

**Paper submitted to the Conference Scientific Committee
of the IUFRO All Division 5 Conference,
Rotorua, 2003**

Title: Benefit-sharing Arrangements in the Field of Non-Wood Forest Products - Status and Links to Certification

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<http://www.fao.org/WAICENT/FAOINFO/FORESTRY/NWFP/NONWOOD.HTM>

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Keywords: non-wood forest products (NWFP), certification, sustainable forest management, organic products, product quality, benefit-sharing

ABSTRACT

For agricultural and timber products, benefit-sharing arrangements (BSA) and certification schemes have been established in order to monitor and evaluate the ecologically friendly, economically viable and/or socially equitable use of these products. BSA have been developed regarding species with medical properties in the areas of bioprospecting and trade. Other non-wood forest products (NWFP) covered by BSA include cosmetics, animal products and exudates (gum arabic). Key certification schemes relevant for NWFP are forest management certification, social certification, organic certification and product quality certification. This paper describes BSA in the field of NWFP and discusses linkages between BSA and certification as potential tools for the promotion of improved benefit-sharing.

INTRODUCTION

A multitude of non-wood forest products (NWFP¹) are derived from forests and used by local communities in developing countries for subsistence and income generation. Income-generating activities consist mainly of the collection and sale of unprocessed NWFP such as medicinal plants, fruits, gums, resins and honey. The benefits local populations receive from the trade in these products are often considered inadequate compared to the benefits received by other stakeholders.

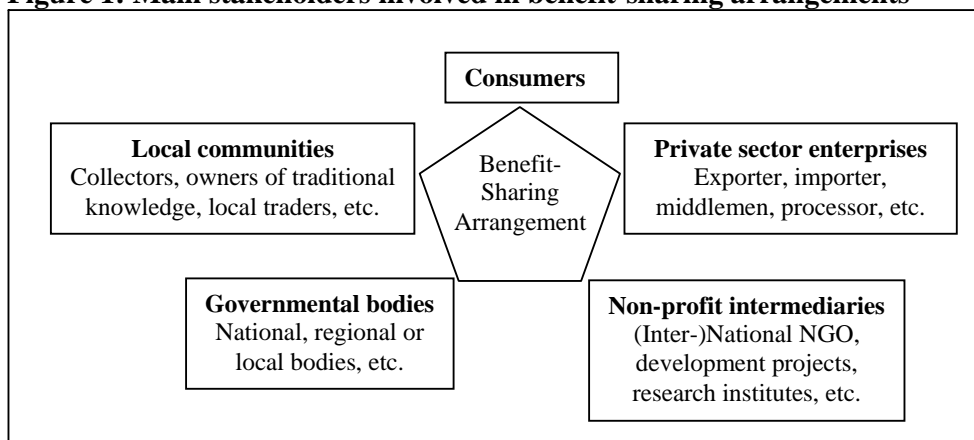
This paper describes benefit-sharing arrangements (BSA) in the field of NWFP and discusses linkages with certification initiatives which might be potential tools to promote equal benefit-sharing.

BASIC DEFINITIONS

Benefit-sharing

Benefit-sharing arrangements (BSA) have been proposed and established in order to promote and ensure the "fair and equitable sharing of the benefits" arising out of the use of natural resources (see article 1 of the Convention on Biological Diversity, CBD). These arrangements aim to balance the interests of various key stakeholders in the trade in NWFP and other forest products. Stakeholders include local communities, small or large-scale private sector enterprises, consumers, governmental bodies and non-profit intermediaries (see Figure 1).

Figure 1: Main stakeholders involved in benefit-sharing arrangements



The benefits obtained through such arrangements can be monetary and non-monetary, shared in the short, medium and long-term and should be mutually agreed upon by the stakeholders concerned (see Table 1). Benefit-sharing agreements are mainly made among a provider, recipient and intermediaries of genetic material and may be applied during the *identification*, *development* and *commercialisation* of a product (ten Kate and Laird, 1999).

The concept of benefit-sharing is being applied to the trade in various forest products, such as NWFP, wood products and forest services. The mechanisms used to implement BSA include trust funds, ethical trade agreements, certification, charitable donations, taxes and producer-trader partnerships. In the forestry sector, the issue of benefit-sharing is partly addressed through collaborative approaches to forest management such as community forestry, social forestry and

¹ "NWFP consist of goods of biological origin other than wood derived from forests, other wooded land and trees outside forests" (FAO, 1999).

joint forest management. It is also addressed through the establishment of Forest User Groups (e.g. Nepal) or Share Holding Integrated Forest Tenure (e.g. in China) (FAO, forthcoming; Rechlin et al. 2002).

