

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

**UNCTAD**



# 20 years of BioTrade

Connecting people, the planet and markets



UNITED NATIONS

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For further information on UNCTAD's BioTrade Initiative please consult the following website:

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## Acknowledgements

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## Acronyms

<b>ABP</b>	Andean BioTrade Project	<b>MINAM</b>	Ministry of Environment (Peru)
<b>ABS</b>	access and benefit sharing	<b>MINCETUR</b>	Ministry of Foreign Trade and Tourism (Peru)
<b>AGR</b>	access to genetic resources	<b>MoU</b>	memorandum of understanding
<b>B2B</b>	business-to-business	<b>NBSAPs</b>	national biodiversity strategies and action plans
<b>BIG</b>	BioTrade Implementation Group (Viet Nam)	<b>NFR</b>	novel food regulation
<b>BT P&amp;C</b>	BioTrade Principles and Criteria	<b>NGO</b>	non-governmental organization
<b>CAF</b>	Development Bank for Latin America	<b>NTB</b>	non-tariff barriers
<b>CBD</b>	Convention on Biological Diversity	<b>NTF</b>	non-timber forest
<b>CEI</b>	communitarian ecotourism initiatives	<b>NTMs</b>	non-tariff measures
<b>CEPNN</b>	Communitarian Ecotourism Programme in National Parks (Colombia)	<b>NWFP</b>	non-wood forest products
<b>CITES</b>	Convention on International Trade in Endangered Species of Wild Fauna and Flora	<b>PCP</b>	Python Conservation Partnership
<b>COP/CoP</b>	Conference of the Parties	<b>PIC</b>	prior informed consent
<b>CORPEI</b>	Corporación de Promoción de Exportaciones e Inversiones (Ecuador)	<b>PNN</b>	National Natural Parks (Colombia)
<b>COSIRA</b>	Competitiveness of the Private Sector in Rural Areas (Kosovo)	<b>PROMPERU</b>	Export and Tourism Promotion Agency of Peru
<b>CSR</b>	corporate social responsibility	<b>PTA</b>	PhytoTrade Africa
<b>EFSA</b>	European Food Safety Authority	<b>R&amp;D</b>	research and development
<b>EU</b>	European Union	<b>REACH</b>	Registration, Evaluation, Authorization and Restriction of Chemicals (EU)
<b>FAO</b>	UN Food and Agriculture Organization	<b>REDD+</b>	Reducing Emissions from Deforestation and Forest Degradation, conservation, sustainable management of forests and enhancement of forest carbon stocks
<b>FDA</b>	Food and Drug Administration (USA)	<b>SDGs</b>	Sustainable Development Goals
<b>FEKIHD</b>	Federación Kichwa Huallaga Dorado (Peru)	<b>SECO</b>	State Secretariat for Economic Affairs (Switzerland)
<b>FSAI</b>	Food Safety Authority of Ireland	<b>SFCP</b>	Suruí Forest Carbon Project (Brazil)
<b>GACP</b>	good agriculture and collection practices	<b>SMEs</b>	small and medium-sized enterprises
<b>GEF</b>	Global Environment Facility	<b>SPS</b>	sanitary and phytosanitary
<b>GHG</b>	greenhouse gas	<b>SSIT</b>	Sete de Setembro Indigenous Territory (Brazil)
<b>GIIB</b>	BioTrade Research and Innovation Group (Peru)	<b>TBT</b>	technical barriers to trade
<b>GIZ</b>	Die Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for Cooperation)	<b>TK</b>	traditional knowledge
<b>GMP</b>	good manufacturing practice	<b>UEBT</b>	Union for Ethical BioTrade
<b>GRAS</b>	Generally Recognized As Safe (USA)	<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>HACCP</b>	hazard analysis and critical control points	<b>UNCTAD</b>	United Nations Conference on Trade and Development
<b>IDP</b>	internally displaced person	<b>UNDP</b>	United Nations Development Programme
<b>ILCs</b>	indigenous and local communities	<b>UNEP</b>	United Nations Environment Programme
<b>INP</b>	indigenous natural product	<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>IPBES</b>	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services	<b>UNOCACE</b>	Unión de Organizaciones Campesinas Cacaoteras del Ecuador (Union of Peasants Organizations of Cocoa of Ecuador)
<b>ISO</b>	International Organization for Standardization	<b>UNWTO</b>	United Nations World Tourism Organization
<b>ITC</b>	International Trade Centre	<b>VIETRADE</b>	Viet Nam Trade Promotion Agency
<b>IUCN</b>	International Union for Conservation of Nature	<b>WHO</b>	World Health Organization
<b>JECFA</b>	Joint FAO/WHO Expert Committee on Food Additives		
<b>MAFRD</b>	Ministry of Agriculture, Forestry and Rural Development (Kosovo)		
<b>MAT</b>	mutually agreed terms		
<b>MEA</b>	multilateral environmental agreement		



## Foreword



Twenty years ago, the BioTrade Initiative was launched as the UNCTAD response to implementing the 1992 Earth Summit's Agenda 21, the blueprint for sustainable development action into the twenty-first century. The BioTrade Initiative aims at promoting the conservation and sustainable use of biological resources through international trade and investment. UNCTAD coined the term "BioTrade", which has become recognized in efforts to promote sustainable development and poverty alleviation through trade and investment.

The BioTrade Initiative facilitates and supports national, regional and international BioTrade programmes, partnerships and businesses that have contributed to fighting biodiversity loss while ensuring the sustainable use of biological resources and ecosystems. Activities are implemented in close cooperation with the secretariats of the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora on the development of regulatory and institutional frameworks to prevent illicit trade in natural species and to safeguard them.

The experiences, lessons and successes in the articles shared by BioTrade practitioners in this commemorative publication attest to the reach of BioTrade and the BioTrade Initiative. There are now ongoing BioTrade activities in over 20 countries. Efforts cover a range of products and services in a variety of biodiversity-based sectors.

Building sustainable livelihoods, particularly for rural communities and marginalized groups, in biodiversity-rich developing countries is central to the conservation and sustainable use of nature's resources. Thus, UNCTAD collaborates with Governments, the private sector and international organizations in developing and promoting BioTrade programmes and businesses that adhere to sustainable development principles, ethical sourcing of biological resources, access and sharing of benefits, proper traceability of products derived from biodiversity and awareness raising of the value of nature. Improving income earning opportunities for rural communities can also bring added dividends such as consolidating peacebuilding in post-conflict areas.

Most recently, at the fourteenth session of the United Nations Conference on Trade and Development in Nairobi in July 2016, member States agreed on how the institution should contribute to achievement of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals by fostering inclusive trade and sustainable development policies. In the Conference's outcome document, the Nairobi Maaifkiano, they agreed specifically to "promote sustainable trade in biodiversity products and services to strengthen the sustainability of biodiversity and foster sustainable growth, in close cooperation with other relevant agencies where appropriate". The agreement marks a new milestone in the evolution of BioTrade and will serve as a the platform through which UNCTAD will act on the 2030 Agenda, especially Sustainable Development Goal 15 which seeks to "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss".

Since 1996, UNCTAD has contributed to the evolution of a group of producers, processors and retailers committed to conserving the biodiversity wealth of countries and guaranteeing sustainable use of biological resources under fair and equitable conditions. Going forward, Sustainable Development Goal 15 sets a path for UNCTAD and the international community to use tried and tested approaches, such as those consistent with the BioTrade Initiative's vision, to conserve and use nature sustainably to meet the needs of present populations without jeopardizing those of future generations.

### **Mukhisa Kituyi**

Secretary-General

United Nations Conference on Trade and Development





For over a decade, Switzerland, through the State Secretariat for Economic Affairs SECO has been partnering with UNCTAD and other international and national partners in the fields of the sustainable use of biodiversity. It has done this from a trading perspective through the BioTrade Initiative and in support of the objectives of the Convention on Biological Diversity.

The importance of biodiversity cannot be highlighted enough. Located mainly in rural areas, it provides for the basic needs of the poor as well as essential resources and services to industries. Currently, strong consumption trends favor demand for sustainably sourced products and services, thus generating new opportunities for biodiversity products and services, including BioTrade.

However, biodiversity is decreasing at accelerating rates, reducing ecosystems' capacities to provide their essential services for humans, affecting in particular those who depend most and directly on those resources. Furthermore, in many developing countries rich in biodiversity, conservation efforts are often not sufficiently taken into consideration. One promising way to address this is to attribute economic value to biodiversity, by developing incentives both for conservation and for sustainable use. Trade, if sustainably managed, can be a positive incentive by generating income for local communities who sustainably manage their resources.

The BioTrade conceptual framework and approach, with their set of principles and criteria for the sustainable use of biodiversity, can be a real change maker in favor of ecosystems and livelihoods for the poor. The global sales of BioTrade value added products and services reached €4.3 billion in 2015. A previously niche green market is transforming into a robust subsector of the economy of many developing countries. Small and medium-sized enterprises, grassroots associations and cooperatives, in particular, are the direct beneficiaries of this commercialization. They benefit from increases in their income and improvements in their livelihoods.

In the coming years, SECO intends to continue and deepen its engagement with national and international partners at different levels and on different issues. This is in line with Switzerland's commitment to double its financial engagement in favor of biodiversity by the year 2020.

The effort to harness the enormous market opportunities by engaging in trade of biodiversity products is not an easy task. Establishing sustainable BioTrade value chains requires coordinated and sustained work by a large variety of actors, from the public, private and academic sectors as well as civil society. UNCTAD's BioTrade Initiative supports partners – governments, companies and civil society alike – to address these challenges and capitalize on the opportunities offered by BioTrade. Only by joining forces at all levels, we can seize such opportunities in favor of ecosystems and the livelihoods of the poor. This is a direct contribution to the implementation of the Agenda 2030 and the SDG targets.

**Raymund Furrer**

Ambassador

Head of Economic Cooperation and Development

State Secretariat for Economic Affairs SECO

Switzerland



UNCTAD, through its BioTrade Initiative is one of the oldest partners contributing to the implementation of the Convention on Biological Diversity (CBD). Formal cooperation between the CBD Secretariat and UNCTAD on BioTrade goes back to October 1997.

There are good reasons for this long-standing cooperation. Parties to the CBD recognized early on that BioTrade – which comprises all economic activities related to the production and trade of biodiversity based products under sustainability criteria – can provide important incentives towards the conservation and sustainable use of biodiversity. In circumstances where

the risk of converting natural landscapes to other purposes is high, encouraging sustainable use of natural resources can provide incentives to conserve biodiversity. Ensuring that the right incentives are in place to promote sustainable use is critical for the effective implementation of the Convention. In Article 11, the Convention encourages measures that act as incentives for conservation and sustainable use, including measures that promote BioTrade.

The decisions and work programmes of the Conference of the Parties of the Convention contain frequent references to BioTrade activities, including appreciative language with regard to the activities of the UNCTAD BioTrade Initiative and invitations to continue its good work. There is a growing number of BioTrade programmes at national and subregional levels. The BioTrade Initiative and its partners have also supported the development of products based on fauna, food, fashion, personal care products, nature-based tourism and REDD+ projects. In 2007, global guidance on BioTrade, the BioTrade Principles and Criteria, was published, and other sector-specific guidance material has also been produced. There is a growing network of BioTrade partners, including the United Nations Development Programme (UNDP), the Union for Ethical BioTrade (UEBT), Development Bank of Latin America (CAF) and PhytoTrade Africa, among others.

The BioTrade Principles and Criteria also include a reference to fair and equitable benefit sharing, thus referring to the third objective of the Convention, and the focus of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits from their Utilization to the CBD. The entry into force of the Nagoya Protocol in 2014 creates opportunities for developing business models that rely on sustainable use and increased knowledge of the value of natural resources. It creates incentives for preserving genetic diversity, and biodiversity more broadly, as well as associated traditional knowledge while providing the conditions for continuous research and development on genetic resources.

With the middle of the United Nations Decade on Biological Diversity reached, and enormous work ahead of us if we are to achieve the Strategic Plan for Biodiversity 2011–2020, BioTrade provides an opportunity for scaling up sustainable use of biodiversity. Thus, taking steps to strengthen markets for BioTrade and putting in place supportive policies would help leverage the contribution that BioTrade can make to meeting the objectives of the Convention. The need to further enable the environment for BioTrade remains an important challenge, as we move to the next 20 years. I would like to encourage more countries to benefit from the experiences developed in the last 20 years under the BioTrade Initiative.

**Bráulio Ferreira de Souza Dias**  
Executive Secretary  
Convention on Biological Diversity



We would like to warmly congratulate the BioTrade Initiative of UNCTAD on the launch of this 20th anniversary publication. This publication shows the culmination of two decades of hard work and commitment in enhancing environmental, social and economic sustainability in the trade of biodiversity-related goods and services.

2016 is also the 15th anniversary of the cooperation between the BioTrade Initiative and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). CITES is both a global conservation convention as well as a trade-regulatory body, whose mandate is to ensure that international trade in CITES-listed wildlife does not threaten their survival. CITES recognizes that commercial trade in certain wildlife may be beneficial to the conservation of species and ecosystems, and/or to the development of local communities when carried out at levels that are not detrimental to the survival of the species in question. CITES was described in the outcomes of Rio+20 in 2012 as an international agreement that stands at the intersection between trade, the environment and development, promotes the conservation and sustainable use of biodiversity, and should contribute to tangible benefits for local people. The BioTrade Initiative is an ideal partner in advancing the joint endeavour of ensuring the conservation of species and enhancement of the livelihoods of local communities, whilst also facilitating income-generating opportunities for those compliant with the Convention's requirements and national legislation.

Today, 182 Parties to CITES are making concerted efforts to regulate the international trade in more than 35 000 animal and plant species, recording over one million trade transactions per year. We remain committed to focusing on the Convention's three pillars of legality, sustainability and traceability, and our cooperation with UNCTAD and its BioTrade Initiative provides a strong foundation to further improve the mutual supportiveness between trade and environment.

The United Nations Sustainable Development Summit held in New York in 2015 adopted the SDGs, which envisage a world "in which humanity lives in harmony with nature and in which wildlife and other living species are protected", and many of the 17 goals and 169 targets in the SDGs are of specific and common relevance to the BioTrade Initiative and CITES. In this pivotal year for sustainable development, we must keep in mind the importance of strengthening multilateral and cross-cutting cooperation to tackle increasingly interconnected global challenges. We believe that the CITES-BioTrade Initiative collaboration is a great example of a how focused and effective such collaborative effort can be.

**John E. Scanlon**

Secretary-General

Convention on International Trade in Endangered Species of Wild Fauna and Flora



# 1 BioTrade history and conceptual framework

## BioTrade, biodiversity, Aichi Targets and SDGs: Facts and figures

### BioTrade

Collection, production, transformation and commercialization of goods and services derived from native biodiversity (species and ecosystems) under environmental, social and economic sustainability criteria.



### Biodiversity

The variety of life on Earth, including the wide range of plants, animals and microorganisms, the genetic variety within the species, and the different ecosystems.



### Sustainable Development Goals

The SDGs, part of the 2030 Agenda for Sustainable Development adopted in 2015, are a global call to action. To end poverty, protect the planet and ensure all live in peace and prosperity.

### Sectors involved in BioTrade activities:

- Personal care
- Pharmaceuticals/phytopharma
- Food
- Fashion
- Ornamental flora and fauna
- Handicrafts
- Textiles and natural fibres
- Sustainable tourism
- Forestry-based carbon credit activities.



**70%** of the world's poor depend directly on biodiversity.

**7000** plant species are consumed by people as food.

**17%** of plant species are used for medicinal purposes.

**86%** of species (and their potential uses) are still unknown.

### Business and biodiversity awareness

**83%** of consumers expect companies to have sourcing policies in place that respect biodiversity.

**12 000** companies in more than **70** countries have signed up to the United Nations Global Compact, committing to greater environmental (and biodiversity) responsibility.

The number of companies that report on biodiversity in their annual reporting is growing. **36** of the top 100 cosmetic companies and **60** of the top 100 food companies now mention biodiversity.

### BioTrade impact in figures

Sales of BioTrade beneficiary companies and associations

**€4.3 billion**  
(2015)

A significant increase from **US\$40 million** in 2003

Number of beneficiaries  
Around

**5 million**  
worldwide

Producers/farmers, collectors/hunters, workers, among others

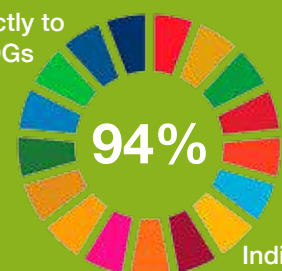
### Strategic Plan for Biodiversity 2011– 2020 and the Aichi Targets

BioTrade contributes directly to 13 of the 20 Aichi Targets



### BioTrade contributes to almost all SDGs

Directly to 8 SDGs



Indirectly to 8 SDGs

# 1.1 BioTrade – harmonizing trade, biodiversity and livelihoods

In 1996, UNCTAD created the term “BioTrade” and the BioTrade Initiative as an instrument to enable countries to harmonize economic development with conservation of biodiversity through the trade of goods and services derived from biodiversity. Over the past 20 years, several organizations and companies in a number of countries have engaged in implementing BioTrade across a variety of sectors.



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## Introduction

UNCTAD, through its BioTrade Initiative, has been promoting trade and investment in biological resources (biological resources and ecosystems) to further sustainable development and poverty alleviation in line with the three objectives of the Convention on Biological Diversity (CBD):<sup>1</sup>

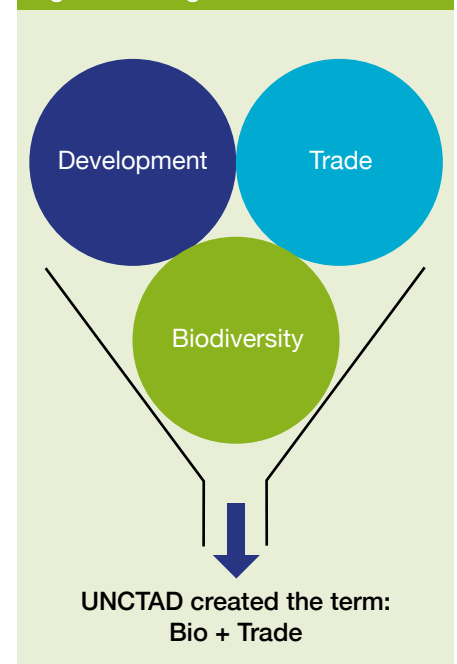
- Conservation of biodiversity;
- Sustainable use of its components; and
- Fair and equitable sharing of benefits arising from genetic resources.

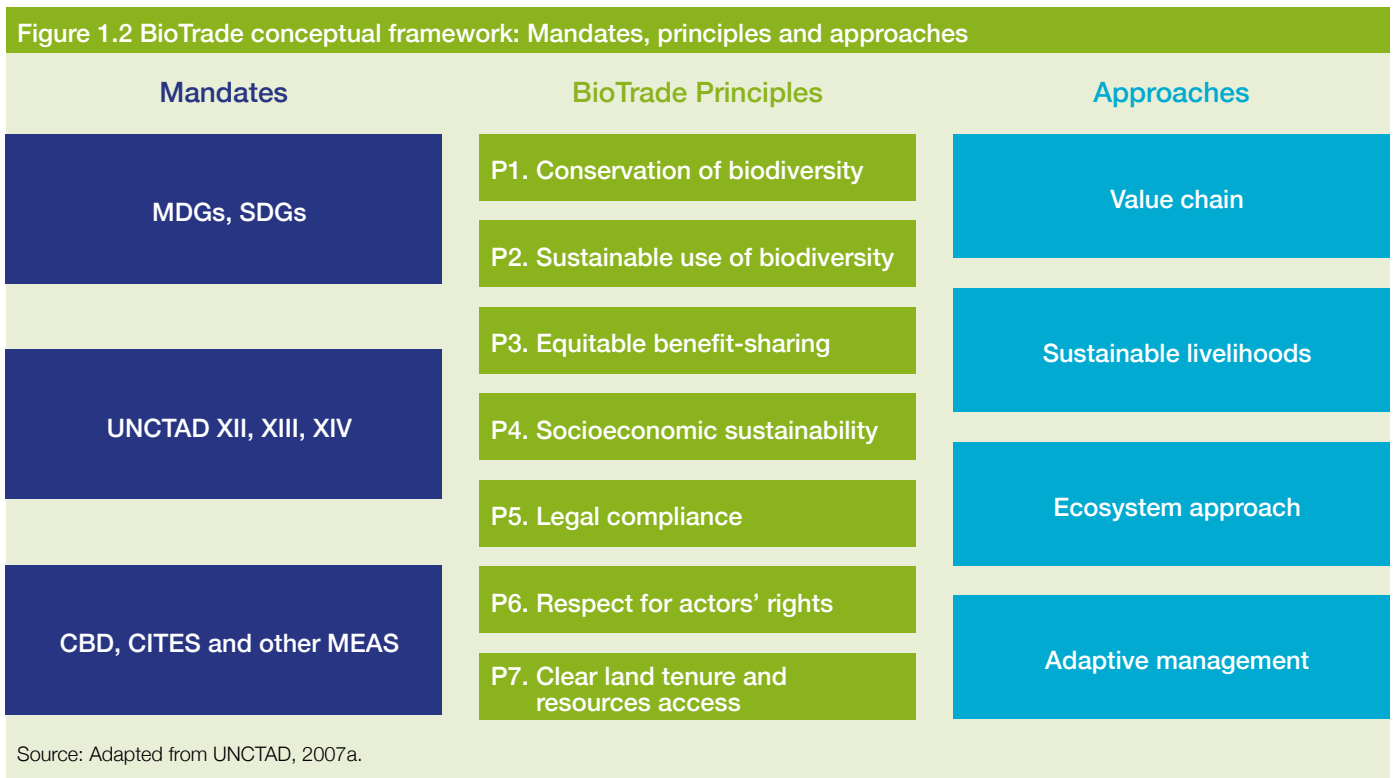
Additionally, it contributes directly to the achievement of conservation and sustainable development objectives of other multilateral environmental agreements (MEAs). One such agreement is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to which UNCTAD has provided support to promote legal, sustainable and traceable trade in endangered species. Finally, with the adoption of Agenda 2030 and the Sustainable Development Goals (SDGs), the BioTrade Initiative will contribute to the implementation of almost all SDGs, notably SDGs 15, 17 and 12.

BioTrade refers to the collection, production, transformation and commercialization of goods and services derived from native biodiversity (species and ecosystems) under environmental, social and economic sustainability criteria. This should not be confused with the conduct of “biotrade” in general which does not necessarily relate to “native” species and which also does not adopt or implement BioTrade’s frameworks or its tools/methodologies.

To more fully develop this concept, UNCTAD, jointly with international and national partners and practitioners, established the BioTrade Principles and Criteria (BT P&C). These, combined with the four distinctive approaches (value chain, sustainable livelihoods, ecosystem and adaptive management),<sup>2</sup> guarantee the sustainability of the interventions. This framework addresses the objectives of biodiversity-related MEAs in the broader context of sustainable development and responsible business (Figure 1.2). For instance, the BT P&C enable the identification of social, economic and environmental challenges and gaps of beneficiaries that need to be addressed through the implementation and monitoring of customized workplans to guarantee actions are sustainable.

Figure 1.1 Origin of “BioTrade”





**BioTrade countries**

Over 20 developing countries in Africa, Asia and Latin America now implement BioTrade, its concept or methodologies, with the support of national, regional and international BioTrade partners (Figure 1.3). Some companies working in developed countries, such as France, Germany, Italy, Switzerland and the United Kingdom, are also working under the BT P&C through the Union for Ethical BioTrade (UEBT).

At the international level, UNCTAD's BioTrade partners include the CBD and CITES secretariats, UEBT, the United

Nations Development Programme (UNDP), International Trade Centre (ITC) and the United Nations Environment Programme (UNEP), among others. UNCTAD's BioTrade Initiative receives support from donors, in particular the Swiss State Secretariat for Economic Affairs (SECO)/ Government of Switzerland.

At the regional level, partners include the Development Bank of Latin America (CAF), General Secretariat of the Andean Community, Amazon Cooperation Treaty Organization, PhytoTrade Africa (PTA) and Die Deutsche Gesellschaft für Internationale

Zusammenarbeit (German Agency for Cooperation - GIZ). At the national level, partners include ministries of environment and trade in Colombia, Ecuador, Peru and Viet Nam, trade promotion agencies in Ecuador, Peru and Viet Nam, non-governmental organizations (NGOs) such as HELVETAS Viet Nam, Alexander von Humboldt Institute (Colombia), Corporación Biocomercio Sostenible - Colombia, Corporación Fondo Biocomercio (Colombia), EcoCiencia (Ecuador) and business associations such as the BioTrade Implementation Group (BIG) in Viet Nam, among others.

**Figure 1.3 Countries implementing BioTrade**

**Africa:** Botswana, Burkina Faso, Ghana, Madagascar, Malawi, Mozambique, Namibia, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe

**Asia:** Indonesia, Lao People's Democratic Republic, Myanmar and Viet Nam

**Latin America:** Plurinational State of Bolivia, Brazil, Colombia, Ecuador, Mexico and Peru.



## BioTrade sectors

For beneficiary countries working with BioTrade initiatives, a broad variety of products and services can be sustainably derived from their rich biodiversity (Table 1.1). Within each sector, efforts and resources are prioritized and channelled into areas where major social, environmental and economic impacts need to be achieved. The BT P&C are used to guide interventions on the ground and several tools, methodologies and protocols have been produced to support partners and programme beneficiaries (e.g. SMEs, community-based associations) in implementation.

## BioTrade capacity and skills development

UNCTAD and its partners have focused on enhancing the capacities and skills of BioTrade practitioners for engaging in sustainable sourcing, access and benefit sharing (ABS) and trade in value added products and services. Such training may include legal and technical advice relevant to BioTrade activities including the regional and national implementation of regulations, good practices, enhancing harvesting and processing methods and documentation. A master's degree programme and online courses have also been developed and implemented by the Catholic University in Peru and UNCTAD, among others, in addition to the development of tools, guidelines, training material and documents. Topics addressed and tools offered are shown below:

- **Policy frameworks:** Guidelines to fulfil regulations, protocols, management plans, ABS, etc.
- **Market access:** Market studies, guidelines to develop and implement marketing and promotion strategies, guidelines on requirements to access specific markets, etc.
- **Value chain development:** Methodologies to prioritize sectors and value chains, formulate implementation strategies and monitoring systems, etc.
- **Managerial skills:** Guidelines to develop business plans and feasibility studies, cost assessments, traceability and documentation, etc.
- **Social practices:** Guidelines to enhance the participation of communities in decision-making and value chain development, implementing methodologies for an equitable and fair distribution of benefits across the value chain stakeholders.
- **Environmental practices:** Guidelines to develop management plans and resource assessments for flora and fauna species, sustainable practice guidelines for ecotourism and community-based tourism initiatives, protocols for the use of wild species, including those listed under CITES Appendices II and III.

The tools and methodologies developed under BioTrade can be adapted to country and region specific circumstances and realities. These can include additional approaches, criteria or considerations to target specific geographical locations and beneficiaries.

Table 1.1 BioTrade sectors prioritized by countries and partners

Sector	Type of product
Personal care	Essential oils, natural dyes, soaps, cream and butters, cosmetics, etc.
Pharmaceutical (phytopharma)	Extracts, capsules and infusions from medicinal plants, etc.
Food	Fruits pulps, juices, jams, biscuits and sauces, spices, nuts, tubers, snacks, food supplements, meat from caiman and fish, etc.
Fashion	Skin and belts, bags from <i>Caiman yacare</i> , etc.
Ornamental flora and fauna	Heliconias, orchids, butterflies, etc.
Handicrafts	Jewellery, decorative objects based on native species, garments, etc.
Textiles and natural fibres	Furniture and decorative objects based on natural fibres, bags, shoes, etc.
Sustainable tourism	Ecotourism, nature-based tourism, community-based tourism, etc.
Forestry-based carbon credit activities.	Reducing Emissions from Deforestation and Forest Degradation, conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+), greenhouse gas (GHG) emissions mitigation strategies for specific value chains, etc.

“BioTrade specializes in niche markets and developing and trading products and services that are economically competitive, and socially and environmentally responsible...”



### The next 20 years: Upscaling BioTrade and the 2030 Agenda

In the past 20 years, BioTrade has expanded in terms of the number of partners and practitioners involved, sectors and geographical coverage. BioTrade has been mainstreamed at both national and international levels, for instance in the Decisions of the Parties to the CBD and CITES, discussions at the United Nations General Assembly, as well as within development banks,

the private sector, civil society and markets. A strong network of partners and practitioners has been established and is being expanded continuously to cover evolving needs of beneficiaries, document lessons learned and address relevant emerging issues. Further efforts from BioTrade partners should continue documenting, disseminating and measuring its impact and contribution to sustainable development, SDGs and the Aichi Targets at all levels (Table 1.2).

Table 1.2 Lessons learned and emerging issues for upscaling BioTrade

Issue or lesson learned	Further work or lessons learned
Holistic, integrated and inclusive approaches which are demand-driven	Continue emphasizing socioeconomic sustainability, fair and equitable sharing of benefits, and respect for the rights of actors involved in BioTrade activities. Further work should also enhance the participation of and liaison with indigenous and local communities, and in fostering horizontal and vertical integration of value chain stakeholders and BioTrade practitioners worldwide. For demand-driven interventions it is essential to develop workplans that comply with market requirements, are competitive and economically feasible, and also fit the interests and needs of BioTrade beneficiaries.
Capacity building programmes	Continue developing BioTrade methodologies, guidelines, training and technical assistance, implementing new technologies and matching the circumstances and needs of beneficiaries.
Knowledge management systems	<p>Establish and/or enhance systems for:</p> <ul style="list-style-type: none"> <li>• Documenting and sharing good practices and experiences;</li> <li>• Measuring BioTrade's impact and contribution to the SDGs and Aichi Targets; and</li> <li>• Identifying and addressing emerging issues relevant to BioTrade.</li> </ul> <p>This enables practitioners to be updated, capture development opportunities and upscale their actions.</p> <p>Further work is needed on linking BioTrade and climate change (e.g. implementing carbon-neutral value chains), ecosystem services valuation, ocean economy, including marine ecosystems, and peacebuilding and post-conflict recovery and supporting the national implementation of the Nagoya Protocol.</p>
Enabling policy environment supportive of BioTrade and its prioritized sectors	<p>Continuous work is needed to identify and address constraints related to gaps, lack of clarity, overlapping and duplicity in regulations and roles of different government agencies. Similarly, it should also consider addressing non-tariff barriers (NTBs) for prioritized products and services in target markets.</p> <p>Raise awareness and mainstream BioTrade as an engine for achieving green growth in developing countries, for valorizing their biodiversity potential, securing ABS, and enhancing their competitiveness and differentiation based on the sustainable use of native biodiversity.</p>
Competitive and economically feasible businesses and value chains	This continues to be a challenge when implementing BioTrade and requires access to funding, and improvement of businesses practices. For example, carrying out research and development (R&D) activities, improving processes and products, and liaising with universities and research organizations.
Globalization of value chains	Globalization enables the ability to access more customers for BioTrade products and services and, in some cases, to reduce middle men. This can increase competition from other sourcing countries and foster stronger quality and quantity control systems, documentation and traceability systems.
Accessing markets	Identifying and learning about prioritized target markets are essential when developing value chains. Positive market trends and business practices that favour environmentally and socially responsible products and services are supportive of BioTrade. However, the challenges that BioTrade practitioners need to face relate to evolving and/or stronger market requirements, for example sanitary and phytosanitary (SPS) certificates, labelling, novel food regulation (NFR) as well as the proliferation of certification schemes and consumer confusion and/or mistrust due to false claims – greenwashing. Strong documentation and traceability systems in compliance with international standards are becoming essential when accessing markets and complying with national and international regulations.

