



A compilation study on BioTrade and access and benefit-sharing related policies

2025

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Helvetas Swiss Intercooperation – Viet Nam

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Acronyms and abbreviations

ABS	Access and benefit-sharing
ABioSA	ABS Compliant BioTrade in South(ern) Africa Project
BEI	Biotechnology and Ecology Institute
BIA	BioInnovation Africa Project
CAF	Development Bank of Latin America and the Caribbean
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COP	Conference of the Parties
DFFE	Department of Fisheries, Forestry and the Environment (South Africa)
GDP	Gross domestic product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Development Cooperation Agency)
IFRA	International Fragrance Association
IISD	International Institute for Sustainable Development
IOFI	International Organization of the Flavor Industry
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
ITC	International Trade Centre
IRCC	Internationally Recognized Certificate of Compliance
KMGBF	Kunming-Montreal Global Biodiversity Framework
MADS	Ministry of Environment and Sustainable Development (Colombia)
MINCETUR	Ministry of Trade and Tourism (Peru)
MINAM	Ministry for the Environment (Peru)
MONRE	Ministry of Natural Resources and Environment (Viet Nam)
Nagoya Protocol	Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization
NBES	National Biodiversity Economy Strategy (South Africa)
NBSAP	National Biodiversity Strategy and Action Plan
OECD	Organization for Economic Cooperation and Development
OECS	Organisation of Eastern Caribbean States
P&C	(BioTrade) Principles and Criteria
PNNV	National Green Businesses Plan (Colombia)
PromPeru	Export and Tourism Promotion Agency (Peru)
R&D	Research and development
SAAFFI	South African Association of the Flavour & Fragrance Industry
SECO	State Secretariat for Economic Affairs (Switzerland)
SDGs	Sustainable Development Goals
SMEs	Small and medium-sized enterprises
SPDA	Sociedad Peruana de Derecho Ambiental
SSE	Social and Solidarity Economy
TraBio	(UNCTAD) Trade and Biodiversity statistical tool
UEBT	Union for Ethical BioTrade
UNCTAD	UN Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

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Executive summary

UN Trade and Development (UNCTAD) has been at the forefront of integrating trade, biodiversity and sustainable development under its BioTrade Initiative. The initiative promotes the sustainable trade of biodiversity-based goods and services guided by its BioTrade Principles and Criteria (P&C). It aims to enhance biodiversity conservation and sustainable use, while enabling sustainable livelihoods, equitable economic opportunities, and long-term ecosystem management through trade. In collaboration with partners, UNCTAD has influenced policies and practices across biodiversity-rich regions globally and serves as a model for supporting and guiding the integration of conservation and development goals. The initiative also contributes to achieving the Sustainable Development Goals (SDGs), the Kunming-Montreal Global Biodiversity Framework (KMGBF), and international agreements such as the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (Nagoya Protocol).

Since 2018, the BioTrade Initiative has been implementing the Global BioTrade Programme: Linking trade, biodiversity and sustainable development, which is funded by the Swiss State Secretariat for Economic Affairs SECO. This six-year programme aims to help stakeholders seize and capitalize on trade opportunities by linking biodiversity and sustainable development, thereby advancing implementation of the SDGs and the KMGBF.

This study provides an overview of the lessons learned, best practices and success stories in integrating the BioTrade P&C into national strategies and policies related to BioTrade and access and benefit-sharing (ABS). It focuses on programme beneficiary countries in the Andean region (Colombia, Ecuador and Peru); the Mekong region (Lao People's Democratic Republic and Viet Nam); the Southern Africa region (South Africa); and the Eastern Caribbean region (Saint Vincent and the Grenadines, Grenada and Saint Lucia). The study draws on experiences from UNCTAD's programme partners at the national, regional and global levels.

This study highlights the integration of BioTrade into national strategies, ABS frameworks and trade policies, demonstrating its potential to foster economic growth while conserving biodiversity. BioTrade fosters job creation, supports small-scale producers, promotes women's empowerment, and enables sustainable income generation. It contributes to the conservation of biodiversity by linking economic activities with ecosystem preservation. BioTrade P&C are also referred to and integrated into international frameworks such as the KMGBF as indicators for sustainable trade.

While BioTrade P&C advance biodiversity conservation and sustainable use of biodiversity and generate sustainable livelihoods, the study also points to some challenges in adopting and implementing them. These include the need to further clarify the relevant legal and regulatory frameworks and enhance capacity-building related to trade and biodiversity, BioTrade and ABS. There is also a need to provide incentives for businesses to adopt sustainable practices.

The study emphasizes the need for continued policy innovation, international collaboration and grassroots empowerment to maximize the impact of BioTrade P&C and promote sustainable trade for biodiversity conservation. Leveraging its mandate on sustainable trade and biodiversity, UNCTAD, through the BioTrade Initiative, aims to continue helping developing countries enhance biodiversity conservation while enabling sustainable livelihoods, equitable economic opportunities, and long-term ecosystem management through trade.

I. Introduction

UNCTAD created the term “BioTrade” and launched the BioTrade Initiative in 1996 to promote trade and investment in biodiversity-based products and services to advance sustainable development in line with the objectives of the Convention of Biological Diversity (CBD). These objectives are the conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits derived from its use.

BioTrade refers to activities related to the collection, production, transformation and commercialization of goods and services derived from biodiversity, under environmental, social and economic sustainability criteria. These criteria are grouped under the BioTrade Principles and Criteria (P&C) and are complemented by four approaches and a set of minimum eligibility requirements (UNCTAD, 2020a). BioTrade goes beyond management of ecosystems, production methods, fair pricing, multi-stakeholder engagement, grassroots participation, certification, sustainability standards, and other factors. It is more broadly about delivering certain global public goods – biodiversity conservation, climate change mitigation and adaptation, and sustainable development – in a manner that is economically equitable, socially inclusive and environmentally sustainable.

Together with partners, UNCTAD has fostered implementation of BioTrade, including its P&C, through national and regional programmes, starting in Latin America, followed by Africa and Asia (box 1). In addition, the P&C have been used by European and North American companies. These implementation efforts are also supported through international programmes such as the Global BioTrade Facilitation Programme: Linking trade, biodiversity and sustainable development (known as the Global BioTrade Programme).

