

NTFP Certification in India: Prospects and Problems

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Abstract

Non-timber forest products (NTFPs) play a vital role in rural subsistence livelihoods. Liberalization of international trade regimes, and the subsequent commercialization of NTFPs may cause severe threats to resource itself through over harvesting, leading to ecological imbalance and livelihood loss. In order to maximize the benefits of NTFP commercialization, sustainable utilization of resources is the first and most important pre-requisite. Certification is a new market tool for responsible resource stewardship through the labeling of consumer products, thereby fostering a trust in the consumer regarding the sustainable harvest and legal origin of the produce.

Main problem in certification of NTFPs lies in the fundamental lack of information on their production, consumption and trade. Monitoring and evaluation systems are still embryonic and insufficient in order to properly collect and analyse key information related to NTFPs. While considering international markets for NTFPs, the provisions of international laws governing trade come into play. WTO is the umbrella organisation which covers a gamut of other international agreements on different goods and services, the relevant ones being the Agreement on Agriculture, the Agreement on the Application of the Sanitary and Phytosanitary Measures and the Agreement on Technical Barriers to Trade. The cost of compliance in certification is also very high and adds to the value of the product, thus making it non-competitive, not only in domestic but also in international market. Another challenge for the certification process is its inaccessibility to small village collectors of NTFPs.

The paper discusses the array of private and public certificates existing in NTFP trade, its prospects and problems. The paper suggests a pro-active action to be taken by the agencies involved in NTFP trade, involvement of all the custodians along the chain to be certified, making it cost-effective, increasing the demand of certified material through awareness generation, and prescriptions for NTFP certification to be incorporated into the national policies and state working plans.

Introduction

The increased concern over NTFPs, in the past few decades, might be attributed to increasing recognition of the contribution that NTFPs make to the livelihoods of large numbers of people in developing countries (Arnold and Ruiz Pérez 1998), and the suggestion that NTFPs can be harvested with relatively little impact on the forest environment (Neumann and Hirsch 2000). But, there are different views on the sustainable harvesting methods and possibilities of NTFPs. In a review of the ecological impacts of commercial NTFP harvesting, Peters (1996) concluded that many NTFP resources are harvested destructively, or on an unsustainable basis.

Certification of non-timber forest products (NTFPs) is a slowly evolving field in India. A range of labels and certification schemes have proliferated in the past 10 years. These schemes focus on specific objectives ranging from promoting the well-being of producers to reducing the environmental impact of forest operations (Ervin and Mallet, 2002). A certification associated with NTFPs would entail practices within the ecological constraints and socio-economic benefits to harvesters, growers, processors and local communities. Certification also serves as a quality assurance tool for consumers. The wide range of labels and certification schemes available in the market today include: Fairtrade Label, Forest Stewardship Council (FSC) – sustainability mark, Smartwood mark, organic produce, bird-friendly coffee, kosher-certified foods, cruelty free cosmetics, environmentally-safe electricity and eco-mark etc. Among this wide range of labels and certifications, the FSC, Organic and Fairtrade Label are most significant with respect to NTFPs.

Definition of Non- Timber Forest Product:

One of the foremost requirements of any certification scheme (e.g. Principle # 1 of FSC) is compliance with the national, state, local and even international laws. In this context, it is noteworthy that forest related statutes in India such as the Indian Forest Act, 1927 and the Forest (Conservation) Act, 1980, do not provide a legal definition of NTFP.

FAO defines Non timber forest products (NTFPs) as, “biological resources of plant and animal origin, harvested from natural forests, plantations, wooded land and trees outside forests”. From this definition, it becomes easy to deduce that all the forest produce minus the timber could be perceived as ‘non-timber forest produce’.. However, from the view point of certification, there would be two categories of NTFPs, (a) products of commercial value, where certification principles can be applied, and (b) products of subsistence value, which never reach a ‘market’, so it is very difficult or impossible to apply certification principles to these products. Examples of the category ‘b’ are very common in many parts of India especially among tribal communities in North East, where use of birds, insects, larvae, fish and other animals, medicinal plants from the forest are integral to their diet and personal use.