Table 1. Examples of monetary and non-monetary benefits for developing countries

Monetary benefits	Non-monetary benefits
<ul style="list-style-type: none"> • “Up-front” payments • Milestone payments • Royalties • Research funding • License fees • Salaries • Equity and profit-sharing opportunities • Higher sale price of products 	<ul style="list-style-type: none"> • Contributions to local economy and at the village level, e.g. livelihood improvement such as infrastructure and food security • Community empowerment through improved negotiation capacities • Strengthened capacity of local populations in the sustainable use of natural/genetic resources • Exchange of staff and training • Capacity building and transfer of technology • Sharing of research results • Increased scientific capacities, e.g. through support to research activities

Source: UNEP/CBD (2000), ten Kate and Laird (1999), FAO (2000a)

Certification

Certification is a procedure in which written assurance is given that a product, process or service is in conformity with certain standards (ISO/IEC, 1996).

Although different definitions and categories of certification exist, the main types of certification schemes distinguish between first, second and third party certification as well as between system-based and performance-based certification schemes (see Table 2). Many, but not all, certification systems provide labels for certified products or services. A certification label or symbol indicates "that a product, process or service has been certified against a certain standard" (Dankers, 2002).

While certification schemes have mainly been developed for timber and agricultural products, they are becoming more relevant for the use of NWFP. Depending on their basic concepts, certification schemes such as forest management certification programmes, social certification systems, organic agriculture and product quality certification, focus on different areas such as production, trade, marketing, processing and manufacturing (for further details, see Walter (2002a, 2002b)).

Forest management certification programmes, including chain-of-custody certification, mainly assess the ecological aspects of resource management, both at the forest and the species or product level. Many different programmes exist on the international, regional and national level, which focus almost exclusively on timber products and include NWFP only marginally.

Social certification systems, such as fair and ethical trade, assure that labour conditions are acceptable and benefits are equally shared among those involved in production and trade. Such trade initiatives foster business partnerships and management supply chains, which include secure and fair commercial deals and support the provision of market information (Kruegener v., 2000). Important criteria focusing on social issues include: i) Tenure and customary rights; ii) Fair returns and adequate benefits; iii) Safe and healthy working environment; iv) Impact on local/indigenous communities; v) Economic viability; vi) Absence of child labour; and vii) Ethical marketing (Mallet, 2000; Burns and Blowfield, undated).

"Organic agriculture is a holistic production management system which promotes and enhances agroecosystem health, including biodiversity, biological cycles, and soil biological activity..." (FAO/WHO, 1999a). Wild gathered and semi-domesticated NWFP can also be considered organic and many NWFP such as pine nuts, mushrooms and herbs are increasingly commercialized as organic food products.

Table 2. Basic principles of certification systems

Certification principles	Definition	Examples
First party verification	Internal assessment of production systems and practices.	Sustainable Forestry Initiative (SFI), business ethics standards, company standards, (e.g. Weleda, Wala), codes of practice, codes of conduct (e.g. Body Shop)
Second party verification	Assessment of a second party (e.g. customer or trade associations), who assess the company according to contractual obligations.	EU Regulation 2092/91
Third party verification	Independent assessment of a separate accredited third party.	Forest Stewardship Council (FSC), International Federation of Organic Agriculture Movements (IFOAM)
Standards	"Documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purposes" (ISO, 1996).	Standards by various accreditation and certification bodies.
System-based standards	Focus on the <i>process</i> and evaluate whether specific systems are in place which allow organizations and/or producers to achieve their (performance) objectives.	Environmental management systems ISO 14001/14004, Social Accountability 8000, SFI ¹ , Pan European Forest Certification Scheme (PEFC) ² , Canadian Standards Association (CSA) ¹
Performance-based standards	Focus on the <i>outcome</i> , the quality of goods and/or services, which should be in accordance to defined standards.	FSC, Rainforest Alliance/SmartWood, IMAFLORA, CFV, ERA, WWFMedPO

Source: Dankers (2002); Blowfield (undated); Maas and Ros-Tonen (2000); Carey (2000), Temple-Inland Forest (undated); Sierra Club (undated); Costa & Ibanez (2000); Fern (2001)

¹ SFI, PEFC and CSA are mainly system-based certification schemes, which include some performance-based standards (Fern, 2001).