The six-year Global BioTrade Programme started in 2018 with financial support from the Swiss State Secretariat for Economic Affairs SECO. It has steered, coordinated and facilitated joint actions of key national and international stakeholders to seize and capitalize on trade opportunities by linking biodiversity and sustainable development, thereby advancing implementation of the Sustainable Development Goals (SDGs) and the Kunming-Montreal Global Biodiversity Framework (KMGBF). The latter is a landmark negotiating outcome under the CBD aimed at reversing biodiversity loss by 2030 (UNCTAD, n.d.-a).

UNCTAD’s programme partners include several organizations at the national, regional and international levels that support the implementation of BioTrade activities and the BioTrade P&C. These partners are the Secretariats of the CBD and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), International Trade Centre (ITC), Organisation of Eastern Caribbean States (OECS), Development Bank of Latin America and the Caribbean (CAF), Helvetas Swiss Intercooperation, ABS Capacity Development Initiative/German Development Cooperation Agency (GIZ), and the Union for Ethical BioTrade (UEBT). The programme also has national partners from Africa, Asia and Latin America and the Caribbean, including ministries of environment, trade promotion agencies and non-governmental organizations, among others (UNCTAD, 2018a; UNCTAD, n.d.-b).

Box 1: National and regional BioTrade programmes

Since the launch of the BioTrade Initiative, UNCTAD, in collaboration with partners, has developed a unique portfolio of global, regional and country programmes as well as a network of partners and practitioners (www.biotrade.org), as outlined below.

National BioTrade Programmes (UNCTAD, 2005, 2017): At the national level, UNCTAD helps developing countries design and establish national BioTrade programmes to strengthen their institutional capacity to develop policy frameworks in support of BioTrade and provide technical assistance to develop BioTrade value chains, businesses and products. While national BioTrade programmes may vary, they share common elements such as creating an enabling policy environment, including promoting regional collaboration on BioTrade policies and practices; strengthening governments' capacity to support BioTrade activities and BioTrade businesses and associations; facilitating the sharing of knowledge and best practices among BioTrade stakeholders; and enhancing the competitiveness of BioTrade products. In some countries, the national BioTrade programme is considered a tool for national plans and policies to target biodiversity-based businesses and ecosystem conservation through capacity-building, improved market access, and other incentives. This study analyses the national programmes in Colombia, Ecuador and Peru.

Regional BioTrade Programmes (UNCTAD, 2005, 2017): UNCTAD and partner organizations work to implement regional BioTrade programmes. These programmes typically develop regional strategies and policies that promote BioTrade and provide concrete support to its implementation. This study covers regional programmes in Mekong, Southern Africa, and the Eastern Caribbean.

Under the BioTrade programme, UNCTAD's policy and technical advice, as well as its collaboration with partners, has been instrumental in enabling a policy environment for BioTrade companies at the national and international levels. This has been achieved by steering and collaborating with partners to enhance their understanding and implementation of policy frameworks, jointly addressing emerging issues and mainstreaming the BioTrade P&C and relevant BioTrade-related information into key policy discussions (UNCTAD, 2019; CBD, 2022).

The three main components of the Global BioTrade Programme are (i) promoting coordination and knowledge-sharing among stakeholders; (ii) enabling a favourable policy environment for BioTrade companies; and (iii) facilitating market linkages for BioTrade companies (UNCTAD, n.d.-a). Building on the first component, two compilation studies were conducted to collect lessons learned, identify best practices, and highlight success stories under the Global BioTrade Programme. The two studies complement each other. The first, aimed at BioTrade practitioners, documents best practices and lessons learned from companies, associations and civil society in implementing the BioTrade P&C. The present study, which is the second one and is aimed at policymakers and other interested stakeholders, was developed by liaising with partners and selected beneficiaries at the national, regional and international levels, as well as through desk review. The study covers experiences from national, regional and international partners in formulating and/or implementing policies that support BioTrade, value chains compliant with access and benefit-sharing (ABS), and innovative business models (UNCTAD, 2018a). It provides an overview of how such policies were developed by programme beneficiary countries in the Andean region (Colombia, Ecuador and Peru); the Mekong Region (Lao People's Democratic Republic and Viet Nam); the Southern Africa region (South Africa); and the Eastern Caribbean region (Saint Vincent and the Grenadines, Grenada and Saint Lucia). The study particularly illustrates how countries and regions have integrated trade and biodiversity considerations, including BioTrade and its P&C, into their policy

frameworks. It highlights lessons learned through their implementation and their contributions to the global efforts to achieve the SDGs and the KMGBF.

The next section presents an overview of the BioTrade Initiative, its P&C, and its role in BioTrade policies and ABS-related policies. Section III documents BioTrade and ABS-related policies implemented in selected countries and regions. Section IV presents the main lessons learned by BioTrade partners and practitioners. Section V presents the conclusions, including a summary and key findings of the study.

II. BioTrade and its role in policies related to ABS and trade and biodiversity

Biodiversity is a vital natural asset that provides essential goods and services necessary to human beings (UNCTAD, n.d.-c), as 55 per cent of the world's gross domestic product (GDP) depends on nature (Evison et al., 2023). Over 4.3 billion people rely on biodiversity for their livelihoods, and 80 per cent of the world's poor and vulnerable in rural areas depend directly on it (United Nations, 2023). This relationship is particularly relevant because, according to UNCTAD's Trade and Biodiversity (TraBio) statistical tool, trade of biodiversity-based products represented 17 per cent of global exports, valued at \$3.7 trillion, in 2021 (UNCTAD, 2024a).¹

A. Linking trade, biodiversity and sustainability

The complex relationship between trade and biodiversity is marked by both positive and negative interactions. Trade influences biodiversity in multiple ways. On the one hand, it can increase demand, which can lead to overexploitation, habitat changes, pollution and the spread of invasive species. On the other, it can provide pathways for biodiversity conservation through the sustainable use of biodiversity and sustainable agriculture-forestry practices (Lenzen et al., 2012; Kuik et al, 2018; IPBES, 2019; European Parliament, 2020; OECD, 2022a; Irwin et al., 2022; Genovesi and Wilson, 2023; UNCTAD, 2025).