Hence, the first imperative for the government would be to give a clear legal definition to the term NTFP as to what all it would like to include for commercial harvest and for the purposes of certification. Some states such as Orissa and Andhra Pradesh have brought out a policy for the harvest, utilization and sale of NTFPs, and specific species are mentioned in the schedule along with the rate of royalty, etc.

The Forest Act also has not given any definition to the term ‘forest’. It is only in the Godavarman forest case that the Supreme Court has defined ‘forest’ as any land covered with trees irrespective of ownership.....’. While designing a certification scheme for NTFPs, due attention will have to be given to NTFPs harvested or collected not only from notified forests but also from groves (in community forests), forests, agro-forestry areas and other cultivable private lands.

NTFPs and Rural Livelihoods

It is estimated that NTFP related activities in India generate about 70 per cent of all employment in the Indian forestry sector and about 200 – 300 million village people depend

to varying degrees on forest products (Achoth et al, 2003). NTFP collection and harvesting in India is critical to the subsistence livelihoods and cash income of rural communities and forest dwellers. About 60 per cent of all recorded revenue generation in forest in India is derived from NTFPs. This supports about 50 million tribal and other marginal people in India substantially (Achoth et al, 2003). Local communities' culture including food habits, rituals and dress sense have evolved over time based on the NTFPs available in their region. NTFPs form raw material and ingredient for foods, cosmetics, medicines, furniture, handicrafts and clothing. Some NTFPs or mixes of NTFPs have been used as natural dyes in clothing, medicines, food and cosmetics. The collection of NTFPs at some point of time was merely for *bona fide* self consumption, or the surplus was sold in small quantities in the haat (weekly bazaar) and local markets. But gradually, with an increasing demand for natural products and botanicals, NTFPs have become a marketable commodity and is extracted in a greater number and sold to local traders and other middlemen as well. Thus, in addition to direct dependence on NTFPs, forest dwellers and rural communities are able to augment their cash income by selling NTFPs.

After the shrinking resources (income from timber) of the forest departments due to the Supreme Court ban on felling in forests in 1996, now the department sees a great potential in promoting the harvest and sale of NTFPs. Although another Supreme Court order in 1997 had placed a restraint on collection of NTFPs from protected areas and reserved forests, most of the states have turned a blind eye towards this latter order.

NTFPs and International Markets

Some high value NTFPs such as medicinal, aromatic and dye plants, edible mushrooms, pine resin etc have a large national and even a substantial international demand. Liberalization of international trade regimes has created further opportunities for commercialization of NTFPs. The general direction of trade in these products is from developing to developed countries (Vantomme 2001). Among the most important NTFPs regarding their value in international

trade are medicinal plants (US\$ 689.9 million), nuts (593.1), ginseng roots (389.3), cork and cork products (328.8), and essential oils (312.5) (Iqbal 1993). Removal of trade barriers as a result of the implementation of the provisions of the international agreements under WTO, has the potential to expand markets that already exist in the food, pharmaceutical, cosmetics and personal care industries overseas. Globalization may lead to evolution of new products and new end uses of various NTFPs through investments in research and development (Achoth et al, 2003). Foreign exchange earnings from NTFPs total about US\$ 1311 million in India (Achoth et al, 2003).

Trade statistics shows an exponential growth in exports of NTFPs from India over the years. In 1960-61, India exported about 54.91 million rupees worth of NTFPs, which formed about 15 per cent of total value of forestry exports from India. There has been an annual compound growth of over 14 per cent in the period between 1960-61 and 1990-91. An examination of the trade statistics on NTFPs reveals that the major component of export earnings are edible products, which accounts for about 50 per cent of total exports of NTFPs in recent years. This increasing demand for NTFPs in the national and in the international market could lead to over extraction and pose a threat to the sustainability of the produce. Another major concern relates to an increasing trend of rejections of consignments by importing countries on grounds of not being able to meet the required standards. These standards are increasingly integrating the social, environmental and resource sustainability aspects besides final product quality and are encouraging verification through mechanism of various certifications.