# 1.2 BioTrade: An opportunity for synergy with multilateral environmental agreements

This article focuses on the relationship of BioTrade with the achievements and objectives of biodiversity-related MEAs and the SDGs. It also highlights the growing recognition of BioTrade in the decisions of the Conference of the Parties (COP) of the CBD and CITES, from 1996 onwards.



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## Origins of the relationship between BioTrade and MEAs

### Launch of BioTrade – Lyon, France, 1996

I remember as it was yesterday when I first heard the word “BioTrade” (*BioComercio* in Spanish). It was November 1996, at the third meeting of the COP to the CBD in Buenos Aires, Argentina. UNCTAD launched the BioTrade Initiative there, with the aim of fostering trade and investment in biological resources to achieve sustainable development, in line with the three CBD objectives: conservation, sustainable use and equitable sharing of benefits (CBD, 1992).

On that occasion, the initiative was simply acknowledged in CBD COP 3 Decision III/18 to “take into consideration relevant work under way in other forums, such as the *United Nations Conference on Trade and Development ...*”.<sup>3</sup> However, following the launch, the Plurinational State of Bolivia, Ecuador and Peru approached UNCTAD and discussed the sustainable use of biodiversity. They were convinced that only through the sustainable use of the components of biodiversity, that its effective conservation could be achieved.

The task of setting up the BioTrade Initiative was long, as the conceptual framework needed validation and experience needed to be developed. 1996 was the starting point, and BioTrade was introduced formally as a CBD decision 12 years later.

### BioTrade and CBD COP decisions

During the CBD COP 5 in Kenya in 2005, sustainable use of biodiversity was recognized as an effective instrument to foster value in biological diversity and Parties were “requested to identify appropriate actions to assist other Parties, especially developing countries and countries with economies in transition, to increase their capacity

to implement sustainable-use practices, programmes and policies at regional, national and local levels, especially in pursuit of poverty alleviation” (Decision V/24 §5) (CBD, 2000). Later at COP 7 in Malaysia, the Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity were approved, and these constitute the conceptual basis of BioTrade (Secretariat of the CBD, 2004).

In 2006 in Curitiba, Brazil, the Andean countries, through Decision VIII/26 §9, introduced the BioTrade Initiative into the CBD workplan on incentive measures. It concretely “invites the *United Nations Conference on Trade and Development, through its initiatives, including, BioTrade Initiative, to continue supporting the programme of work on incentive measures of the Convention*” (CBD, 2006).

At CBD COP 9 in 2008 in Germany, Decision IX/6 §13 related to incentive measures “invites the *BioTrade Initiative of the United Nations Conference on Trade and Development to continue its work on trade promotion for biodiversity-based products which are produced in a sustainable manner and compatible with the three objectives of the Convention on Biological Diversity, through capacity-building, enhancing market access, promoting enabling environments and engaging relevant public and private actors*” (CBD, 2008).

Since the launch of the BioTrade Initiative, progress made by the Andean, Asian and African countries, in particular, has underpinned the conceptual framework and the principles and criteria (expressed via norms, strategies, programmes, and pilot projects). In 2012, the achievement that consolidated these efforts was the first BioTrade Congress, run in parallel with the Rio+10 summit. Recognition of the role the BioTrade Initiative plays in promoting biodiversity is clear, indicated

“BioTrade’s conceptual framework and approaches have come a long way and BioTrade is now mainstreamed in several arenas...”



by the support noted in COP 12 Decision XII/6, “cooperation with other conventions, international organizations and initiatives”. Decision XII/6 §18 “calls upon the BioTrade Initiative of United Nations Conference on Trade and Development to continue to strengthen its technical support to Governments, companies and other stakeholders to enable them to incorporate BioTrade, as well as sustainable harvesting practices within national biodiversity strategies and action plans, as appropriate, highlighting the importance of BioTrade as an engine for sustainable use of biodiversity and its conservation through the involvement of the private sector” (CBD, 2014a; Secretariat of the CBD, 2015a).

However, more remains to be achieved, especially considering the new development context of the 2030 Agenda and the SDGs. The SDGs framework invites the integration of efforts, for example, SDG 17, “Revitalize the global partnership for sustainable development”. This can only be achieved with strong commitment in favour of global alliances and cooperation.

Multilateral environmental agreements provide for the best context for cooperation and achievement of the SDGs, in particular, those closely linked to the objectives of the CBD such as the CBD itself, CITES,<sup>4</sup> and the Convention on Wetlands (Ramsar), among others. These are part of the seven biodiversity-related conventions grouped under the Biodiversity Liaison Group<sup>5</sup> (Decision VII/26 §1 and §2) (CBD, 2004).

Countries’ efforts to integrate MEAs’ governance recommendations and find commonality with their obligations have grown and, with this, concerns about how to put them into practice in an efficient and coherent manner, avoiding duplication of effort. The study on

*Elaboration of options for enhancing synergies among biodiversity-related conventions* (UNEP, 2016) states two tools: national strategies and monitoring systems. However, these are rather broad and do not enable countries to find concrete implementation procedures.

What makes BioTrade a useful and valuable instrument to foster synergies among these MEAs? BioTrade’s conceptual framework and approaches<sup>6</sup> have come a long way and BioTrade is now mainstreamed in several arenas. For instance, BioTrade is considered in norms (26839 Law for the Conservation and Sustainable Use of Biodiversity in Peru, 2001), and in policies, strategies and plans, such as the Peruvian Bicentennial Plan (*Plan Bicentenario*), which proposes a strategic action for 2021 to “Promote BioTrade initiatives articulated with specialized high-value markets” (CEPLAN, 2011). These instruments provide strong support for implementation, which integrates additional efforts, generating broader positive impacts.

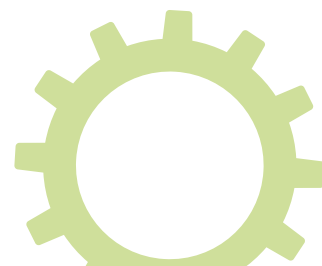
For this reason, the author believes that BioTrade is the most suitable and effective way to sustainably use biodiversity and its components. Therefore, it should be considered as an indispensable action to fulfil the second objective of the CBD. It is not a label or a new certification scheme, a stakeholder cannot decide to be organic or implement BioTrade – organic is already integrated within BioTrade, as are strategies to build resilience, inclusion, an ecosystem approach, innovation, technology, and environmental and social justice.

A substantive difference is precisely what it promotes through the value chain and adaptive management approaches, the conservation and sustainable use of biodiversity and

its ecosystem services. Without these elements, it would simply be the commerce and export of natural resources, without an integrated view of the biodiversity cycles and processes, in particular, regarding native biodiversity. Furthermore, BioTrade embraces the social aspect by enhancing the livelihoods of people living in rich biodiversity areas.

In developing a value chain, all stakeholders are involved, generating regional and bilateral cooperation. Capacities at critical points of the value chain are enhanced, exchange of technology and knowledge for innovation and value addition are fostered, respect for traditional knowledge (TK) and its norms is promoted, livelihoods are enhanced, and financial resources for activities on the ground are mobilized. Clearly in this scenario there is common ground between BioTrade and the implementation of MEAs.

The relationship between BioTrade and the SDGs is undeniable when we analyse BioTrade Principles and the potential to support the implementation of agreements such as the United Nations Framework Convention on Climate Change (UNFCCC), UN Convention to Combat Desertification (UNCCD), Ramsar Convention, etc., or when we consider supporting the integration of BioTrade in development processes. This is more evident when considering BioTrade’s potential to link investment and conservation, investment and benefit sharing, and conservation and sustainable use of biodiversity.



## The Sustainable Development Goals and MEAs

The 2030 Agenda for Sustainable Development and the SDGs<sup>7</sup> were adopted on 25 September 2015 during the United Nations Sustainable Development Summit in New York. They can be viewed as the path to achieve MEA synergies. For example, SDG 15 (Life on land), *“aims to conserve and restore the use of terrestrial ecosystems such as forests, wetlands, drylands and mountains by 2020. Promoting the sustainable management of forests and halting deforestations is also vital to mitigating the impact of climate change. Urgent action must be taken to reduce the loss of natural habitats and biodiversity which are part of our common heritage”* (United Nations, 2015). This text acknowledges the main elements of MEAs stated above.

Further, when considering SDG 15, Target 1, *“By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements,”* the common ground found is in implementing BioTrade, its Principles and Criteria to achieve this target.

How to guarantee this conservation? Through the sustainable use and recovery of ecosystems? With the support of local populations, involving local stakeholders? For example, by working under BT P&C, the value chains of cocoa, Brazil nut, sustainable tourism and other biodiversity components, are being enhanced.

SDG 12 relates to sustainable production and consumption and is also relevant to BioTrade. The target states the urgent need to reduce the ecological footprint through changes in the patterns of production and consumption of goods and services. It also refers to changes in agricultural patterns and the efficient management of shared natural resources – a clear synergy with BioTrade.

## Concluding remarks

It is important to mainstream BioTrade into MEAs, including into National Biodiversity Strategies and Action Plans (NBSAPs). This can be achieved via a three-step strategy:

- Developing a clear understanding of how BT P&C can be implemented;
- Assessing the implication of each of the Principles and Criteria within BioTrade approaches (adaptive management, ecosystem approach, value chain and livelihoods); and

- Establishing how these approaches can be implemented within NBSAPs for each country.

It is also essential to document and monitor BioTrade experiences and impacts in social, environmental and economic spheres, to feed into national and international frameworks (e.g. NBSAPs, national laws, strategies) as lessons learned and best practices.

It is indispensable to relate the findings above to the Aichi Targets and the SDGs to establish common ground between MEAs. The topics considered relate to information and monitoring, education, capacity-development, governance, conservation and use (rational, sustainable, etc.), among others. These are elements that should be integrated into each stage of the value chain, fostering compliance according to each MEA. Resilience, adaptation, rational use of wetlands, should also be considered as guiding principles. Such an exercise will renew the way we see MEAs, from their international scope to their implementation at the local level.



# 1.3 BioTrade: A market driver for sustainable development

BioTrade aims to promote sustainable development through trade and investment in biodiversity. Turning BioTrade into a market driver for sustainability has required defining opportunities for BioTrade products, ensuring market access and staying on top of market trends. Looking ahead, one priority is securing sufficient private sector buy in.



**Rik Kutsch Lojenga**, Executive Director, UEBT

## Introduction

The private sector is called upon to engage as an active partner in achieving the SDGs, adopted in 2015 by over 190 countries. The new development paradigm put forth by the SDGs requires business models that consider the environmental, social, economic and governance imperatives (Sustainable Development Knowledge Platform, 2015). Can such business models also present opportunities for innovation, competitive advantage and commercial growth?

Since 1996, the UNCTAD BioTrade Initiative has been working to promote sustainable development through trade and investment in biodiversity. That is, the BioTrade concept is seen as a market driver for sustainability, ensuring trade contributes to one of the most significant global challenges: the conservation and sustainable use of biodiversity, based on a fairer and more equitable sharing of benefits.

## Defining products and services

BioTrade's initial focus was, specifically, on harnessing the growing interest in genetic resources in the pharmaceutical and biotechnology sectors, which offered important economic opportunities for biodiversity-rich developing countries. The UNCTAD BioTrade Initiative successfully established a portfolio of regional and country programmes in Latin America, Africa and Asia. Yet, it quickly became clear that research, development and commercialization timelines and investment costs in these sectors could be significant. The development potential of genetic resources would only be realized over the long term. Interest in natural products was also diminishing among pharmaceutical companies, in view of new technological developments and legal uncertainty stemming from discussions over the misappropriation of genetic resources and TK. These developments affected efforts to promote BioTrade.

The focus of the BioTrade concept – at least in terms of markets – thus changed to other products and services derived from biodiversity. The launch of the first national BioTrade programme in Colombia in 1998 already reflected a focus on biological resources, rather than genetic resources. Promoting the inclusion of indigenous peoples, local communities and local companies in supply chains of natural ingredients – extracts, oils and powders used by the food, pharmaceuticals and cosmetics industries – offered more short-term and tangible benefits. Examples of BioTrade ingredients include fruits obtained through wild collection or agroforestry (such as açai berries from the Amazon), herbs, flowers and spices (such as hibiscus flowers from Africa). BioTrade also started promoting sustainable trade in plants and animals



Harvesting allanblackia in Ghana

© UEBT

listed under CITES (e.g. *Caiman yacare* leather from the Plurinational State of Bolivia and alpaca wool from Peru). Services such as ecotourism were included in BioTrade programmes, mainly in Latin America.

More recently, attention has focused on biodiversity as a source of innovation, partly driven by the work of BioTrade partners such as the UEFT and PTA. The 2010 adoption of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the CBD provided an international legal framework for biodiversity-based innovation and has increased interest in fair and sustainable practices for the development of natural ingredients (CBD, 2014b). Consequently, the UNCTAD BioTrade Initiative and other BioTrade partners are again providing technical support and guidance on the issue of genetic resources. Currently, BioTrade covers a mix of products derived from biodiversity, both from genetic resources and biochemical compounds.

### Reaching the market

Biodiversity is now recognized as a pillar in innovation and production in a number of sectors. Moreover, sustainability values can be a powerful differentiator for a product or service.

Yet for BioTrade products and services to reach markets, challenges must be overcome in areas such as technical and financial capacities, regulatory frameworks and market uptake.

Experiences in BioTrade show that sustainability is a particularly valuable differentiator in the business-to-business (B2B) sector, offering opportunities for SMEs in developing countries. However, these companies often need support to meet market requirements relating to quality, volumes, constant supplies

“Regulatory hurdles to market access are also not unusual...”

and marketing. In 2003, UNCTAD launched the BioTrade Facilitation Programme, which brings together various organizations in an innovative partnership to promote the market uptake of BioTrade initiatives. Other international organizations such as the ITC and CAF also established programmes to support enterprises, particularly SMEs, to overcome such challenges.

Regulatory hurdles to market access are also not unusual, especially for innovative ingredients for which less information is available about safety

and proficiency. A well-known example of such a hurdle has been the novel food regulation (NFR) in the European Union (EU), which poses a challenge for those BioTrade initiatives that bring food ingredients to the market with no history of significant consumption in the EU prior to 2007. The approval processes for baobab fruit pulp, which were led by PTA and supported by the UNCTAD BioTrade Initiative, cost in the region of €300 000.

Finally, the BioTrade concept and products can only succeed with sufficient market uptake. Private sector interest in biodiversity and BioTrade products needs to be promoted and awareness raised. To this end, UNCTAD and International Finance Corporation supported the creation of the UEFT, which actively promotes business interest in the ethical sourcing of biodiversity in the cosmetics, food and pharmaceutical industries. It also encourages private sector adoption of the BT P&C, through the Ethical BioTrade Standard, to ensure that trade in biodiversity-based ingredients really contributes to local development and biodiversity conservation. Companies that are members of UEFT adopt Ethical BioTrade practices within their own operations, and encourage such practices among hundreds of suppliers and supply chains.

#### Box 1.1 Ten takeaways from eight years of UEFT Biodiversity Barometer

By 2020, people around the world should be aware of the values of biodiversity. This is the ambitious goal set by the CBD as part of its Aichi Targets. Since 2009, UEFT has published its annual Biodiversity Barometer, which provides insights on trends on biodiversity awareness among consumers and on biodiversity reporting in the beauty and food industries. The UEFT Biodiversity Barometer is a recognized indicator for measuring Aichi Biodiversity Target 1.

In reviewing eight years of UEFT Biodiversity Barometer research, there are surprising findings and critical lessons to be learned. Ten findings are highlighted below:

1. The understanding of biodiversity is rising significantly.
2. Biodiversity is a global concept, with high awareness in emerging markets in Latin America and Asia.
3. People want to personally contribute to biodiversity conservation, but don't know how.
4. Consumers expect companies to respect biodiversity, but there is little confidence that they currently do.
5. Transparency is important. Consumers want to know whether sourcing practices respect people and biodiversity, and would like more information, preferably externally validated.
6. Brand reputation, authentic stories and images in brand communication convince consumers.
7. Millennials have the highest awareness of biodiversity and can identify brands that respect biodiversity.
8. Few international brands are positioned highlighting respect of people and biodiversity.
9. Corporate communication on biodiversity by beauty, food and beverage companies is on the rise, but still falls short of expectations.
10. References to ABS are rising in corporate communications.



Research for developing new products

© Fotolia: Lily

The number of companies involved in Ethical BioTrade is projected to grow significantly in the near future. Indeed, for BioTrade to be a true market driver of sustainable development, a much more significant uptake of the BioTrade concept is still required across the board: government policies, business strategies and markets. As will be seen, there are various trends that suggest upcoming opportunities for BioTrade partners to achieve such increased take up.

### Market trends and opportunities

UEBT identifies several market trends that offer opportunities for BioTrade activities in the years to come:

Firstly, consumers increasingly demand that natural ingredients are used in products, such as natural sweeteners, colourants, fragrances, flavours, preservatives or emulsifiers. Companies are responding. In the food sector, for example, more companies adopt a “clean label” approach, which stands for products with no artificial ingredients and chemicals. This drives a trend to use natural ingredients, particularly new and innovative natural ingredients. Similar trends exist in the cosmetics sector.

Secondly, there are increasing calls for transparency about the type of ingredients used in consumer products, the origins of these ingredients, and the conditions under which they are produced. This means traceability from package to field, investment in

long-term supplier relationships and in good social and ecological practices. BioTrade offers an excellent conceptual framework for such practices.

Thirdly, biodiversity awareness is growing among consumers and companies (UEBT, 2016). The term biodiversity is relatively recent: this explains why business and consumers are only now starting to develop a real understanding of the concept. Yet, awareness and understanding are expanding. In our increasingly biodiversity-aware world, it turns out consumers have high expectations towards companies, and are likely to make purchasing decisions that respect biodiversity (see Box 1.1 for an overview of the key findings of the UEBT Biodiversity Barometer).

Finally, an important trend is the emerging business models connecting sustainable use of biodiversity and ecosystem services. Sustainable tourism, for example, minimizes the negative impact on ecosystems and incentivizes local environmental stewardship. BioTrade and REDD+ strategies are also linked. In 2013, Natura Cosmetics, a company involved in BioTrade, purchased carbon offsets from the Paiteer-Suruí, an indigenous people of the Amazon.

### Conclusions

The drivers of sustainability are evolving, with the balanced consideration of social, environmental and economic issues now firmly established as a

way for companies to be competitive, innovative and profitable. The BioTrade concept has pioneered such an approach, but still faces certain challenges. To fully reach its potential, BioTrade needs more significant market uptake.

Market trends show an opportunity for BioTrade. Demand for biodiversity ingredients is increasing, as is the interest in ethical sourcing practices for these ingredients. The SDGs, the Nagoya Protocol and other international instruments are changing the regulatory and policy landscape. This means that countries, companies and associations have an incentive to adopt and promote BioTrade practices – as a contribution to sustainable development and as a business strategy.

The challenge is to get sufficient private sector buy in. The role of initiatives such as UEBT in convening companies and assuring sustainable practices through the Ethical BioTrade Standard is crucial. A priority for the next 20 years should be getting companies on board, so that BioTrade can move towards significantly impacting the way that markets and consumers approach biodiversity – making BioTrade a stronger market driver for sustainability.

# 1.4 Reflections on the drivers of economic and financial sustainability in BioTrade initiatives

Financing for green businesses and BioTrade is a critical factor hindering the development of the sector in Latin America and worldwide. The available financial products are limited, and are not adapted to the characteristics of production cycles and BioTrade businesses. Action is needed at different levels to address this limitation: macro (by implementing public policies); meso (by strengthening value chains: R&D, market access and targeted financial products); and micro (by increasing companies' capabilities).



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## Introduction

In recent years BioTrade has gained importance internationally as a catalyst for the conservation of biodiversity and the generation of social inclusion. Globally, there is a strong trend toward markets related to BioTrade. At least 4 per cent of world trade, equivalent to US\$290 billion, included transactions of biodiversity goods and services, including BioTrade (Gómez-García et al., 2014). Even more, BioTrade has positioned itself as an important management model, applicable to the green business characteristics of Latin America, as well as other regions.

It is in this context that CAF's<sup>8</sup> Department of Environment and Climate Change joined forces during 2011–2015 with UNEP and the Global Environment Facility (GEF), for the development of the project "Facilitation of financing for biodiversity-based businesses and support of market development activities in the Andean

Region" – the Andean BioTrade Project (ABP). The project focused on governance, market access, access to finance and pilot project strengthening. A major result was that sales of beneficiary companies increased 65 per cent on average during the period – a performance superior to the average in similar industries. These experiences demonstrated the capacity of BioTrade's sustainable principles to promote development.<sup>9</sup> In 2015, to scale up the ABP and continuing with its commitment to support innovative endeavours devoted to green economy transformation in Latin America, CAF created the Green Business Unit. It focuses on a portfolio of projects linked to the ethical and sustainability principles proposed by BioTrade.<sup>10</sup>

After five years involved in developing economically viable biodiversity-based businesses, a number of the key aspects and lessons learned have been identified which are useful for the future development of BioTrade initiatives.

## BioTrade Forum and Roundtable at PeruNatura

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## Key aspects and lessons learned for the development of BioTrade initiatives

Experience shows that companies which choose to shift to BioTrade are able to respond to a rising demand that may guarantee long-term competitive advantage, and generate shared value on the demand and supply sides of chains. However, despite the significant growth in BioTrade markets – business turnover reached €4.3 billion in 2015 (Jaramillo, 2016a) – the initiatives encompass market segments which are small when compared with the market for biodiversity-based products. This requires companies seeking to maintain and consolidate a position in BioTrade to make major efforts to train personnel in technical and production issues, ensure their capacity to enter the market, attend to market needs, develop innovative products and access differentiated financing (green financing).<sup>11</sup> All this is part of the challenge that companies which understand the benefits of BioTrade are willing to overcome as they commit and seek in BioTrade a new strategic choice, based on a more ethical, inclusive and sustainable business model.

Such efforts clearly need support, given that most BioTrade companies in the region are micro-SMEs with limited capital and human resources, to make key investments in applied research and product development. In this context, there are three important aspects to consider to promote the economic sustainability and competitiveness of enterprises.

- First, improved access to financial tools and services should be a major priority since this is one of the most critical barriers for BioTrade initiatives. According to the CBD, during 2013, financial institutions only granted 3.5 per cent of total financing to green businesses. Furthermore, the existing credit lines of “green” financing in the region are usually related to energy efficiency issues. Financial products available to meet production segments and, within these, BioTrade products, are limited and the ones that exist generally have high barriers to access (guarantees) and unfavourable financial conditions (rates, terms). All these conditions limit the competitive access to credit for BioTrade initiatives. The lack of financing results in low investment in innovation, thus companies have limited markets and uncompetitive offerings.

“BioTrade experience in Latin America is quite innovative...”

Financing for BioTrade initiatives is a challenge that needs to be overcome by working with both BioTrade initiatives and the financial sector. Companies often lack proper organizational and accounting administration which limits their debt management. Although financial institutions are interested in the development of green financing credit lines, the sector is generally unfamiliar with the dynamics and potential

of products derived from native biodiversity. Consequently, awareness raising and technical advice for financial institutions are important to enhance their capacity to identify and select business projects that meet verifiably sustainable practices and to understand the variety of productive and business cycles of green business and BioTrade. CAF expertise, as a development bank, has contributed to tackling this need in several countries in Latin America.

- Second, it is fundamental to strengthen value chains through capacity building in organizational, administrative and productive matters, so as to allow the development of highly productive business models that are properly structured and articulated, and eligible for financing. Therefore, service providers are essential to offer advice and guidance in the initial stages of business start-ups – usually lacking financing – to develop strategic aspects of the organization such as the acquisition and implementation of certifications and permits, brand development and research for the development of new products/processes. The strengthening of value chains can be effectively implemented through strategic alliances and knowledge exchange between enterprises and similar organizations with successful experiences and lessons learned.
- Third, taking into consideration that markets are increasingly demanding and competitive, investment in innovation, and implementation of quality and sustainable systems



Quality control systems for BioTrade products

© CAF



Processing of physalis

© Villa Andina



Ecotourism – capitalizing on the natural beauty of the Amazon’s ecosystems

© Walter H. Wurst

which support practices and increase levels of supply, are fundamental for the production of differentiated value added products and services. This will require the establishment of public-private collaboration for research, innovation and the implementation of technologies and differentiation schemes (e.g. certifications, appellation of origin, etc.), and the participation of BioTrade initiatives in specialized commercial platforms, trade fairs, and technological and commercial missions. These activities involve specialized knowledge and high costs; thus, the role of the public sector in the early stages is important.

### Future opportunities

BioTrade is an innovative ethical and biodiversity-friendly based business model for overcoming some of the most relevant income distribution and biodiversity conservation challenges in Latin America and elsewhere. It presents itself as a coherent model for responding to critical current global priorities: loss of biodiversity as well as climate change mitigation. Equally, its contribution stands in the transformation of the production base and the distribution of wealth, by generating social benefits. It is reached through the inclusion and articulation of community initiatives with more

commercially competitive enterprises under value chain models, generating new local development dynamics.

With a strong trend of 19 per cent annual growth until 2020, biodiversity goods and services with BioTrade potential will have an approximately 33 per cent share of world trade (Gómez-García et al., 2014). However, this important growth opportunity requires establishing support and cooperation platforms that cover key aspects for strengthening value chains. Building business skills and facilitating access to market for the proper development of BioTrade companies is essential. However, as noted above, leveraging financial resources to drive BioTrade initiatives needs to be a priority. This can be accomplished through the creation of financial instruments, awareness-raising about opportunities in the sector and the dissemination of information regarding the availability of financial assistance to initiatives. Equally important is the creation of a strong network of knowledge exchange in the sector. Similarly, emphasis should be placed on establishing and maintaining a BioTrade community of practice with expertise at different levels (macro, meso and micro) which incorporates relevant lessons learned, and explores bolder and more systemic interventions that may drive countries or even regions into the sustainable, green economy.

At a higher level, policymakers in interested countries should develop an enabling policy and regulatory environment conducive for BioTrade businesses, with clear regulations that consider the business circumstances and which foster innovation through market and tax incentives. Incorporating biodiversity into public policies and the overall economic development agenda is still an emerging issue around the world.

BioTrade experience in Latin America is quite innovative, as the region holds the highest biodiversity rate per capita in the world. It is by experimenting and learning that BioTrade will increase its practical know-how, the number of businesses endorsing BioTrade and build strategic alliances. CAF, as a development bank, believes in the economic feasibility of BioTrade and confirms its engagement to upscale its implementation jointly with public and private sectors and civil society. This collaborative approach will create specific responses that make sustainable development and integration in the region viable by promoting initiatives such as BioTrade, as well as enhancing financial solutions for green businesses.

# 2 BioTrade and people

BioTrade has delivered positive impacts for its beneficiaries in the last two decades. This section provides examples of initiatives being promoted by BioTrade practitioners in Asia, Africa and Latin America, in the personal care, phytopharma and food sectors. Beneficiaries are wide ranging, from indigenous communities, women’s associations, product-based associations to communities who are sustainably transforming their biodiversity into products and services. The trade in BioTrade products and services increases these communities’ incomes and enhances their capacity and ability to compete with differentiated value added products and services that are traded in national and international markets.

**BioTrade and people: Case studies and their contribution to the Aichi Targets and SDGs**

Case study	Aichi Targets	Sustainable Development Targets
2.1. BioTrade and livelihoods – a possible synergy		
2.2. Ecoflora Cares: <i>Jagua</i> value chain (Colombia)	1, 2, 4, 7, 16, 18, 19	1, 2, 8, 9, 10, 12, 15
2.3. Achuar and Shuar communities and the Chankuap Foundation: Resources for the future (Ecuador)	1, 2, 3, 4, 7, 16, 18, 19	1, 2, 8, 9, 10, 12, 15
2.4. Traditional knowledge as a business model: Takiwasi and Ampik Sacha (Peru)	1, 2, 4, 7, 16, 18, 19	1, 2, 8, 9, 10, 12, 15
2.5. Sandalwood: Ethical sourcing of a unique and valued fragrance (Sri Lanka)	2, 3, 4, 7, 12, 13, 16, 19	1, 2, 8, 9, 10, 12, 15
2.6. Up in the mountains: Traditional herbal remedy improves ethnic minority communities (Viet Nam)	2, 3, 4, 7, 13, 16, 18, 19	1, 2, 8, 9, 10, 12, 15

## 2.1 BioTrade and livelihoods – a possible synergy

BioTrade aims to enhance the livelihoods of people, particularly those living in rich biodiversity areas and those dependent on biodiversity. To do so, BioTrade practitioners have developed a variety of services to enhance the social impact of interventions, including the development of projects, guidelines and tools, among others, and a number of lessons learned can be identified.



**Lorena Jaramillo,**  
Economic Affairs  
Officer, UNCTAD

### Introduction

The Secretariat of the CBD states that around 1.6 billion people depend on forest and non-timber forest (NTF) products for their livelihoods. Many households in Asia, derived as much as 50–80 per cent of annual household income from NTF products, namely from biodiversity resources (Secretariat of CBD, 2014). This is also seen in Latin America, where 75 per cent of households depend directly on biodiversity to meet their basic needs for food and water, and to preserve their culture (García Rodríguez et al., 2015).

value addition and trading activities to provide higher incomes and prices for their products and services. As of 2015, almost 5 million grassroots stakeholders have been integrated into over 3600 global and local value chains in a variety of sectors and regions (García Rodríguez et al., 2015; Lojenga and Oliva, 2016; Rossow, 2015).