This study documents examples of a positive correlation between trade and biodiversity through the implementation of policies that support BioTrade, ABS-compliant value chains, and innovative business models. International trade, including trade in biodiversity-based products and services, can be an important source of employment, livelihoods and export revenue for many communities and countries, and can also incentivize and generate revenue for environmental conservation (UNCTAD, 2025).

B. UNCTAD's BioTrade Initiative: Trade, biodiversity and sustainability in practice

UNCTAD has taken significant steps to promote the conservation and sustainable use of biodiversity by developing universally applicable guidelines and tools that support sustainable trade of biodiversity-based products and services. In this regard, the BioTrade Initiative was formally presented as an UNCTAD initiative during the third meeting of the Conference of the Parties (COP3) of the CBD held in Buenos Aires, Argentina in 1996 (UNCTAD, 2017). Through COP decisions, BioTrade was streamlined into its rolling agenda as a way to approach and support biodiversity conservation and benefit-sharing through trade (UNCTAD, 2025).

BioTrade is both a conceptual and practical market-based approach to biodiversity conservation and is relevant to ongoing international processes, including the KMGBF and the 2030 Agenda for Sustainable Development and its SDGs (box 2) (UNCTAD, 2020a). The BioTrade P&C have been the core foundation guiding implementation of the BioTrade Initiative's activities, programmes and other related activities. Figure 1 presents the initiative's conceptual framework, including the P&C, complemented by the approaches and mandates (UNCTAD, 2020a).

¹ For further information, see UNCTAD's TraBio, online database (UNCTADstat, n.d.-a), and visualization tool (UNCTADstat, n.d.-b).

Box 2. BioTrade versus biotrade

“BioTrade” and “biotrade” appear to be interchangeable terms. However, the capitalization of the “T” in BioTrade reflects fundamental differences in what each term means.

The term “biotrade” is sometimes used to describe trade in biological resources for use as ingredients or inputs for food, cosmetic or industrial products, regardless of whether or not these have been produced sustainably.

“BioTrade”-related activities on the other hand, are characterized by respect for environmental, economic and social criteria – in particular the BioTrade Principles and Criteria (P&C). For example, BioTrade activities must maintain the features of ecosystems and natural habitats of the species being collected or cultivated, and income from them must be generated and fairly and equitably distributed at all levels and to all actors of the value chain. Alternative economic and business models are often used in BioTrade sectors, including cooperatives and women’s associations, among others. Many of these models are part of the Social and Solidarity Economy (SSE),¹ recently acknowledged by a UN General Assembly Resolution A/RES/77/281² as being an effective way to advance and localize the Sustainable Development Goals. These entities tend to use more participatory and redistributive governance that advances social and environmental impact instead of maximizing economic returns.

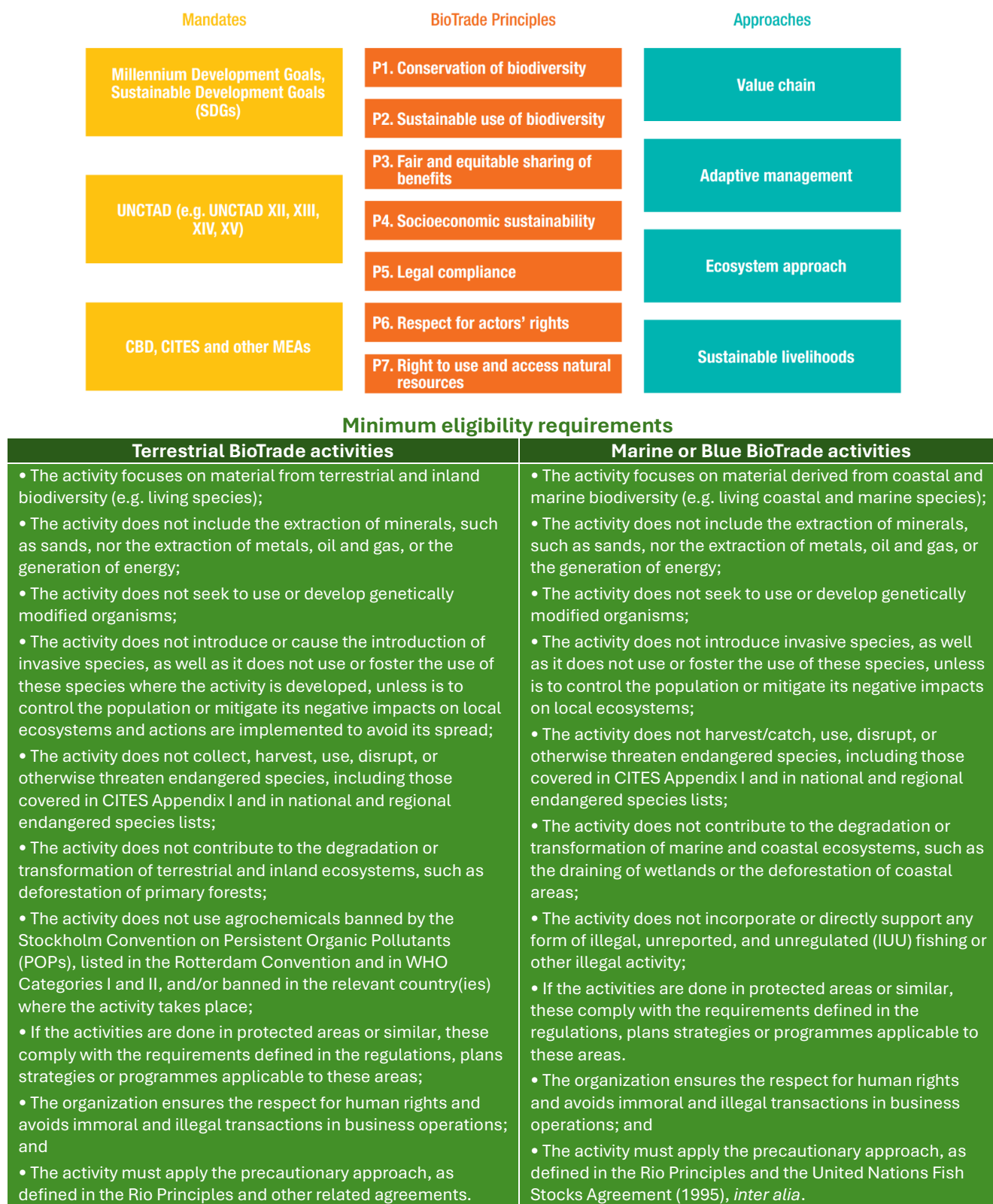
In summary, though BioTrade and biotrade may be grammatically similar, they differ in their meaning and substance. This study highlights these differences where necessary to distinguish between these concepts.