NTFP Certification

Threats of over extraction can be allayed with the help of certification. Certification is a new market tool for responsible resource stewardship through the labeling of consumer products, thereby fostering a trust in the consumer regarding the sustainable harvest and legal origin of

the produce. Certification is the process of evaluating and labelling products against accepted standards of good management.

Labelling and certification has been an important quality assurance tool for consumers. The concept of labeling as a quality assurance tool began as early as in 1906, when it was incorporated in the US Food and Drug Act. Since then the notion of quality, first used to describe purity of food, has greatly expanded to cover health, nutrition, food safety and social and environmental responsibility (Ervin and Mallet, 2002). Consumers in the developed nations are extremely cautious and increasingly distrustful of the claims made by the industry and have thus begun seeking third-party assurances regarding the products they purchase.

Third – party certification includes first an independent assessment of the operations of the industry in accordance with the defined standards and criteria and second, verification of the origin of the product by way of chain of custody monitoring and product – labeling. Many export consignments from developing countries in the recent years have been rejected on account of poor labeling and non – traceability.

Traceability is a concept wherein a product has to be traced back to the original production area. The production area should have proper record keeping system to verify that it has been produced in a hygienic condition. Therefore it has become important to manage the requirements of traceability. It is a challenge to maintain traceability in prevailing circumstances where small quantities of produce is pooled in from a variety of sources. However, this could be met by making clusters of producers/ collectors under the provision of group certification.

Group certification has evolved as a mechanism wherein a group of producers or collectors can be collectively covered under a single certificate. It is particularly suitable for small

holders/ small collectors who are vertically integrated in a single supply chain and do not require individual certification as they are not dealing with several procurement agencies at the same time. 'Group certification' is being increasingly used in certification of organic food and forest products.

Benefits of certification

Certification adds value to the product and hence can fetch a higher return to the producer. It serves as a quality assurance tool to the consumer. It ensures protection of environment and wise use of natural resources, and assures benefits other than better returns to small producers, workers and collectors of NTFP. By selling certified NTFPs to manufacturers of high-end products, the collectors and growers of certified NTFPs may get a higher price. For example: selling FSC cane or bamboo to manufacturers of Fairtrade cane/ bamboo furniture; selling FSC and Fairtrade herbs and aromatic oils to the parlours using organic aromatic oils for massage and aromatherapy. Or use of turpentine oil from FSC certified resin for varnish of FSC certified furniture.

Table 1.1 Comparison of NTFP Certification Programmes

	Forest Stewardship Council (FSC)	International Federation of Org Agri. Movements (IFOAM)	Fairtrade Labelling Organisation International (FLO)
NTFPs certified or in process	Chicle, maple syrup, baskets, palm hearts	Berries, tea, honey, coffee, mushrooms, ginseng, and others	Coffee, tea, honey, bananas, cocoa
Other products certified	Timber	Organic produce, fish, meats, dairy	Sugar, orange juice
Main historical drivers	Timber users, environmental advocacy groups in late 1980s; concern over deforestation	Organic farmers and organic certification organizations in the 1960s; consumer concern about health	Producers (seeking market access) and consumer concern about equity issues in the 1960s
Approach to NTFP standards	General principles and criteria, with region-specific detailed standards; NTFP guidelines developed by class on a case by case basis	Basic standards with additional section for 'wild-harvested products'	Product by product standards
Current issues	Developing a consistent framework for NTFP certification	Clarifying boundaries with FSC regarding forest product certification, expanding social criteria	Harmonising criteria and refining certification process; investigating new products for certification
Primary focus for NTFP certification	Ecologically sustainable and socially responsible forestry	Avoidance of exposure to, and contamination by, chemical pesticides and fertilisers	Fair and equitable distribution of benefits to producers
Weaknesses	No requirements that NTFP food products are chemical free	Few ecological criteria for treating harvesting areas as functioning ecosystems	Narrow focus on trade equity and community well-being

Source: Ervin and Mallet, 2002.