Success stories and lessons learned are enabling the BioTrade concept, methodologies and technical assistance to adapt to the real and dynamic circumstances and needs of beneficiaries. These can be grouped into the following:

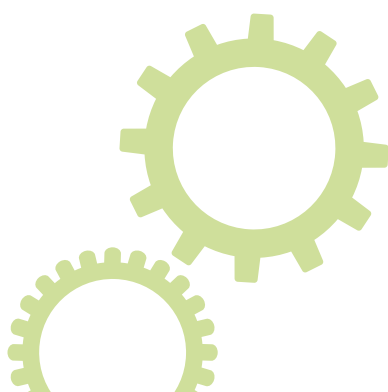
“BioTrade’s philosophy centres on providing livelihoods for poor, particularly rural, communities and people living in and depending on biodiversity...”

- **Inclusive and participatory community-based approaches** for ensuring that needs, opportunities, culture and circumstances of grassroots actors are mainstreamed into all activities. Fair and equitable benefit sharing, transparent discussions and decision-making processes along the chain are also mainstreamed.

### Connecting BioTrade and livelihoods of grassroots actors

BioTrade’s philosophy centres on providing livelihoods for poor, particularly rural, communities and people living in and depending on biodiversity. Through its principles, BioTrade promotes the equitable sharing of benefits, respect for the rights of actors involved, and develops inclusive and transparent value chains and sectors. Partners are engaged in establishing or strengthening cooperatives, producer associations, community-based and/or micro-SMEs, and strengthening their managerial and supply management capacity. It is complemented by enhancing local

- **Market access and value chain approaches** to develop demand driven interventions, enhance the chain efficiency and reduce its length (steps) by linking producers to markets. Actions also strengthen grassroots actors’ abilities to manage their businesses and supply chains, and provide them with tools and financing to enhance the competitiveness of their organizations and products. Importantly, the grassroots actors’ capacities are assessed to establish their role and the stage at which they should enter into the value chain, and consider a gradual approach, linking them with local, then national and then international markets.





- **Reintegration and post-conflict recovery** of ex-combatants, affected communities and displaced people into civilian life through BioTrade activities. These income-generating activities sustainably use and transform unique biodiversity into value added products and services that are traded in national and international markets. To date, reintegration and post-recovery activities have been mainly implemented in Colombia and Indonesia (Aceh Selatan).
- **Risk diversification and enhancing resilience** by diversifying the use of a limited number of species, increasing the number of value added products being developed and traded and markets being served. Grassroots actors should not depend on a small number of traded products, services and markets, to lessen their vulnerability to supply/demand shocks, climate change and natural and conflict-related disasters.

### Key message

BioTrade is a livelihood option for many people across the globe. It provides for developing tools and technical assistance to fulfil the changing needs of grassroots stakeholders to commercialize their value added products in national and international markets. Integrated and participatory approaches, ABS, carbon neutral production process, circular economy, environmental pressures and strong competition, are some of the issues that practitioners need to tackle in order to provide real and long-term livelihood options to grassroots actors. Concretely, practitioners should consider also the opportunities provided by the 2030 Agenda and the SDGs, as well as the Biodiversity Strategic Plan 2011-2020 and its Aichi Targets for mainstreaming poverty alleviation, development and conservation of biodiversity. Finally, displacement, immigration, and the existence of diaspora communities, are also areas where BioTrade can contribute, as shown with reintegration and post-recovery activities, but also as an interesting market segment for products and services.



## 2.2 Ecoflora Cares: *Jagua* value chain (Colombia)

Ecoflora Cares develops high-end natural colour solutions derived from Colombian biodiversity for food and cosmetic applications. Through the development of BioTrade practices in collaboration with rural, indigenous and afro-descendent communities, the company enhances livelihoods through sustainable use of the rainforest, the conservation of valuable ecosystems and a fair and equitable distribution of benefits.



**Juan Fernando Botero**, President, Ecoflora Cares S.A.S.

### Introduction

Ecoflora Cares developed a unique blue natural colour additive derived from the *jagua* fruit (*Genipa americana*), commonly found in tropical forests. A pilot wild sourcing programme considering the Ethical BioTrade Standard was implemented with rural, indigenous and afro-descendent communities living in extreme poverty in the Colombian Chocó rainforests. This programme secured the conservation of *jagua* trees and their surrounding ecosystems, while potentially improving by more than 50 per cent family incomes in sourcing communities.

### Implementation strategy

Through extensive work over the last eight years, Ecoflora Cares, with the support of local communities under the wild sourcing programme, has identified, georeferenced and protected close to 7000 *jagua* trees distributed over 55 000 hectares. In 2015, 54 families from the Chocó and Uraba regions sustainably harvested 150 trees. By 2018, the company aims to increase sustainably harvested trees to 12 500 by diversifying supply chains and inviting 400 families from new communities in other regions to participate in the sourcing programme. It also aims to increase the harvested trees per hectare, conserve naturally regenerated trees, and expand the species population in depleted areas near villages to facilitate harvesting and logistics activities. The economic impact is expected to generate 353 direct jobs for vulnerable youngsters exposed to criminal groups or illegal coca growers.

Ecoflora Cares is a trading member of the UEFT and a Colombian pioneer in fulfilling international and local access to genetic resources (AGR) regulations.

As such, it is one of the first companies to sign a formal commercial AGR contract with the Ministry of Environment and Sustainable Development representing the Colombian Government. The contract, signed on 16 December 2014, lasts for 20 years. The monetary benefits comprise royalties to be paid to the Colombian Government on turnover produced by the blue colourant. The ministry, through its local offices, exercises all monitoring and auditing regarding fulfilling contract obligations. Ecoflora Cares' non-monetary commitments are:

- To carry out annual reporting and awareness raising of the programme's progress with regional environmental authorities such as local government authorities (Corporación para el Desarrollo Sostenible del Urabá and Corporación Autónoma Regional para el desarrollo social del Chocó) and research institutions (Instituto de Investigaciones Ambientales del Pacífico).
- To promote activities to strengthen institutional development in the communities and *jagua* supply organizations.

### Jagua fruit and natural colourants

© Ecoflora Cares





### Upscaling the *jagua* value chain to enhance local livelihoods

There are several challenges and opportunities in enhancing the *jagua* value chain via BioTrade to improve livelihoods of rural and ethnic communities in the Chocó rainforest:

#### 1. The Nagoya Protocol can provide opportunities for the sector.

It encourages companies and supplying communities producing biodiversity derived products to work together harmoniously to foster an equitable, sustainable relationship. Its principles encourage building and strengthening communication channels and processes in order to understand each other's realities, objectives and challenges. However, national legislation needs to be set up in order to support such partnerships.

#### 2. Raising awareness in local communities and indigenous peoples regarding the intrinsic value of the natural resources available in their territories.

Value is a concept that must transcend a simple conservationist approach and be framed as an enabler of better and more sustainable living conditions. In order to foster this, the government should encourage entrepreneurship related to BioTrade initiatives within communities. BioTrade should be a means of protecting ecosystems and a powerful value builder for the people inhabiting them.

#### 3. Capacity building on sustainable sourcing practices, quality control and business fundamentals.

Most of the communities dwelling in these dense biodiverse hotspots do not have trading activities with other regions, instead they

subsist by carrying out basic daily activities such as fishing, small-scale farming and exchange of goods with neighbouring communities. Training programmes on sustainable sourcing practices, quality control and business fundamentals should be initiated to enable BioTrade operations with industrial or urban actors.

#### 4. Strengthen control and forest protection mechanisms in relation to illegal and depleting activities.

Mining and illegal activities have created false and illusive economies in terms of salaries and expected incomes in these communities. This exerts very high pressure on alternative livelihoods that may compete with them in relation to land, labour or forestry resources. Therefore, organizations in rich biodiversity countries with potential for engaging in BioTrade should support the creation and adoption of more effective forest protection mechanisms.

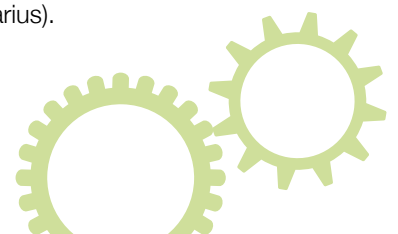
#### 5. Strengthen the perception of the intrinsic value of natural resources and traditional knowledge in BioTrade projects.

Sometimes "value creation" or "added value" are perceived exclusively as the process of transforming a material into something else; from raw material in nature into a cosmetic application. That view, although not incorrect, has several limitations, especially when it becomes the sole expectation or desire of potential supplying communities to transform nature-sourced raw materials into semi-finished or finished products. This objective is perfectly plausible and justifiable, but the BioTrade concept may minimize the complexity behind

the supply and logistics operations in which the knowledge of the forest becomes these communities' most prized asset – the only one that cannot be either copied or imitated and does not depreciate in time. Protecting and preserving that knowledge should be a key point of discussion by institutions and organizations shaping BioTrade standards and regulations.

#### 6. Guarantee market access for the *jagua* colourant.

Market access is essential for the success of any business, particularly at the pre-commercial stage. To trade the colourant in national and international markets, it is essential to obtain permits issued by respective regulatory authorities. The Instituto Nacional de Vigilancia de Medicamentos y Alimentos approved the sanitary permit of the *jagua* colourant for the Colombian market. However, this is not enough as the international market is the only one that can generate enough demand to develop the *jagua* supply chains and achieve the company's goals for 2018. In this regard Ecoflora Cares has needed to employ its scientific, technical, regulatory and business knowledge and capabilities to obtain the permits for the target markets (e.g. from the Food and Drug Administration (FDA) in the United States of America, the European Food Safety Authority (EFSA) in the EU and the Joint Food and Agriculture Organization (FAO)/ World Health Organization (WHO) Expert Committee on Food Additives (JECFA) for inclusion in Codex Alimentarius).



## 2.3 Achuar and Shuar communities and the Chankuap Foundation: Resources for the future (Ecuador)

The Chankuap Foundation: Resources for the future promotes sustainable development and conservation of the forests located in Morona Santiago Province (Ecuador) by the local Achuar and Shuar communities. This is achieved by developing sustainable value chains under BT P&C, thus guaranteeing the availability of resources for future generations.



**Adriana Sosa V.**,  
Secretary-General,  
Chankuap  
Foundation:  
Resources for the  
future

### Introduction

The Taisha District of Morona Santiago Province is home to the indigenous Achuar and Shuar communities. More than 80 per cent of the region is primary forest – some 508 850 hectares – and extremely rich in biodiversity. The district also includes part of the Kutukú Cordillera and Trans-Kutukú areas, which are a biodiversity hotspot (Gobierno Autónomo Descentralizado Municipal del Cantón Taisha, 2014).

In this area, cattle and agricultural production is nascent but becoming an economic alternative for families. Cutting trees and selling illegal wood is threatening the rainforest; a situation which could be exacerbated by the development of the Macas-Macuma-Taisha Highway. If insufficient incentives are provided to minimize this threat, local human development may become more complex. For communities where the highway does not reach, air travel is the only means of communication.

The Chankuap Foundation was set up in 1996 in the Ecuadorian Amazon at the request of local communities wanting support to help promote sustainable collection and production activities to generate family income. It focuses on native species used by the Achuar and Shuar communities. The foundation works throughout the value chain of different products in order to guarantee market access, and to comply with requirements related to volume, quality and continuity, and to be a real response to one of the major challenges: commercialization.

### Enhancing local livelihoods through value addition and trade of non-timber forest products

To organize production in the area, the foundation fostered the creation of solidarity working groups. These

are non-legal organizations providing training and technical assistance for planning the production of species that are transported to Chankuap's modern collection centre and transformation facilities in Macas, the provincial capital. From the beginning, the foundation's strategy focused on native species that the communities know and use in their gardens, such as: *charak* peanut (*Arachis hypogaea*), *achiote* (*Bixa orellana*), chili (*Capsicum* spp.), ginger (*Zingiber officinale*), turmeric (*Curcuma longa*), among others, which have market potential at local, national and/or international levels. For example, it re-established native species such as the *charak* peanut for which there is an unsatisfied international market demand. Also, other wild collected

“More than 80 per cent of the region is primary forest – some 508 850 hectares – and extremely rich in biodiversity...”



species and derived products are being encouraged, such as dragon's blood (*Croton lechleri*), *ishpink* (*Ocotea quixos*), *guayusa* (*Ilex guayusa*) and *ungurahua* (*Oenocarpus bataua*). Management plans were developed for each of the wild species to guarantee their future existence. For instance, *ungurahua*, used in the personal care sector, is in high demand and its management plan includes the implementation of prevention, protection, rehabilitation, mitigation and rationalization methods for its use.

High value added products have been developed by the Chankuap Foundation. These include a cosmetic

Shuar woman harvesting the native peanut *charak* (*Arachis hypogaea*)





Chankuap Foundation's cosmetic product range Ikiam Amazon Soul and production process

© Fundación Chankuap

product range named Ikiam Amazon Soul. These products were developed to value native species and derived products such as essential and fatty oils from the *ungurahua* palm for use in liquid soaps, creams, massage oils and shampoos. Chankuap Foundation products fulfil production norms (e.g. good manufacturing practices – GMPs) and voluntary requirements (organic and fair trade certification) and the foundation is a member of the World Fair Trade Organization.

For 20 years, Chankuap has enhanced the living conditions of approximately 650 indigenous families who are directly involved in BioTrade value chains, with monetary and non-monetary benefits. The development of the *charak* peanut, cocoa, ginger and organic turmeric and *ungurahua* value chains have had significant social, economic and environmental impacts. The turmeric and ginger were already available in family gardens and the forest, and used as medicine. The cocoa supported is the native variety named *fino y de aroma*. Currently, these are the most sold products and are important components in the total sales of the foundation (Figure 2.1).

The selling of these products has generated an average additional annual family income of US\$330 at producer level. As a result of the technical assistance and capacity-building activities provided to the communities

by Chankuap, their products fulfil market requirements related to quantity, quality, continuity of supply and volume. It is important to mention that these products are not only sold to Chankuap but also to other local buyers.

Chankuap also generates other social benefits for the communities living in difficult economic and social conditions. In the city of Macas, the Chankuap Foundation manages a school programme for children (7–14 years) who have dropped out or are struggling academically, and provides them with two meals a day. Finally, it also raises awareness in the communities on caring for the environment and among consumers on responsible consumption.

An interesting case is the *ungurahua* value chain, which was also supported by the Ecuadorian BioTrade Programme and fulfils 85 per cent of the BT P&C. Specifically, regarding socioeconomic criteria, the value chain fulfils all the criteria and indicators in *Principle 3: Fair and equitable sharing of benefits derived from the use of biodiversity; Principle 5: Compliance with national and international regulations; and Principle 7: Clarity about land tenure and access to natural resources and knowledge* (Buitrón, 2012). This is due to the close relationship between Chankuap and all value chain actors, which is built on knowledge, trust, continuous dialogue and mutual benefit (Buitrón, 2012).

Figure 2.1 Chankuap Foundation sales 2004–2015 (US\$)



“This is a different programme because people learn, sow and sell their products. I feel satisfied with the work done...

Luis Shimpiukat, local technician, Chankuap Foundation.

### Valuing culture – key to developing livelihoods in the Ecuadorian Amazon region

It is possible to develop NTF value chains targeting markets that value sustainable production processes and products. This can directly enhance the living conditions of small producers, particularly those located in marginal areas such as the communities assisted by Chankuap. In developing BioTrade, it is essential to respect and value the culture of the communities and how they use their resources and their environment. This is fundamental – their view of their environment, the acknowledgement of its origin and the distribution of the benefits that can be generated from its use. Clear policies should be formulated to enhance research, use of biodiversity and ABS. And these should be disseminated to all actors involved, in order to promote and strengthen BioTrade.



## 2.4 Traditional knowledge as a business model: Takiwasi and Ampik Sacha (Peru)<sup>12</sup>

The Laboratory for Natural Products (Takiwasi) and an indigenous producers' organization (Ampik Sacha) implement a business model based on TK associated with medicinal plants in the Peruvian region of San Martín, which benefits both people and nature. This benefit sharing scheme improves the indigenous population's living conditions, recovers old traditions and promotes the sustainable use of the forest resources.



**Lena Katzmarski**, Principal Advisor PerúBiolnova (GIZ Peru). Supported by **Flavia Noejovich**, Independent Consultant; **Manuel Rojas**, Technical Advisor ProAmbiente; **Luis Rosa-Perez**, Technical Advisor ProAmbiente, GIZ Peru; **Fernando Mendive**, Plant Manager, Coordinator of Takiwasi Scientific Committee and Director of Marketing, Takiwasi Laboratory



### Introduction

It is estimated that Peru has more than 1000 Amazon plant species with commercial potential (FAO, 1994). Indigenous and local communities (ILCs) are the guardians of the knowledge associated with this biodiversity. They have used these plants to treat illnesses and fight diseases, and maintain their health over centuries.

Today, the pharmaceutical and cosmetics industries develop popular products based on ancient practices and knowledge of plants' properties. It can be assumed that many species with curative properties would have never been identified for commercial use without this immense TK base. Within these industries, it is considered vital that TK is valued appropriately as stipulated in the Nagoya Protocol. The latter regulates that access to genetic resources be subject to prior informed consent (PIC) of the ILCs involved, ensuring they obtain fair and equitable benefits arising from their use.

In this case study, TK on the use of medicinal plants is shared very close to home. In the Peruvian Amazon region of San Martín, the indigenous Federación Kichwa Huallaga Dorado (FEKIHD) and the Laboratory for Natural Products (Takiwasi) developed a local benefit-sharing scheme. This scheme contributes to conserving regional biodiversity, recovering ancestral knowledge and improving the living standards of almost 1000 indigenous (Kichwa) families in the region.

### A BioTrade business model that benefits people and nature

Takiwasi was established in 2007 from a local NGO that offers alternative treatments for drug addiction based

on local medicinal plants and Amazonian TK. The surrounding Kichwa communities provide the raw material for the medicines and cosmetics produced in its small plant in Tarapoto, San Martín. These plants, such as cat's claw (*Uncaria tomentosa*) and dragon's blood (*Croton lechleri*), are "accompanied" with an ancestral knowledge about their properties and uses. This knowledge resides in the public domain and, as such, Peruvian legislation neither obliges users to obtain PIC from nor share benefits with the communities. However, Takiwasi recognized and valued the intellectual contribution of the Kichwa communities through a monetary and non-monetary redistribution scheme.

With support from the project PerúBiodiverso (co-financed by SECO and the German Development Cooperation, implemented by GIZ), Takiwasi and FEKIHD developed a business model based on BT P&C. The communities provide the raw material, but also actively participate in the production and commercialization of value added products. Therefore, ancestral knowledge is re-valued and the communities' capacities are strengthened.

Takiwasi also supports the communities involved in so-called knowledge rescue sessions with the *yachakkuna* (wise elders from the community) to identify remedies for illnesses and pains. Ampik Sacha, an association of medicinal plant producers supported by FEKIHD and Takiwasi, develops and commercializes products based on this knowledge. Takiwasi provides technical assistance to Ampik Sacha. To recover almost lost knowledge, FEKIHD maintains various demonstration plots and catalogues recovered knowledge in a local register. To conserve the biodiversity

base, Takiwasi offers the communities capacity building programmes on good agricultural practices and forest and plant nurseries management.

As a result of applying this business model, three products are already commercialized on the market:

- At local level, an ointment based on an ancestral recipe commercialized by the communities under their own brand AMPIK®; and
- At national/international level, Takiwasi Laboratory markets two herbal infusions based on aromatic medicinal plants under the brand SUMAK®. The laboratory pays a royalty to the communities on sales.

The key ingredients of this local benefit-sharing scheme are mutual trust, respect and equal relationship, and an honest intercultural dialogue. These aspects have shaped a shared vision of how to protect and value ancestral knowledge and to generate additional income for the indigenous communities. The result is an attractive business model for all actors involved.

### Considerations on upscaling benefit-sharing models

In Peru, there is little awareness about the legal framework for genetic resources and associated TK, especially in rural regions, where most ancestral knowledge is found. Although the present model of local benefit-sharing

has resulted in a success story, Peru is still confronted with various challenges. How can existing national rules (such as Law 27811 on the protection of collective indigenous knowledge related to biological resources) for sharing associated knowledge with third parties be put into practice and made more adapted to reality? How can TK be best protected? How can the expectations of the communities be managed, and interest and trust in this model be maintained? These questions need to be addressed within a solid legal framework.

Equally important are considerations related to sustainability and indigenous culture. As medicinal plants receive increased scientific and commercial attention, there is increasing pressure on the medicinal plants' wild plant populations. Commercial exploitation may lead to overharvesting, posing a serious extinction risk. At the same time, communities need to balance commercialization and auto-consumption in order to maintain their traditional indigenous health-care regimes. Benefit-sharing schemes should consider these aspects in order to conserve the natural resource base, and preserve indigenous medicinal practices.

Peruvian public institutions at national and regional levels are working on regulating the wild harvesting of medicinal plants, for example by developing guidelines to prepare

forest management plans for the use of NTF products and the re-valorization of NTF species. International private actors, such as the UEFT and the FairWild Foundation, aim to incorporate business aspects related to the harvesting of wild plant species. At the same time, scientists and policymakers are proposing new procedures and policies to safeguard culturally and scientifically important plants.

In conclusion, this local model reflects the BT P&C and illustrates their implementation on the ground. Yet, national regulations on benefit sharing and TK are still not sufficiently clear (nor fully implemented) to provide a solid framework for these kinds of benefit-sharing agreements. The current national framework needs to be further developed and substantiated in the spirit of the Nagoya Protocol, in coordination with international organizations such as UNCTAD. The described model provides the basis for sustainable livelihoods for marginalized groups, and a framework for a more sustainable use of the natural resources which could be used as inputs for this new framework.



Women from Ampik Sacha and Takiwasi products SUMAK®

© Takiwasi



“Takiwasi recognized and valued the intellectual contribution of the Kichwa communities...”



## 2.5 Sandalwood: Ethical sourcing of a unique and valued fragrance (Sri Lanka)

Sandalwood trees, which provide a unique and valued fragrance for perfumes and cosmetics, are under threat in many natural habitats. For several years, a project undertaken by Weleda in the highlands of Sri Lanka has been contributing to the protection of sandalwood trees, as well as to the livelihoods of local communities involved in their planting and harvesting.



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Weleda AG



### Introduction

Sandalwood has been used as a fragrance for thousands of years. Due to its rich, woody and lingering fragrance, sandalwood remains an important ingredient in perfumes and cosmetics products. Yet interest in the essential oil, extracted from the heartwood, has resulted in over-harvesting of the slow-growing sandalwood trees. This is particularly true for Indian sandalwood (*Santalum album*). This tree, native to the Indian subcontinent but now more widely grown, is considered “vulnerable” in the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Actions to counter illegal harvesting, while also promoting local livelihoods, include the sustainable planting and harvesting of sandalwood. The Weleda project on sandalwood, now entering its seventh year, is an example of how Ethical BioTrade can advance such objectives.

“I hope that others will follow our lead and that the project will inspire them to adopt a sustainable approach to producing this precious oil...”

### Setting up ethical sourcing of sandalwood in Sri Lanka

In 2009, Weleda, a Swiss-based company producing natural and organic beauty products and anthroposophic medicines, and a UEBT member, launched a project for the organic and sustainable cultivation of sandalwood in Sri Lanka. Sandalwood is used as an essential oil and fragrance for a range of Weleda products, including its Pomegranate skin care line. For Weleda, it is fundamental that the sandalwood oil used not only comes

Indian sandalwood (*Santalum album*)



© J.M. Garg



© Weleda



© Weleda



Sandalwood nursery in Sri Lanka

from organic and sustainable sources, but also contributes to increasing the number of sandalwood trees in Sri Lanka and to the livelihoods of local communities.

In this context, Weleda formed a partnership with a local family-owned company. Together, they found an old, abandoned tea plantation in the highlands of Sri Lanka. There, next to 100-year-old tea bushes, grew almost 1000 sandalwood trees, including young saplings. The trees had spread naturally thanks to birds carrying seeds and had thrived on the steep terrain protected by the wide root systems of the tea bushes. With the support of Weleda, the company invested in the land and techniques for organic and sustainable harvesting of sandalwood. For example, only trees older than 15 years are used for oil production and between 8000 and 10 000 new trees

are planted every year, to not only conserve but increase the number of trees.

In line with the Ethical BioTrade Standard – based on BT P&C – the Weleda sandalwood project also has a strong social component. Weleda signed an agreement committing to the project and to sourcing exclusively from this company for a number of years. It has also supported the creation of a plant nursery and a training and education centre for the collectors. This centre focuses not only on sandalwood, but also on the cultivation of vegetables, tea and cinnamon trees. This is to ensure that a variety of crops is cultivated – key to local food security and to diversifying local incomes. For example, the local company now independently harvests and commercializes other crops, with an organic certification.

#### Strengthening the sandalwood supply chain

There are many challenges ahead. Growing sandalwood remains difficult. It takes many years for the tiny sandalwood seedlings in the plant nursery to be large enough for harvesting. More than half the seedlings may not survive the first months. Nevertheless, the Weleda project is yielding valuable lessons. Such knowledge is also contributing to broader research in Sri Lanka,

including on identifying the best parent trees and finding the most suitable cultivation environments.

There are also challenges in the processing of sandalwood oil. The distillation process can be complex. Weleda's local partner has a distillery only 130 kilometres away, but it takes over six hours by car. Around 100 kilograms of wood must be transported to yield one litre of essential oil. Security measures are required for both the plantation and the distillery. There is a significant problem with poachers, who target wild and cultivated sandalwood trees.

In this sense, local partners highlight that the project came “at just the right time”. It is clear that if efforts to conserve and propagate sandalwood are not taken, there is a risk that these beautiful and fragrant trees will be lost for ever from the hills of Sri Lanka. At the same time, Sri Lanka has recently emerged from a civil war and there is great need for investment in additional and improved livelihoods. As noted by the Sri Lankan project partner, “I hope that others will follow our lead and that the project will inspire them to adopt a sustainable approach to producing this precious oil” (Leuenberger, 2013).



© Krish Dulal

## 2.6 Up in the mountains: Traditional herbal remedy improves ethnic minority communities (Viet Nam)

As one of the top pharmaceutical companies in Viet Nam, Traphaco demands a large supply of natural herbs for its production of herbal medicine. Applying the BioTrade framework has helped it develop a sustainable supply chain and build trust with local authorities and communities, as well as enhance its reputation.



**Linh Nguyen,**  
Communication  
Officer, BIG

### Introduction

Dzao is an ethnic minority group in northwest Viet Nam. Even though their origin is uncertain, they are one of the few ethnic groups that possess a plethora of TK, especially on medicine. *Che-day* (*Ampelopsis cantoniensis*), a native plant of the region, has been traditionally used by Dzao people to treat digestion-related diseases. The method of pre-processing and fermenting *che-day* into tea or medicine is a secret that has been kept within the community for generations.

### Developing a value chain in the *che-day* herb

Meanwhile, 370 kilometres away in Hanoi, R&D departments of pharmaceutical companies work day and night to find ways of using natural herbs and help city dwellers suffering from pollution, hectic lifestyles and constant stress to maintain their well-being. Traphaco took up this trend. In fact, the company started researching and manufacturing medicines using natural herbs when the economy

started to boom two decades ago. Back in the 1990s, Traphaco launched several products, using well-known herbs, for Vietnamese consumers. These products experienced skyrocketing sales. They placed the Traphaco brand in the consumers' mind, and the company gradually progressed to become one of the top pharmaceutical companies in the country.

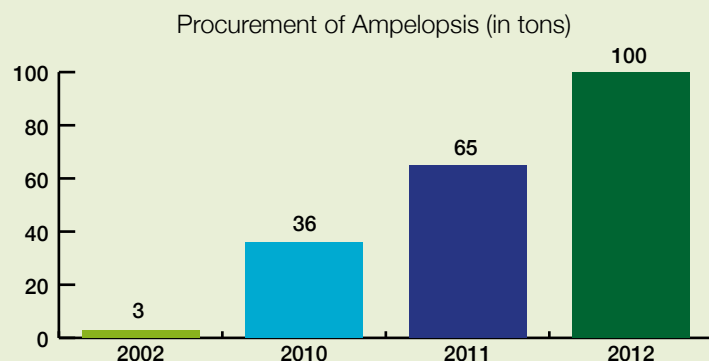
Traphaco studied *che-day* together with scientists from the National Board of Science. By 2003, the company had successfully formulated *che-day* into soft capsules with high concentration generating higher effectiveness compared with other forms. Ampelop, the name of the capsule, was considered a product with many benefits for gastric and intestinal inflammation common in Viet Nam (Pham, 2004). However, the sustainable supply for *che-day* needed to be solved before Traphaco could upscale Ampelop production. As the Dzao people, main collectors of *che-day*, were far away in Lao Cai province, the company decided to begin by buying from traders or middlemen.

*Che-day*

© BIG



Figure 2.2 Rising demand for *che-day*



Source: Ta, 2013.



Traphaco training farmers

© BIG

After launching, Ampelop was well received by consumers with annual sales of 4–5 billion VND (Vietnamese dong) (US\$180 000–230 000) and became one of Traphaco's bestsellers. Again, this challenged the company since *che-day* was wild collected only three months a year and if people collected large quantities, the plant could be depleted. That brings us to the story of how Traphaco became a beneficiary of the Swiss-funded BioTrade project in 2012.

Traphaco visited Muong Hum, a commune in Lao Cai province with 170 Dzao households, to consult with the local authorities and the community, and identify and select 60 households to establish a cooperative group. These households had fewer livelihood options compared with the rest inhabitants of the commune. Later, Traphaco and the cooperative signed a supply contract for *che-day*. Traphaco sought help from local experts at the National Institute of Medicinal Materials and the BioTrade project (implemented by HELVETAS Swiss Intercooperation Viet Nam) to set up a training programme for the cooperative. The issues covered included the sustainable cultivation of *che-day* so as not to depend solely

on wild collection, and to harvest it in a way that allowed the plant to regenerate for the next harvest season. Additionally, Traphaco, in collaboration with the BioTrade project, developed a set of standard procedures following the good agriculture and collection practices (GACP) guidelines of the WHO. In this way, the company and the cooperative could ensure the quantity and the quality of *che-day*, without depleting resources and the ecosystem.

“With the opportunities also come some challenges...”