Source: Adapted from UNCTAD (2016a).

¹ The SSE includes organizations focused on economic, social and environmental activities that prioritize collective interest, voluntary cooperation, democratic governance, and social purpose over profit. These entities aim for sustainability, operate across all sectors, and embody values such as equality, fairness, care for people and the planet, and transparency. They include cooperatives, associations, social enterprises and similar groups aligned with SSE principles. (Text based on the International Labour Organization's SSE.)

² United Nations General Assembly, Resolution 77/281. Promoting the Social and Solidarity Economy for Sustainable Development (April 2023). Available at <https://documents.un.org/doc/undoc/gen/n23/118/68/pdf/n2311868.pdf>

Figure 1. BioTrade conceptual framework with mandates, principles and approaches and its minimum eligibility requirements



Source: UNCTAD (2020a).

Note: CBD: Convention on Biological Diversity; CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora; MEA: multilateral environmental agreement.

The first version of the BioTrade P&C was published in 2007 as a practical tool to define and operationalize trade for conservation, sustainable livelihoods and economic diversification concepts to enhance the three dimensions of sustainable development (economic, environmental and social). They were updated in 2020 through a participatory consultation process to specifically reflect the developments in international law and policy, particularly the SDGs adopted in 2015, the Nagoya Protocol to the CBD (box 3), the Paris Agreement, and other relevant international instruments. The updated P&C also include practitioners' experiences and lessons learned from their implementation, and they expand their explicit application beyond terrestrial biodiversity-based goods and services to include marine and other aquatic biodiversity.

Box 3. The relationship between BioTrade and access and benefit-sharing

The sharing of benefits arising from the use of genetic resources and associated traditional knowledge is one of the three objectives of the Convention of Biological Diversity (CBD Secretariat, 2024)

Access and benefit-sharing (ABS) refers to the way in which genetic resources and their derivatives (e.g. biomolecules, biochemicals, specific genes, proteins, etc.) are *accessed*. It also refers to how the monetary and non-monetary *benefits* that result from the use of the resources (i.e. through biotechnology, such as gene editing, genetic engineering, omic technologies, etc.) are *shared* between users (i.e. companies, research institutions) and providers (i.e. communities, ex situ collections) (Laird and Wynberg, 2008). ABS was conceived originally in the 1980s and 1990s to promote fairness and equity in the sharing of benefits derived from access to and use of genetic resources by companies, researchers, universities, etc. (Chandler, 1993).¹ Genetic resources are critical for research and development (R&D) in the Life Sciences, and for economic progress, social wellbeing and life on the planet more broadly.²

ABS relates to BioTrade in a practical way because the BioTrade Principles and Criteria (P&C) call for all its activities to comply with relevant national ABS regulations when applicable and ensure benefit-sharing as appropriate. Sometimes, R&D phases or certain activities in BioTrade projects are covered by ABS frameworks, but not all ABS is relevant to BioTrade. Connections between BioTrade and ABS occur mainly (i) from the inclusion of ABS considerations in the BioTrade P&C; (ii) when national ABS frameworks in countries include BioTrade activities/phases within their scope; and (iii) when national ABS frameworks in countries address issues such as traditional knowledge as it relates to biodiversity and the need to respect rights over collective intellectual property, which is another crucial issue for BioTrade.

¹ During initial negotiations of the CBD, emphasis was placed on conservation aspects of biodiversity. Later in the process, development and ABS dimensions were introduced. Article 1 of the CBD (Objectives) establishes that “[T]he objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding” (CBD Secretariat, 2011).

² The market for goods related to biodiversity/genetic resources – including in biotechnology and the Life Sciences in general – is in the hundreds of billions of US dollars. Just in R&D in one sector, the top 15 pharmaceutical companies spent over \$100 billion in 2020. See Deloitte (2022).

C. UNCTAD's contribution to global biodiversity goals

The KMGBF, a landmark outcome of recent CBD negotiations, aims to reverse biodiversity loss by 2030 and sets out a global vision for living in harmony with nature by 2050, accompanied by four goals and 23 targets to be reached by 2030 (table 1). This framework offers new opportunities to explore the role of trade and trade-related policies and measures in support of biodiversity objectives in synergy with the SDGs (UNEP et al., 2023). Such a role is further highlighted by UNCTAD's work linking trade with implementation of the KMGBF in several ways, including:

- Recognition of BioTrade P&C in the CBD context as a complementary indicator for ensuring sustainable, safe and legal harvesting and trade of wild species (KMGBF Target 5) (UNCTAD, n.d.-c).
- Implementation of Principle 2 on sustainable use of biodiversity in many sectors, including the agro-industry sector, which is relevant to achievement of several KMGBF targets, including Targets 9, 10, 14, 15 and 18 (UNCTAD, 2020a, n.d.-a, n.d.-c).
- Implementation of Principle 3 on fair and equitable sharing, as it promotes equitable distribution of benefits derived from the use of biodiversity, thus supporting implementation of KMGBF Targets 9, 13, 15 and 21 (GIZ, 2023)
- TraBio statistical tool, which includes data on trade flows of biodiversity-based products as well as economic indicators in more than 185 economies (from 2010 onwards). This tool provides data for the complementary indicator on trends in the trade of medicinal plants (the complementary indicator of KMGBF Goal B under CBD Decision 15/5 (CBD, 2022)) and supports Target 21, as it provides free public access to data and knowledge on biodiversity actions (UNCTAD, n.d.-c). Moreover, this tool can be used by Member States to develop and report indicators related to other KMGBF targets focusing on economic sectors such as agriculture and forestry.