NTFPs do not appear to be adequately covered by any existing certification programme, but some of the certification programmes can make significant contribution to the process by developing standards and guidelines.

1) Certification of resource sustainability - Forest Stewardship Council (FSC): Among the range of certifications, FSC provides accreditation to certification agencies based on the Principles and Criteria set by it for the purposes of promoting environmentally responsible forestry practices that ensure the maintenance of a forest's biodiversity, productivity and ecological processes; social practices that benefit local communities and society at large; and economically viable management that provides adequate financial incentives to adhere to long-term stewardship practices. Most of the products certified in accordance with the FSC guidelines are for timber and wood related products including paper and toys. FSC certification in NTFPs is of recent origin and a few NTFPs have been certified in other countries so far. *Chicle gum* (from the tree *Manilkara chicle*) from Mexico was the first non-timber forest product to be certified and labeled under the FSC in the year 1999. *Erva mate or Yerba mate (Ilex paraguariensis)*, a herb used to produce a traditional tea popular in Argentina, Brazil, Paraguay and Uruguay, was recently certified in Brazil (Imaflora, 2003). In India, so far FSC certificate has been awarded to a company making wooden toys. However, a number of studies assessing potential for FSC, Organic and Fairtrade certification in medicinal plants are underway in India (Rastogi and Pant, 2004). FSC allows countries and certifiers to develop their own regional standards tailored to local ecological and socio-economic conditions, based on the principles and criteria developed and approved by FSC. Their 10 principles and criteria address issues ranging from laws and regulations to indigenous rights, worker safety, management planning, protection of wildlife habitat, soil and water conservation and plantations. These principles could be applied to NTFP certification. A draft principle 11 has also been proposed and being revised specifically for NTFPs. The development of criteria and guidelines for NTFPs would certainly require

additional research and experimentation. FSC has a special provision that sustainability could be assessed based on existing knowledge.

Some of the items in India that could be considered for FSC are amla (*Emblica officinalis*), black pepper (*Piper nigrum*), cardamom major (*Elettaria cardamomum*) and cardamom minor (*Amomum subulatum*), turmeric (*Curcuma domestica*), mushrooms, edible ferns, honey, resin, handicrafts and toys, bamboo-cane furniture, hand made paper made of lokta *Daphne* spp., oak tusser silk, etc

The major challenge with NTFP certification is the diverse nature of NTFPs. These may require different sets of sustainability criteria depending on their availability, rate of regeneration, status, etc. Sustainability studies are time – consuming and the results may not be dependable. Little information exists on the ecology, use and management of even the most widely utilized non-timber forest product. For example, Amla (*Phyllanthus embilica*) is a common NTFP found in abundance in India in the wild and collected by forest dwellers. Amla is widely used by the industry as a common ingredient in many medicinal and food supplements. Studies related to ascertaining sustainable harvests of Amla and turmeric being collected by the Soliga tribals from the Bilgiri Rangan Temple Wildlife Sanctuary in the state of Karnataka have been ongoing for the past 10 years.

An initiative in this regard has been undertaken by the Indian Institute of Forest Management, Bhopal. This process has recommended 8 principles and 43 criteria as standards for ‘sustainable forest management’. These are being currently field tested before formally being accepted by the Ministry of Environment and Forests, Government of India.

2) Organic Certification: NTFPs also have the potential to be considered under the different provisions of the Organic certification scheme as Organic production standards cover agro-forestry, forest gardens and permaculture production systems. The International Federation of

Organic Agriculture Movements (IFOAM), one of the oldest international programmes engaged in the field of setting standards for organic agriculture, does not define products from such systems as NTFPs (Rundgren, 2002). Certification of NTFPs would fall under a special section of IFOAM standards on 'Organic agriculture and food processing' related to 'wild harvests' entitled 'collection of non- cultivated material of plant origin including honey'.