Sure enough, the Dzao community in Muong Hum benefited. By applying BioTrade and WHO GACP, they can sustainably harvest *che-day* up to nine months per year and receive a better price for their product (20 per cent higher). The direct contract with Traphaco raised the income of the Dzao community, nearly doubling from US\$200 to US\$400 for 30 days' collection per year (Ta, 2013) in comparison with US\$130 (People's Committee of Lao Cai province, 2014),

which is the average monthly income in the region. This enabled them to cover expenses for food, health and their children's education. Additionally, in order to protect the TK of their community, the contract established that the pre-processing and fermenting step would be implemented by the Dzao community in Muong Hum themselves; Traphaco would only provide the equipment.

The value chain of *che-day* in Lao Cai province set an example for Traphaco to expand to other regions with other ingredients. The company now has four value chains in the country. With the opportunities also come some challenges. Since the regulation system in Viet Nam is complex, which might discourage natural herbal enterprises interested to switch to sustainable production and implement sustainable practices as it requires massive and constant effort. Hopefully, BioTrade committed enterprises similar to Traphaco would be capable of overcoming the obstacles; enhancing their status as pioneering Vietnamese pharmaceutical companies.



# 3 BioTrade and the planet

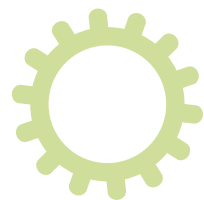
BioTrade has benefited and positively impacted biodiversity in different biodiversity-based sectors and regions through the development of methodologies, guidelines, training courses, as well as enhancing governance to support its conservation and use. This section provides examples of initiatives being promoted by BioTrade practitioners in Asia, Africa and Latin America, working on orchids, non-wood forest products, amphibians and forest carbon initiatives. Beneficiaries are using their native biodiversity in a manner that contributes to conservation.

BioTrade and the planet: Case studies and their contribution to the Aichi Targets and SDGs

Case study	Aichi Targets	Sustainable Development Goals
3.1 BioTrade and the CBD – supporting conservation and sustainable use of biodiversity		
3.2 Natura and the Suruí Forest Carbon Project (Brazil)	3, 4, 7, 11, 18,19, 20	1, 2, 8, 10, 12, 13, 15
3.3 Ecuafrog, WIKIRI and the amphibian pet trade (Ecuador)	4, 5, 12, 13, 19	12, 15
3.4 Sustainability principles and criteria applied to wild collection of non-wood forest products (Kosovo)	2, 4, 7, 19	1, 2, 5, 8, 9, 10, 15
3.5 Traceability in orchids: A win-win tool to enhance sustainable trade (Peru)	3, 4, 12, 13, 19	9, 12, 16



## 3.1 BioTrade and the CBD – supporting conservation and sustainable use of biodiversity



**Braulio Ferreira de Souza Dias,**  
Executive Secretary,  
CBD

### Introduction

Economic activities related to the production and trade of biodiversity-based products in a manner that addresses all three elements of sustainability (environmental, social and economic) is referred to as BioTrade. In 2013, at least 4 percent of world trade consisted of biodiversity-based products and services, including BioTrade products (Gómez-García et al., 2014). While still a niche market, the trade of products sustainably derived from biodiversity has grown significantly in the past decade. One driver of this growth is the fact that consumers are increasingly concerned, and aware of, the environmental and social impacts of their purchasing decisions. BioTrade can thus play an important role in contributing to the implementation of the CBD and the Strategic Plan for Biodiversity 2011–2020.

In 1993, the CBD entered into force with three objectives: the conservation of biological diversity, the sustainable use of the components of biological diversity, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources. The work of the UNCTAD BioTrade

Initiative has been recognized in many decisions of the COP to the CBD as an important contribution to achieving the sustainable use of biodiversity and, by harnessing the commercial interest in using biological resources, to generating incentives for biodiversity conservation.

Given the growing importance of biodiversity-based products in global, regional and local markets, BioTrade is an important tool to support implementation of the CBD and its three objectives. The commercial use of biodiversity under BT P&C is a commendable way to seize this opportunity and benefit people, markets and the planet.

The basis of BioTrade activities and products are flora and fauna, such as flowers, nuts, fruits, seeds, the skin of amphibians and other wildlife, but also ecosystem services such as ecotourism. Many of these products and services are produced by local communities as a source of income, while others have been used by the pharmaceutical, food and

beverage, and cosmetic sectors in the development of new products. Ensuring that biological resources are used in a sustainable manner is crucial for these business sectors since the economic benefits can be generated only for as long as these biological resources are available. Protection of biodiversity is therefore at the very heart of any BioTrade activity.

**“As we work together to achieve the goals of the CBD, it will be important to take steps to support the role of BioTrade...”**

Unfortunately, however, many countries are losing biodiversity at extremely alarming rates. The fourth edition of the Global Biodiversity Outlook (GBO4) (Secretariat of the CBD, 2014) provided a mid-term assessment of progress in achieving the Strategic Plan for Biodiversity 2011–2020 and its 20 Aichi Biodiversity Targets.<sup>13</sup> The report found that there has been progress

towards meeting some components of the Aichi Targets, but that in most cases, additional action is urgently required to achieve the Strategic Plan for Biodiversity.

BioTrade can play a vital role in achieving the Strategic Plan for Biodiversity. Interest in commercial use of biological resources is a powerful incentive for encouraging biodiversity conservation. There is considerable potential for growth of this sector: the global market for biodiversity-based businesses, including BioTrade, is projected to triple by 2030 (Gómez-García et al., 2014). The effective mainstreaming of biodiversity and ecosystem services into economic and governmental sectors as well as across society is key to scaling up BioTrade. This includes various elements: raising awareness of the value of biodiversity among consumers, businesses and governments so that biodiversity criteria are effectively included in purchasing decisions; improving the enabling environment for BioTrade through policies and legal frameworks; removing trade barriers; streamlining certification and labelling of products; and strengthening supply chain management towards enhanced sustainability, traceability and accountability. These factors are indispensable to the long-term success of BioTrade and its contribution to conservation and sustainable use of biodiversity. These elements could be achieved through the concerted efforts of governments, international organizations, BioTrade companies and local communities to support effective BioTrade promotion and market development.

As we work together to achieve the goals of the CBD, it will be important to take steps to support the role of BioTrade.

As we work together to achieve the goals of the CBD, it will be important to take steps to support the role of BioTrade.

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## 3.2 Natura and the Suruí Forest Carbon Project (Brazil)

In 2013, Natura purchased carbon units from the Suruí Carbon Forest Project contributing to the conservation of endangered rainforest in Brazil. It also aimed to co-fund the implementation of the Suruí's 50-year "life plan" to create a sustainable economy. This initiative is part of Natura's Carbon Neutral Programme, committed to neutralize 100 percent of its GHG emissions since 2007.



**Talia Manceira Bonfante**, Sustainability Coordinator, Natura Cosméticos; **Ivaneide Bandeira Cardozo**, Kanindé, Strategic Partnerships Coordinator; **Almir Narayamoga Suruí**, Environmentalist, Political Activist and Suruí Tribal Chief, Associação Metareilá; **Vasco Roosmalen**, Executive Director ECAM; **Kachia Techio**, Indigenous Advisor, Associação Metareilá



### Science, biodiversity and trade

Sustainability challenges instigated Natura<sup>14</sup> to innovate its way of doing business. In 2000 Natura made the decision to incorporate Brazilian biodiversity as a driver for its technological R&D platform. Establishing local partnership networks and combining science with the TK of Amazon communities, it created jobs and generated income opportunities for collectors' families, benefiting all stakeholders involved. In addition, it strengthened the maintenance of rainforest economic development, fostering its conservation.

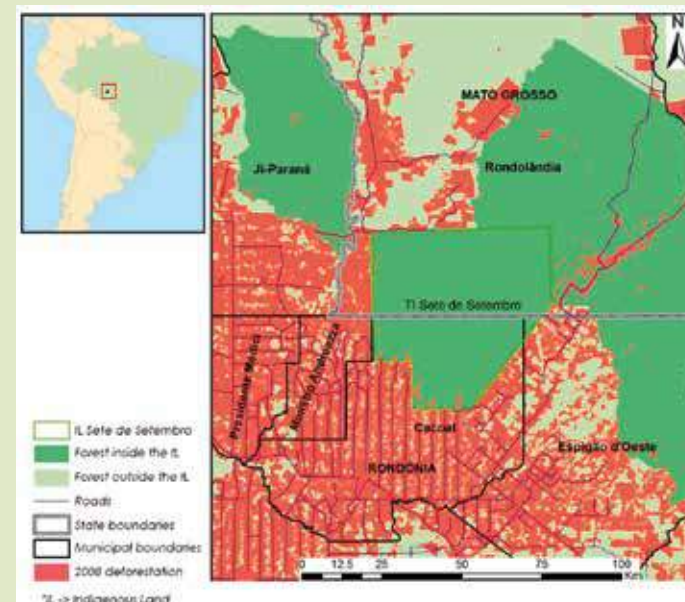
In 2007 Natura launched the Carbon Neutral Programme to neutralize GHG emissions that cannot be reduced by the company's own efforts. Through a tender process, Natura started to invest in offsetting projects aimed at also generating positive social and environmental impacts. In this context, the first sale of forest-carbon credits generated by the first REDD+

“The reality faced by this kind of initiative is tough...”

initiated by an indigenous community (Paiteer-Suruí) took place, providing an innovative template for other indigenous people across the Amazon.

The Suruí Forest Carbon Project (SFCP) aims to halt deforestation and associated GHG emissions in an area under intense deforestation pressure, in the Sete de Setembro Indigenous Territory (SSIT) (Figure 3.1), located in the so-called Brazilian Amazon's "deforestation arc", in Rondônia and Mato Grosso states (IDESAM, 2011; Jaramillo et al., 2016). This protected area covers 248 000 hectares of forest and faces several conflicts related to illegal deforestation resulting from agribusiness interest in converting forest into pasture and agriculture crops.

Figure 3.1 Sete de Setembro Indigenous Territory



Source: Soares, 2013.

Note: IL refers to indigenous lands.

### Investing in carbon credits to protect forests and improve people's lives

The SFCP is an initiative led by the Paiter-Suruí, who were searching for financial mechanisms to implement their forest conservation strategy, while improving their quality of life, and preserving their traditional culture and knowledge.

The initiative supports the maintenance of carbon stocks in the standing forests and consequently in the entire biodiversity in the SSIT and involves six associations composed of Suruí people (IDESAM, 2011). In 2013, Natura bought 120 000 verified carbon units from the project (Jaramillo et al., 2016). The revenue from this sale, managed by the Suruí Fund, is invested in their 50-year "life plan", which aims to improve the indigenous people's life quality and enhance forest conservation and traditional practices within the locality. Among eight main activity areas, this alternative economy fosters sustainable activities that generate income from coffee, banana, Brazil nuts, cattle, tourism, *babaçu* (*Orbignya speciosa*) and fish farming (IDESAM, 2011). To ensure understanding among the associations and their participation in the project a free PIC process was conducted, according to the Brazilian legal framework (Ávila, 2010). The activities also target fauna conservation monitored by indigenous agents who collect data and guide the community on the importance of biodiversity

conservation. SFCP also supports the strengthening of indigenous women's craft activities to promote income generation, culture value and conserve local biodiversity through the sale of products in a shop in the indigenous territory.

### The future is now – challenges and opportunities

The implementation of the SFCP project has elements to catalyse biodiversity conservation and sustainable socioeconomic development by the sales of carbon credits and BioTrade products and services (e.g. derived from NTF products or sustainable tourism). This arrangement generates a virtuous circle: sales' income is invested in structural actions that strength sustainable supply chains and foster local development and livelihoods in harmony with nature.

However, the reality faced by this kind of initiative is tough. The combination of forest conservation and sustainable forestry depends on several factors and mutual willingness of traditional populations, the government and private sector. There is clearly a demand for biodiversity-based products, but also a gap between suppliers (in many cases small farmers, collectors, indigenous and *quilombolas* – descendants of Afro-Brazilian slaves) and demand from the marketplace. Many suppliers have difficulties in meeting quality and volume

requirements or establishing traceability systems. Others suppliers lack formal organizational governance and demand complex logistics that discourage the private sector in establishing commercial agreements.

In order to build a bridge between biodiversity-based suppliers and the market, structural actions are needed in two areas:

- **Government level:** Establish policies, laws and legal instruments that give legal certainty for organizations and companies practising BioTrade.
- **Local level:** Invest in social capital and capacity-building programmes for suppliers so that they can be protagonists of their development, drive innovation and monitor their activities through a robust plan of forestry management, processing units to increase aggregate value and valorization of biodiversity-based products.

Furthermore, it is important to highlight that BioTrade products and forest carbon projects (such as the SFCP) involve communities with complex sociocultural arrangements. Therefore, it is necessary that the stakeholders involved have a relationship beyond commercial transactions, enabling joint creative solutions to overcome the possible barriers that may arise in this kind of economic activity.

Amazon rainforest

© Fotolia: gustavofraza



## 3.3 EcuaFrog, WIKIRI and the amphibian pet trade (Ecuador)

WIKIRI is an Ecuadorian BioTrade company that breeds and exports amphibians worldwide. Under its EcuaFrog brand, it sells laboratory- and farm-bred amphibians and other related products to the pet trade. This pioneer and innovative scientific enterprise produces bio-knowledge and does business to help fund research and conservation of Ecuadorian amphibians.



**María Dolores Guarderas**, General Manager, WIKIRI S.A.

### Box 3.1 WIKIRI and EcuaFrog

WIKIRI has several products under the brands EcuaFrog, SelvaViva, EcuaGrillo, among others.

WIKIRI currently exports 16 species and seven morphs of frogs for the pet market. The most demanded species is the Little devil poison frog *Oophaga sylvatica*, which currently has three commercial morphs: Paru, Diablo and Pata Blanca.

WIKIRI supports conservation and research programmes, one being executed by Centro Jambatu (Center for Amphibian Research and Conservation) – Otonga Foundation. It is a non-profit NGO committed to habitat protection, research, conservation and education.

Source: <http://www.anfibioswebecuador.ec/> and [www.otonga.org](http://www.otonga.org).

### WIKIRI laboratory in Quito, Ecuador



### Introduction

Ecuador is a megadiverse country with 569 amphibian species known to date. This extraordinary diversity is threatened by extinction. According to IUCN (IUCN, 2008) more than one third of the world's amphibians are threatened or extinct, and the largest numbers of endangered species occur in Latin America. In Ecuador no less than 200 species are on the IUCN Red List. Global warming, pathogens, habitat destruction and a cocktail of other factors are conspiring to undermine the survival of amphibians. The illegal traffic of amphibians has contributed to declines as well.

Generally, the amphibian pet trade has been characterized by illegal and unethical practices, including the capture of wild frogs and subsequent smuggling, false claims of either captive breeding or sustainable farming and unsustainable catch quotas (Brown et al., 2011). In this scenario, WIKIRI, through its EcuaFrog brand, provides an ethical and legal option, aiming to contribute to reverse the depletion of amphibians.

### How WIKIRI contributes to research and to reducing amphibian depletion

Wikiri and EcuaFrog were launched to provide urgent action and to implement new, creative and multidisciplinary efforts to reverse extinction trends. It brings a new form of ethical and sustainable commerce to combat wildlife trafficking. It incorporates science and social responsibility into the mindset of a business focused on providing high quality products to the amphibian pet trade in line with BioTrade Principles. The price of products covers the production costs of implementing high quality standards and good practices for animal

breeding, and financing for research and conservation of amphibians. To date, WIKIRI has developed unique technological advances to improve the breeding and conservation of 16 frog species in Ecuador that are threatened with extinction, including some CITES-listed species.

WIKIRI collaborates with a variety of Ecuadorian scientists, especially from Centro Jambatu (Box 3.1), whose support is fundamental to developing novel breeding techniques to raise large numbers of critically threatened populations. The scientists have utilized techniques to enrich the frog habitats, restore frog populations in degraded forests and developed *ex situ* breeding strategies (in laboratories) for endangered species. One of WIKIRI's key breeding technique is to provide a proper diet, including dietary supplements, and to mitigate development and metabolic issues associated with captive frogs. Jointly, WIKIRI and Centro Jambatu have been successful in developing technologies to breed and raise endangered harlequin frogs of the *Atelopus* genus and marsupial frogs of the *Gastrotheca* genus, among others. This a big step forward for *ex situ* conservation programmes of harlequin and marsupial frogs in Latin America, where more than 100 species are critically endangered.

Much of the *in situ* work is done in the Otonga Foundation's private reserve, Otokiki, which is managed by WIKIRI and is located in the Ecuadorian Chocó region. In this reserve, WIKIRI manages and studies *Oophaga sylvatica* (Paru morph), *Agalychnis spurrelli*, *Cruziohyla calcarifer* and *Hypsiboas picturatus*. Studies analyse the natural history of these frogs in enhanced habitat conditions. Based on the findings, WIKIRI has recruited larger sized juveniles and enough surplus animals for the pet trade. Consequently, it does



Critically endangered harlequin frogs (*Atelopus elegans*, *Atelopus balios*, *Atelopus* sp.). These species are part of the *ex situ* management programme called Arca de los Sapos of Centro Jambatu, of the Otonga Foundation.

© WIKIRI



Diablito (little devil) poison frog raised by WIKIRI (*Oophaga sylvatica*, diablo morph). Populations of this morph are suffering massive declines in northwestern Ecuador.

© WIKIRI



Tricolour poison frog raised by WIKIRI (*Epipedobates tricolor*, cielito morph). This population has suffered significantly due to illegal trafficking.

© WIKIRI

not rely on stocking from wild, smuggled frogs. The same is the case for five frog species which are successfully raised *ex situ* in WIKIRI facilities, either in laboratories in Quito or farmed near Santo Domingo de los Tsáchilas. For example, several morphs of *Epipedobates tricolor* and *E. anthonyi* are bred and raised in Quito, whereas two morphs of the little devil poison frog (*Oophaga sylvatica*), are bred in Sapoparque La Florida, near Santo Domingo.

### The future of the sustainable trade of Ecuadorian amphibians

Since its launch in 2011, WIKIRI ([www.wikiri.com.ec](http://www.wikiri.com.ec)) has become a pioneering amphibian breeder and research company working under the BioTrade framework.

WIKIRI will continue financing and helping to develop research and *ex situ* conservation programmes to understand more about the amphibians' behaviour and dynamics and improve their wild populations. They will also promote the sharing of experiences and knowledge to improve breeding practices globally. WIKIRI is promoting legal trade of these species by working with government authorities to develop monitoring and traceability systems in order to reduce frogs smuggling.

The company's long-term growth and success depends mainly on access to and expansion of the legal and sustainable pet trade for amphibians,



Andean marsupial frog (*Gastrotheca riobambae*) raised by WIKIRI. Laboratory-raised frogs will be used to reintroduce into their previous habitat around Quito, Ecuador.

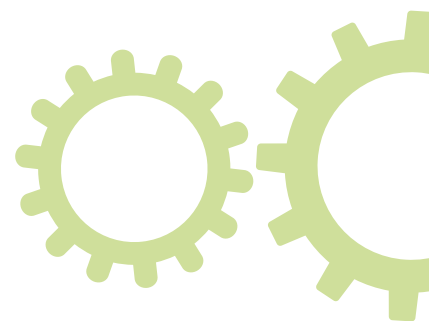
© WIKIRI



Sun's glass frog (*Hyalinobatrachium aureoguttatum*). This is a new species released to the legal pet trade by WIKIRI in 2015.

© WIKIRI

which will directly impact its profitability. To access this market, the company needs to address, *inter alia*, the following challenges: delays in obtaining research and trade permits, fears of the spread of pathogens, smuggling and difficulties working in conflict areas (e.g. Otokiki). Despite all of these, WIKIRI is convinced and committed to engaging in BioTrade as an effective tool for not only the conservation of amphibians, but also of hundreds of flora and fauna species which characterize a megadiverse country like Ecuador.



## 3.4 Sustainability principles and criteria applied to wild collection of non-wood forest products (Kosovo)

In Kosovo, the National Strategy on Non-Wood Forest Products (NWFP) Sector 2014–2020 and its associated action plan have been developed to cope with the country's economic challenges with the support of GIZ/COSiRA. One instrument to strengthen its economy is the sustainable wild collection of NWFP, based on UNCTAD BT P&C, GACP (WHO, 2003) and the FairWild Standard (FairWild Foundation, 2010).



**Klaus Dürbeck**,  
Director; **Stefan  
Lermer**, Project  
Manager, Klaus  
Dürbeck Consulting



### Introduction

About 20 000 individual collectors, 100 sub-operators and around 10 processing companies are part of the NWFP sector in Kosovo. It is also an important source of income, especially for women and minorities in rural areas. The current GIZ project “Competitiveness of the Private Sector in Rural Areas” (COSiRA), based on the National Strategy on Non-Wood Forest Products (NWFP) Sector 2014–2020 (henceforth “National Strategy”), is supporting the sector's stakeholders implementing challenging activities related to NWFP management in Kosovo (MAFRD, 2014). The project aims to generate rural income through sustainable wild collection of NWFP. So far, 62 economically valuable plant species have been identified.

### NWFP as a strategy to promote Kosovo's development

The economy of Kosovo faces many challenges. The main objectives of its government are: to reduce high

unemployment and poverty, to strengthen public institutions and infrastructure, and to improve the business climate. Addressing these objectives, the Ministry of Agriculture, Forestry and Rural Development (MAFRD), the Ministry of Environment and Spatial Planning and the Ministry of Trade and Industry have developed different strategies to improve the country's economic development (MAFRD, 2014).

The National Strategy aims to develop rural areas through the sustainable use of natural resources (Box 3.2). It also coordinates activities of all actors (public, private and donors) in this sector, which absorbs a significant amount of labour in almost all rural areas of the country. A focus is set on income-generation activities for the rural population and enhancing sector/regional competitiveness. It also balances the production of goods with the conservation of nature through the sustainable use of biological resources, in compliance with international environmental agreements and rules.

### Box 3.2 Pillars, objectives and activities for implementation of the NWFP strategy

#### Objectives of Pillar I: Capacity building for resource owners (private and public), resource users and collectors.

##### Activities:

- Pre-university vocational education for forestry profiling;
- Development of sustainable training systems for sustainable wild collection;
- Intersectoral mobilization for raising awareness of the importance of NWFP; and
- Assessment and improvement of needs for scientific research premises.

#### Objectives of Pillar II: Resource management for resource owners and resource users.

##### Activities:

- Capacity development at Kosovo Forest Agency and National Park Administration;
- Identification of access rights;
- Development of sustainable management plans for Kosovo forests and national parks; and
- Development and implementation of a licensing and permit system.

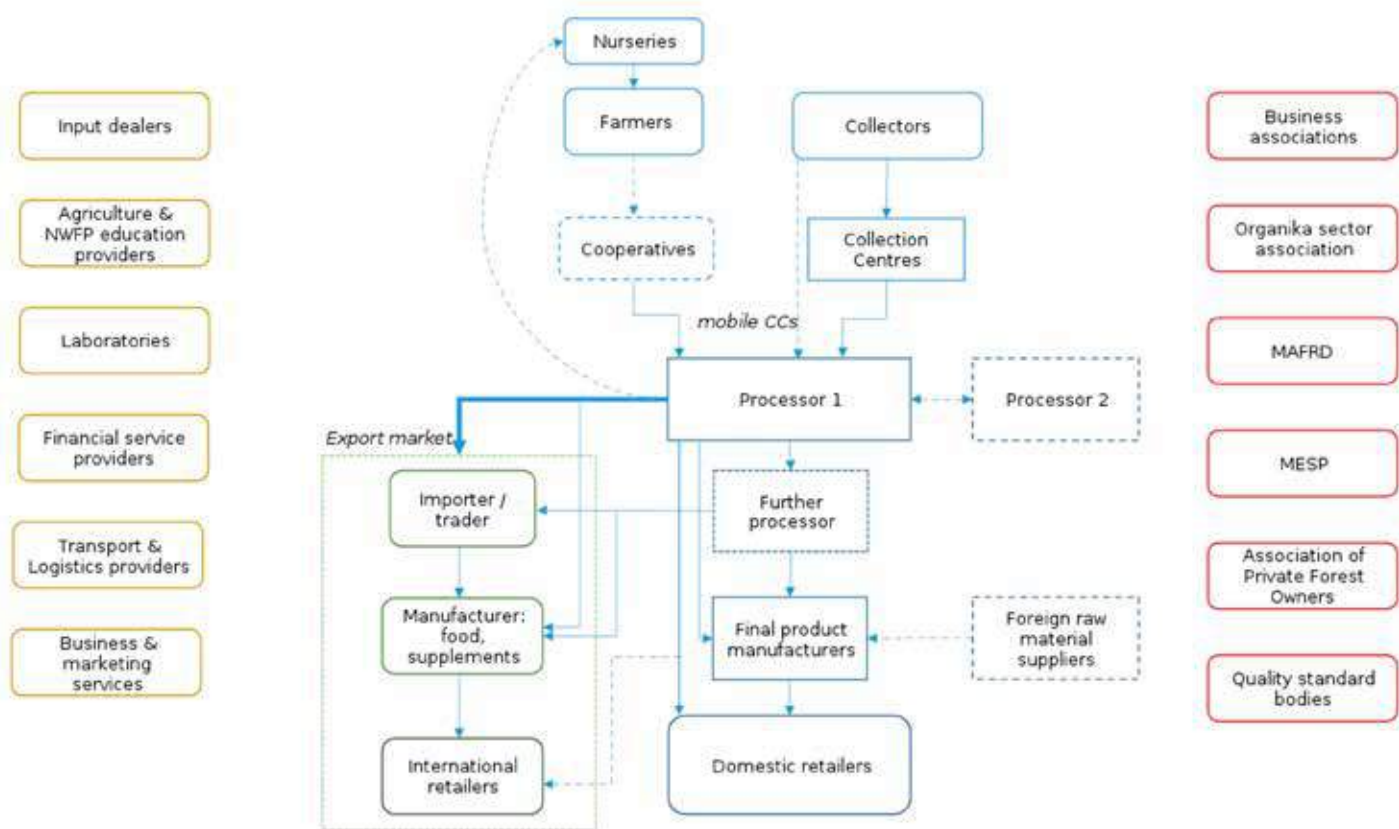
#### Objectives of Pillar III: Organization of the private sector, including private forest owners, companies and entrepreneurs.

##### Activities:

- Promoting establishment of associations;
- Creating a favourable business climate;
- Providing possibilities for the private sector to undertake management of public forests; and
- Initial land consolidation processes.

Source: MAFRD, 2014.

Figure 3.2 Non-wood forest products value chain in Kosovo



Source: ProFound- Advisers in Development, 2015.

The strategy also supports Kosovan institutions and the private sector through:

- Practical implementation of a collection permit issuing scheme for areas under the administration of the Kosovo Forestry Agency and the National Park Agency;
- Incorporating NWFP in forestry management plans as well as national park management plans;
- Technical support to the University of Pristina to refurbish the National Herbarium, and collectors' plant monographs to identify and collect appropriate species for commercial use; and
- Developing and disseminating a concept/outline for botanical identification manuals.

The strategy and associated action plan follow the principles of the FairWild Standard, WHO GACP and UNCTAD BT P&C, as well as its management plan guideline (Becerra, 2009a) to protect and use NWFP in Kosovo on a sustainable basis. Furthermore, the FairWild Standard is the certifiable implementation standard in national

parks and forest management units which enables the use of NWFP in a sustainable way for the environment, the fair share of benefits to rural communities, and the value addition for companies active in the sector (Figure 3.2).

In this context, the COSiRA project is supporting the sector's stakeholders to overcome challenging activities related to sustainable management of natural resources. Particularly, it:

- Legalizes and monitors sustainable wild collection;
- Complies with national and international requirements related to protection of the environment and implementation of fair and social standards;
- Further positions and strengthens the integration of national value chain stakeholders into relevant international chains, for example with products derived from *Primula veris*, *Juniperus communis*, *Fragaria vesca* and *Vaccinium myrtillus*; and
- Attracts and facilitates investment for enhancing value added activities in the country.



“So far, 62 economically valuable plant species have been identified...”

*Juniperus communis* growing wild in Kosovo



© Klaus Dürbeck Consulting

*Primula veris*



© Klaus Dürbeck Consulting

“The National Strategy aims to develop rural areas through the sustainable use of natural resources...”



### Ways forward in developing the NWFP sector

Although Kosovo is not a party to MEAs such as CITES and CBD, it is aware of these as well as the 2030 Development Agenda and the SDGs. Based on NWFP resource management for Sharri National Park and pilot forest management units, the resource owners are in position to commit the necessary human and financial resources to implement and police the respective resource management plans. Through a national stakeholder working group, including private forest owners, a discussion forum with civil society is functioning between forest owners and users to transform the resource use of NWFP into a value added format based on the FairWild Standard as a management standard, which is based on the WHO GACP (WHO, 2003).

COSiRA/GIZ is spearheading the implementation of the National Strategy by supporting actors such as concerned ministries to establish

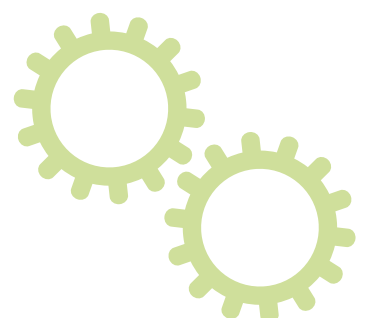
product identity; substantiating botanical identification through the National Herbarium in Pristina, in collaboration with the Herbarium of the Botanische Staatssammlung in Munich, Germany, as an international reference.

The main lessons learned in the context of the COSiRA activities in implementing sustainable wild collection are:

- The formation of a national stakeholder working group proved crucial in identifying and activating the stakeholders concerned and working through inputs from international experts providing information and training along with active participation at working group meetings.
- Supporting the trust building process with the development of the National Strategy allowed all stakeholders active participation and representation.
- Product identity proved to be the cornerstone; this required refurbishment of the National Herbarium as a reference point for resource owners and users for conservation and sustainable use and resulted in renewed recognition for the institution.
- The trust building for access to international markets through the participating companies was strengthened through product documentation based on the principles of the FairWild Standard.

Recommendations to further upscale the sustainable management and trade of NWFP, as an engine to promote sustainable development and conservation of biodiversity are:

- The consensus in the National Strategy by the members of the national working group offers the structure for investment in conservation and sustainable use of wild resources in Kosovo through sustainable wild collection based on the FairWild Standard.
- Overcoming the limitations on human and financial resources to allow successful implementation.
- The training of different stakeholder groups as forest guards and customs on processes for botanical identification, resource assessment and management, requires additional efforts in policing the implementation by well informed, motivated personnel.



## 3.5 Traceability in orchids: A win-win tool to enhance sustainable trade (Peru)

Implementing traceability systems in the trade of ornamental plants is one of the major issues in strengthening the control of legal trade and its regulation. Thus traceability is a fundamental element in ensuring the conservation and promotion of BioTrade practices. Through a Peruvian case study to setup and implement an orchid traceability system project, the benefits and challenges can be seen.