In addition to Goal B, the BioTrade P&C are also relevant to Goal C and to other KMGBF Targets (8, 19, 22 and 23) (UNCTAD, 2020a, n.d.-a, n.d.-c, forthcoming). They have also incorporated the key CITES principles: legality, sustainability and traceability. Thus, the P&C have provided CITES parties with practical guidelines to transform value chains in support of conservation and sustainable use of wildlife and sustainable livelihoods (CITES, 2020; UNCTAD 2017).

Implementation of the BioTrade P&C

Governments, companies, academia and non-governmental organizations have implemented BioTrade P&C when formulating policies and developing value chains and business models. These practices have contributed to curbing biodiversity loss and generating sustainable livelihoods (UNCTAD, 2020b). Such implementation has also brought other significant economic, social and environmental benefits. Some examples of the benefits for governments are cited below (UNCTAD, 2017, 2023a, n.d.-d, n.d.-f; IISD, 2020):

- Incentivizing economic actors to adopt sustainable biodiversity practices and share benefits equitably
- Promoting production and export diversification to support local development, particularly in remote areas, by leveraging biodiversity for new products and value chains
- Creating jobs and empowering women, Indigenous Peoples, and cooperatives (often led by women)
- Guiding economic actors to comply with laws and implement biodiversity-friendly practices
- Supporting local livelihoods by sharing biodiversity-generated benefits and fostering sustainable development
- Protecting traditional knowledge and ensuring fair benefit-sharing through compliance with laws and agreements

- Establishing policies that balance socioeconomic development with nature conservation
- Advancing the SDGs, resilience and sustainable inclusive development
- Supporting national commitments to environmental agreements such as the CBD and CITES, and global frameworks such as the KMGBF.

Table 1. Kunming-Montreal Global Biodiversity Framework goals and targets

Goals	Goal A: Protect and restore Goal B: Prosper with nature Goal C: Share benefits fairly Goal D: Invest and collaborate		
	Reducing threats to biodiversity	Meeting people's needs through sustainable use and benefit-sharing	Tools and solutions for implementation and mainstreaming
Targets	1: Plan and manage all areas to reduce biodiversity Loss	9: Manage wild species sustainably to benefit people	14: Integrate biodiversity in decision-making at every level
	2: Restore 30 per cent of all degraded ecosystems	10: Enhance biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry	15: Businesses assess, disclose and reduce biodiversity-related risks and negative impacts
	3: Conserve 30 per cent of land, waters and seas	11: Restore, maintain and enhance nature's contributions to people	16: Enable sustainable consumption choices to reduce waste and overconsumption
	4: Halt species extinction, protect genetic diversity, and manage human-wildlife conflicts	12: Enhance green spaces and urban planning for human well-being and biodiversity	17: Strengthen biosafety and distribute the benefits of biotechnology
	5: Ensure sustainable, safe and legal harvesting and trade of wild species	13: Increase the sharing of benefits from genetic resources, digital sequence information and traditional knowledge	18: Reduce harmful incentives by at least \$500 billion per year, and scale up positive incentives for biodiversity
	6: Reduce the introduction of invasive alien species by 50 per cent and minimize their impact		19: Mobilize \$200 billion per year for biodiversity from all sources, including \$30 billion through international finance
	7: Reduce pollution to levels that are not harmful to biodiversity		20: Strengthen capacity-building, technology transfer, and scientific and technical cooperation for biodiversity
	8: Minimize the impacts of climate change on biodiversity and build resilience		21: Ensure that knowledge is available and accessible to guide biodiversity action
			22: Ensure participation in decision-making and access to justice and information related to biodiversity for all
			23: Ensure gender equality and a gender-responsive approach for biodiversity action

Source: CBD Secretariat (n.d.).

Implementation of the P&C has also generated significant benefits for business in the following ways (UNCTAD, 2017, 2023a, n.d.-e, n.d.-f):

- Helping them respond to consumer demand for biodiversity-friendly goods and services
- Providing them with the opportunity to offer products such as cosmetics, textiles, phytopharmaceuticals, handicrafts and services (e.g. ecotourism) that adhere to a set of sustainability principles
- Enhancing supply-chain transparency (e.g. by implementing traceability and documentation systems)
- Fostering adaptative management practices that support the long-term availability of resources to prevent or mitigate negative environmental impacts
- Ensuring compliance with local and international regulations, including benefit-sharing agreements
- Strengthening their resilience by implementing strategies to mitigate supply chain risks or adapt to climate-related hazards and natural disasters.

As of December 2023, the BioTrade P&C had been implemented by partners and practitioners across the globe in around 80 countries covering a variety of sectors, including food, personal care, phytopharma, fashion, garments (alpaca fiber), and sustainable tourism, among others. The turnover from BioTrade companies/associations increased from \$40 million in 2003 to nearly \$40 billion in 2023 (UNCTAD, 2024b). UEBT, one of UNCTAD's BioTrade partners, has 147 members globally, sourcing 449 different ingredients/natural products in 71 countries in 1,003 value chains, all of this certified against the UEBT Standard (UEBT, n.d.).

III. Compilation of BioTrade and ABS-related policies from selected beneficiary countries

This section provides examples of countries that have streamlined not only BioTrade but also in some cases other concepts such as biotrade, bio-businesses and green businesses into national and sectoral conservation and development policies.² Among other benefits, these policies guide and incentivize entrepreneurship; promote equitable and environmentally friendly investments, particularly by small and medium-sized enterprises (SMEs) and to the benefit of small farmers and communities; and open national and international niche markets for biodiversity products (UNCTAD, 2017).

Implementation of the BioTrade P&C by beneficiary countries is carried out in different ways – for example, through national or regional programmes, a law or regulation, a policy, as part of national and regional strategies, or at the value-chain level (UNCTAD, 2017, 2024b). The subsections below offer examples of selected BioTrade programmes and initiatives.

