical analysis of policies that enhance or impede sustainable sourcing and trade of forest products can help to make visible the consequences of policies that negatively impact forest product collectors and traders. Research is needed to identify, document and disseminate examples of policies that encourage sustainable sourcing, use and trade of forest goods.

Offer holistic training for forestry and natural resource management that combines livelihood concerns with the ecology, use and management of NTFPs and timber

Traditional forest management focusing solely on timber can undermine livelihoods not only of rural forest-reliant communities but also of increasing numbers of urban consumers worldwide who use and trade in forest goods. To effectively manage forests for use by local, regional and national stakeholders, certification programs will need to train a new cadre of professionals to give greater attention to NTFPs. Training forest managers and certifiers in the basics of NTFP ecology, local use and social and organizational challenges, as well as regular inclusion of NTFPs in forest inventories, are important steps in moving toward more holistic forest management.

Actions That Forest Management Certification Schemes and Certifying Bodies Can Take

Integrate NTFPs into timber assessments

Maintain and strengthen certification of ‘forest management’ as opposed to ‘timber management.’ Implement systems to ensure that certifiers are checking that important NTFP plants and trees, which are critical for subsistence livelihoods and local trade, are incorporated into management. Optimally, certifiers will recommend that NTFPs are factored into harvest planning and felling operations, silvicultural treatments and management plans.

Training for auditors about NTFPs as part of forest management assessments

Improve training of auditors with regard to evaluating compliance with standards which take into account

- a) local and subsistence use of NTFPs when the principal activity is commercial timber harvesting;
- b) NTFP management when the activity is a commercial part of the certified operation.

Provide better information about requirements and the costs of certification

Produce user-friendly information about how (and whether) certification is available for NTFP products, including the requirements for demonstrating responsible management, and for labeling and making product claims.

Promote accessible forms of certification and cost-saving measures to include harvesters without tenure, rural communities, and small holders

If standards are to have a suitable and lasting impact for NTFPs, they must be affordable and flexible enough to be applied to the many collectors, small-scale traders and producers who provide the bulk of the industry's raw materials.

It is particularly important that costs and requirements for using labels or making claims is kept low enough for relatively low-value products to be labeled, and hence become distinguishable in the marketplace.

Increase collaboration with other certification schemes, and between key stakeholders from different sectors

Most sustainability standards-setting groups lack expertise in issues of importance to manufacturers, such as quality assurance, methods validation, sanitation and active constituent analysis. Industry-produced standards reflect little knowledge of, or attention to, sustainable and equitable sourcing. A free-flow exchange of expertise between these groups is essential. Experts from industry groups should be invited to attend sustainability and fair trade standards-drafting committees and vice versa.

Investigate the potential of mutual recognition programs

Few certification initiatives in the NTFP sector offer mutual recognition between programs. It is important to work toward harmonization of standards within accreditation systems as well as cooperation between accreditation groups with overlapping remits to ensure consistency of interpretation and application. Greater efforts at achieving mutual recognition between programs may result in cost savings, clearer public messages and a streamlining of standards and applications.

The openness toward mutual recognition should also include carrying out more trial joint assessments that promote a sharing of lessons learned, compare assessment methodologies and have the potential to reveal synergies for possible formalized joint evaluations.

Actions That Governments Can Take

Remove regulatory obstacles to responsible NTFP management

Sustainable NTFP harvesting is often hindered by a lack of clarity over access rights, tenurial regimes and responsibilities relating to NTFPs. Clarification of these topics by relevant authorities would go a long way toward promoting better management of NTFPs and could also open doors to easier compliance with international certification standards. Market barriers for NTFPs should be deregulated.

Support the establishment of training centers for forest management that have a holistic approach to land management and sustainable development

Government-sponsored training centers need to move away from a traditional timber-growing and harvesting curriculum, and move toward interdisciplinary curricula that recognize the central role of local forest users in responsible management. Direct input into training modules from smallholders and local collectors can help to demonstrate the importance of local ecological knowledge in the use, processing and management of NTFPs. In addition, forest training centers need to include key actors and information from the health, rural development, education, agriculture and legislative sectors.