Certification agencies from different countries are to obtain accreditation with IFOAM. Each certifier has to certify a product against the standards laid out by IFOAM. Accredited certifiers are able to propose criteria for new types of organic production/ harvest that fall outside those covered by the basic standards. Certifiers also have the option to develop specific additional standards related to wild-harvested product. IFOAM specifies that '...wild-harvested products shall only be certified organic if derived from a stable and sustainable growing environment. Harvesting or gathering the product shall not exceed the sustainable yield of the ecosystem, or threaten the existence of plant or animal.'

NTFPs certified as wild harvested organic product in the world so far include berries, honey, tea, coffee, cocoa, mushrooms, and ginseng. However, the percentage of total certified organic products that are wild-harvested is very small. In India, there are 6 international certification bodies and only two have certified NTFPs like herbs and a few spices under this section on 'wild-harvest'. Items from India that have a potential to be certified under this programme are likely to be amla, turmeric, large cardamom, apricot kernel oil, apricot scrub, mushroom, medicinal and aromatic herbs/ oils.

Few important concerns need to be addressed before extending support to certification of wild-harvested NTFPs. First concern is that the products, to be certified under wild-harvested label, meet the standards of organic and sustainability. In several parts of our country, industrial zones are set up in backward areas and wasteland areas, which normally lie in the vicinity of forest lands. Any harvest (NTFP) originating in such forests is likely to

be contaminated with heavy metals or chemicals. Secondly, organic certified products headed towards overseas markets in developed countries will have to meet the phytosanitary conditions as well, which implies that these products must be free from contamination of pests, diseases, and pathogens. As organic agriculture doesn't allow use of chemicals, the chances of developing contamination are quite high in raw and unprocessed NTFPs. The third and the most important concern regarding wild-harvested NTFPs is that, If these are originating from a forest in the same watershed as farms and plantations relying on intensive chemicals, there is a good likelihood of chemical residues to be found in the NTFP also.

As per the basic principles of any certification, custodians of produce along the chain of custody have to be a party to the certification scheme. Taking the example of medicinal plants, from harvesting to the time it reaches the industry or the consumer, it passes through several custodians/ intermediaries who often do not bother about the handling, storage and transportation conditions. The product is likely to attract microbial contamination due to improper sanitary conditions maintained. Some of these are particularly a problem with edible NTFPs.

The Flow Control in a certification programme ensures equal quantities along various stages of processing. Often the different custodians carry out different processing operations changing the nature of the produce. It is important to monitor that loss of initial organic quantity (in organic certification) is reflected in various stages of processing and packaging. In addition, monitoring of the nature and quantities of various ingredients added or used in processing also needs to be undertaken. Flow control is also important to restrict any adulteration by non-certified or non-organic produce along the chain of custody.

3) Fair Trade Certification: A third kind of certification that aids in marketing of NTFPs by adding value to the product is the Fair Trade Label provided by the Fairtrade Labelling Organisation. Fairtrade facilitates access to markets for disadvantaged producers, ensures

benefit- sharing and safe and hygienic work conditions. Fairtrade functions by establishing long- term trading relationships. It is about empowering the producer through fair trade practices and ploughing back part of the premium to the producer or collectors.

This label has emerged from a long history of alternative trade movements in the 1960s, when alternative trade organizations emphasized on direct trading relationships with the producers of developing countries mainly for craft products. More recently, it has diversified into edible products such as coffee, tea, banana, honey, sugar and orange juice. Several earlier initiatives related to fairtrade prevailing in different parts of the world merged together in 1997 under the Fairtrade Labelling Organisation (FLO) in order to harmonise and standardize fair-trade labeling worldwide (Waridel and Teitelbaum, 1999). The objective of FLO is to promote sustainable development through fair-trade by creating export opportunities for disadvantaged producers and increasing the volume and market share of fair-trade labeled goods around the world.