A. Andean region

BioTrade activities have been implemented in several countries in the Andean region in partnership with trade and environmental public entities, business associations, research organizations, private sector actors, community-based organizations and civil society, among others. Building on UNCTAD's support, Colombia, Ecuador and Peru have defined national programmes to develop and promote BioTrade as well as the sustainable use of biodiversity-based products and services. This section presents examples of such experiences.

Colombia

Launched in 1998, the Colombian National BioTrade Programme was the pioneer initiative worldwide. It was managed by the Humboldt Institute for Biological Research, a Colombian entity linked to the Ministry of Environment and Sustainable Development (*Ministerio de Ambiente y Desarrollo Sostenible* - MADS). Over the years, the programme evolved and became part of the Office for Green and Sustainable Businesses created in 2011 within MADS. The office provides tools for biodiversity-based and environmental entrepreneurs to increase their competitiveness in national and international markets, while advancing sustainability and conservation goals.³ The Office for Green and Sustainable Businesses is now a core partner of the Global BioTrade Programme. Its involvement in recent activities includes training on the BioTrade self-assessment tool for companies and projects, as well as participation in many events such as the 7th BioTrade Congress (UNCTAD, 2025).

Colombia's 2014–2018 National Development Plan encompassed a “Green Growth Policy” to support implementation of regional green businesses in Colombia's Amazonia, Pacific, Central Colombia, Caribbean and Orinoco regions. This included activities in such areas as bioresearch, ecotourism, organic agriculture, and natural products for cosmetics, among others. The subsequent 2018–2022 National Development Plan included major objectives in green energy, reversal of deforestation trends, respect for Indigenous Peoples' rights, and sustainability (Republic of Colombia, 2018).

² For instance, Colombia refers to *negocios verdes* (green businesses); Ecuador to *bio-emprendimientos* (bio-entrepreneurship), and Peru to *eco y bio negocios* (eco and bio businesses).

³ Decree 3570 of 2011, which modifies the structure of the ministry (Republic of Colombia, 2011).

The 2022–2030 National Green Businesses Plan (*Plan Nacional de Negocios Verdes* - PNNV) builds on the lessons learned over 2014–2022 and reflects good practices, market trends and environmental commitments at the national and international levels. Colombia’s National BioTrade Programme fits within the broader framework of the PNNV (Republic of Colombia et al., 2022), which includes “biotrade” as a subcategory of sustainable biodiversity-based products and services (Republic of Colombia et al., 2022).

Over the 2014–2023 period, MADS’s Office for Green and Sustainable Businesses, supported over 3,900 BioTrade businesses in implementing the BioTrade P&C through the “Green and Sustainable Business Criteria” (Bañol, 2024). Implementation of the Sustainable BioTrade Programme and the National Plan for Green and Sustainable Businesses has promoted BioTrade P&C within the value and production chains of natural ingredients, tourism and biomass. Furthermore, in collaboration with local communities, efforts have been made to develop productive activities derived from the sustainable use of biodiversity by integrating green businesses ecosystems with both entrepreneurial and anchor companies. This has resulted in the consolidation of over 5,600 products aligned with the BioTrade P&C and with sustainability initiatives, incorporating distinctive factors such as conservation attributes, ecosystem restoration, reduction of deforestation, enhancement of marine/coastal activities, and sustainable territorial production (Bañol, 2024).

Key lessons from Colombia’s BioTrade experience include the following:

- **The demonstration power of green businesses.** Many other initiatives have followed those carried out under the Green and Sustainable Business Office, consolidating the idea of a “green business”. In the 2014–2023 period, around 3,900 business implemented the BioTrade P&C (Bañol, 2024).
- **The value of the diversification of biodiversity-based products.** Joint efforts were undertaken to develop productive activities derived from the sustainable use of biodiversity, integrating green business ecosystems with both entrepreneurial and anchor companies. This resulted in the consolidation of over 5,600 products aligned with BioTrade P&C and with sustainability initiatives (Bañol, 2024).
- **The pivotal role of high-level national policy support and leadership to attract financial support.** Embedded in the national agenda of multiple government bodies and at different levels, BioTrade and, more generally, green businesses, can attract support to become measurable, practical and operational development tools for entrepreneurship for sustainably produced/sourced biodiversity-based products.

Ecuador

Since 2001, Ecuador has been implementing the National BioTrade Programme under the leadership of the Ministry of the Environment (later the Ministry of Environment, Water and Ecological Transition) in collaboration with UNCTAD and other organizations. Work has been conducted to develop biodiversity-based products and services derived from native biodiversity in sectors such as personal care, food (e.g. cocoa, herbal infusions), and sustainable tourism (Ministry of Environment of Ecuador, 2016). Moreover, Ecuador’s 6th National Biodiversity Strategy and Action Plan (NBSAP) features biotrade as a positive incentive for biodiversity conservation (Republic of Ecuador, 2018). During the implementation period of the Global BioTrade Programme, one of the ministry’s achievements was inclusion of the term “BioTrade” in Ecuador’s regulatory framework through Ministerial Agreement No. 034 (April 2019) (Republic of Ecuador, 2019). This instrument contains guidelines to foster bio-entrepreneurship as a strategy for biodiversity conservation through its sustainable use across the country. The guidelines also incorporate the BioTrade P&C. Moreover, among other actions, the guidelines mandate the environmental authority to promote BioTrade and the BioTrade P&C, and to foster inter-agency coordination for the identification of products, as well as information exchange and knowledge-sharing (Naula, 2021).

BioTrade is used as a tool to support the broader national effort to develop a robust bioeconomy based on abundant natural resources and investments in research and development (R&D) and entrepreneurship (Silva, 2017). Indeed, BioTrade can support the bioeconomy, which is a concept increasingly considered by biodiversity-rich countries such as Ecuador. Some examples of this include the National Pact for a Sustainable Bioeconomy (Republic of Ecuador, 2020) and the White Paper on Bioeconomy (Garcia-Samaniego and Malagon, 2024), which define specific principles and actions for sustainable development. The Ministry of the Environment, Water and Ecological Transition is spearheading these initiatives with the support of other agencies as part of an intersectoral effort. Ecological transitions through land management, nature-based solutions and other approaches are now also part of government efforts to drive national sustainable development (Naula, 2021).