² PEFC is mainly based on the Pan-European forest process on criteria and indicators for sustainable forest management (Fern, 2001). Major inter-governmental processes or initiatives on criteria and indicators for sustainable forest management, covering some 150 countries, are documented by FAO (2001).

Product quality certification aims at ensuring that defined production standards have been taken into consideration. These standards can focus on the product itself as well as on the way it is processed and manufactured. Product quality parameters include product identity, purity, efficiency and safety. These parameters are relevant for a wide range of internationally traded NWFP mainly used in the food and pharmaceutical industry. One example of international commodity and general standards relevant for the food industry is the Codex Alimentarius, which aims at developing and disseminating international food standards to protect consumer health and to facilitate international fair trading practices regarding foods (FAO/WHO, 1999b; Health Canada, undated).

BENEFIT-SHARING IN THE CONTEXT OF NWFP

The documentation of different BSA by CBD (2002), ten Kate and Laird (1999) and FAO (2000a) shows that arrangements in the field of NWFP cover both the identification of new products and the actual trade in NWFP.

The identification and development of new products is best documented for bioprospecting activities carried out by the pharmaceutical industry. BSA directly related to the international trade in NWFP are documented for a wide variety of products such as medicinal plants, cosmetics, exudates, edible products and wildlife-based products.

Identification and Development of New Products

Research in the identification of new, nature-based products is carried out by various industrial sectors. However, most documented cases of BSA are related to the pharmaceutical industry. This is mainly because, compared to others, the pharmaceutical sector requires greater investments of time and money.

Table 3. Key characteristics of pharmaceutical, botanical medicine and cosmetic industry

	Pharmaceutical industry	Botanical medicine industry	Natural personal care and cosmetic industry
Definition	Industry involved in the discovery and development of new drugs (natural, semi-synthetic, synthetic).*	Industry dealing with botanicals, produced directly from whole plant material.	Segment of the personal care and cosmetic industry, which includes botanical ingredients in their products.**
Years to develop new products	10-15+	<2-5	<2-5
Costs to develop new products (million US\$)	231-500	0.15-7	0.15-7
Annual global sales (billion US\$)	300	40	n/a
Share natural products/all products of global market (in %)	25-50	100	n/a
Market for natural products (billion US\$)	75-150	20-40	2-8

Source: ten Kate and Laird (1999)

Explication: n/a = Information not available

* 41 % of the top 150 prescription drugs in the USA contain at least one active compound derived from animal or plant genetic resources (ten Kate and Laird, 1999).

** The natural segment of this industry is estimated to 10 percent of the total sales (ten Kate and Laird, 1999).

The search for commercially valuable biochemical and genetic resources from plants, animals and microorganisms – so called bioprospecting – is carried out in two different ways in order to develop new drugs:

- Random screening of chemicals found in nature; and
- Selective screening of chemicals based on traditional knowledge of the medical application of organisms, especially medicinal plants. Ethnobotanical screening, mainly carried out by small companies and academic institutions, is designed to save time and money and is "... 5 000 times more effective than random collection" (RAFI, 1994; Rosenthal, 1998).

One third of all plant-derived prescription drugs with known anti-tumour properties come from rainforest species (Anonymous, undated). However, most of the commercial benefits of the trade in genetic and biochemical resources found in developing countries are realized in developed countries. Pharmaceutical products based on traditional medicine have probably returned less than 0.001 percent of their profits to the local communities who originally used these resources (Posey, 1990, quoted by Guérin-McManus, undated). The annual world market of medicines derived from plants originally used by indigenous people (e.g. *Rauwolfia serpentina*, *Cinchona sp.*, *Atropa belladonna*) is estimated at US\$43 billion (idem).

In order to assure that i) the provider(s) of genetic resources and/or traditional knowledge receive adequate property rights and ii) the share of benefits be equally distributed among all stakeholders, including men and women in local communities, national states and private companies, BSA related to the identification of new drugs were developed.