**Vanessa Ingar**,  
BioTrade Specialist;  
**Harol Gutiérrez**,  
CITES Specialist,  
Ministry of  
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(MINAM), Peru



### Introduction

The international trade in ornamental plant species is one of the major pressures related to the conservation of wild orchid populations (MINAM, 2014). In Peru, market potential is based on the diversity of orchids, estimated at 2600–3000 species. The richest resource areas are located in the Amazon region (Brako and Zarucchi, 1993; Roque and León, 2006). The trade in orchids adhering to CITES requirements, has an important market, which can support the sustainable use of biodiversity. In Peru the legal framework that guides this trade is the Forest and Wildlife Law 29763, which focuses on the sustainable use of artificial orchid reproduction centres, and regulating and penalizing illegal trafficking and trade of wild species. However, the

control and documentation mechanisms that enable species' mobilization from reproduction centres, where orchids are nurtured to the final destination (consumer), such as forestry transportation permits, do not allow the complete history of the orchid, from the nursery to commercial outlet, to be tracked. Consequently, crucial information to assure the origin and monitor the trade from an authorized nursery is lost.

In San Martín – one of the richest orchids regions and considered an emerging market for ornamental species – the first traceability initiative for orchids was initiated with the support of the PerúBiodiverso project (SECO/GIZ). The results of this project demonstrated the advantages of traceability and the positive perspectives it offers for sustainable

Cattleya orchids in a nursery in Peru

©SERFOR



and harmonized trade in line with biodiversity conservation and BioTrade Principles. In Peru, the National Forestry and Wildlife Service (Servicio Nacional Forestal y de Fauna Silvestre), as the CITES Management Authority, is responsible for the legal trade of wild species that are reproduced on land, assuring species traceability and managing the administrative requirements of CITES.

“Productive conservation based on sustainable use of biodiversity is one of the most efficient conservation alternatives...”

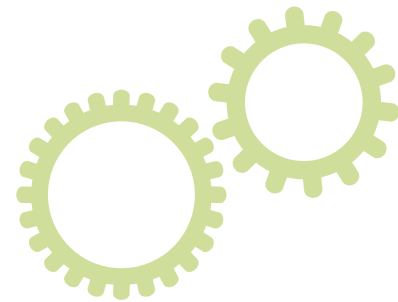
### Implementing a traceability system for orchids

The pilot project implemented the traceability mechanism for the trade in orchids for one of the biggest nurseries in the San Martín region, Vivero Agro Oriente. It developed information management tools and a monitoring standard, using a unique codification/identity. This assured the traceability of the orchid from collection to final

consumer. Initially, technology and capacity challenges, such as the manual organization of registers into a unique database raised problems related to the identification of parental breeding stock, management of non-identified clones and control of lost crops, among others.

Once the project ended, each orchid species in the nursery was identified in detail through a systematized inventory, technical sheets, GTIN-13 standard code, images and documentation of the species' unique characteristics. In a master database, all the information related to providers, clients, employees, transportation and others was available and adequately identified and registered. One relevant result was the improvement of the nursery's entry and exit control of plants from production centres. This highlighted the importance of the traceability proposal as a key tool in strengthening existing control mechanisms, and enhancing inspection and tracking processes being led by the CITES Management Authority, as well as clarifying the difference between the nursery's estimated and real orchid production. The nursery is currently an orchid exporter fulfilling all the required permits and its governance structure enables the monitoring and tracking of species origin.

Productive conservation based on sustainable use of biodiversity is one of the most efficient conservation alternatives – with the correct management and controls. In this context, ornamental plants trade can be used as a good model of productive conservation, if legal trade based on artificial cultivation is facilitated. Decreasing the risk of illegality (wild harvest) ensures that trade is not detrimental to wild populations, but this requires strengthening and promoting mechanisms of traceability.



Breeding orchids in a laboratory



*Cyrtorchilum* sp.

©MINAM

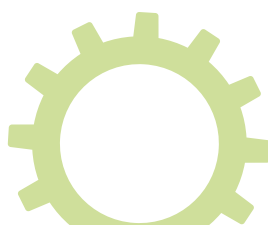
*Comparettia sp.*

©MINAM

### Upscaling this experience at the national level

Traceability systems in ornamental nurseries are an essential support to assure the sustainable trade of species. However, this has to be combined with other control and command mechanisms and regulatory frameworks for successful implementation. It not only enables more effective monitoring, regulation and control, but also improves the operation of all actors involved. The Peruvian CITES Management Authority, with technical support from the Scientific Authority (Ministry of Environment), should promote traceability system projects in the next few years as a mechanism for strengthening CITES processes, limiting illegal trafficking and trade in orchids, to guarantee sustainable use.

Furthermore, these systems enable national orchid nurseries to have a competitive advantage when accessing international markets. Traceability not only enhances transparency and the reputation of nurseries and their products (orchids) with clients and governments, it also enables them to have a competitive marketing and positioning tool at local and international level. This is a win-win situation for all actors involved in the orchid value chain.

*Mormodes rolfeana*

©MINAM

# 4 BioTrade and markets

Through BioTrade, its beneficiaries – companies, associations and projects – are placing their products and services not only in national markets but also regional and international ones across a variety of biodiversity-based sectors. This section includes case studies working with flora and ecosystem services (sustainable tourism) in Africa, Asia and Latin America.

BioTrade and markets: Case studies and their contribution to the Aichi Targets and SDGs

Case study	Aichi Targets	Sustainable Development Goals
4.1 BioTrade and market-driven strategies to develop biodiversity-based sectors and businesses		
4.2 Developing inclusive and resilient indigenous natural products sector (southern Africa)	2, 4, 7, 16, 19	8, 9, 12, 15
4.3 Communitarian ecotourism: An idea full of nature (Colombia)	1, 2, 4	8, 12, 15
4.4 Promoting sustainable cocoa (Ecuador)	2, 3, 4, 19	1, 2, 8, 9, 10, 12, 15
4.5 Novel food regulation: Beyond a technical protocol? <i>Sacha inchi</i> oil (Peru)	4, 19	9, 12
4.6 When all that is needed is a little push (Viet Nam)	4, 7, 19	9, 12, 15

## 4.1 BioTrade and market-driven strategies to develop biodiversity-based sectors and businesses

BioTrade, which fosters the sustainable use and trade of biodiversity-derived products and services, contributes to development and trade agendas by addressing biodiversity loss and poverty. For over 20 years, UNCTAD, its partners and practitioners, have been building a BioTrade enabling environment, strengthening value chain actors' capacities to trade value added products and services, and facilitating access to key markets.



**Lorena Jaramillo,**  
Economic Affairs  
Officer, UNCTAD

### The impact of biodiversity and social concerns in trade and development agendas

BioTrade is considered as a market-driven incentive for the sustainable use and conservation of biodiversity and the equitable sharing of the benefits generated by its use and trade. It is also recognized as such in several UNCTAD and MEA mandates. For instance, it responds to the trade-related aspects of CBD Article 10 on sustainable use, 11 on incentive measures and Aichi Target 3. Similarly, CITES-UNCTAD collaboration recognizes the role that economic incentives play in the sustainable resource management.

“Accessing markets, particularly premium ones, motivates BioTrade and biodiversity-based businesses to continue implementing the sustainability principles...”

The growing trends for sustainable, natural, environmentally and socially responsible consumption and production patterns trigger the sale of BioTrade and other biodiversity-based products and services. Raising awareness and valorizing biodiversity is also a way of creating and developing markets and seizing market opportunities (UNCTAD, 2013). For example, consumers wish to know more about the sourcing practices of the ingredients and services purchased, as shown by the 2016 Biodiversity

Barometer. Similarly, the importance of biodiversity is increasingly recognized in trade agreements such as the Trans-Pacific Partnership that includes, *inter alia*, the commitment of its partners to combat wildlife trafficking, illegal logging and illegal fishing (Office of the United States Trade Representative, n.d.). These trends are an important driver for BioTrade and its goal of conserving biodiversity, promoting sustainable livelihoods and creating broader sustainable development opportunities.

Market access for biodiversity products is increasingly affected by non-tariff measures (NTMs). Some NTMs are used as commercial policy instruments (e.g. subsidies, trade defence measures), while others stem from non-trade policy objectives (e.g. food safety and environmental protection) (Erasmus et al., 2014). “NTMs may have restrictive and distorting effects on international trade. This can comprise complex technical barriers to trade (TBT) and sanitary and phytosanitary (SPS) measures” (Cadot et al., 2015) that are difficult to comply with.

### BioTrade actions to access national and international markets

Accessing markets, particularly premium ones, motivates BioTrade and biodiversity-based businesses to continue implementing the sustainability principles. It also provides businesses with resources to continue their operations. Exporters' understanding of and compliance with requirements (e.g. SPS regulations and standards) from key markets, are essential to accessing them. Standards, such as ISO (International Organization for Standardization), hazard analysis and critical control points (HACCP), GMP, Globalgap and WHO GACP,



are also used in the market place. Additionally, voluntary sustainability standards are increasingly key to accessing premium markets. Strategies implemented by BioTrade partners across the globe include tackling and understanding consumers' preferences and distribution channels, and reaching out to buyers with value added, high quality and differentiated products and services. Experience has shown the need to be inclusive, involve a broad number of national and international organizations and experts, and guarantee the flow of information and benefit sharing among all value chain actors.

BioTrade's value chain approach leads to fulfilling market requirements. This has helped in the development of a BioTrade-friendly enabling policy

environment, and the formulation and implementation of several tools and activities to access national and international markets. Partnerships have been essential for BioTrade, for instance working with trade promotion agencies from developing countries, such as the Export and Tourism Promotion Agency of Peru (PROMPERU), Corporación de Promoción de Exportaciones e Inversiones de Ecuador (CORPEI) and the Uganda Export Promotion Board, as well as trade promotion programmes or centres from developed countries, such as the Dutch Centre for the Promotion of Imports from Developing Countries and the Swiss Import Promotion Programme, and international agencies, such as ITC. Box 4.1 provides some examples of actions taken.

## Concluding remarks

Accessing and creating markets for biodiversity products and services is a complex and complicated issue that requires enhancing the capacity of value chain actors and keeping up to date with market and consumer requirements. However, it is also the basis for developing profitable, long-term commercial businesses, using these products and services sustainably and enhancing the livelihoods of the sourcing communities.

### Box 4.1 Actions taken by BioTrade partners to access markets

- **Enabling policy environment:**

Identifying and addressing policy gaps and duplication at national and international levels, as well as market barriers that are negatively affecting the trade of BioTrade products and services. For instance, understanding and complying with regulations or voluntary requirements from target markets can be challenging for SMEs from developing countries. SPS or TBT requirements, particularly for new biodiversity-based traditional food products, such as the EU NFR have resulted in time-consuming and significant costs due to trials and risks assessment that have been funded jointly by the companies, BioTrade partners and other donors. Similarly, new regulations such as the Nagoya Protocol are essential to create a policy environment that complies with international requirements and supports BioTrade and implements its principle on ABS.

- **Market access:** Developing collaborative models and programmes (e.g. B2B, public-private partnerships, business associations), participating in trade fairs and in buyer-seller missions aiming to facilitate market linkages of SME providers of BioTrade products and services with potential buyers at national and international levels. Technical assistance programmes, coaching and funding have been

conceived for instance to develop substantive supporting documents (e.g. material safety datasheets) and implement traceability systems. In some countries, partners organized specialized trade fairs, such as Perunatura, or the promotion of country-flag products.

- **Geographical indications and appellation of origin:** Recognize and identify typical characteristics of a product or service or development process integrating specific know-how, such as the "cacao arriba" appellation that was developed by the National BioTrade Programme in Ecuador with the support of the Ecuadorian Intellectual Property Institute, UNCTAD, cocoa producers, companies and research associations (Jaramillo, 2012).

- **Market differentiation schemes:** Formulate and implement company branding and product standards focusing on "sustainability", "biodiversity" and "social, inclusive and fair trade", speciality products, and even "peacebuilding and post-conflict recovery" concepts. Standards and certifications may be tools to address the emergence of consumer demand for more information and more "sustainable" products and services, and production processes, improve the quality and traceability of the products, and the fulfilling of regulatory

developments and the development agenda (SDGs, climate change, natural resources depletion). R&D also plays a key role, for instance with the development of new products and enhanced product differentiation.

- **Enhancing consumer awareness:** Focusing on this area by highlighting the social and environmental benefits of BioTrade products and services in order to enhance the market for them. This is implemented in Viet Nam. The Biodiversity Barometer contributes and measures consumer awareness in relation to biodiversity.

- **Access to market information:** Involves not only market intelligence with specialized studies and websites, but also technical assistance and capacity-building activities, and specific market access guidelines, among others.

- **Access to finance:** Creating funds, accessing venture capital and enabling commercial banks to develop specific credit lines such as CORPEI CAPITAL (Ecuador) or the New Ventures Biodiversity Investor Forum for the Andean-Amazonian region (UNCTAD-CAF-World Resources Institute) to promote concrete investment opportunities through venture capital in bio-businesses (<https://sustainabledevelopment.un.org/partnership/?p=1586>).

## 4.2 Developing inclusive and resilient indigenous natural products sector (southern Africa)

For any entrepreneur in the world, the route to success is a challenging journey that requires patience and methodology. For a start-up located in a developing country, supporting tools are often yet to be designed. To reach the stage of business viability, joining forces remains the key starting point that has become the credo in PTA's proposition to its members.



**Véronique Rossow,**  
Head of Research  
and Development,  
PhytoTrade Africa  
(PTA)



### A bottom-up approach

PhytoTrade Africa is a membership-based trade association that was created in 2001 in southern Africa. At that time, its main objectives were to mutualize all the efforts and funding needs of various stakeholders working on the same local indigenous plant species, then to bring and share technical and market support through a regional value chain approach.

This BioTrade initiative started around the marula oil value chain, but soon expanded to additional southern African species. Fifteen years later, it connects more than 55 SMEs (producers) across eight countries (Botswana, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe), representing more than 12 500 local collectors (PTA, 2015). In terms of products, its members are involved in the valorization of around 10 focal species,<sup>15</sup> mainly NTF products that occur in several southern African countries. In preparation of a robust

diversification strategy for the regional indigenous natural product (INP) sector, PTA has also gathered data on many pipeline species that have been identified to represent a commercial interest, particularly for the food and cosmetic sectors. For further information, see Figure 4.1.

One recurrent commonality throughout the PTA network is the very strong commitment entrepreneurs have towards the sustainable use of biodiversity (e.g. with the establishment of resource management plans), together with investment in developing long-term business relationships with their collectors/harvesters. This goes in line with BioTrade Principles which are embedded into PTA's charter.

Such dedication towards social and environmental impacts has a transactional cost, which PTA mitigates by providing a range of technical and commercial supports, therefore fostering its network's competitiveness.



Natal mahogany

© PhytoTrade Africa



Boabab and *Kigelia africana*

“Among the many challenges of such a bottom-up approach, a few are quite critical to ensuring long-term commercial success...”



## Lessons learned

Among the many challenges of such a bottom-up approach, a few are quite critical to ensuring long-term commercial success. Looking back at the two most iconic value chains that PTA has supported (marula oil and baobab powder), two strategic steps are pre-requisite for entering into any new product development:

- **At grassroots – patience and methodology.** From the identification of the species, to the first scaled production, the level of investment is high in terms of time, as well as financially. Many investigations have to be conducted, ranging from resource assessments, commercial potential, to technology and equipment evaluations. It took eight years, many sample tests and several process evaluations to go from local artisanal small oil production to a scalable marula oil production that had reproducible and marketable specifications (CRIAA SA-DOC, 2010).
- **For market access – caution and methodology (again).** The local market is often the first target of new product sales. But it is unlikely to be sufficient to allow profitable revenues. When preparing business plans, most SMEs target export

sales, where consumer purchasing power is higher than in the country of origin. Depending on the industrial sector and geographical zone, entering a new market implies fulfilling specific NTMs such as regulatory compliance or label certification. The cultural and geographical distances, combined with the complexity of some compliance procedures make it difficult for a single producer to prepare for such compliance alone. The related costs could also put at risk the return on investment (or simply its viability) for any business.

PTA had started the procedures two years before obtaining the EU NFR and United States of America Generally Recognized as Safe (GRAS) status for the baobab fruit powder in 2008. This involved mobilizing several of its members in three different countries, to provide representative samples from their respective production in order to build a meaningful regulatory dossier. This value chain approach allowed decreasing risks and costs at each business level, while also benefiting non-members, who could then access the EU and United States markets at marginal costs.

The enthusiasm and reward that bring the first successes are quickly followed by the need to ensure businesses sustainability.

In its “incubating” endeavours, and to strengthen its network, PTA has more recently started to build a strategy of higher resilience throughout its membership. This adaptive management goes from developing “fit for purpose” diversification strategies, to capturing as much added value locally as possible.

## Way forward

In the African region, the future of this “bio-economy”<sup>16</sup> is highly dependent on national policies to support local innovation and entrepreneurship (Lombard, 2015). It remains challenging to connect small local producers with international players. Such imbalance in strength has to be decreased through various processes, involving: efficient capacity-building training, suitable access to finance, and mainstreaming business resilience when developing inclusive value chains. The entry into force of the Nagoya Protocol on ABS plays an important role in providing legal tools to foster fairer and win-win business relationships. At the forefront of Nagoya Protocol implementation, through its network, PTA has an advocacy role that has certainly become even more critical for its members and the entire INP sector.

Flowers and fruits from indigenous natural products

© PhytoTrade Africa

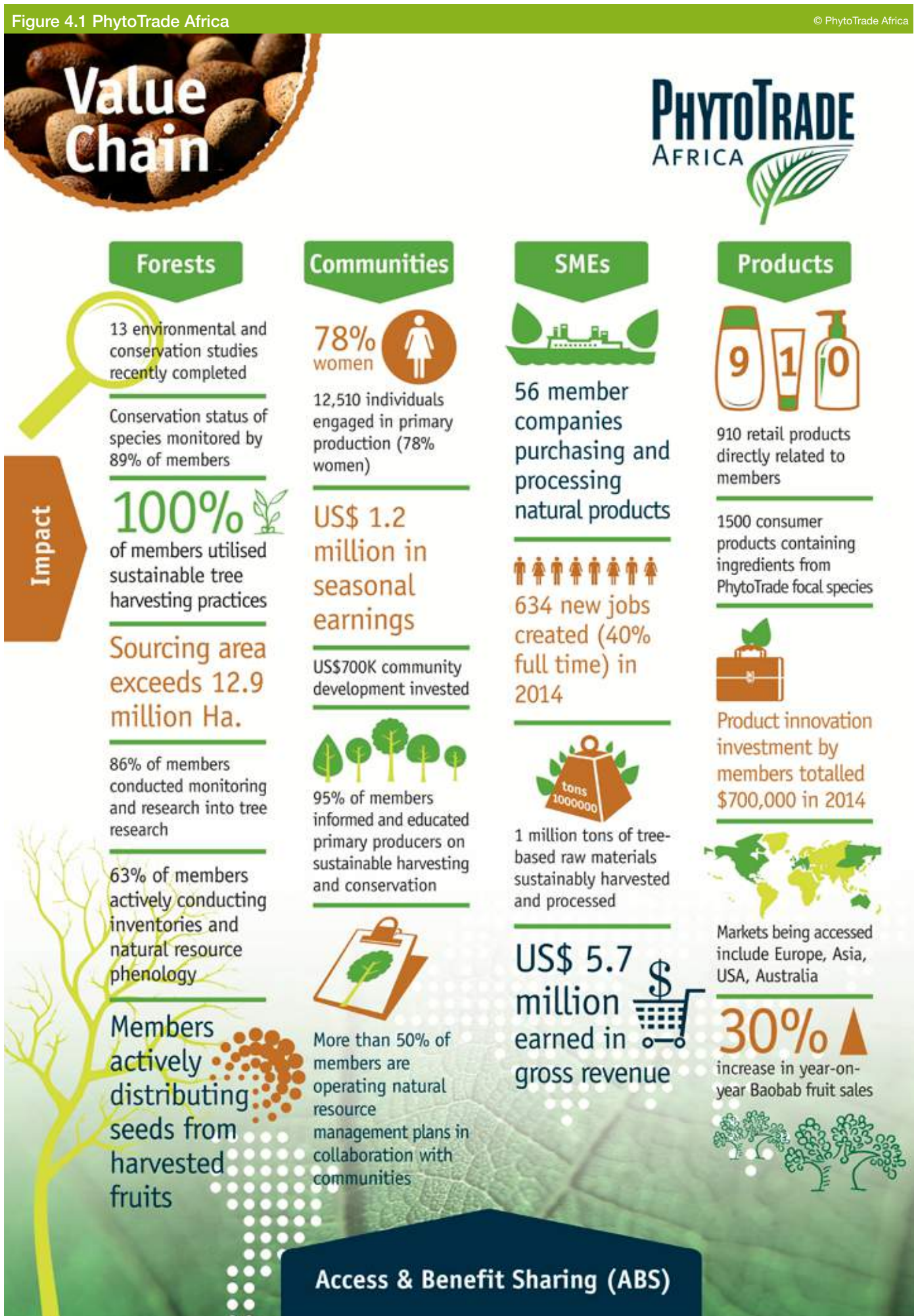


Martha K. Kangandjo-Negumbo, Manager of the Eudafano Women’s Cooperative (Namibia) at a trade fair in Europe



Figure 4.1 PhytoTrade Africa

© PhytoTrade Africa



## 4.3 Communitarian ecotourism: An idea full of nature (Colombia)

Developing communitarian ecotourism in the Parques Nacionales Naturales de Colombia (PNN) (National Natural Parks of Colombia) is a valuable tool for social assessment and recognition of the benefits of nature; and becoming one of the most significant inputs to consolidate BioTrade. It is a process of commercial innovation based on natural and cultural assets that has adapted itself in a dynamic way to the global market's demands, which are growing significantly.



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Translated by Carolina Valbuena Osorio with the support of Lorena Jaramillo, UNCTAD

### Introduction

BioTrade includes cultural identity and natural diversity as fundamental elements of sustainable development and the conservation of the natural and cultural heritage in Colombia. More universally, positioning environmental businesses in the sustainable economy depends on societies' production and consumption patterns, and the appreciation and recognition of the benefits that people derive from nature.

For the past 20 years, the growth of nature-based tourism in the global market has increased (UNWTO, 2010) and enhanced the essential role of local communities in the conservation of natural resources (Kiper, 2013). This article shows the experience of a group of entrepreneurs inspired by communitarian ecotourism who have successfully positioned themselves as one of the most recognized biodiversity conservation programmes in Colombia (PNN, 2015).

in the world. This privileged position forces the government to formulate policies defining the country's land use and productive development. These policies recognize the importance of biodiversity to consolidate peace and development scenarios.

Given the exceptional conditions of Colombian nature and culture, each PNN is unique in terms of geography, biology and culture. It is a perfect scenario for the contemplation and enjoyment of ecotourism activities.<sup>17</sup> Colombia receives 4.2 million foreign visitors per year, of which only 10 per cent visit a PNN (PROCOLOMBIA, 2016). Over the past decade, the Colombian tourism sector has experienced a 12.7 per cent growth, becoming the second highest income-generating activity in the country, after minerals and oil exports (Revista Dinero, 2015). Nature-based tourism maintains a positive behaviour in comparison to other sectors, as for instance, PNN visits registered a 6 per cent growth in 2015 (Figure 4.2). This represents approximately one million foreign and national visitors. Likewise, the number of visitors grew by 11.7 per cent in the first quarter of 2016 (PNN, 2016c).

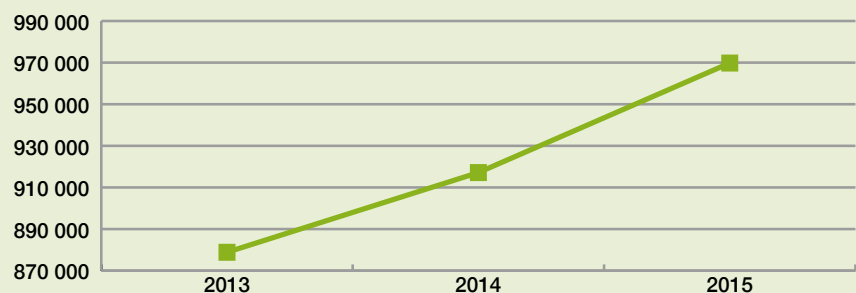
### Colombia – a destination for peace and nature

Colombia stands out as one of the 10 countries with the highest biodiversity



“Ecotourism is a major sector with great potential for Colombia. More effort is needed to enhance its development and openness to international markets in a sustainable manner...”

Figure 4.2 Visitor numbers to National Natural Parks in Colombia (2013–2015)



Source: PNN, 2015.

## The real significance of communitarian ecotourism

The opportunities to create value through the tangible and intangible attributes of nature are infinite. Diversity is considered the principal attraction of many destinations chosen by travellers wishing to experience local culture and nature (e.g. annually 6.4 million European travellers are interested in communitarian ecotourism (UNWTO, 2016). The UN World Tourism Organization (UNWTO) points out that tourism is a social, cultural and economic phenomenon that requires a long chain of production; making tourism one of the most inclusive economic activities at the global level.

Differing from conventional tourism, communitarian ecotourism enlarges the social scope, claiming the role that local communities play in the conservation of the heritage (Comité Interinstitucional de Ecoturismo, 2007). In Colombia, the Communitarian Ecotourism Programme in National Parks (CEPNN) started as a conservation strategy over a decade ago with seven parks in the Andean, Caribbean and Pacific regions (Figure 4.3).<sup>18</sup> Each CEPNN must:

- Improve or maintain the conservation status of the PNN
- Promote the social valorization of nature
- Generate benefits that improve the local communities' quality of life (Bio-comercio Colombia, 2014).

Since 2008, 10 communitarian ecotourism initiatives (CEIs) have been implemented; each includes a contract for the provision of communitarian ecotourism services and actions. Within the CEPNN and with the support of the GEF-CAF-UNEP Andean BioTrade Project "Facilitation of financing for biodiversity-based businesses and support for market development activities in the Andean region" (Biocomercio Colombia, 2014) each CEI enhanced their knowledge and skills to develop BioTrade businesses, implement sustainability principles and criteria (e.g. BioTrade) and good ecotourism practices. Additionally, they diversified their economic activities by developing products and value chains associated with ecotourism such as handicrafts. A knowledge sharing scenario was created among them, which enhanced their skills related to commercial and promotional strategies and the implementation of business

PNN Utría, humpback whale

© Fundación Yubarta

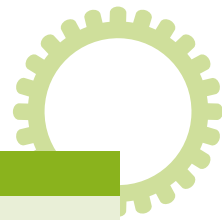


Figure 4.3 National Natural Parks in Colombia



- Ecotourism chains of value
- Handicrafts chains of value

Source: PNN website: [www.parquesnacionales.gov.co](http://www.parquesnacionales.gov.co).



plans, aiming to enrich their capacity to develop nature-based tourism companies.

By the end of 2014, the number of visitors to the six CEIs increased by 4.6 per cent from 2013 to 2014 generating US\$313 000 in sales, and with 95–97 per cent visitor satisfaction registered for the past three years (figures 4.4 and 4.5) (PNN, 2016c). Similarly, four of the six CEIs increased their revenues by almost 54 per cent. Under the CEPNN, 80 per cent of the CEIs promoted their initiative to domestic and international markets by raising awareness and implementing promotion and commercialization activities, including using new technologies and social media (Twitter, Facebook and Instagram).<sup>19</sup> Furthermore, the number of PNN has increased to 11 located in seven departments (Figure 4.3).

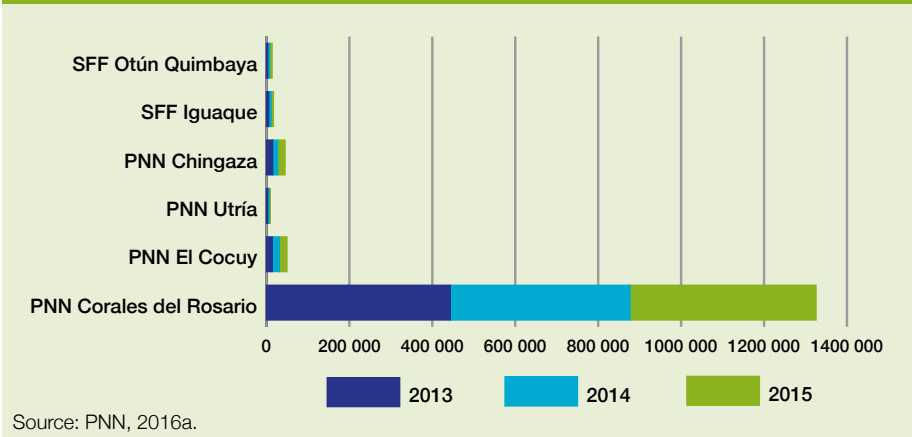
Today, communitarian entrepreneurs focus on obtaining a sustainability certification for their activities, enhancing their language skills and diversifying their products, activities and services. This is achieved by enhancing the participation of different actors in the ecotourism value chain and fostering the empowerment of local communities.

## Conclusions

Ecotourism is a major sector with great potential for Colombia. More effort is needed to enhance its development and openness to international markets in a sustainable manner. Competitiveness of the sector is a challenge that requires investing in infrastructure and equipment as well as in human talent. These efforts must strengthen communities' entrepreneurship and organizational capacities, to enable them to manage their assets and financial resources and promote their touristic product. Furthermore, they need support to enhance their research and innovation capacities to develop new ecotourism products fulfilling sustainability standards (e.g. BioTrade). They also need to establish a network between public, private and civil society to avoid duplicating efforts.

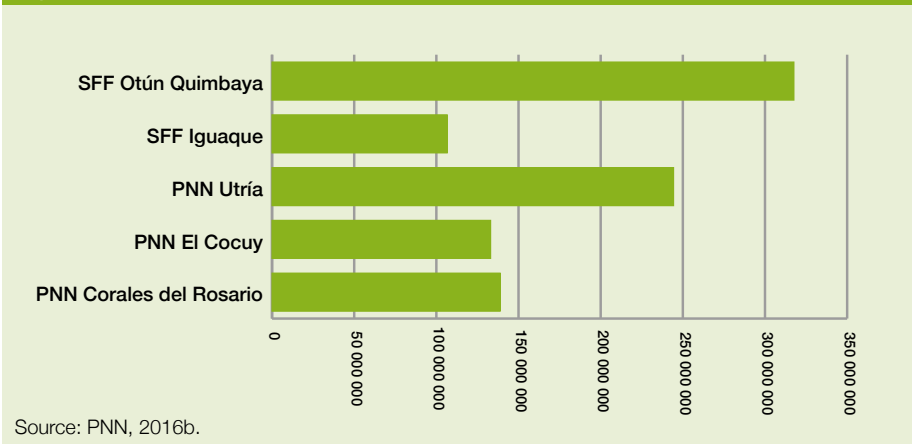
From the business point of view, designing the touristic experience implies the synergy of multiple elements to enhance positioning, development and innovation of the product. Naturar Iguaque (2015) stated: "We (should) stop selling beds and food to

Figure 4.4 Visitor flows to communitarian ecotourism destinations



Source: PNN, 2016a.