Promote responsible purchasing policies in their own departments and in the private sector, and adopt mechanisms to ensure equitable access

It is necessary to strengthen actions that increase the market pull for certified products at both the corporate and consumer levels. Governments need to create regulatory and financial incentives and other mechanisms to encourage industries to trade in responsibly produced products. However, it is essential that the mechanisms they implement do not exclude the smaller, more informal production sector. Products being harvested in non-industrial settings such as forest gardens, community forests or very small production units often struggle to prove the legality and sustainability of their harvest using the sort of documentation that international processes or bureaucracy demand.

Actions the Private Sector Can Take

Stimulate the creation of local and regional brands

In many instances a local or regional label that guarantees the responsible or sustainable production of wild forest resources is appropriate. Locally driven efforts to produce sustainable products merit attention and support.

Work to assist communities and small producers and better understand their realities

Companies seeking sources of sustainably harvested products can help build capacity within small producer groups to supply the volume and quality required over time and can help build the necessary infrastructure to undertake the certification of products. They can also be more sensitive to the impacts of fluctuations in their own purchasing contracts on producers and suppliers, and adopt ethical business policies. This is likely to require an openness to learning about the realities of community life and how production fits into local realities. Companies need to demonstrate flexibility with local producers and demonstrate openness rather than a single-minded insistence that the community or small producer is the only one who must change. Companies might also consider working cooperatively

with suppliers to phase-in certified lines of NTFPs as they become available.

Educate consumers regarding standards for products sourced from forests

Donors and NGOs promoting certification have largely focused on the supply side of the issue. However, successful certification depends upon the existence of a demand for differentially labeled products. This in turn requires an informed and concerned citizenry. Industry groups and NGOs need to adequately educate consumers about pressing issues regarding forest products, such as sustainable and equitable sourcing, quality assurance, safety, efficacy and the importance of standards in addressing these issues. The number of labels on forest products, particularly botanical products, is large and growing daily. If consumers are not better informed about standards, standards-setting groups and the distinction between reputable and bogus claims, little will be gained from the current flurry in standards-setting initiatives.

Actions That Conservation and Development NGOs Can Take

Focus on the goal of sustainability

NGOs have sometimes used the achievement of internationally recognized certification as a ‘measurable indicator’ of their own performance; that is, to demonstrate the impacts of their actions to their donors or membership. This has led to a somewhat skewed assessment of the appropriateness of this goal for the communities or operations concerned. Achievement of a certain number of ‘certified hectares’ within a certain time is generally an inappropriate development goal, and NGOs may need to re-educate the donors who are encouraging them to use it as such. Nonetheless the majority of NTFP harvesting activities can benefit from some of the processes that certification promotes. For most harvesters of NTFPs, consideration of sustainable off-take is part of informal everyday management practices built on customary systems. Such systems can benefit from documentation, testing and validation with or without a label as the outcome. Success should be measured not by the fact of achieving

a label, but achieving sustainability and long term socio-economic stability.

Consider supporting local labeling initiatives

Local labeling initiatives can help build local capacity and understanding of the purpose and value of ‘certifying’ products and processes for their quality, for sustainable management or for the livelihoods they support. This has a dual impact of informing local consumers about sustainability issues and educating producers about the possible added value of concepts such as certification. Locally developed labeling schemes are more likely to advance requirements tailored to the reality of local communities. Should a broader, e.g., national or international, demand for the product arise, producers are better prepared for compliance with more rigorous standards. NGOs could support local labeling schemes by bringing transparency to such processes and ensuring the rigor and trust of such labels. Local labels may not have the glamor of the international certification labels, but may be a more appropriate long-term goal for some products.

Reevaluate the scope and aims of certification to discover what aspects of the tool may fit

Certification is made up of a complex array of activities and beliefs. While the heavy administrative burden is undesirable and impossible for the majority of low intensity producers, there may be other aspects of certification that may be useful to a producer or a community’s own goals, such as affirming customary systems, supporting tenure definition or offering new ideas regarding monitoring and management.

Actions That Campaigning NGOs Can Take

Approach certification scheme enhancement with care

Advocacy NGOs based largely in countries with more developed economies have achieved a great deal of public awareness about tropical forest destruction and other global threats such as biodiversity loss and climate change. They have also been successful in shaming certain parts of the forest products trade and industry into taking action to engage in more responsible trade. Their actions have helped promote

consumer support of fair trade, organic and forest management certification schemes. Many are now engaged in campaigns to ensure that these schemes deliver what the NGOs hoped they would, which has often resulted in severe and public criticism of the schemes. NGOs need to be aware that consumer support can be quickly undermined by overly aggressive public criticism of the schemes they worked to promote, and that if there is no viable alternative, a very valuable tool for promoting sustainable management could be destroyed. Criticism should be constructive and should build on the achievements such schemes have already had.