Recently, vast experience has been gained in BSA related to bioprospecting through the work of the International Cooperative Biodiversity Group (ICBG) which undertook eight projects in tropical countries (Rosenthal, 1998).

A key component of many bioprospecting projects is the establishment of trust funds, which aim at facilitating the distribution of monetary benefits while avoiding the problems related to direct cash

payments (UNEP/CBD, 2000). In the case of the Suriname ICBG bioprospecting project, a Forest People's Fund was set up in 1994 with a US\$50 000 contribution from an American pharmaceutical company, followed by another US\$10 000 "up-front" payment in 1996. The fund was intended to compensate communities for their ethnobotanical contributions to the project and aimed at creating conservation incentives, financing sustainable management projects, providing research and training exchanges and supporting other socially and environmentally sound projects (Guérin-Mc Manus et al., undated).

Although trust funds are intended to be a useful mechanism for the distribution of monetary benefits, the following questions need to be considered when planning their design:

- How can a fair and equal distribution of monetary benefits be ensured?
- Which mechanisms are most appropriate to facilitate the distribution of monetary benefits?
- Who should be the principle beneficiaries: those individuals or groups who actively participated in the BSA, or everyone in the village (or region or country)?
- How are local communities defined - geographically, ethnically or politically?
- What are the most relevant non-monetary benefits and how are they taken into account?

Trade in NWFP

BSA directly related to the trade in NWFP cover a wide range of sectors, including the pharmaceutical, botanical medicine, personal care and cosmetics, and food industry sectors. However, the supply channels for raw materials are similar and wholesalers, including exporters, traders, brokers and agents, sell to a range of different industries (ten Kate and Laird, 1999). Examples of BSA related to trade in medicinal plants, cosmetics and the wildlife industry are described below.

Medicinal Plants

Although sound statistics on trade in medicinal plants do not exist, it is estimated between 2 500 (Schippmann et al., 2002) and 6 000 (TRAFFIC, 1993) medicinal plants are currently traded worldwide. CBD (2002) and ten Kate and Laird (1999) document BSA for the trade in *Trichopus zeylanicus* (India), *Ancistrocladus korupensis* (Cameroon), *Prunus africana* (Cameroon), *Calophyllum lanigerum* (Malaysia), *Taxus brevifolia* (USA), *Piper methysticum* (Pacific Islands), *Panax vietnamensis* (Vietnam) and *Pilocarpus jaborandi* (Brazil). In at least three cases, these BSA failed:

- *Ancistrocladus korupensis* - the US-National Cancer Institute stopped conducting research and development when the toxicity of the active substance they were interested in, michellamine B, was discovered (Laird & Lisigne, 1998);
- *Prunus Africana* - the main exporter annulled an agreement with governmental organizations and local harvester groups due to a disagreement with governmental organizations, which limited the maximum annual sustainable quota to 300 t of bark (FAO, 2000a);
- *Pilocarpus jaborandi* - promised benefits by the exporter such as steady income, roads, schools and clinics never materialized. In addition, many of the 25 000 collectors of wild gathered jaborandi leaves might lose an important source of income if plantations are established (ten Kate and Laird, 1999).

One major mechanism to facilitate the proper disbursement of monetary benefits used by most of the BSA in the field of medicinal plants is trust funds (see also above). Harvesters of *Prunus africana* bark in Cameroon, for example, who were organized in a Prunus Harvesters Union, paid a part of their income (equivalent to 2 kg of bark) to the Village Development Fund. Five months after the fund was set up, some US\$1 500 had been generated. This money was intended to be used by the village for a long-awaited water project (FAO, 2000a).

Cosmetics

The main monetary benefits provided by the natural segment of the personal health care and cosmetic industry are derived from charitable donations as well as guaranteed markets and higher prices paid for raw materials. The main mechanisms available to secure market access and improve prices are raw material sourcing partnerships.

One example of such a partnership involves The Body Shop (ten Kate and Laird (1999), which established some 25 trade partnerships (e.g. in Brazil, Ghana, Nicaragua, USA) with local communities in 1997. Criteria for these partnerships included:

- Working with community organizations that already exist to represent the interests of the social group concerned;
- Working with groups with limited access to resources, education, healthcare, and other outlets for their goods;
- Trade must benefit the producers, so benefits must be redistributed throughout the community in ways that promote development;
- The partnership must be commercially viable - price, quality, capacity, and accessibility must be carefully considered; and
- The activity must meet Body Shop standards for environmental and animal protection.