Figure 4.5 Revenue (2014)



Source: PNN, 2016b.

PNN Los Nevados, Laguna del Espejo (Mirror Lake)

© Juan Manuel Torres



*promote a unique experience, based on co-creation,<sup>20</sup> establishing the 'visitor's experience' in the heart of the communitarian ecotourism promise".*

Close interaction with local communities is essential to generate positive change between public and private actors at local, regional and national levels. It is also important to generate a positive response in safeguarding

the natural resources. This approach fosters enlightened private participation in conservation. It is a tool for territorial planning and environmental management of PNN.

The CEPNN has a strong institutional and business insight that fosters the role of BioTrade in the development of the Andean region. It also encourages the inspiring idea that BioTrade is not just an idea in Colombia but a reality.

## 4.4 Promoting sustainable cocoa (Ecuador)

UNOCACE, a cocoa producers' association, has been working since 1999 to enhance the livelihoods of small cocoa farmers and their surrounding biodiversity in the coastal provinces of Ecuador. It focuses on producing and exporting high quality and differentiated cocoa beans to niche markets in Europe and the United States of America. It also shares its experience and knowledge to strengthen the cocoa sector.



**Freddy Cabello**,  
Manager, UNOCACE;  
**Lorena Jaramillo**,  
Economic Affairs  
Officer, UNCTAD



### Background

The Union de Organizaciones Campesinas Cacaoteras (UNOCACE) is an organization that is part of the Ecuadorian Popular and Solidarity Economy (Economía Popular y Solidaria) created in 1999. It currently groups 927 small cocoa farmers with 4157 hectares of national high quality cocoa (*Theobroma cacao*) known as *fino de aroma*. Their cocoa plantations are located in four provinces (Guayas, Los Ríos, El Oro and Bolívar) and are managed under BioTrade Principles. They are also in line with organic, fair trade, biodiversity-friendly requirements and post-harvest processes resulting in a very high quality product.

The strategy of combining cocoa crops with biodiversity enabled UNOCACE to participate in BioTrade activities, starting in early 2000 with the Ecuadorian

National BioTrade Programme and later in 2011 with the Andean BioTrade Programme. This support enabled UNOCACE to consolidate its commercialization strategy for organic and fair trade cocoa, access high-quality markets in Europe and the United States of America; resulting in an increase in the income of its members. Particularly, the biodiversity-friendly strategies implemented under BioTrade, more than doubled the annual productivity of family cocoa plots, from 200 to 500 kilograms per hectare. The goal is to achieve 1000 kilograms per hectare per year.

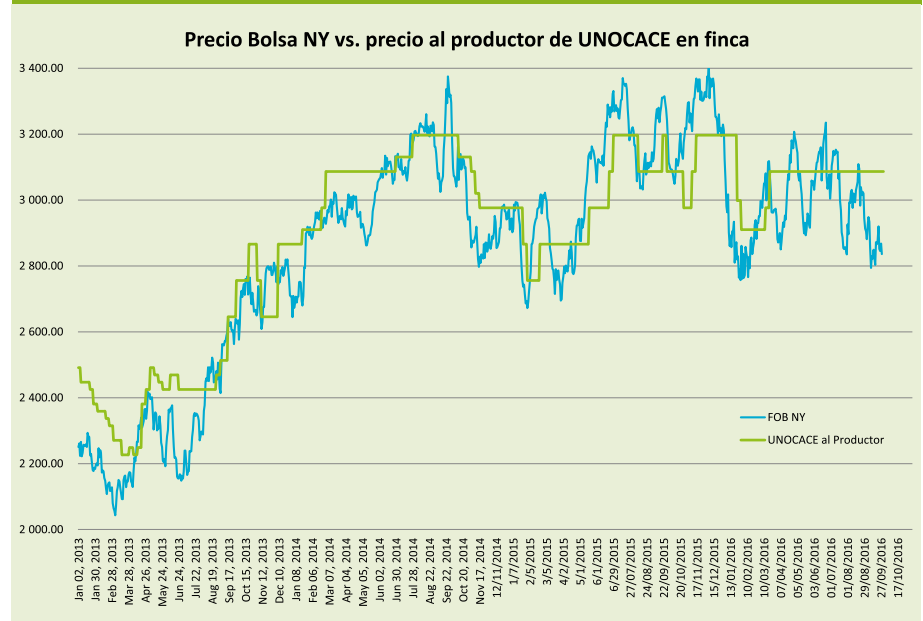
UNOCACE has also been providing technical assistance to other cocoa producers' associations in managerial and quality programmes for enhancing sustainable cocoa farms under BT P&C (CORPEI/MAE, 2014).

Cocoa fino de aroma

© UNOCACE



Figure 4.6 New York Stock Exchange price versus UNOCACE's producer price at farm (January 2013 to June 2016)



© Freddy Cabello



### Accessing international cocoa markets

UNOCACE is strongly focused on accessing international markets for its high quality cocoa. It has developed public-private partnerships with European chocolate manufacturers, which recognize the uniqueness of its cocoa developed under environmentally and socially responsible practices.

Currently, one of the main markets accessed is the Swiss chocolate industry, which captures 60 per cent of UNOCACE's production with a premium price (free on board) of over US\$1000 per metric ton. This has enabled cocoa farmers to earn a stable income and price, avoiding the normal shift in prices related to commodities. In many cases, cocoa farmers receive an even higher price than that stated on the New York Stock Exchange, a situation not normally seen in the Ecuadorian cocoa sector or other cocoa producing countries.

In 2015, the difference on the price paid to cocoa farmers and the stock exchange price resulted in an additional income of approximately US\$235 000 (Figure 4.6). This continues to motivate UNOCACE members to implement projects that enhance the quality and productivity of the cocoa farms while working under BioTrade Principles.

### Recommendations for enhancing markets for associations of small cocoa farmers in Ecuador

Cocoa is a strategic economic sector for Ecuador because it represents a major source of export revenue and employment. For 2015, export revenues

from cocoa surpassed US\$749 million (260 540 metric tons) and employed around 120 000 producer families (ANECACAO, 2016). It is also a pioneer sector as it established the first Ecuadorian appellation of origin for cocoa "Arriba" in 2008. UNOCACE and other producers and sector associations supported UNCTAD and the Ecuadorian BioTrade Programme in the two-year process to gain the appellation (Jaramillo, 2012).

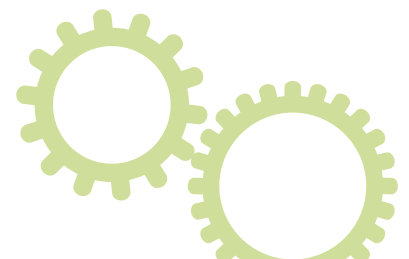
It is important to foster and create policies that improve the productive practices of cocoa farms and develop policies to upscale and support environmentally and socially responsible cocoa farms which may also improve cocoa production systems. This is illustrated in the UNOCACE experience which is significantly improving the livelihoods of cocoa producers and implementing biodiversity-friendly systems (e.g. agroforestry).

Another important aspect is to identify niche markets for associated species found on cocoa farms and their derived industrialized products. This will further increase the producer families' incomes and cash flow.

Other recommendations that can also enhance market access for small cocoa producers are:

- Knowing your target markets and consumers so that the product and your business model match consumer expectations.
- Enhancing the quality of the product is an ongoing task, and should be combined with social and environmental considerations throughout its value chain.

- Identifying and implementing mechanisms to provide a stable purchasing price for cocoa producers.
- Establishing commercial and long-term partnerships with buyers that value the uniqueness of UNOCACE's social and environmental cocoa beans. However, it is important to diversify buyers, to avoid dependence and minimize risk. UNOCACE has been working on this point, and has accessed new markets such as Canada and also has six new buyers, resulting from BioTrade support (CORPEI/MAE, 2014; CAF, 2014).
- Implementing strategies to diversify product ranges, for instance developing value added (e.g. cocoa liquor and nibs).
- Formulating and implementing strategies on an ongoing basis to enhance the income of associated producers, i.e. by identifying niche markets for other products produced on their farms and increasing their value added through agro-industrialization.



## 4.5 Novel food regulation: Beyond a technical protocol? *Sacha inchi* oil (Peru)

In 2013, four Peruvian *sacha inchi* firms joined efforts to overcome one of the most important trade barriers to accessing the European market for natural products: the authorization as a novel food. This is a considerable milestone and has led to increased integration of this value chain; yet steps to enhance its governance are necessary.



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### Background

*Plukenetia volubilis* L., commonly known as *sacha inchi*, *inka* peanut or just *inka* nut, is a wild oleaginous, climbing plant native to the Amazon region. In Peru, it is naturally distributed in the Amazon regions of San Martín, Ucayali, Huánuco, Amazonas, Madre de Dios and Loreto. Peruvian indigenous communities have recognized the exceptional properties of *sacha inchi* for centuries, and use it for cosmetics and health purposes (IIAP, 2016).

During the last decade, *sacha inchi* was domesticated in Peru, and San Martín is the main cultivation area. Initially, national and regional authorities, and afterwards BioTrade projects such as

PerúBiodiverso (co-financed by SECO and German Development Cooperation, implemented by GIZ), promoted its development (Box 4.2). Also, during the first stage of UNCTAD's BioTrade Facilitation Programme (2003–2008), *sacha inchi* was a priority value chain selected to implement the BT P&C.

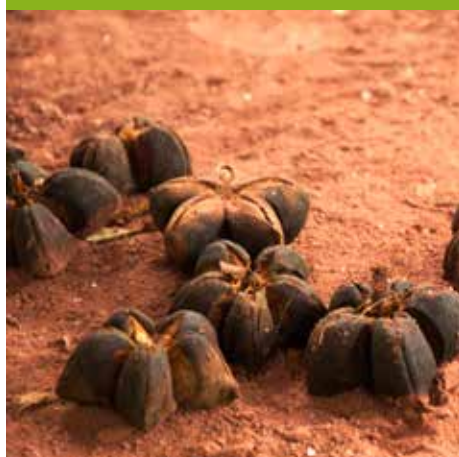
On the international market, *sacha inchi* vegetable oil is considered a true "superfood", being one of the richest sources of omega-3 fatty acids and it contains high amounts of protein, fibre and antioxidants (Flores and Lock, 2013). It is used as a dietary supplement, especially for vegetarians and vegans. *Sacha inchi* is also sold in the form of protein powder and as a snack.

### Box 4.2 The PerúBiodiverso project and *sacha inchi*

Between 2007 and 2013, the PerúBiodiverso project (SECO/GIZ jointly with the Peruvian Government) continued supporting the promotion of BioTrade in Peru. The project focused, *inter alia*, on developing the *sacha inchi* value chain at regional and national levels. It established and institutionalized the regional *sacha inchi* round table in San Martín; supported three *sacha inchi* companies through public-private partnerships and accompanied the novel food application process for *sacha inchi* oil to access to the EU market.

### *Sacha inchi*

© Jonas Köppel



## “Novel food” as a driver for collective action

Currently, more than 50 Peruvian firms export *sacha inchi* products in the form of oil, powder, snacks or seeds to the United States of America, Europe and several Asian countries, attaining different market segments (conventional, organic). Exporting firms identified the EU market as particularly promising for this natural ingredient. Yet, in order to access it with processed *sacha inchi* products such as oil or powder, the exporters are faced with a market requirement: the EU NFR No. 258/97<sup>21</sup> that acts as a barrier.

In order to enter the EU market with *sacha inchi* oil, four Peruvian firms (Agroindustrias Osho SAC, Amazon Health Products SAC, Roda Selva SAC,<sup>22</sup> Olivos del Sur SAC) – all working under BioTrade Principles – submitted an application to the Food Safety Authority of Ireland (FSAI). This application was for substantial equivalence of their *sacha inchi* virgin oil (from *Plukenetia volubilis* L. seeds) to “*Inca inchi*” virgin oil derived from the same plant which is already sold in the EU market. The latter has been

recognized as an equivalent to linseed oil.

The first step to obtain the novel food authorization was establishing a multisectoral technical committee, comprising PROMPERU, the Ministry of Foreign Trade and Tourism (MINCETUR), the National Sanitation Authority, and the Peruvian Institute for Natural Products. It was supported by the project PerúBiodiverso. The commission’s task was to rigorously collect and systematize the required scientific information on *sacha inchi* (taxonomic description, distribution, phytochemical information) to develop the dossier on its oil, which was to be submitted to the FSAI.

Other existing platforms were also crucial for obtaining the novel food authorization. At the national level, the BioTrade Research and Innovation Group (GIIB), formed in 2008, was the nexus between the participating universities and the private sector. Jointly with the Cayetano Heredia National University, the GIIB developed the *sacha inchi* oil nutritional composition information – the basis of the dossier. At the regional level, the

round table on *sacha inchi*, established in 2006, initially served as a negotiation platform for producers’ organizations and firms in San Martín. Later, this round table provided the ideal space for the articulation of the regional actors (producers, firms, universities) during the preparation of the dossier.

In September 2014, all these efforts culminated in a favourable opinion by the FSAI on the equivalence of *sacha inchi* virgin oil to linseed oil, allowing the four Peruvian firms to export their oil to the EU. PROMPERU, with the help of PerúBioInnova (co-financed by SECO and German Development Cooperation, implemented by GIZ), documented this experience in a manual for Peruvian firms preparing the novel food dossier (EU regulation 258/97), before the new regulation enters into force (Box 4.3).

“Exporting firms identified the EU market as particularly promising for this natural ingredient...”

### Box 4.3 New EU regulation on novel foods

In November 2015, the EU adopted a new regulation on novel foods (2015/2283) that aims to centralize the authorization procedure and covers additional products to those in the previous regulation. The European Food Safety Authority will be responsible for the scientific risk assessment. Under this new framework, the authorization procedure for a novel food should be reduced from about three years to 18 months. It facilitates access to the EU market for traditional foods from non-EU countries having a demonstrated history of safe food use (safe consumption of this novel food by a significant number of the country’s population for at least 25 years). Although the aim is to simplify the application process, EFSA draft guidance documents suggest that scientific analyses for the dossier will be more exigent. The regulation comes into force on 1 January 2018.

Source: European Commission, 2016.

### Sacha inchi products

© PROMPERU



Processing of *sacha inchi*

© GIZ

Positioning *sacha inchi*

Before 2013, it was widely agreed among public institutions such as PROMPERU, and *sacha inchi* firms, that the novel food authorization would open up promising market opportunities for Peruvian firms. Yet, according to official statistics, *sacha inchi* oil exports have not increased since approval. One firm was able to increase its exports; two other firms (Roda Selva SAC and Olivos del Sur SAC) are no longer exporting (Table 4.1).

Although it is too early to finally assess the impact of the novel food authorization, there are concerns about the future of the Peruvian *sacha inchi* oil value chain. First, several Asian countries have developed long-term strategies to provide *sacha inchi* and its derivatives to the international markets, presenting fierce competition to the “original” Peruvian *sacha inchi*. Second, Peruvian stakeholders have shown very slow reaction in capturing the opportunities arising from accessing the EU market for this product.

Certainly, reaching consensus among the main players responsible for

Table 4.1 Peruvian exports of *sacha inchi* oil to the EU market (US\$)

Company	2014	2015	Trade evolution
Amazon Health Products SAC	US\$133 399	US\$182 942	37.14 per cent
Agroindustrias Osho SAC	US\$195 108	US\$181 697	-6.87 per cent

Source: PROMPERU, 2016.

the novel food authorization can be considered a significant milestone. The multisectoral committee enabled collective actions and generated trust between the parties, and disseminated the rules of this market requirement. Currently, such collaborative efforts are needed.

Governance was particularly important for the creation, transfer and dissemination of the knowledge generated, yet lost its importance when authorization was obtained. Hence, further efforts should focus on strengthening the value chain’s governance.

Led by the public sector and implemented in coordination with the private sector, a long-term competitiveness strategy for *sacha inchi* must be developed to enhance this value chain and capture EU market opportunities. Additionally, efforts should continue to foster R&D in order to support innovation in production and transformation stages, to implement efficiency indicators and to protect biodiversity. Finally, processes to certify the origin or the creation of a collective brand have to be initiated in order to position the Peruvian *sacha inchi* products in niche markets.

## 4.6 When all that is needed is a little push (Viet Nam)

Going natural is a worldwide trend that sparks many opportunities for suppliers of natural ingredients. Coming from a country rich in biological resources that can be used as natural ingredients, Vietroselle found itself in a place where they just needed a little help to seize success.



**Linh Nguyen,**  
Communication  
Officer, BIG

### Introduction: The dedication of a Vietnamese small business to reach big markets

It was a hot sunny day in May when Lam was watching trucks loaded with *diep-ha-chau* (*phyllanthus amarus*) leaves coming in through the gate. Looking up at the burning sun, he felt lucky that *diep-ha-chau* could be sun dried today instead of machine dried, saving his company a lot of energy. “The heat of the middle of Viet Nam is not always bad after all”, he said (personal communication with Hoang Xuan Lam, Director, Vietroselle).

Lam together with his wife, Tuyet-Anh, own Vietroselle, a company specialized in providing natural herbs as ingredients for the pharmaceutical, food and cosmetics industries. Founding the company back in the 1980s, they took small steps in cultivating natural herbs by cooperating with local farmers. Working hard to earn the trust of the farmers and to obtain their first purchasing contracts, Vietroselle is

now a recognized supplier in the natural herbs sector.

Foreseeing the inevitable trend for quality, Vietroselle started implementing international standards to their cultivation and production processes. They and their technical staff researched all aspects, from the basics like which fertilizers to use, how much water to provide, to how to document the process; until they could develop standard cultivation procedures for every herb they had. Training farmers on these procedures was not easy as they were used to their own practices.

The hard work paid off when Vietroselle established a contract with international buyers from Europe, Japan and Taiwan, Province of China, even though the move to high quality considerably raised their manufacturing costs and their prices. Some of their products even exceeded the buyers' quality requirements, motivating buyers to pay a higher price than initially offered. At the time, Vietroselle decided against



*Diep-ha-chau* (*phyllanthus amarus*)

© BIG

“Working hard to earn the trust of the farmers and to obtain their first purchasing contracts, Vietroselle is now a recognized supplier in the natural herbs sector...”



establishing a domestic network as most local manufacturers preferred low priced imported ingredients from China, and 80 per cent of its revenues came from exports (Ta, 2013).

Vietroselle was involved since the beginning of the UNCTAD/SECO funded BioTrade project developing of BioTrade activities within the natural ingredients sector in Viet Nam. Given Vietroselle management's commitment to sustainability and its business potential, the company's *diep-ha-chau* supply chain was selected as a pilot project. Firstly, Vietroselle received technical assistance to obtain WHO GACP certification; and for gaining membership of UEBT. Secondly, the company was trained in a variety of topics, including marketing, communication and trade promotion. Thirdly, Vietroselle and other companies were supported to participate in relevant national and international trade fairs. Last, but not least, the BioTrade project initiated a forum for manufacturers to get together and constructively discuss issues and ideas. The project involved 10 pioneering companies working with herbal medicines/ingredients and accounting for about 80 per cent of domestic market share. These companies discussed their own strengths and weaknesses, and planned for their own as well as the sector's development. Now, the manufacturers no longer consider each other as rivals, as in the past, but as suppliers of ingredients

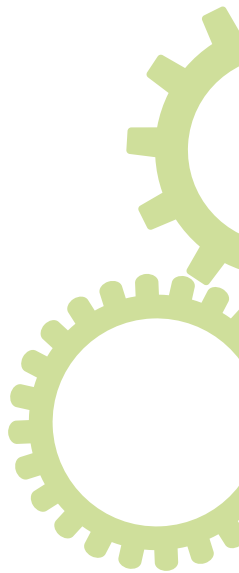
they cannot produce. Consequently, a mechanism for trading among BioTrade companies was facilitated for the first time.

### Upscaling Vietroselle: Next steps

In 2015, Vietroselle obtained WHO GACP certification for the cultivation of *diep-ha-chau* and UEBT membership, which enhanced its competitive edge. With its own funding, Vietroselle is now committed to implementing both of these certifications in other value chains. Also, the skills acquired during the training under the BioTrade project enhanced their skills and confidence to proactively seek new contracts instead of passively waiting to be contacted by buyers. Additionally, the manufacturers' forum was formalized into a platform called the BioTrade Implementation Group (BIG), which created opportunities for Vietroselle to become a supplier for several domestic manufacturers. Consequently, most of Vietroselle's products are now sold domestically, representing around 80 per cent of their sales, while their exports also have grown but at a slower rate. As a result of the BioTrade project, Vietroselle's sales increased four times in just three years between 2012 and 2015 (HELVETAS Swiss Intercooperation Viet Nam, 2015).

The future looks very bright for Vietroselle, but there are still plenty of tasks to undertake. As their sales are growing in the national market, they

need to strengthen their distribution channels to reach more customers. More importantly, their competitive edge of certified standards compliance will add no value if customers do not understand the meaning. Much more dedication and investment are required to raise awareness of Vietnamese consumers and the sector about the advantages of their products and about BioTrade, which Vietroselle cannot do alone. Through BIG, Vietroselle will join efforts to improve the sustainable sector in general; and hopefully, over time, raise Viet Nam's profile globally in this important arena. They also aim to mobilize the government and other stakeholders to join their dream.



Lam and Tuyet-Anh in their factory

© BIG



Vietroselle and other Vietnamese companies at an international trade fair

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# 5 Partnerships

Developing partnerships is essential to achieving sustainable development, and addressing emerging issues that have an impact on biodiversity and BioTrade. For instance, partnerships can help address new developments in MEAs (such as the Nagoya Protocol), the SDGs, peacebuilding, and accessing international markets (e.g. trade agreements, NTMs, commercial partnerships, etc.). This section provides examples of partnerships being established by a variety of stakeholders with the aim of promoting the sustainable use of biodiversity and/or BioTrade. It includes examples from Asia, Africa and Latin America across a variety of sectors.

Partnerships: Case studies and their contribution to the Aichi Targets and SDGs

Case studies	Aichi Targets	Sustainable Development Goals
5.1 The role of partnerships in unlocking BioTrade potential		
5.2 The BioTrade Initiative and CITES	2, 4, 12, 13, 19	1, 2, 12, 15, 17
5.3 BioTrade – a resilience-building tool: Helping states fulfil the pledge of leaving no one behind	2, 4, 19	1, 2, 8, 9, 10, 11, 12, 15, 16, 17
5.4 Vision matters: BioTrade implementation (Viet Nam)	1, 4, 16, 19	8, 9, 15, 17
5.5 Biodiversity-based businesses: Leveraging new ecological economies	2, 4, 7, 16, 18, 19	1, 2, 8, 9, 12, 15, 17
5.6 Enhancing the sustainability of the python skin trade through innovative partnership	2, 3, 4, 6, 13, 19	1, 2, 9, 12, 15, 17

# 5.1 The role of partnerships in unlocking BioTrade potential

The governance of biodiversity-based endeavours, including BioTrade, requires the orchestration of diverse actors and multi-level incentives in terms of regulation, finance, technology and capacity building. In a scenario of growing demand for biodiversity-based products and services, partnerships will play an important role in further strengthening frameworks, mechanisms and networks to scale up BioTrade, from both supply and demand sides.



**Paulo Branco**, Vice Coordinator; **Livia Menezes Pagotto**, Researcher; **Mario Monzoni**, Coordinator; **Daniela Gomes Pinto**, Researcher, Center for Sustainability Studies/Fundação Getulio Vargas



## Introduction

BioTrade reflects many of the most complex challenges society faces today, especially in natural resource-based developing economies. It can be of great value in overcoming the persistently incentivized misalignment between sustainable use of natural resources and economic growth, rural development and international trade. It is amidst these challenges that many opportunities for BioTrade lie. In seizing these, BioTrade can contribute to unlocking long-term development in line with the 2030 Sustainable Development Agenda and SDGs (12, 15 and 17) (UNCTAD, 2015a; UNCTAD, 2016a). In this context, partnerships are being recognized as a fundamental element to foster cooperation among actors for achieving all SDGs.<sup>23</sup> Similarly, partnerships will play an important role in BioTrade initiatives.

“BioTrade reflects many of the most complex challenges society faces today, especially in natural resource-based developing economies...”



## Orchestrating the governance of BioTrade

The governance of BioTrade, and biodiversity-based endeavours, requires orchestration of diverse actors and multi-level incentives due to its value chains and characteristics (Becerra, 2009b). This means engaging public organizations (at international, national and subnational levels), private sector – ranging from transnational corporations (TNCs) to SMEs – development banks,

civil society (including NGOs, think tanks and academia), and indigenous and local communities in a common framework aiming at putting biodiversity and livelihoods at the heart of trade agendas and increasing the likelihood of achieving the SDGs.

In a scenario of growing demand for biodiversity-based products and services (UNCTAD, 2013) and increasing pressures on natural resources (UNEP, 2012), partnerships will play an important role in further strengthening governance frameworks, mechanisms and networks to scale up the BioTrade agenda, from both supply and demand sides. Therefore, further advancements may be reinforced in terms of regulation, governance, finance, technology and capacity building to foster the climate for common solutions.

From the regulatory framework perspective, partnerships between governments, the private sector and civil society are essential for enhancing BioTrade-related international trade and MEA implementation at national level (Chandra and Idrisova, 2011). This means that all countries can implement the appropriate policies, mechanisms and institutional architecture for taking advantage of BioTrade opportunities.

Partnerships are also key for enabling multi-level and multisectoral governance dedicated to more innovative, inclusive and participatory arrangements (including market-based, self-regulation and/or co-regulation) (Hepburn, 2006). This may enhance the already existing set of environmental, social and economic sustainability criteria that guides the commercialization of bio-based products and services such as BioTrade (UNCTAD, 2007a).

The financial system may be of great value in two ways. Firstly, by freeing access to finance to enhance



processes, equipment and facilities and to develop value added products in compliance with market requirements. Secondly, by providing market information, guarantees and loans suitable to SMEs' needs, on one side, and TNCs, on the other, in favour of more equitable value chains (Jaramillo, 2012; Klein et al., 2014).

Lastly, the implementation of measures towards capacity building for enhancing supply chain management under social and environmental concerns, technological development and data and monitoring, may greatly contribute to innovative arrangements in order to strengthen BioTrade practices across sectors and among countries while conserving nature.

### Partnerships as challenges and opportunities for BioTrade

Existing experiences from developing and developed countries highlight the importance of building partnerships when dealing with biodiversity and BioTrade, as a means to match societal demands, priorities and expectations towards sustainable development. More specifically, BioTrade initiatives require more than "one size fits all" solutions. They mobilize a broad number of stakeholders in view of the need to capture different approaches, knowledge and expertise, such as entrepreneurship, innovation, value chain and ecosystem thinking, while considering the local circumstances of beneficiaries.

In this context, partnerships are fundamental for a global BioTrade strategy that fosters economic growth and reinforces intergovernmental commitments (e.g. CBD and CITES) and, at the same time, contemplates development opportunities for local communities from developing countries based on the sustainable use of biodiversity.

In a globalized world where everyone *has the right to have a say* – from natural resource-based traditional communities to consumers – collaboration via partnerships will be crucial for addressing emerging issues that will impact the biodiversity-based and BioTrade global scenario.



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## 5.2 The BioTrade Initiative and CITES

CITES Secretariat and UNCTAD's BioTrade Initiative have a long-standing collaboration starting in 2001 and formalized by a memorandum of understanding (MoU) in 2010. This article presents selected experiences developed to conserve CITES-listed species, improve livelihoods of the poor in remote and marginal areas, and promote opportunities for businesses that comply with CITES requirements in Latin America, Africa and Asia.



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### CITES and BioTrade: A long-standing partnership

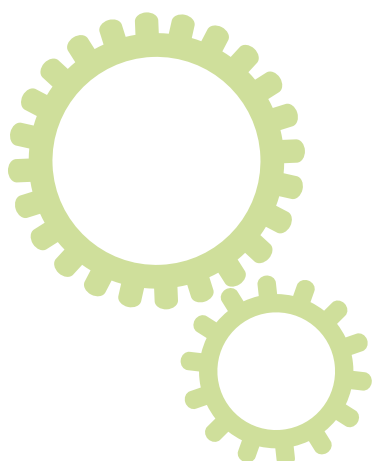
The cooperation between the UNCTAD BioTrade Initiative and the CITES Secretariat started in 2001 with the general objectives of enhancing the conservation of the CITES-listed species, improving livelihoods of poor people in remote and marginal areas that harvest and trade these species, and promoting opportunities for businesses that comply with CITES requirements and national legislation. Identifying and promoting economic incentives for the sustainable management of, and trade in, CITES Appendices II- and III-listed species, and ensuring that benefits are shared with local communities, are of major importance in this cooperation.

In order to formalize and strengthen this cooperation, UNCTAD and the CITES Secretariat signed a MoU in 2010. As part of the MoU, the CITES Secretariat works with the BioTrade Initiative to

encourage consultations between BioTrade focal points and CITES authorities when including species listed in the CITES Appendices in national BioTrade programmes. The BioTrade Initiative and the CITES Secretariat also cooperate in facilitating capacity-building in developing countries on issues relating to the organization of the value chain for species listed under CITES.

### Projects and achievements

Since 2001, several CITES Parties, including the Plurinational State of Bolivia, Colombia, Ecuador, Peru and Uganda, have selected CITES-listed species as a component of their national BioTrade programmes.<sup>24</sup> These Parties have received strong assistance from UNCTAD for conducting wildlife trade surveys, developing adequate CITES-implementing legislation and making non-detriment findings for trade in selected species.



© Fotolia: Franck Monnot

As a result of ongoing cooperation, CITES requirements have been incorporated in UNCTAD BioTrade procedures, such as the selection of product groups and value chains, and the development of tools for engagement of the private sector, etc. UNCTAD BioTrade also developed, in close cooperation with the CITES authorities in selected countries in which it operates (i.e. the Plurinational State of Bolivia, Colombia, Ecuador, Peru and Uganda), guidelines for the sustainable management of wildlife products for enterprises engaged in wildlife trade. In Peru, for example, these guidelines were focused on *Arapaima gigas* (UNCTAD, 2007b; 2007c).