The scheme works by payment of extra premium to the grower or collector, favouring a long-term and a direct trading relationship. This label and the process should work well in the case of medicinal plants' enrichment plantations in the buffer of protected areas, provided it is linked to FSC as well. Fairtrade standards have been developed on a product – by – product basis. Criteria comprise generic concepts, including decent working conditions, setting prices to cover the costs of production and sustainable farming practices. Since FLO is in the process of developing product-specific criteria, it could develop a different set of criteria for NTFPs from the wild and NTFPs from plantation and agro-forestry. There have been few attempts in the past to harmonise criteria, joint assessment trials, common marketing and mutual recognition between accreditation systems. So far, no NTFP has been certified under fairtrade in India.

Costs in certification

Certification is an expensive affair as it is 2 tiered structures – accreditation bodies and certification and inspection bodies – all have their respective fee structure and in the end the burden of supporting all this comes on the primary produce and adds to the cost. As a result most established accredited certification companies are multinationals. Though, there are a few Indian companies that have got accreditation from the Indian National Programme for Organic Production (NPOP), but these certifiers have to depend on recertification arrangements with certification bodies that are accredited in importing countries. This implies that in order to access export market, reliance on these transnational certification bodies will remain and costs too would remain relatively high for the forest products. Certification entails a substantive amount of documentation and record keeping, which is quite often an uphill task for small growers and collectors.

To keep the costs of certification low, provision of group certification is available in most of the certification programmes. But it leads to increased work responsibility on the collectors and growers as they have to create an internal monitoring committee under certain certifications. In case of Fair Trade, they have to set up a Joint Management body or a Producer Executive Body for the proper management and utilization of the premium funds received under this scheme.

Joint assessments, being planned out by the certification bodies, would be of use to growers and collectors of NTFPs as these would reduce time and costs and minimize overlaps. Efforts will have to be made to ensure uniformity in the validity period of different certification programmes. Presently, FSC certification is valid for a period of five years, organic for one year and Fairtrade is putting in place a flexible system based on the credibility and past record of the certified producer group. An facilitating institution, besides the growers, collectors and the certification body, must be involved in the process, because often the small growers and collectors are not equipped enough to carry out documentation, internal monitoring and auditing on their own. So far, in India in all the successful cases of joint assessments, it is the

companies, procuring produce from small growers, which deal with much of the paper work required as a part of certification. Similarly, for the certification of NTFPs, cooperation from local NGOs, cooperative societies, or village committees could be solicited.

Markets for Certified Produce

Certified products have a niche market and select consumers mainly in the developed nations. Such products which have gone through a range of private certifications have a premium added to their costs and hence can be sold only in high- income markets either within the country or overseas. The demand for certified produce in India is growing but at a very slow pace. A market will have to be created within the country by education and awareness campaigns. This is a slow process and will take time and effort to build consumers' willingness to pay for such products. Till such time the market within the country develops, we will have to target our produce at the international market, where the demand for safe and quality (food) produce is increasing at a very rapid pace and this is preceded by their willingness to pay a premium on such certified produce.

Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement)

When a produce is headed towards the international market, it becomes a matter of international trade which attracts the provisions of international agreements on trade. The World Trade Organisation is one such umbrella law which contains a number of agreements related to different aspects of trade such as services, intellectual property, agriculture, Origin, Application of Sanitary and Phytosanitary Measures, etc. The Agreement on the Application of Sanitary and Phytosanitary Measures (hereinafter referred to as the SPS Agreement) is of specific importance in a paper dealing with certification. The SPS Agreement aims at each member country to develop measures and standards to protect its human, plant and animal health against diseases and pests which are likely to enter their country through trade. For this purpose, the agreement does not lay standards on its own but gives recognition to the standards developed by three international agencies. The **Codex Alimentarius Commission**

(Codex) makes guidelines and recommendations for food safety; the **International Plant Protection Convention** (IPPC) makes recommendations for plant health measures and the **Office International des Epizootics** (OIE) makes recommendations for animal health measures. Based on these international standards, each member country is supposed to harmonise their national standards. The SPS Agreement also allows member countries to develop standards higher than the international standards provided these could be scientifically justified based on actual risks.