Wildlife Industry

One example of BSA in the wildlife sector is Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE). In Zimbabwe it was recognized that wildlife resources would only be conserved if private and communal landowners derived economic benefit from their protection and were given responsibility for conservation and management. CAMPFIRE aims at providing a structure to ensure the sustainable use of these resources.

The programme aims at improving local income by returning benefits from wildlife activities such as safari hunting, game cropping, tourism, and live animal sales, to local communities. In addition, CAMPFIRE contributes to the improvement of infrastructure, capacity building and future security of local communities (World Bank, undated; CAMPFIRE, undated).

Regarding monetary benefits, CAMPFIRE aims at:

- Returning money to producer communities derived from natural resource use;
- Providing the communities with the full choice of how to use this money;
- Ensuring a participatory, transparent, accountable and democratic process of distribution of monetary benefits (Child, 1996).

Child (1996) concludes that, as a result of this approach, "CAMPFIRE has benefited local communities and councils with up to 70 000 households and 80 wards [villages] getting direct benefits".

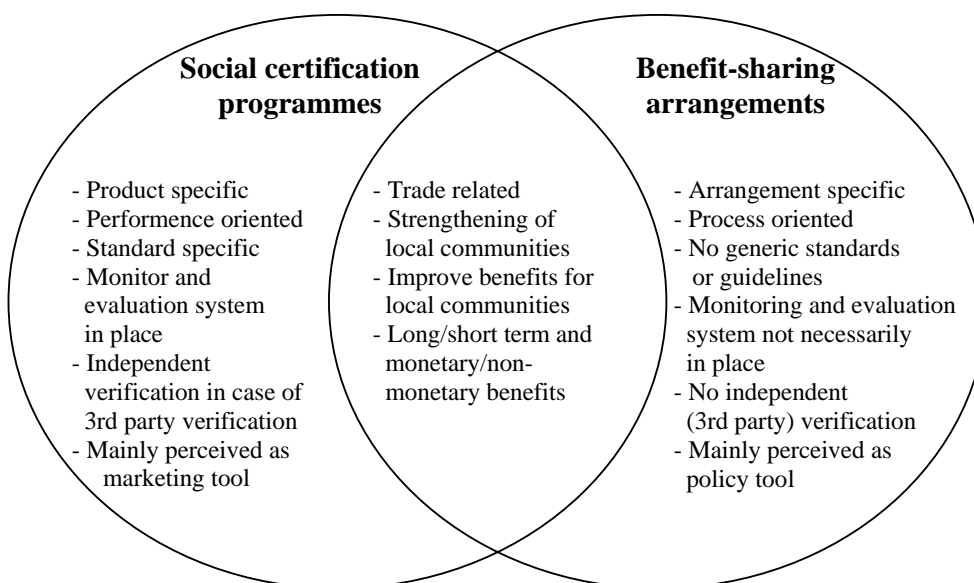
CERTIFICATION SYSTEMS – TOOLS TO PROMOTE THE ADEQUATE SHARE OF BENEFITS?

Comparing the main objectives of BSA with certification schemes, the closest links exist between BSA and social certification systems, since both focus on the equal sharing of benefits among stakeholders related to the commercialization of products.

BSA are contractual arrangements among stakeholders and do not normally involve an independent “third” party. Therefore, they correspond to first or second party certification systems where the arrangement could be considered a guiding principle or standard. The Swiss draft guidelines on access and benefit-sharing point out that “stakeholders are encouraged to collaborate in creating a system of certification ...which would confirm the abidance to the guidelines by the stakeholders being certified. When creating this system of certification, the involved stakeholders are encouraged to consider the suitability of any existing institution or mechanism already involved in certification and standardisation” (Swiss State Secretariat for Economic Affairs, 1999:7/12).

Lessons could also be drawn from an in-depth analysis of the complementarities of the certification and benefit-sharing approaches, taking into account that the principles of the CBD might enhance certification programmes, while standard setting and verification might strengthen BSA.

Figure 2. Commonalties and differences between social certification systems and BSA



Other certification schemes, such as forest management, organic and product quality certification, do not focus on benefit-sharing as such, but provide additional benefits as mentioned in Table 1.