Furthermore, the BioTrade Initiative supported a number of studies on CITES-listed species to strengthen their sustainable management by local stakeholders. Research involved, *inter alia*, *Caiman yacare* in the Plurinational State of Bolivia; *Arapaima gigas* in Peru; vicuñas in the Plurinational State of Bolivia and Peru; orchids in Colombia and Peru; and wildlife trade in Uganda, focusing on birds, reptiles, insects and amphibians. The BioTrade Initiative also sponsored joint workshops on the sustainable trade in *Arapaima gigas*, *Caiman yacare* and turtles.

The BioTrade Initiative and CITES are also cooperating in the field of traceability of specimens of CITES-listed species in international trade. In this context, in 2013–2014, they jointly

commissioned a scoping study on traceability systems for international trade in South-East Asian python skins, which analysed existing marking and tracing systems, and options for an economically feasible traceability system that can confirm the legal origin of snake skins. The study findings formed the basis for specific recommendations to the CITES Animals Committee and Standing Committee. In 2015, the BioTrade Initiative started a project to look into the traceability of CITES-listed medicinal plants in the Greater Mekong subregion, and of ornamental plants in the Andean subregion.

The main thrust of CITES is to ensure that international trade in listed species is sustainable, legal and traceable. The partnership with the BioTrade Initiative allows Parties to explore practical examples and best practice on how to work with various value chain partners to maximize benefits for rural communities from such legal, sustainable and traceable trade in CITES-listed species.

### Challenges and opportunities ahead

Parties to CITES have been advancing discussions that touch upon the areas of cooperation between CITES and the BioTrade Initiative. These include the development, implementation and improvement of traceability systems for CITES-listed species, and work on livelihoods. The latter resulted in a

handbook to assist Parties to undertake a rapid assessment of the effects of the application of CITES decisions on livelihoods in poor rural communities, and to consider how to mitigate any negative effects.

The topics of traceability and livelihoods were discussed in detail at the upcoming 17th meeting of the CITES Conference of the Parties (CoP17, Johannesburg, September–October 2016). It is expected that these issues will gain further momentum following CoP17, as more generic traceability advice will be developed, and an increasing number of countries and stakeholders will focus on collecting evidence for potential impacts on livelihoods of CITES-listing decisions, while also exploring the opportunities of sustainable income and resources provision through long-term species conservation strategies.

In a broader context, the approach followed by the BioTrade Initiative has demonstrated that species conservation and poverty reduction can be delivered together. For this reason, the BioTrade Initiative has been, and will continue to be, a key partner for CITES.

“The main thrust of CITES is to ensure that international trade in listed species is sustainable, legal and traceable...”



*Bletia catenulata*

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## 5.3 BioTrade – a resilience-building tool: Helping states fulfil the pledge of leaving no one behind

BioTrade has the potential to bring trade and investment to biodiversity-rich countries affected by conflict and displacement. It can be a tool to increasing the economic self-reliance and resilience of displaced persons and host communities while safeguarding biodiversity.



**Glacia Boyer,**  
Policy Specialist,  
UNDP

### Background

A UNDP-UNCTAD BioTrade collaboration was initiated in late 2010 within the framework of post-conflict peacebuilding efforts when the United Nations was supporting the implementation of a number of peace agreements. It complemented initiatives to reintegrate large groups of returning conflict-affected groups, such as ex-combatants and associated groups, internally displaced persons (IDPs) and refugees. Several post-conflict countries in Africa, Latin America and Asia have ecosystems that are rich in biodiversity. Their natural resource sector offered enormous potential for generating attractive jobs and income generation opportunities for returnees.

BioTrade as a peacebuilding tool was therefore tested in Aceh Selatan, Indonesia, where UNDP partnered with UNCTAD to help the government

and local communities revive local economic activity. Together they sought to develop value chains of culturally significant products for marginalized groups, including women. Nutmeg (*Myristica fragrans* Houtt), or *pala* in Bahasa Indonesia, was the native species selected because it formed part of the biologically diverse forest gardens that had belonged to the Aceh Selatan communities for generations. The crop had suffered considerable deterioration during the war and had a promising market demand. Several products made from the nutmeg fruit and seed, such as candies and syrup, spice and essential oil, had the potential to generate income again, improving the livelihoods of communities, as explained in Box 5.1 (Jaramillo, 2016b).

Technical assistance to strengthen the nutmeg value chain included the establishment of Forum Pala and a producers' cooperative able to access potential buyers and connect to domestic and international markets. Such interventions demonstrated how the rich biodiversity available could contribute to the livelihoods of marginalized groups and in the recovery of communities in an economically, socially and environmentally sustainable way. The approach also helped increase social cohesion through dialogue and trust building among key stakeholders. Lessons included the importance of engaging the private sector dependent on biodiversity products early on to best address sustainability issues and capitalize on investments they were able to make.

### Upscaling the UNDP-UNCTAD collaboration

Although peace agreements are still negotiated today, as recently seen in Colombia, the Philippines and Myanmar, “never-ending conflicts and large numbers of semi-permanent refugees”



### Box 5.1 The UNDP-UNCTAD project in Indonesia (2010–2011)

The UNCTAD-UNDP project on BioTrade in Aceh Selatan began in 2010, to complement economic reintegration support for women ex-combatants and conflict-affected communities. BioTrade concepts and methodologies were used to contribute to practical and environmentally friendly socioeconomic alternatives for generating employment and income based on the sustainable use of nutmeg and the commercialization of its derived products (Ruhanawati, 2012).

As part of the project, constraints that limit the development of the value chain were identified jointly with all the value chain actors, including grassroots communities, traders, industries, government, academia and NGOs. The nutmeg crop's exposure to pests and diseases

was one of the major concerns prioritized during the assessment phase and actions were developed to tackle this issue. Other key issues considered were the organization of the sector through the creation of the nutmeg forum (Forum Pala or Forpala) and cooperative; enhancement of the quality of nutmeg and its derived products; and an increase in product diversification (UNCTAD, UNDP, UNEP, 2010). Access to markets was also a key concern in the project implementation, where contacts and cooperation were made with global leaders in the fragrance and flavour industry (as potential buyers), import promotion initiatives, market experts and other stakeholders who were part of UNCTAD's BioTrade network.

The project opened up opportunities for implementing integrated approaches on environment, peace,

reintegration and livelihood recovery in Aceh Selatan. Forpala has emerged as an organization that now leads the development of nutmeg in the Aceh Selatan. Forpala continues to operate even after the conclusion of the UNDP-UNCTAD project over five years ago. Currently, financial and technical support to Forpala is being provided by the United States Agency for International Development Indonesian Forestry and Climate Support project, together with local government cooperation.

For further information on project implementation and lessons learned, see Jaramillo, 2016b (available at: [http://unctad.org/en/PublicationsLibrary/ditcted2015d6\\_en.pdf](http://unctad.org/en/PublicationsLibrary/ditcted2015d6_en.pdf)).

Source: Extracts from Jaramillo, 2016b.

### Nutmeg fruit, sweet and a woman collector in Aceh district

© L. Jaramillo



from Afghanistan, Islamic Republic of Iraq, Somalia, Syria and many other countries have become more frequent. Humanitarian responses also end up becoming protracted and care and maintenance systems insufficient and inappropriate for dealing with the increasingly urban displaced population. Lacking solutions, refugees and IDPs either have to become, de facto, locally integrated or have no choice but to move forward as "migrants". Large regional movements of migrants and refugees to Europe and other parts of the world have brought international consensus around the need to adopt comprehensive international responses that also address the root causes (UNGA, 2016, §12).

Host governments and local authorities are increasingly faced with the reality of having to accept that many of the displaced will not return home either because conditions for return do not exist or because after so many years, host countries and communities themselves have become the migrants' new home. In this new context, the pressure is on humanitarian agencies to work differently and jointly with development actors from the beginning to enhance the displaced persons' and their hosts' own coping mechanisms. Open ended external humanitarian aid is expected to give way to investing in the resilience of displaced persons, communities, institutions and systems.

Development actors have therefore gained a more prominent role over past years, so humanitarian funding can be phased out and channelled again primarily to new emergency settings. Development agencies have increasingly assisted national actors to integrate solutions to displacement in national strategies and plans. Because the needs of IDPs and refugees are invariably indistinguishable from those of their vulnerable hosts, programmes have tended to target these groups jointly. Addressing displacement is increasingly understood in the context of broader national and regional poverty and development strategies and systems.

Achieving economic self-reliance and livelihoods solutions for displaced persons has become a must, including in refugee-hosting countries. Constraining environments are turning into conducive spaces for economic activity in Colombia, Jordan, Kenya, Turkey, Uganda, United Republic of Tanzania and Zambia. Access to work permits and the possibility to jump-start small businesses need to be supported by increasing access to credit and markets. BioTrade can also complement these resilience-building efforts as part of the comprehensive solutions led by development actors in displacement contexts that are also biodiversity rich. It can help move away from the aid-centric view of livelihoods that does not recognize the agency and capacities of displaced persons.

BioTrade can be a vehicle for improving the livelihoods of displaced populations and host communities while conserving the environment, in line with Agenda 2030 and the SDGs. UNCTAD can play a role by connecting the local and international markets for biodiversity goods and services sustainably produced by the displaced and their hosts. The question is to find the right mix of policy interventions to lead to greater self-reliance and income generation, favouring tax returns in the medium term as well as economic growth and development in the long term.

Development actors can assist governments in identifying the right policy mix, as well as contributing to the implementation and monitoring on the ground of relevant strategies and programmes. They can also help devise the right set of cross-sectoral measures that can build resilience among the poorest and excluded displaced persons and members of host communities, so no one is left behind. The Solutions Alliance on Ending Displacement<sup>25</sup> is looking at very concrete ways of engaging the private sector in this effort (Solutions Alliance Secretariat, 2016). It provides an entry point for action. Integrating companies owned by displaced persons into the value chains of larger companies is one practical area for the UNCTAD BioTrade Initiative to engage in biodiversity-rich countries, such as Uganda, United Republic of Tanzania and Zambia, where national groups have been formed.



© UN Photo: Eskinder Debebe

## 5.4 Vision matters: BioTrade implementation (Viet Nam)

In Viet Nam, BioTrade is becoming familiar to many players in the natural ingredients sector. This awareness is the result of three years' endeavour. Tackling a number of obstacles in a developing country, BioTrade has proven that it is an excellent initiative offering such sectors as natural ingredients a way to sustainably use biodiversity to the benefit of local communities.



**Linh Nguyen,**  
Communication  
Officer, BIG Viet Nam

### Introduction

Viet Nam, a tropical country with an extensive coastal area, is a country rich in biodiversity. More than 4000 species of plants have been found with the potential to become ingredients for the food, pharmaceutical and cosmetics industries (Nguyen and Vuong, 2012). However, certain challenges limit the development of the natural ingredients sector, including:

- Dwindling supply of many wild plants due to overexploitation;
- Low profit generated by local communities from the sale of their plants;
- Limited awareness among local communities of the importance of biodiversity conservation;
- Volume constraints for good quality ingredients leading domestic manufacturers to import from China or India with unknown origin of ingredients; and
- Unclear and complex policies to develop the sector under sustainability criteria (Ninh, 2012).

In order to support the Vietnamese natural ingredients sector to address these problems and develop it under social and environmental principles, SECO, approved a three-year project "Development of BioTrade activities with natural ingredients sector in Viet Nam". From 2012 to 2015, the project conducted value chain interventions, including setting up pilot value chains, in which farmers and plant collectors were trained on sustainable agricultural and collection practices, as well as connected to enterprises through supply contracts. Additionally, enterprises were given access to capacity building and trade promotion activities to build their brand names and explore markets for their natural origin products. At the sector level, the project initiated communication platforms to raise public awareness on the BioTrade concept, while organizing discussions among enterprises and government agencies to facilitate a more favourable policy environment.

“More than 4000 species of plants have been found with the potential to become ingredients for the food, pharmaceutical and cosmetics industries...”



Dzao farmers picking *che-day* (*Ampelopsis cantoniensis*) leaves in Bat Xat, Lao Cai province, Viet Nam



BIG in meeting with buyer in Thailand

© BIG

### Box 5.2 BIG: Lessons learned, challenges and opportunities

**Lessons learned:** Inclusiveness, transparency and empowerment are essential to building trust and recognition among partners. Particularly, understanding the individual views of each partner and communicating the gains and challenges they may face as a result of the partnership. This is even more important when setting up partnerships and networks with businesses.

**Challenges:** Limited capacity exists in several stakeholders, including government institutions, enterprises and farmers' groups. Addressing this challenge entails a broader collaboration with all stakeholders to work towards a common goal to consolidate the natural ingredients sector's capacities.

**Opportunities:** Key players who are leading enterprises in the sector have witnessed the feasibility and effectiveness of the BioTrade framework and are committed to play a leading role in promoting the model with the facilitation of BIG Viet Nam.

### The BioTrade Implementation Group

Building on the implementation of the BioTrade project and to upscale its activities, four manufacturers of pioneering natural ingredients in Viet Nam (Nam Duoc, DHG, Traphaco, Vietroselle) launched the BioTrade Implementation Group (BIG) in 2015. BIG is also open to other organizations and companies that aim to support the development of the Vietnamese natural ingredients sector under BioTrade Principles. It is currently supported by HELVETAS Viet Nam and the Viet Nam Society for Medicinal Materials. BIG also cooperates with UNCTAD's BioTrade Initiative, the UEPT, Viet Nam Trade Promotion Agency (VIETRADE), and TNCs to broaden its network and enhance the impact.

BIG aims to become a leading actor providing services to support the implementation of BioTrade in Viet Nam, covering the following areas:

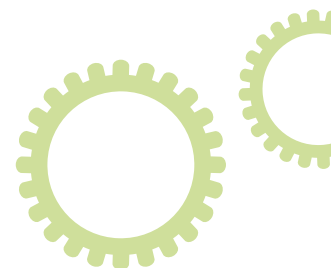
- Advocating with various government bodies at all levels to facilitate an enabling policy environment for enhancing the natural ingredients sector and developing high-quality value added products in Viet Nam.
- Promoting the BioTrade business model by encouraging companies who source from biodiversity to apply it in their business strategies and operations.

- Formulating and implementing a strategy to position BioTrade products in the domestic market, including raising awareness about the BioTrade framework and methodologies to consumers.
- Supporting BioTrade companies exporting to the EU, United States of America and Japan by developing market studies with relevant research institutes, universities and organizations collaborating with VIETRADE and HELVETAS Viet Nam on trade fair participation.

### Lessons learned from developing partnerships in Viet Nam

BIG is a newly established organization. However, already there are lessons learned in this process as well as challenges and opportunities to be faced, as shown in Box 5.2.

There are many things needed before achieving the ambitious goal of BIG's founders namely "international recognition for Viet Nam as a supplier of choice for biodiversity derived natural ingredient products – sourced, processed and traded in compliance with the CBD objectives and BioTrade Principles". Until then, BIG is committed to help poor communities and companies utilize their potential and strive toward sustainable growth with their sustainably produced products.



## 5.5 Biodiversity-based businesses: Leveraging new ecological economies

Groupe Rocher shares its experience based on 60 years of business activity linked to Botanical Beauty® that transformed a poor village in Brittany, France, into a sustainable and prosperous district. This article highlights the geographic and economic diversity of its botanical supply chains worldwide and the way value has been created locally thanks to partnerships and access and benefit sharing.



**Claude Fromageot**,  
Head of  
Sustainability;  
**Anaïs Picard**,  
Sustainability Project  
Leader, Groupe  
Rocher



### Introduction

Experience shows that biodiversity resource flows create environmental and social value. Furthermore, the appropriate management of these flows spreads out shared value and generates local development (Souchier, 2013).

At the beginning of the 21st century, the predominant tendency in the cosmetics sector was the use of plants and botanical extracts in formulas and increasing communication on their effectiveness in personal care products. As a consequence, numerous botanical supply chains were implemented, always associated with micro-projects in sourcing, resulting in limited botanical volume and monetary value creation.

Since 2010 and the signature of the CBD's Nagoya Protocol, an important shift towards BioTrade is taking place which requires more and more partnership building and adaptation to access global value chains.

“Experience shows that biodiversity resource flows create environmental and social value...”

### Fostering partnerships – selected Groupe Rocher case studies

A range of case studies follow outlining botanical sourcing examples around the world and the reasons behind the different partnerships developed:

- **Picking partnerships to enhance livelihoods of local communities**

The cosmetics sector often depends on local communities' parsimonious plant picking. Punctual and seasonal collection of plants generates an

economic partnership between collectors and the cosmetics brand, creating useful additional income for mainly disadvantaged local populations. In Madagascar, the collection of *Centella asiatica* by rural populations is supported by providing technical assistance and training on monitoring, traceability, quality and environmental conservation. This activity generates a few hundred kilograms of plant extracts and creates an additional seasonal economy, thus starting local value creation.

- **Traditional farming partnerships for agricultural research**

The cosmetics sector uses classic plant extracts known for specific properties. Groupe Rocher cultivates several tons of German chamomile in La Gacilly, France, annually. A partnership has been set up with a local technical institute (Insti Techni Plant Medic Arom) to enable plant breeding, following traditional agronomic analysis. The result is a choice of German chamomile adapted to an organic agricultural method and exemplary agro-ecology model with over 200 beehives installed on 55 acres of flowers. Additionally, a local study on biodiversity management has been conducted. A very strong local anchorage and partnerships with several local and regional stakeholders have created benefit sharing on the social and environmental sides. For instance, eight industrial facilities of Groupe Rocher covering over 69 hectares of land followed site assessments with the NGO Ligue de Protection des Oiseaux (French equivalent of Bird Life International), in order to draw up five-year ecological management plans to favour local biodiversity.

- **Collective farming partnership for enhancing territorial development**

Collective farming is often used for botanical resources involving communities over a wide territory requiring transformation practices. Volumes are more significant, with many tons of raw material per cooperative being produced. With the example of shea butter in the south Sahel region in Africa, a local active trade network has been created involving numerous stakeholders. It organizes pressing, storage, traceability, etc. Local benefit sharing includes the active participation of women's groups in the initial preparation and quality storage of shea nuts, creation of support centres for women's cooperatives, resource conservation and organic certification training, quality and management programmes and valorization of TK on shea butter cultivation.

- **Agri-business partnerships to enhance local culture and traditional knowledge**

Agri-business are generally considered an agricultural activity relying on a large organized network, with many local stakeholders contributing to sales, marketing, export, supply chain management, etc. Groupe Rocher's purchasing department has developed a

partnership with the Tahitian Monoï botanical supply chain (coconut oil and *tiare* flower), which includes the purchasing of many tons of plants annually. Maintaining its purchasing volumes over time despite variable annual product turnover plays a significant role in the valorization and preservation of the local brand "Monoï", and of the traditional cultural heritage and knowledge locally.

According to Groupe Rocher, ABS can also be considered as a collective commitment of actors contributing to apply the Nagoya Protocol principles and the development of partnerships is a means to achieve it. The members of the Natural Resource Stewardship Circle – the major actors from the beauty industry (cosmetics, perfume, ingredient suppliers) – initiated discussions on ABS in 2010. They interact directly with representatives of indigenous peoples from all over the world, with the support of the NGO Tribal Link Foundation. Specific guidelines have been developed and presented at several CBD COPs, UNCTAD Business and BioTrade forums, and to Braulio Ferreira de Souza Dias, CBD Executive Secretary, in Montréal.

A very concrete experience of the Nagoya Protocol for Groupe

Rocher comes from Madagascar, with the instrumental support of the Protocol's local focal point, Naritiana Rakotoniaina. A PIC/mutually agreed terms (MAT) was signed in 2015 concerning the Madagascar plant *Sigesbeckia orientalis*. A partnership with the University of Antananarivo was established and two students were supported for a year to develop an ecological study of the plant, using identification and cartography methods. Furthermore, the research information was shared in order to develop local knowledge on the plant. Additionally, tools and processes have been provided to the local SME in charge of the plant's harvest and preparation. Such support for a local partner was established to help the local firm develop its know-how, become autonomous and enhance its expertise (with a new research laboratory and up-to-date equipment for instance), and foster local transformation for additional onsite added value.



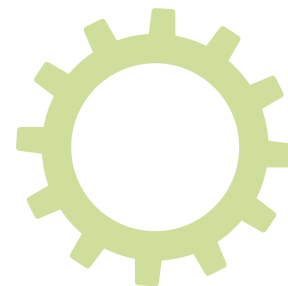
Shea nuts harvest

## Key lessons and recommendations in developing effective partnerships

Based on the cases presented, key factors for successful partnerships are:

- Work with a variety of actors with local anchorage in order to create a local network.
  - Favour micro-projects, small actors and partners in order to optimize the impact locally.
  - Support partners and encourage them to maintain their autonomy from the beginning of the project; identify the local impacts generated and extend benefit sharing.
  - Create win-win inclusive projects where all stakeholders benefit from and actively participate in the partnership.
- Challenge the local partner on environmental and social issues so they can achieve continuous improvement by integrating these issues into their business practices.
  - Rely on a multi-stakeholder internal committee associating legal, purchasing, research, marketing and communication, and sustainability departments in order to provide technical assistance and support to the different projects implemented by a company, group or association.
  - Focus on concrete actions in the field for developing benefit sharing schemes and promote empowerment of local stakeholders.
  - Rely on MEAs' local focal points for global coordination of the relations and interactions with national authorities.

In conclusion, long-term partnerships with local stakeholders create a unique opportunity for added shared value, contributing to a new ecological economy, based on local and sustainable micro-projects. We could therefore say that BioTrade businesses are drivers of a new model of ecological economy.



*Matricaria chamomilla* harvest

## 5.6 Enhancing the sustainability of the python skin trade through innovative partnership

In November 2013, the IUCN, ITC and the French luxury group Kering, formed an innovative partnership to improve sustainability within the international trade in python skins. The success of the partnership, and its challenges and achievements, offer powerful lessons for future partnerships in the realm of BioTrade.



**Daniel JD Natusch**,  
Python Conservation  
Partnership (PCP)  
Project Coordinator,  
IUCN SSC Boa and  
Python Specialist  
Group, NSW  
Australia

### Python Conservation Partnership

Imagine waking at night to the sound of dogs barking, to find the world's largest species of snake consuming your family's pet goat. Or imagine falling to sleep each night surrounded by enclosures occupied by giant pythons you have raised since birth. For some this sounds like a horror story, but these are common situations for many people living in South East Asia. Those wild or captive-bred snakes are sold to small businesses that form part of a global supply chain transforming python skins into products for the fashion industry. Other businesses also utilize different parts of the snakes; particularly meat for human consumption. In rural areas of several developing countries, the opportunity to use pythons in this way forms a critical component of many people's livelihoods.

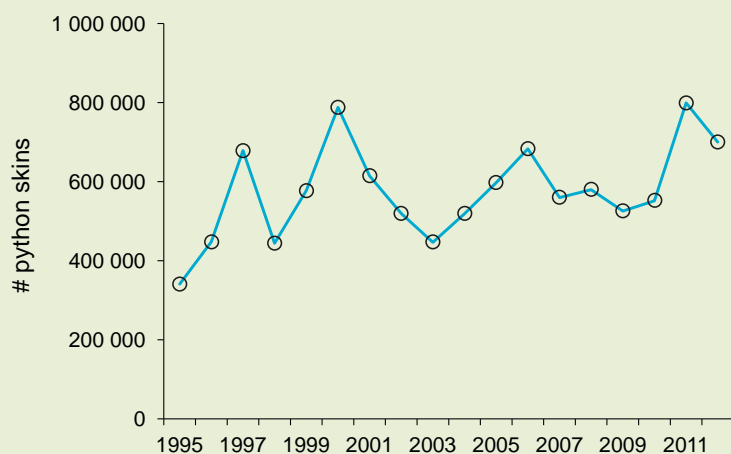
The harvest and trade of pythons for their skins began in the 1930s, and today nearly one million python skins (from five species) are exported from South East Asia annually to supply the trade. Perhaps unsurprisingly,

concerns have been raised about the sustainability (biological, economic, social and ethical) of such utilization, and its impacts on the conservation of the species. Finding a balance between python conservation and the economic aspirations of the people using them can be challenging, particularly given uncertainties inherent in dynamic natural systems. One of the major problems has been that we simply didn't know enough about python biology, ecology and trade to make informed decisions.

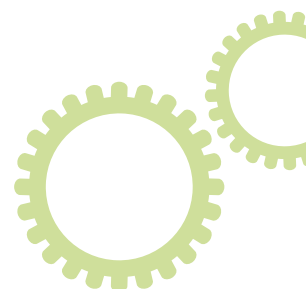
To address this, in November 2013 the IUCN (specifically through its Boa and Python Specialist Group), the ITC, and the French luxury company Kering, teamed up to form the Python Conservation Partnership (PCP). The PCP aims to improve sustainability of the python skin trade by collaborating with governments, conducting science-based research, and disseminating best practice guidelines to facilitate industry-wide change.

Each of the PCP's members is very different. IUCN is the world's largest biodiversity conservation organization;

**Figure 5.1 Exports of South-East Asian python skins (*Python reticulatus*, *P. molurus bivittatus*, *P. breitensteini*, *P. brongersmai* and *P. curtus*) between 1995 and 2013**



Source: UNEP-WCMC-CITES Trade Database.



ITC is a United Nations organization working to promote sustainable economic development in developing economies, while Kering is the parent company of several brands utilizing python skins in their produce ranges (e.g. Gucci). But why collaborate to improve the trade in pythons? The PCP members believe the answer is simple. Collectively, our economies and livelihoods are dependent on healthy ecosystems. The conservation goal of ensuring abundant and sustainably managed python populations, in turn ensures livelihood security and sustainable business opportunities for those people utilizing pythons (the economic development and business goals). The PCP is unique but powerful, and it holds lessons for future private-public collaborations.

“We now know that breeding pythons in captivity for their skins is biologically and economically feasible – a situation thought impossible only several years ago...”

### Challenges and achievements of the partnership

Guiding stakeholder discussions toward the real rather than perceived problems affecting trade (to facilitate change in priority areas) is the biggest challenge the PCP has faced – but it is also its most important achievement. By conducting robust, transparent and science-based research, the PCP is providing the information necessary to properly inform the discussion about how trade sustainability can be improved. For example, we now know that breeding pythons in captivity for their skins is biologically and economically feasible – a situation thought impossible only several years ago (Natusch and Lyons, 2014). The industry also has very clear recommendations on how to treat pythons humanely. Research conducted by the PCP has revealed important information about the benefits of python trade to participants, and how livelihood security can be enhanced (Nossal et al., 2016a; 2016b). Finally, for the first time we have empirical data indicating the harvest of

pythons from the wild is sustainable, and have identified ways to enhance population management to guarantee sustainability into the future (Natusch et al., 2016a; 2016b; Figure 5.2, Box 5.3). The PCP's ongoing challenge will be to effectively communicate the results of its research, and create the tools to provide different stakeholders with a clear path toward implementation of more sustainable practices.

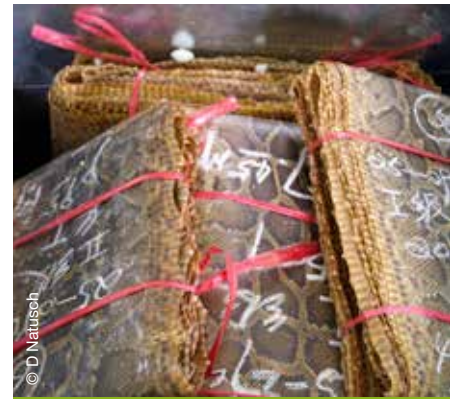
### What can other partnerships learn from the PCP?

The success of the PCP can be attributed to several key points:

- Agreement on a shared vision and mission;
- Knowledge and respect of each partner's needs and expectations;
- Identification and utilization of each partner's strengths;
- Definition of each partner's roles and responsibilities; and
- Trust and honest communication.

Successful partnerships like the PCP are not new. In some sectors, businesses commonly team up to tackle shared problems. For example, Coca-Cola and Heinz have recently collaborated on the creation of biodegradable bottles. However, similar partnerships in the realm of biodiversity-based businesses and conservation are more novel, perhaps because the goals of some stakeholders are assumed to conflict with the goals of others. For instance, the goal of conserving wild species, while at the same time utilizing those species for economic gain, is incomprehensible to many people. But as companies become more committed to sustainability (and more aware of what is needed to achieve it), opportunities are frequently enhanced through the alignment of conservation and business interests.

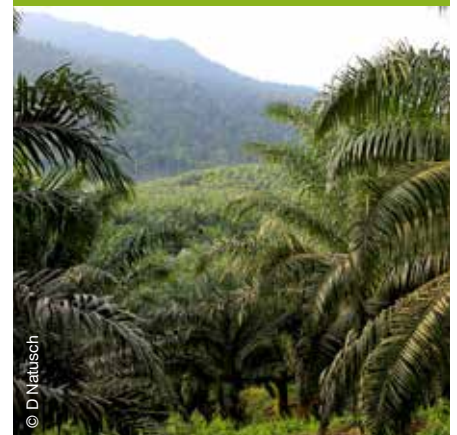
This alignment can form the backbone of many successful future BioTrade partnerships. Strong respect for the goals of different partners and the support of objective and peer-reviewed science is also fundamental for success. The end result of these partnerships will, hopefully, enhance all forms of sustainability, and in turn deliver mutual benefits for people, species, and ecosystems – and ultimately the planet.



Most python skins are exported air-dried like these Burmese python skins, but some are also tanned before export.