Educate consumers about responsible NTFP production and fair trade

Consumers, importers and retailers need to have a greater awareness of the potential impacts of trade in forest products, both negative (if not from sustainable harvest) and positive (if responsible harvest is carried out by forest dependent groups).

Actions That Donors Can Take

Reduce expectations and consider more broad-based solutions

Certification has been strongly subsidized and promoted by private foundations, multilateral donors and NGOs. As a sophisticated, specialized tool, it is not widely applicable to the majority of NTFPs or forest enterprises. More broad-based solutions are needed to conserve forests and ensure access to wild resources for the world's poor.

Partner with other efforts to promote sustainability

Certification is one tool among many that seek to address resource management issues related to NTFPs. Producer cooperatives, harvester training programs, direct brokerage and marketing efforts toward domestication of key species and other endeavors will complement or be more practicable in many cases than certification.

Support local and national incentives toward creation of guidelines and sustainable forest management

While international schemes may be too ambitious for many groups, potential initiatives for promoting and rewarding sustainable natural

resource management via certification exist at a gradient of scales. These include initiatives such as national legislation for sustainable forest management (SFM), state support for farmers markets or local labels and locally developed wild harvested guidelines. With regard to SFM, in common with the international schemes, national or local initiatives may also exclude the voices of the NTFP producers in favor of dominant timber-management voices. Donors thus have a role to play in promoting equity in such legislation, and ensuring that over-zealous legislation and bureaucracy does not inhibit local efforts to implement sustainable NTFP harvesting.

Many SFM initiatives may be borne out of a flat rejection of international certification schemes. However, grassroots initiatives, custom-fitted to the needs of particular producer groups, can offer important lessons for donors, NGOs and researchers. Rather than being seen as competitors, such initiatives can be viewed as locally grown solutions that may use the international concept as a springboard.

Promote consumer awareness

While consumer awareness of destructive logging has been heightened in recent years, few people are aware of or concerned about negative impacts from the harvest of other forest products. Many consumers assume that NTFPs are inherently “green” products that promote forest conservation. Multilateral agencies, governments, certifiers and NGOs need to raise public awareness about the ecological and social importance of other forest products and highlight the vulnerability of many currently traded species. On the other hand, advocates need to emphasize the positive social and environmental benefits that some NTFP harvesting can bring, and how to recognize products from sustainable NTFP operations and give them purchasing preference over industrialized production. Only with strong consumer demand – of the type generated in Europe through widespread campaigns – are companies likely to become proactive in seeking out sustainable sources.

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The Center for International Forestry Research (CIFOR)

CIFOR is a leading international forestry research organization established in 1993 in response to global concerns about the social, environmental, and economic consequences of forest loss and degradation. CIFOR advances human well-being, environmental conservation, and equity by conducting research to inform policies and practices that affect forests in developing countries. CIFOR is one of 15 centres within the Consultative Group on International Agricultural Research (CGIAR). CIFOR's headquarters are in Bogor, Indonesia. It also has offices in Brazil, Bolivia, Burkina Faso, Cameroon, Ethiopia, Vietnam, Zambia and Zimbabwe, and works in over 30 other countries around the world.

Beyond Timber: Certification and Management of Non-Timber Forest Products is a valuable contribution and a practical guide for communities, researchers, policy makers, and donors interested in assessing the value of investing time and effort in the still elaborate and costly process of gaining independent international recognition of sound management practices directed to harvest of non-timber forest products (NTFPs).

Beyond Timber does not attempt to mask the difficulties of obtaining NTFP certification. The numerous case studies and examples cited by the book (drawing from 11 countries), make it clear that certification is still a major undertaking and challenge, especially for isolated forest communities. This book is especially helpful because it effectively identifies gaps in knowledge, community organizational capacity and legislation that still stand in the way of sound forest management. It also points out the false dilemma of having to choose between timber and non-timber forest management.

Eric Stoner, General Coordinator for Environment, USAID/Brazil