Forest management certification schemes and criteria and indicators for sustainable forest management include social standards to various degrees. Examples include FSC’s principles 2 (tenure and use rights responsibilities), 3 (indigenous people’s rights), 4 (well-being of forest workers and local communities) and 5 (benefits from the forest) and criterion 6 (other social benefits) of the Pan-European Forest Process on Criteria and Indicators for Sustainable Forest Management, which defines the minimum criteria to be used in European schemes applying to the PEFC (FSC, 2002; FAO, 2001; PEFC, 2002).

The application of these standards indirectly contributes to the improvement of benefits for local producers since they:

- Provide binding and verifiable agreements between key actors;
- Strengthen or clarify user rights;
- Provide value-addition and market premium prices for certified products;
- Empower normally disadvantaged stakeholders, especially local communities;
- Act as a catalyst of social reform processes through stakeholder participation and consultation;
- Provide market niches for specific products or services;
- Encourage the establishment of collaborative partnerships and/or global alliances between producers and consumers for the responsible use of forest resources (GTZ, 2002; Kruedener v., 2000; FAO, 2000b).

However, forest certification might also cause disadvantages for producers and other stakeholders. These disadvantages include high financial and managerial costs and reduced short-term revenue due to lower output volumes (FAO, 2000b). In order to prevent additional possible disadvantages, rural development programmes must compliment certification initiatives in order to provide community leverage or reinforcement of existing tenure agreements (Meek, 2001).

ISSUES AND PERSPECTIVES²

Both certification and benefit-sharing are potential tools to promote the sustainable use of NWFP and reduce the negative effects of international trade in NWFP on the resource system. However, an in-depth analysis is still required in order to identify the key factors leading to either the success or failure of the application of these tools. Crucial issues which should be taken into consideration when analysing BSA and certification systems include:

- Which certification programmes or BSA exist and under what conditions are they most suitable and for whom?
- Which mechanisms are most appropriate to facilitate the distribution of monetary benefits? Who should be the principal beneficiaries? How should they be organized?
- How relevant are these mechanisms in the promotion of the sustainable use of NWFP, taking into account that they are only applied for selected species and specific locations?
- What are the impacts of certification and benefit-sharing as policy tools that provide a multitude of non-monetary benefits such as improved capacity, stakeholder participation and consultation, and the recognition of custom, tenure and user rights?
- How do certification and benefit-sharing mechanisms actually contribute to poverty alleviation? Will they remain tools providing benefits to a limited number of people or will these mechanisms contribute to the improvement of local livelihoods on a larger scale?
- Are certification and benefit-sharing mechanisms able to promote the production of NWFP by forest dependent people as opposed to the production of these products through farming? (This is particularly so for medicinal plants, where “competition” between farmed and wild gathered products is high.)
- What is the potential of certification and benefit-sharing as market tools? For which products, certified or produced in the context of BSA, does a market actually exist that allows the payment of a premium price?
- How do the additional costs that result from certification and benefit-sharing influence the application of these mechanisms?
- How applicable are certification and benefit-sharing mechanisms for rural areas and dispersed people?

² Derived from Walter (2002a).

- How applicable and effective are certification and benefit-sharing mechanisms as tools for the improved traceability of supply chains?
- What methods can be applied in order to define sustainable harvesting levels, taking into account the lack of ecological information on many species providing NWFP? Do species-specific standards sufficiently avoid negative ecological effects on the entire production system?
- Can certification programmes be used as voluntary control tools to monitor and evaluate the compliance with laws and regulations such as CITES? For example, CITES requests that trade in appendix II species, which risk becoming threatened with extinction, be closely controlled so as not to be detrimental to the survival of the species (CITES, 2002). This control could be provided by certification systems.

These and many more issues have to be clarified in order to assess the relevance and applicability of certification and benefit-sharing as tools for the sustainable use of NWFP.

The FAO NWFP Programme, in collaboration with other programmes, organizations and agencies, aims at contributing to this assessment by:

- Collecting, analysing and disseminating information on i) relevant stakeholders involved in certification and benefit-sharing (e.g. private sector, governmental and non-governmental organizations) as well as ii) existing certification and benefit-sharing mechanisms for NWFP (e.g. labelling systems); and
- Implementing case studies which aim at assessing the impact of certification and benefit-sharing on the sustainable use of selected NWFP.

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