The standards developed by Codex and the IPPC would be mainly relevant for NTFPs are plant related and some of which are edible in nature,. It is important to know about the SPS standards of importing countries while prospecting and planning for exports so that consignments do not get rejected on grounds of contamination etc. on reaching the country. Of late, one of the trends being observed in developed nations is that of unjustifiably high SPS standards in several items as a result of which developing countries are finding it practically difficult to meet such standards and a large number of cases of rejections are coming to light. Results of a case study of export of Brazil Nuts (NTFPs collected from the wild) from Bolivia to Europe are given in Box 1

The SPS Agreement does provide a forum for redress in the form of ‘Committee on Sanitary and Phytosanitary measures and another dispute settlement body but access to such forums for developing nations becomes difficult on account of the costs involved and national priorities. One suggestion for the SPS Agreement is to empower the SPS Committee to *suo moto* raise objections to unjustifiably high standards.

Box 1: Impact of SPS standards on export of Brazil Nut from Bolivia to Europe

Bolivia the largest exporter of Brazil nuts (*castana*) in the world accounts for about 75 per cent of world trade. The product grows wild and is harvested from deep in the forests by indigenous *campesinos*. The product is picked by hand and packed into bags for transport (600 km) to La Paz for air or sea freight to Europe. EU restrictions on aflatoxins, especially limits of 4 ppb for aflatoxin B1, have the potential to seriously impede this trade, or add significantly to the costs. Although it is possible to grow the product on a plantation scale, it is felt that the economics of such production would not prove adequate. Furthermore, it is claimed that this would act against the social objective of offering poor farmers an economic alternative to coca leaf production in these remote areas. The Bolivian government and traders, together with assistance from the EU, are considering ways around the problem posed by the new limits, but it seems inevitable that investment in transportation and storage facilities will have to be made. To date, some laboratory testing facilities have been set up to allow in-country testing of the export crop, but such facilities and inspections represent major costs.

Source: Henson et al, 1999

What are these SPS standards relevant for NTFPs?

The standards relate to moisture content in the product. SPS standards also look at contamination from heavy metals, micro-organisms, aflatoxins, physical impurities, food additives and pesticide residues. These standards also require proper labeling on products. A review of the United States Food and Drug Administration (USFDA) data on rejections reveals a high rate of rejections of unprocessed foods (Pant and Rastogi, 2003) Also see Table 2.

Given the collection, storage, handling and transportation facilities of raw NTFPs especially medicinal plants etc in India, eventualities of rejection become very high. Information gathered by the medicinal plants growers' forum of Uttarakhand in view to prospect for an international market for its products showed very stringent generic standards in UK for raw drugs (box 2).

Table 2:

SPS and Number of contraventions cited for US Food and Drug Administration import detentions. June 1996 – June 1997

Reasons for Contravention	Africa	Latin America and the Caribbean	Europe	Asia	Total
Food additives	2 (0.7%)	57 (1.5%)	69 (5.8%)	426 (7.4%)	554 (5.0%)
Pesticide residues	0 (0.0%)	821 (21.1%)	20 (1.7%)	23 (0.4%)	864 (7.7%)
Heavy metals	1 (0.3%)	426 (10.9%)	26 (2.2%)	84 (1.5%)	537 (4.8%)
Mould	19 (6.3%)	475 (12.2%)	27 (2.3%)	49 (0.8%)	570 (5.1)
Microbial contamination	125 (41.3%)	246 (6.3%)	159 (13.4%)	895 (15.5%)	1425 (12.8%)
Decomposition	9 (3.0%)	206 (5.3%)	7 (0.6%)	668 (11.5%)	890 (8.0%)
Filth	54 (17.8%)	1253 (32.2%)	175 (14.8%)	2037 (35.2%)	3519 (31.5%)
Low acid canned foods	4 (1.3%)	142 (3.6%)	425 (35.9%)	829 (14.3%)	1400 (12.5%)
Labelling	38 (12.5%)	201 (5.2%)	237 (20.0%)	622 (10.8%)	1098 (9.8%)
Others	51 (16.8%)	68 (1.7%)	39 (3.3%)	151 (2.6%)	309 (2.8%)
Total	303 (100%)	3,895 (100%)	1184 (100%)	5784 (100%)	11,166 (100%)

Source: FAO (1999)

Box 2: Standards based on the British Herbal Pharmacopoeia 1996.