Key lessons emerging from Ecuador's experience include the following:

- **Institutionalization of BioTrade by inserting it into the broader national policy process enhances policy implementation.** The inclusion of BioTrade in an instrument issued by the Executive Branch as part of a broader strategy for biodiversity conservation has enhanced the institutional framework to support policy implementation at the national level.
- **Enhanced collaboration and inter-agency coordination supports implementation of BioTrade initiatives.** The guidelines explicitly direct the environmental authority to coordinate with other government agencies to implement BioTrade initiatives.
- **Consolidation of BioTrade is a key tool to support the bioeconomy.** The guidelines contain specific actions to promote BioTrade and the BioTrade P&C. This includes identifying potential biodiversity products, fostering the sharing of information and knowledge about value chains, and developing mechanisms to recognize good environmental practices.

Peru

Peru's National Environment Council – later the Ministry for the Environment (*Ministerio del Ambiente - MINAM*) – launched its National Programme for the Promotion of BioTrade in 2004 to support implementation of the national biodiversity law (Republic of Peru, 1997) and its regulations regarding aspects related to biodiversity-based businesses, incentives, etc. (Republic of Peru, 2001).⁴ The programme is managed through the National Commission for the Promotion of BioTrade, a multi-sectoral body led by the Ministry of Trade and Tourism (*Ministerio de Comercio Exterior y Turismo - MINCETUR*) that oversees and guides implementation of the multiple aspects of BioTrade.⁵ The Export and Tourism Promotion Agency of Peru (PromPeru) is the secretariat of the commission.

MINCETUR, MINAM and PromPeru consider BioTrade an important part of their respective policy agendas and work closely to develop and implement relevant policies, national strategies and programmes (Republic of Peru, 2015). For example, Peru's National BioTrade Strategy and Action Plan (NBSAP) to 2025 (Republic of Peru, 2016), approved by the National Commission for the Promotion of BioTrade in 2016, represents a national effort to promote the sustainable use and commercialization of the country's native biodiversity components. It aims to consolidate the institutionality, legal framework and mechanisms necessary to promote and implement BioTrade in Peru (OECD, 2022b). Other examples are a Letter of

⁴ Supreme Decree 008-2016-MINCETUR approved the National Programme for the Promotion of BioTrade and its Action Plan to 2025 (22 July 2016). It replaced the 2004 National BioTrade Programme.

⁵ The multisectoral commission was created through Supreme Decree 009-2010-MINCETUR (July 5, 2010). It is made up of a multisectoral group of entities led by MINCETUR and includes representatives of the Ministry of Agriculture, Ministry of the Environment, Ministry of Production, Ministry of Foreign Relations, Association for Adventure Tourism and Ecotourism, Agrarian University La Molina, and National Institute for Natural Products, among others.

Understanding attached to United States-Peru Free Trade Agreement in 2009 that includes references to BioTrade and ABS (United States of America-Peru, 2006), as well as Peru's 6th NBSAP, which make reference to BioTrade (Republic of Peru, 2018). As a result of positive reinforcement and harmonization between these national policy processes, as well as concerted actions, there has been a significant increase in exports of biodiversity-based products up to approximately US\$500 million annually since 2022 (Maldonado, 2024; UNCTAD, 2024c).

Through policy and technical advice under the Global BioTrade Programme, UNCTAD has supported Peru's efforts to enhance administrative and policy frameworks for BioTrade. For instance, UNCTAD supported MINAM by providing policy recommendations on a model ABS-BioTrade contract and clauses. The model served as the basis for MINAM's guidelines for ABS negotiations for the Peruvian government in the context of the ABS programme of the United Nations Environment Programme and the Global Environmental Facility (UNCTAD, 2019).

In addition, PromPeru updated its frameworks and processes to verify the compliance of BioTrade businesses with the 2020 BioTrade P&C. This effort is under PromPeru's Sustainable Trade Department, which fosters implementation of the BioTrade P&C as part of its export sector programmes. After verifying compliance, PromPeru awards the national BioTrade Peru seal (known as *Biocomercio Perú*) to those organizations that meet 85 per cent of the BioTrade P&C. Around 100 companies have received the BioTrade Peru seal (*Biocomercio Perú*), including companies working in native biodiversity supply chains in the super-food sector (e.g. quinoa, aguaymanto, maca, tara, native cocoa and sachu inchi) as well as the garment sector (alpaca fiber) (Maldonado, 2024; UNCTAD, 2023b).

Peru's experience with BioTrade highlights the following lessons:

- **The importance of a coherent policy environment and of fostering cooperation between environmental and trade entities:** Inter-agency coordination and cooperation, particularly between the environment and trade ministries and the trade promotion agency, have been fostered through the interlinkages between these agencies with respect to BioTrade.
- **A multi-stakeholder ecosystem triggers favourable processes:** BioTrade has triggered a favourable set of ongoing processes by creating a positive enabling institutional/legal environment that cuts across various sectors, including private, public and academic entities (e.g. National Commission for the Promotion of BioTrade).
- **The importance of funding:** Public funds from annual national budgets (e.g. PromPeru's experience) are being channeled to supporting efforts by businesses to implement the BioTrade P&C and showcase political commitments to environmentally and socially sound activities while at the same time achieving concrete results.

B. Mekong region

UNCTAD has been actively involved in BioTrade-related initiatives in the Mekong region, partnering with governments and civil society to promote sustainable use and trade of biodiversity products/BioTrade (UNCTAD, 2020d). In particular, UNCTAD collaborated with the two phases of the Regional BioTrade Projects funded by SECO and implemented by Helvetas Swiss Intercooperation in collaboration with national organizations. The first phase (2016–2020) covered Viet Nam, Lao People's Democratic Republic, and Myanmar, and the second phase (2020–2024) covered Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam.