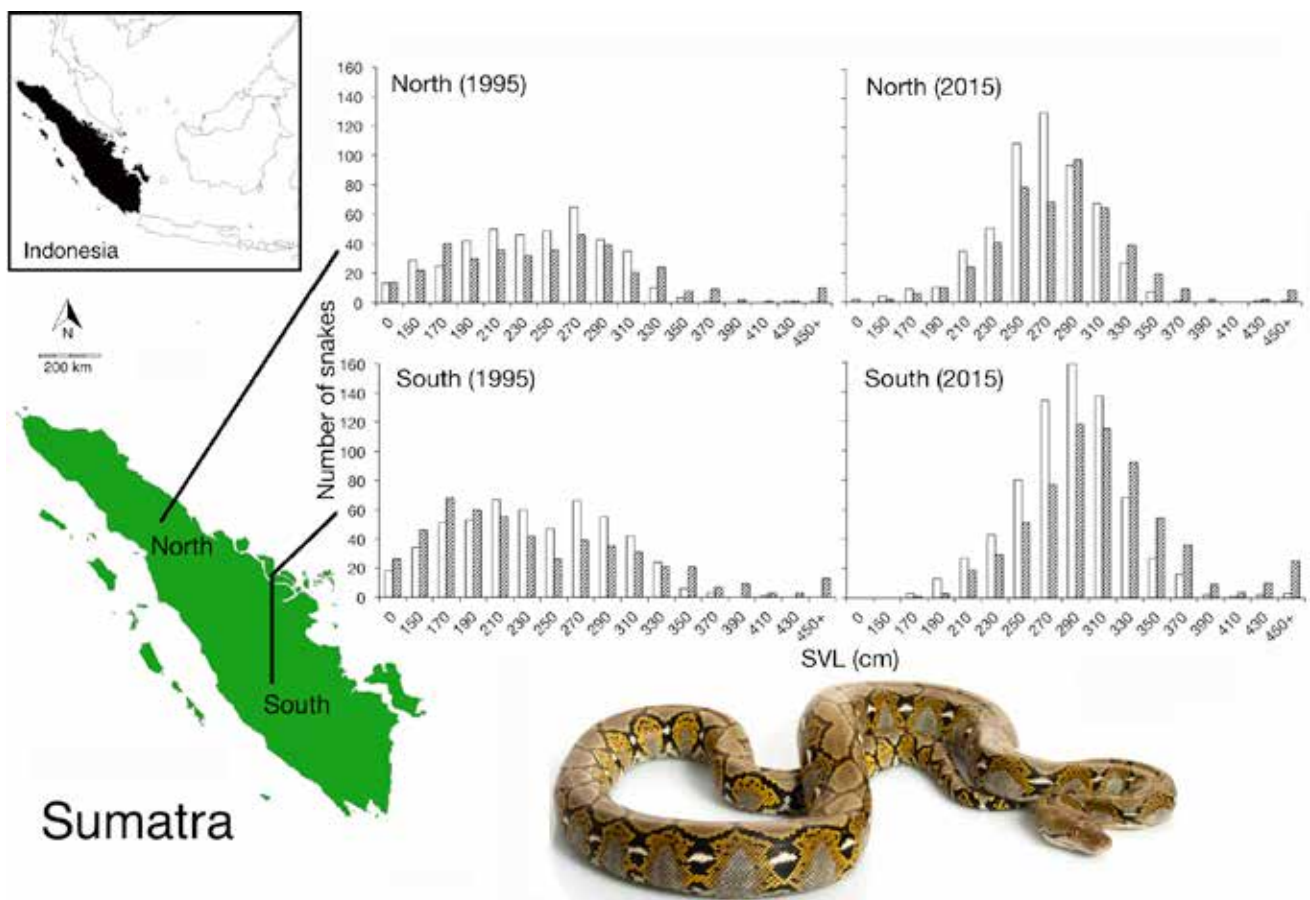


Pythons are captive-bred within small and large-scale farms in several South-East Asian countries. Here, staff remove pythons for feeding while their cages are cleaned.

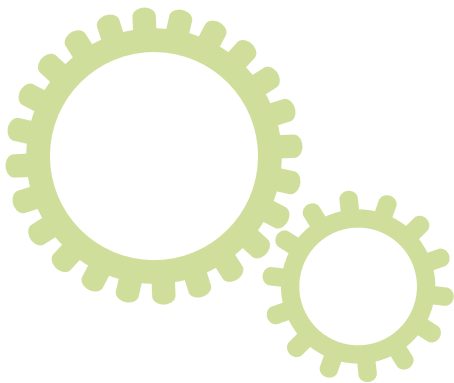


The expansion of oil palm plantations in South East Asia appears to have favoured *Python reticulatus*, *P. breitensteini* and *P. brongersmai* (because of high densities of rats). Many snakes are captured in this habitat type.

Figure 5.2 PCP research on sustainability of trade in reticulated python skins



© D Natusch



### Box 5.3 PCP work to assess sustainability of the trade in reticulated python (*Python reticulatus*) skins

To assess sustainability of the trade in reticulated python (*Python reticulatus*) skins, researchers examined 4200 pythons brought to processing facilities in northern and southern Sumatra, Indonesia, over a 20-year period. The graphs in Figure 5.3 depict the number of male (hollow columns) and female (grey columns) pythons of different sizes (based on snout-vent length - SVL) brought to processing facilities. Despite being collected from the same areas as 20 years ago, the numbers, mean body sizes, clutch sizes, sizes at maturity and proportion of giant specimens have not decreased between first surveys (1995) and repeat surveys (2015). If sustainability had been compromised, we would expect to see declines in several or all of

these metrics. These data lend strong empirical support to claims of sustainability of wild python harvests in Indonesia. From a management perspective, implementing minimum size limits for snakes will enhance confidence in sustainability by preventing capture of small (immature) snakes. Measurements made on the sizes of traded skins can simply and effectively enforce these limits.

Source: Natusch et al., 2016a; 2016b.



# 6 Future challenges and opportunities

The future may encompass many opportunities and challenges for BioTrade in particular, and biodiversity and trade related initiatives in general. This section provides key messages on each of the topics featured in this publication: people, the planet, markets and partnerships. It will also provide an overview of BioTrade, the Aichi Targets and the SDGs.

Future challenges and opportunities: Key messages

Article
6.1 BioTrade and people
6.2 BioTrade as a conservation tool
6.3 Emerging issues on markets for BioTrade and biodiversity-based businesses
6.4 BioTrade and sustainable development
6.5 BioTrade, Aichi Targets and the SDGs

# 6.1 BioTrade and people



**Véronique Rossow**,  
Head of Research  
and Development;  
**Arthur Stevens**,  
Head of Supply, PTA



Found under various definitions (e.g. local communities, harvesters, collectors, indigenous peoples), the first beneficiaries of BioTrade value chains are theoretically those interacting directly with local biodiversity. It has been demonstrated that when appropriate resource management plans are followed, and dedicated training is carried out, the involvement of local people positively impacts on conserving the resources and related ecosystems (Cunningham, 2016), while ensuring optimal quality of the raw material to be collected.

However, to ensure positive livelihood impacts, many challenges still need to be overcome. Ethical and sustainable local practices generate transactional costs that are often seen as too high to be easily accepted, or then absorbed by the rest of the actors down the value chains. It also takes several years to establish and secure reliable sales opportunities. At grassroots level, building the understanding of these commercial uncertainties is not always taken into account. This may create a loss of motivation during the early years – so important for establishing a reliable value chain.

In addition, the need to develop an effective resilience strategy at practitioner level, to ensure minimizing and smoothing out of sales fluctuations, is not sufficiently appreciated. This may also generate loss of interest when regular incomes at grassroots

(e.g. harvesters) level cannot be maintained. This delays the tangible perception of livelihood improvement, and may lead to discouragement before such impacts are identifiable, hence measurable.

Besides such business-related challenges, and prior to any other considerations, practitioners have to identify who owns the knowledge of the biological resource and/or how rights to access are defined. If customary rights are in place, is this sufficient to start a valorization process or should other beneficiaries be taken into account? Once such rights are identified, and to positively impact on livelihoods, the benefits sharing strategy will vary drastically depending on countries' laws, local needs, amount and type of benefits that can be shared, among other factors. One important development that enhances livelihoods of communities is the entry into force of the Nagoya Protocol in 2014, which provides a mandatory ABS legal framework. However, implementation is not without its challenges and opportunities, as shown in Box 6.1.

Ultimately, local people and their living conditions are highly dependent on the commercial success of the value chain in which they are involved. Therefore, without proper regulation systems in place to protect their rights, positive impacts on their livelihood remain very limited.

“Practitioners have to identify who owns the knowledge of the biological resource and/or how rights to access are defined...”



© UN Photo: Albert Gonzalez Farran

### Box 6.1 BioTrade, ABS and the Nagoya Protocol

UNCTAD prepared a scoping study which offers an overview of the challenges faced and options available to implement BioTrade and ABS principles under the CBD and the Nagoya Protocol in a coherent manner. This study provides a set of key points and policy recommendations for key stakeholders (governments and companies) to take advantage of policy options and strategies available for BioTrade sectors, including:

1. Ensure that ABS frameworks enable parallel benefits sharing and facilitated access.
2. Ensure that ABS regimes are transparent, clear, operational and enhance legal certainty for all actors.
3. Produce a checklist and compile cases that guide countries on the coverage and interlinkages between BioTrade and ABS frameworks.
4. Support national authorities to communicate and coordinate in a regular manner to ensure coherent implementation of rules and procedures.
5. Consider ways in which PIC and MATs within BioTrade projects or business arrangements can become regularized or validated through simple and practical administrative procedures.
6. Assess how PIC, MAT and benefit sharing take place in the particular context of indigenous peoples and communities participating in BioTrade value chains and specific ABS projects.
7. Promote understanding on the changing and very diverse research and development landscape and where and how connections between BioTrade and ABS may occur.
8. Value non-monetary benefits that could generate and introduce incentives to maximize absorptive capacity by BioTrade businesses.
9. Set clear and easy procedures to obtain certificates of compliance, as well as well selected checkpoints – critical to ensure proper traceability.
10. Raise awareness on BioTrade actors, including national authorities, on the implications of the Nagoya Protocol.

Further information: [www.unctad.org/en/PublicationsLibrary/webditcted2016d4\\_en.pdf](http://www.unctad.org/en/PublicationsLibrary/webditcted2016d4_en.pdf)

Source: UNCTAD, 2016b.



## 6.2 BioTrade as a conservation tool



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Local communities and policymakers are faced with choices over the way in which natural resources are managed, often presented as trade-offs between socioeconomic development and biodiversity conservation. Within this context, the sustainable use of biodiversity can help address both needs by promoting the responsible management of the biodiversity underpinning economic development. This can be achieved by increasing the perceived value of wildlife, for example through carefully managed trade, reducing incentives for alternative damaging land use scenarios, such as clear-felling for agriculture or cattle ranching. BioTrade can thus harness market forces to generate powerful incentives for the conservation of the species utilized, as well as their habitats.

Multiple examples exist of how adequately managed sustainable use and trade programmes can result in conservation benefits, including crocodilian population recoveries around the world (e.g. Hutton et al., 2002) and vicuña population increases in Peru (e.g. Shaley et al., 2007), sustainable use of NTF products in Africa and Latin America (UNCTAD, 2013; 2015b) or the incentives generated for the establishment of *in situ* and *ex situ* conservation programmes for amphibians in Ecuador. Crocodilians and vicuña are primarily harvested for the fashion industry, while Ecuadorian amphibians show current and potential economic value in the pet, pharmaceutical and cosmetics markets (UNDP, 2015).

### Challenges

Despite its important potential benefits, trade in wildlife can, when poorly managed, e.g. due to the lack of an enabling policy environment that fosters the sustainable use of biodiversity, pose serious challenges, including overexploitation, a key threat to biodiversity globally. Factors such as illegal trade or corruption, where the priority is short-term profit and not

“Harnessing the potential for trade in biodiversity while minimizing its risks requires adequate management and monitoring of the harvest and trade...”

long-term sustainability, as well as instances where appropriate, well-informed management is not in place, are likely to lead to overharvesting.

In addition, closed-cycle captive breeding of animals or artificial propagation of plants, while appropriate in some cases as a way of reducing damaging harvest pressure on wild populations, can sometimes contribute to a decoupling from nature and weakened incentives for conservation of the target species in the wild if not considered as part of a wider management plan. Consideration should be given to assessing the feasibility of establishing wild or ranching utilization programmes in order to maximize the conservation incentives.

### Opportunities

Harnessing the potential for trade in biodiversity while minimizing its risks requires adequate management and monitoring of the harvest and trade.

The past few decades have seen the development of a plethora of

guidelines and initiatives that recognize the importance of the sustainable use of biodiversity. Such initiatives have ranged from certification schemes and sustainable use guidelines to international policies and commitments, including the CITES and CBD conventions, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the Aichi Targets and SDGs and forestry-based carbon credit mechanisms. This landscape offers real opportunities for maximizing the benefits for biodiversity through continued sustainable use in a changing world.

Implementation of best practice remains a key challenge, however. Work in this direction ought to continue, including the collection of relevant baseline information and the development of management plans and robust adaptive management approaches. In some cases, this necessary work may require financial and technical support from consumer countries. Ensuring adequate management will also require measures to address perverse incentives that can result in illegal and unsustainable practices. Such measures should take into consideration which approaches have proven to be successful under which circumstances, e.g. community engagement and the equitable sharing of revenues, enforcement measures and improved information sharing. The capability to identify the origin of wildlife commodities in trade throughout the value chain is essential to guarantee that sustainable use programmes are not being undermined, hence the development of traceability systems and standards will become increasingly relevant. Emerging processes such as this will need to be combined with continued and strengthened efforts on undertaking resource assessments, developing and implementing management plans and sharing of experiences and lessons learned.

## 6.3 Emerging issues on markets for BioTrade and biodiversity-based businesses



**Lorena Jaramillo,**  
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The marketplace is dynamic and BioTrade actors need to closely monitor and foresee changes, while increasing the competitiveness of their businesses. Governments and private sector stakeholders need to cooperate further to understand those challenges and address them, while capturing the growing market opportunities by:

- Developing an enabling environment for the unrestricted movement of BioTrade products and services in national and international markets, and generate incentives for entrepreneurs to develop innovative value added products and services based on its native biodiversity.
- Enhancing the competitiveness of value chains, beneficiary companies and products by collaborative approaches to prioritize, implement, monitor and assess programmes and actions plans based on market needs. Civil society and national and international organizations may also enhance implementation of the actions prioritized.
- Improving access to finance (e.g. credit lines and grants), for example to develop value added and innovative products and services, enhance production facilities, compliance with SPS requirements, and implement standards and best practices such as ISO, HACCP, GMP, GACP, private and voluntary certification schemes, implement traceability systems, and carry out trials and documentation to substantiate claims, among others.

- Raising awareness regarding the benefits of BioTrade among potential consumers is important not only to capture the growing market trends but also in creating markets for BioTrade products.

Other emerging factors for BioTrade practitioners to consider are:

- The growing consumer trend for BioTrade-friendly products and services is a reality, but differentiation schemes and premium prices could plateau in the future, forcing exporters to be more competitive, cost-efficient and differentiate their products based on other aspects. For instance, businesses are interested in the type of ingredients, sustainable sourcing practices, benefits to communities and the story behind them, rather than certification logos – as the increasing number is causing consumer confusion in addition to high associated costs.

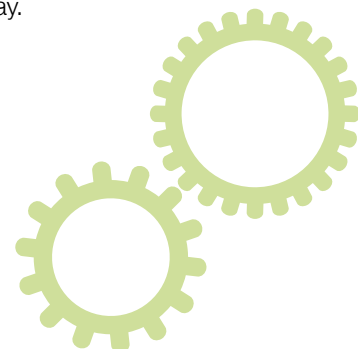
“The marketplace is dynamic and BioTrade actors need to closely monitor and foresee changes...”

- Horizontal and vertical integration of global value chains is reducing chain length, generating end-consumer linkages, and enabling companies to control their supply chains under social and environmental considerations based on their corporate social responsibility (CSR) and business strategies – all of which have implications for producers.
- Enhancing connections with the end-consumer and raising awareness of the benefits BioTrade products and services to people, the planet and markets.
- The increasing number of NTMs in developed and developing country markets need to be identified and addressed in order to enable BioTrade

companies to overcome them. For example, labelling and packaging requirements, reporting requirements, and registration of new ingredients with Codex Alimentarius, GRAS, NFR and the EU's Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulations are being identified by practitioners in Colombia, Peru and Viet Nam under UNCTAD's work on trade barriers in the food, phytopharma and personal care sectors.

- Generating platforms and spaces for policymakers, regulators and companies from exporting and importing countries to effectively discuss, formulate/adapt regulations and strategies related to market access, while avoiding hindering sustainable livelihoods and biodiversity conservation. This could lead to further understanding and consensus building, as well as develop sustainable business opportunities for local producers and communities.

In light of the 2030 Agenda and the SDGs, issues such as climate change, natural resources depletion (including biodiversity and water), poverty, immigration, peacebuilding and post-conflict recovery (e.g. circular economy, carbon neutral products, carbon emission footprints, etc.) are impacting consumer preferences and market requirements, providing a competitive edge for the companies that work in this arena. A comprehensive approach to address these issues within businesses and developing country governments is essential, as through the 2030 Agenda, the international community is aiming to focus development in an integrated and impactful way.



## 6.4 BioTrade and sustainable development



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With the adoption of 2030 Agenda and associated SDGs in 2015, attention has now shifted to action to realize the agenda and its goals. Natural resources and biodiversity form a critical component of achieving a significant number of goals, in particular SDGs 12 to 17 (Figure 6.1).

Trade in biological and genetic resources is a key component in ensuring appropriate governance of such resources. Trade and development policies implemented by governments often ignore key characteristics of trade in such resources. Thus guidance on actions to ensure conservation, sustainable management of resources and sharing of subsequent benefits with appropriate stakeholders is necessary.

BioTrade is characterized by reliance on biodiversity and by the particular framework under which trade in that biodiversity takes place. In light of this, BioTrade initiatives rely heavily on partnerships not only between the providers and users of resources but also a range of other stakeholders including the private sector. With its unique approach to developing value chains of natural ingredients and products that are derived from the sustainable use of biodiversity,

BioTrade provides, in addition to other options, concrete means of valuing and protecting biodiversity resources and improving livelihoods in the process (UNCTAD, 2013).

The current focus of the private sector regarding biodiversity is largely limited to fixing and paying for the cost of harvested resources and there is limited understanding of the economic value of these resources. This leads to limitations on the benefits countries and communities gain from the real value of the resources.

The time has come for both the private sector and the governments to look again at the nature of BioTrade and consider a broader approach that goes beyond the principles of conservation and sustainable management options to economic and social well-being. A series of opportunities exist for promoting BioTrade through adjustments in the promotion of CSR, developing equitable partnerships in commercial utilization of bioresources, and supporting access to resources and benefit sharing. Both governments and private sector need to explore such opportunities.



# 6.5 BioTrade, Aichi Targets and the SDGs



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BioTrade has, over the years, provided for concrete actions to enhance livelihoods and ensure the conservation and sustainable use of biodiversity, including valuing and mainstreaming biodiversity into economic sectors, and enabling for improved biodiversity governance. These aims are embodied in the Aichi Targets and the SDGs, and BioTrade brings real possibilities to contribute to their achievement.

## Aichi Targets and the SDGs

The Strategic Plan for Biodiversity 2011–2020 with its 20 Aichi Targets (which included aspects of sustainable development), divided over five strategic goals (Table 6.1), is the global biodiversity roadmap established under the CBD. It was adopted in 2010 at COP 10 of the CBD (CBD, 2010). 193 parties are

**Table 6.1 Aichi Targets and strategic goals**

Strategic goal	Targets	Aichi Biodiversity Targets Icons
(A) Mainstreaming biodiversity	1 Awareness of the values of biodiversity 2 Integration of biodiversity 3 Elimination of incentives harmful to biodiversity 4 Development and/or implementation of plans for sustainable production and consumption	 
(B) Reducing pressure on biodiversity	5 Halving the rate of loss of all natural habitats 6 All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably 7 Areas under agriculture, aquaculture and forestry are managed sustainably 8 Reducing pollution 9 Invasive alien species and pathways are identified and prioritized 10 Minimize the anthropogenic pressures on coral reefs, and other vulnerable ecosystems	  
(C) Safeguarding ecosystem	11 Conservation of terrestrial and marine areas 12 Prevent extinction of known threatened species 13 Minimizing genetic erosion and safeguarding genetic diversity	 
(D) Enhancing benefits from biodiversity and ecosystem services	14 Restoring and safeguarding ecosystems 15 Enhanced ecosystem resilience 16 Implementation of Nagoya Protocol on Access to Genetic Resources	 
(E) Enhancing implementation	17 Implementation of national biodiversity strategy and action plan 18 Traditional knowledge, innovations and practices of indigenous and local communities respected 19 Knowledge, the science base and technologies relating to biodiversity, improved 20 Mobilization of financial resources	 

Source: CBD, 2010.

Figure 6.1 Sustainable Development Goals



Source: Sustainable Development Knowledge Platform website (<https://sustainabledevelopment.un.org>).

“Sustainable development and biodiversity conservation are inextricably linked and one cannot succeed without the other...”

committed and implementing the plan through NBSAPs. The strategic plan’s creation was intended to contribute to the achievement of the Millennium Development Goals (MDGs), including poverty reduction, as explicitly mentioned, “it contributes to local livelihoods, and economic development, and is essential for the achievement of the Millennium Development Goals”.

The Special Summit of the UN General Assembly, 25–27 September 2015, adopted the 2030 Agenda for Sustainable Development, including the set of SDGs that succeeded the MDGs. The SDGs comprise 17 goals (Figure 6.1) and 169 related targets (United Nations, 2015). It sets the path for governments, UN agencies, civil society and businesses for the next 15 years to work together to end poverty, promote prosperity and ensure people’s well-being while protecting the environment.

### Connecting the SDGs and Aichi Targets

The Aichi Targets, following the broad aspect of conservation embraced by the CBD and its three objectives (conservation, sustainable use of biodiversity, and fair and equitable benefit sharing), have a direct connection to the 2030 Agenda and its SDGs. The 2030 Agenda highlights the importance of living in harmony with nature (§9), and specifies that UN Member States will “*conserve and sustainably use oceans and seas, freshwater resources, as well as forests, mountains and drylands and to protect biodiversity, ecosystems and wildlife.*” The CBD Secretariat also stated that “*Paragraph 33 of the Agenda’s Declaration focuses on biodiversity and ecosystems and related matters, and two of the SDGs refer directly to biodiversity (i.e. SDG 14 on marine biodiversity and SDG15 on terrestrial biodiversity).*”<sup>26</sup> When analysing the Aichi Targets and SDG 15 targets, the close relationship is obvious (Table 6.2).

Sustainable development and biodiversity conservation are inextricably linked and one cannot succeed without the other. Therefore, approaching and implementing the SDGs must be a holistic, inclusive and integrated effort, involving all stakeholders to address poverty eradication, food security,

sustainable agriculture, sustainable consumption and production, economic growth, cities and human settlements, and accountable and inclusive institutions, among others. This integrated approach underpins the United Nations 2030 Agenda for Sustainable Development.

The conservation of biodiversity and halting of biodiversity loss requires, in addition to environmental measures, social and economic measures, including trade. Trade, including trade in environmental goods and services, is also mainstreamed into the SDGs. It is identified as a means of implementation in Goal 17, but it is also transversal in other SDGs (2, 8, 9 and 10) and the biodiversity-related goals (14 and 15). Sustainable trade can contribute to mainstream biodiversity and enhance its economic valuation into the economy as well as provide incentives to conserve biodiversity and ensure its sustainable use, rather than destroy it.

Table 6.2 SDG 15 and its targets and the Aichi Targets

Target	Description
15.1	By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements – <b>related to Aichi Targets 5, 7, 11, 14, 15.</b>
15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally – <b>related to Aichi Targets 5, 7, 11, 15.</b>
15.3	By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world – <b>related to Aichi Targets 5, 7, 15.</b>
15.4	By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development – <b>related to Aichi Targets 3, 7, 11, 14, 15</b>
15.5	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species – <b>related to Aichi Targets 3, 5 12.</b>
15.6	Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed – <b>related to Aichi Target 16.</b>
15.7	Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products – <b>related to Aichi Targets 4, 12.</b>
15.8	By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species – <b>related to Aichi Targets 3, 9.</b>
15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts – <b>related to Aichi Targets 2, 17.</b>
15.a	Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems – <b>related to Aichi Target 20.</b>
15.b	Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation – <b>related to Aichi Targets 3, 20.</b>
15.c	Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities – <b>related to Aichi Targets 1 3, 4, 12, 14.</b>

Source: Adapted from Sustainable Development Knowledge Platform website (<https://sustainabledevelopment.un.org>).

Value chain workshop in Ecuador

© UNCTAD



Giant corn from Cuzco

© PROMPERU



### BioTrade and the SDGs

UNCTAD, the UN agency addressing the interface between trade and development, has been actively engaged in building – jointly with governments, private sector and civil society – inclusive and sustainable paths centred on people and nature. Trade, nature and creativity all intertwine to shape the future and develop new industries through innovation, technology, sustainable management of nature, and development of economically feasible opportunities for local communities and SMEs.

The BioTrade Initiative of UNCTAD is a practical programme that can make a concrete contribution to sustainable development. Under social, environmental and economic criteria, biodiversity resources are being transformed into value added products by local communities, SMEs and TNCs and used in the food, pharmaceutical, personal care, handicrafts and fashion industries. Ecosystems are also being

adequately managed enabling the development of profitable ecotourism destinations. These are some of the sectors embraced by BioTrade initiatives promoted by UNCTAD and its national, regional and international partners and programmes.

Considering the importance of international trade as an engine for economic growth and development,<sup>27</sup> BioTrade has the power to serve the SDGs on a broader level. However, in order to build on the achievements and seize the opportunities generated by BioTrade it requires a coherent policy framework and collaboration to overcome capacity and market challenges faced in the implementation of sustainable businesses and employment in developing countries. Furthermore, countries and organizations will need to understand and identify these challenges and opportunities in order to implement actions to promote the SDGs and achieve the post-2015 development agenda.

Key lessons learned and best practices from the BioTrade Initiative can be identified and translated into ways of supporting the promotion and achievement of 11 of the SDGs (Figure 6.2), contributing directly to eight SDGs and indirectly to another eight, as well as 13 Aichi Targets. This publication provided practical cases, related to the BioTrade Initiative and other initiatives led by private stakeholders, which contribute to biodiversity sustainability and sustainable use and that can help to achieve the SDGs and the Aichi Targets.

Figure 6.2 BioTrade's contribution to the Aichi Targets and SDGs



Source: Jaramillo, 2016.

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- Hoang Xuan Lam, Deputy Director, Vietroselle, 15 April 2015.
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- Luis Shimpiukat, local technician, Chankuap Foundation, 7 July 2016.

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## Notes

- 1 See more on the Convention at CBD, 1992: <https://www.cbd.int/doc/legal/cbd-en.pdf>
- 2 The interaction of these approaches and BioTrade: **(a) value-chain approach:** where the strengthening of value chain is a critical element in implementing BT P&C; **(b) sustainable livelihood approach:** strengthens the human, social, physical, financial and natural capital of people and communities to which BioTrade contributes; **(c) ecosystem approach:** the planning of productive processes related to BioTrade initiatives which are environmentally and socially responsible with regard to their impact on species, habitats, ecosystems and local communities; and **(d) adaptive management approach:** when implementing sustainable practices, it is crucial to consider the identification of impacts on species and ecosystems and the continual improvement of BioTrade initiatives.
- 3 <https://www.cbd.int/decision/cop/?id=7114>.
- 4 UNCTAD and CITES have a long-standing relationship at the international, regional and national level. Furthermore, BioTrade is also recognized in CITES Decisions, particularly Decisions 14.46, 16.102 c), 16.103 and 16.105.
- 5 <https://www.cbd.int/blg/>.
- 6 Note from author: I have decided not to mention BioTrade simply as concept, as it now goes beyond ideas and is demonstrating concrete actions on the ground.
- 7 See A/RES/70/1.
- 8 CAF is a multilateral financial institution, made up of 19 countries (17 in Latin America and the Caribbean, plus Spain and Portugal) and 14 private banks. It promotes sustainable development and regional integration by financing projects in the public and private sectors, providing technical cooperation and other specialized services in the region.
- 9 Full ABP report: <http://biocomercioandino.org/wp-content/uploads/2015/08/Memoria-Virtual-Biocomercio-Andino-CAF-Ingles.pdf>.
- 10 See more on [www.biotradeinnovation.org](http://www.biotradeinnovation.org).
- 11 Financing that understands the dynamics of BioTrade and its positive effects on conservation and social inclusion.
- 12 Based on the publication *Conocimientos Tradicionales y Biocomercio: La experiencia de un emprendimiento intercultural en San Martín*, (Noejovich, 2013).
- 13 More information on the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets is available at: <https://www.cbd.int/sp/>.
- 14 Natura is a BioTrade company implementing BT P&C with the support of the UEFT since 2007.
- 15 Baobab (*Adansonia digitata*), devil's claw (*Harpagophytum* sp.), sausage tree (*Kigelia africana*), Kalahari melon (*Citrullus lanatus*), marula (*Schlerocarya birrea*), sour plums (*Ximenia* sp.), *mongongo* (*Schinziophyton rautaneii*), *mafura* (*Trichilia emetica*), *mbiri* (*Commiphora* sp. from Namibia).
- 16 There is no official definition of this neologism, but rather a general understanding that such a word refers to an economy based on the biological resources valorization.
- 17 Bird watching, wildlife, whale watching, hiking, caving, mountain climbing, rock climbing, camping, diving and snorkelling, as well as educational and research activities (Resolution 531 of 2013).
- 18 The seven parks include: five in the Andean subregion (PNN Cocuy, PNN Chingaza, PNN Los Nevados, SFF Iguaque and SFF Otún Quimbaya); one in the Caribbean Region (PNN Corales del Rosario) and one on the Pacific region (PNN Utría).
- 19 For further information see: <https://www.facebook.com/OtunQuimbaya>.
- 20 *Co-creation* is a management initiative or form of economic strategy, that brings different parties together in order to jointly produce a mutually valued outcome (Pralhad CK and Ramaswamy V, 2004).
- 21 Regulation (EC) No. 258/97 defines that all foods and food ingredients without a history of “significant” consumption in the EU prior to 15 May 1997 must be authorized by this legislation.
- 22 No longer active.
- 23 Sustainable Development Goal 17: Revitalize the global partnership for sustainable development, states that multistakeholder partnerships will be crucial to leverage the interlinkages between the SDGs to enhance their effectiveness and impact and accelerate progress in achieving the goals.
- 24 National BioTrade programmes are managed by local counterparts, such as ministries of the environment, and support the implementation of BT P&C in prioritized value chains and sectors.
- 25 The Solutions Alliance was established in 2014 to mobilize a broader range of stakeholders to work together for the benefit of displaced persons and host communities. It is an inclusive forum that brings together donor and host governments, UN agencies, multilateral financial institutions, civil society organizations, international NGOs, the private sector and academia to promote innovative and effective responses to displacement and to rethink the way we respond to displacement from the start. UNCTAD BioTrade is a member of the Thematic Group on Engaging with the Private Sector, chaired by UNDP and the NGO Spark (Solutions Alliance Secretariat, 2016).
- 26 Secretariat of the CBD, September 2015b.
- 27 Within the action areas of the Addis Ababa Action Agenda, international trade is considered and engine for development. See: [http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA\\_Outcome.pdf](http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf).



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