For microbial contamination in the drug:

- Total viable aerobic count not exceeding 10^5 / gram
- Not more than 10^4 fungi/ ml
- Not more than 10^3 enterobacteria/ gm or 10 ml
- Absence of *Escherichia coli*/ 1 g or 1 ml.
- Absence of salmonella/ 10 g or 10 ml

It further makes a requirement for manufacture of products according to Good Pharmaceutical Manufacturing Practice. With regard to some of the metals which are referred to as 'potentially toxic elements', the generic standards for UK are as follows:

- Mercury: 10 parts per million (ppm)
 - Arsenic: 1 – 5 ppm
 - Lead: 10 mg/ kg
 - Tin: 200mg/ kg
- Copper: 50 – 100mg/ kg

Source: British Herbal Pharmacopoeia 1996.

Similarly, the European Herbal Growers Association (Europam) has also developed guidelines for Good Agricultural Practice of Medicinal and Aromatic Plants, which includes criteria for seeds and propagation material, cultivation, harvest, primary processing, packaging, storage and transport, equipment, personnel, facilities, documentation, education and quality assurance. Following specific elements are also incorporated: preservation of existing wildlife habitats, minimization of the use of pesticides and minimization of pollution through proper waste disposal.

The existing infrastructure for NTFP certification: Mandatory Certifications

For any exchange of a plant or plant product between countries, each importing country requires two kinds of mandatory certificates from the exporting country which is issued by the government authorities: one that ensures safe and quality food and the other that assures quarantine pest free consignment of any plant or plant produce. The safety requirements are not attached to the contents alone but to the packaging material as well. Substantive problems have occurred with packaging material such as wooden cases, jute bags and other traditionally used material. Food safety related standards are set by Codex. Codex has yet to design a format for food safety. However, Codex has recognized the process certification of HACCP (Hazard Analysis at Critical Control Points) for food safety purposes. For quarantine related assurances, the IPPC has worked out a format which has to be issued by the National Plant Protection Organisation of the exporting country. For India, this authority has been vested in the Directorate of Quarantine, Plant Protection and Storage under the Ministry of Agriculture. Compliance with the Best Pharmaceutical Practices may not be difficult but it has to be preceded with education and awareness of these practices with all the members in the supply chain which includes the grower or the collector, trader, transporter, etc. Public and private investments will have to be undertaken for small growers and collectors to be able to meet these kinds of SPS requirements. Government of India has introduced Good Manufacturing Practices which covers only part of the chain and compliance to it is already proving a challenge for many in the industry. Unless farmers and exporters know the diverse standards

across markets, they cannot plan their future harvests and export destinations. If the standards, say for instance, for pesticide residue or heavy metal contamination in an edible NTFP would vary for different markets overseas, the exporter and grower/ collector will have to aim to meet the highest standards of any of the possible foreign destinations in order to have the flexibility to respond to changing market conditions.

Conclusions

The scope for certification to promote sustainable and socially responsible practices is limited to a small range of internationally traded NTFPs. Certification of NTFP does not have a market in poverty-stricken developing countries yet, where food security comes before safe food and environment. Certification schemes require the involvement of all the custodians along the chain to be certified, which is a fact yet to be reconciled with. Certification of NTFPs could meet its objectives by first making it cost-effective for the collector, the industry involved and the consumer. Demand for certified NTFPs should be created by spread of education and awareness. Prescriptions for conservation and sustained use of NTFPs and their certification have to be incorporated into the national policies and state working plans. Ros-Tonen (2000) also analysed that policymaking and land-use planning must furthermore take into account that NTFP extraction is part of an overall livelihood strategy of the people involved, in which other economic activities also play a role.

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