The Regional BioTrade Programme was launched for the “conservation of biodiversity through sustainable trade of biodiversity products in a manner that integrates local exporters/producers into global value chains and increases income for the rural population of women and men that depend on biodiversity resources for

their livelihoods in the Mekong region” (Schmidt et al. 2024: 5). The project focuses on developing value chains for products derived from native biodiversity, such as medicinal plants, aromatic herbs, and eco-friendly handicrafts. It promotes sustainable agricultural practices and responsible sourcing, improves market access for BioTrade products through certification and branding, enhances the technical and business capacity of local producers and exporters, and fosters public-private partnerships to support BioTrade (Helvetas Swiss Intercooperation, 2017, n.d.; Schmidt et al., 2024).

The Mekong region’s experience with BioTrade highlights how partnership with national governments and other stakeholders in neighbouring countries that share a natural resource base can help create economic opportunities and accelerate knowledge-sharing, while at the same time ensuring the conservation and sustainable use of biodiversity. It further demonstrates the role of technical assistance in fostering compliance with international standards and regulations and facilitating market linkages between local producers and international buyers.

Lao People’s Democratic Republic

In 2013, the Lao People’s Democratic Republic developed a draft a regulatory framework on biodiversity-related ABS (Lao People’s Democratic Republic, 2013). In the absence of regulations and a formal administrative system, the Biotechnology and Ecology Institute (BEI) established an informal administrative procedure to handle requests for access to genetic resources on a case-by-case basis (UNCTAD, 2020c). According to this draft legislation, ABS applies to and covers, among other areas, biological material containing genetic resources (UNCTAD, 2016b). This would apply to BioTrade activities at different stages of the value-adding chain, especially during R&D phases.

Under the Regional BioTrade Project, UNCTAD and Helvetas Swiss Intercooperation provided policy and technical advice to the BEI, which is in charge of issuing the Internationally Recognized Certificate of Compliance (IRCC) UNCTAD’s advice and recommendations focused on increasing understanding and implementation of ABS and its linkages between BioTrade-related activities.⁶

In cooperation with the BEI and the Department of Science of the Ministry of Science and Technology,⁷ UNCTAD supported the development of guidelines for ABS and BioTrade (UNCTAD, 2020c) that took into account the experiences of other BioTrade countries (e.g. Peru). The guidelines included a set of ABS model clauses to help potential users navigate national contractual and administrative ABS procedures and negotiations. The UNCTAD guidelines and model clauses were translated, published and used by the BEI to develop a simplified application form for IRCC applications. This form was used in the issuance of non-commercial IRCCs for using native species for malaria and COVID-19 (UNCTAD 2021a). This collaborative work led by UNCTAD contributed directly to improving the ABS policy framework and its implementation (UNCTAD, 2019).

The following lessons emerge from Lao People’s Democratic Republic experience with BioTrade:

- **The relevance of ABS guidelines and model clauses.** In the absence of regulations and a formal administrative system, ABS guidelines and model clauses can be a tool to support implementation of policy objectives and orient negotiations of bilateral benefit-sharing contracts with respect to biodiversity-based products and resources.
- **Collaborating with national counterparts strengthens capacity.** Working closely with national counterparts to develop policy recommendations and guidelines in the national language

⁶ For further information, see the ABS Clearing House website (<http://absch.cbd.int>).

⁷ The Ministry of Science and Technology was dissolved in 2021. The Department of Science is now under the Ministry of Education and Sports (*Laotian Times*, 2021).

strengthens the capacity of key national stakeholders – both the public sector and biodiversity users. The collaborative effort has enhanced understanding of the linkages between ABS and BioTrade-related activities as well as the development of ABS contracts.

- **Promoting South-South cooperation encourages the sharing of knowledge.** Providing policy recommendations and guidelines by leveraging the experiences and best practices implemented in other BioTrade countries encourages the sharing of knowledge and fosters regional and global collaboration. This also enhances the development of practical tools based on lessons learned and best practices.

Viet Nam

Viet Nam's National BioTrade Programme was launched with the support of SECO in May 2012, in collaboration with Helvetas Swiss Intercooperation and national partners (UNCTAD, 2012). The government of Viet Nam, led by the Nature and Biodiversity Conservation Agency under the Ministry of Natural Resources and Environment (MONRE), is actively supporting ABS and BioTrade, in cooperation with partners, to maximize the potential of the sustainable use of biodiversity (UNCTAD, 2021b).

As companies started moving upward in the value chain and engaging in situ reproduction of wild specimens and R&D on existing plants for further improvement, the probability of triggering provisions under the Nagoya Protocol and national ABS regulations increased. To address this, UNCTAD worked with Vietnamese policymakers and regulators to enhance their understanding of the linkages between ABS and BioTrade, defining a BioTrade-friendly implementation strategy, and to introduce administrative incentives for businesses to meet new standards under the Nagoya Protocol (UNCTAD, 2016c).

There are various overlaps and synergies between the BioTrade Programme and its P&C and the mandatory ABS framework in Viet Nam. Overlaps also exist between ABS, intellectual property, and traditional knowledge (UNCTAD, 2016b). Viet Nam's biodiversity law (2008) and secondary regulations determine the specific operational framework for ABS (Decrees 65/2010-59/2017) (Socialist Republic of Viet Nam 2010, 2017). In this context, disclosure of source or origin in the intellectual property framework offers a means of defensive protection to ensure rightfully granted patents that may be related to Viet Nam's biodiversity and traditional knowledge (UNCTAD, 2020b). Consequently, UNCTAD conducted a study on the enforcement of disclosure of origin or source of genetic resources in intellectual property applications (UNCTAD, 2020b).

In addition, the Vietnamese government has adopted various policies on biodiversity conservation, sustainable use, benefit-sharing, and biodiversity-based products and services. Notably, the National Strategy on Biodiversity includes, inter alia, the promotion of BioTrade and sustainable production and consumption (Nhan, 2024; UNCTAD, 2025). Furthermore, the country's National Biodiversity Strategy and Action Plan, published in 2022, make reference to BioTrade-related issues (Socialist Republic of Viet Nam, 2022)

Lessons from the Vietnamese experience include the following:

- **Streamlining procedures facilitates compliance.** While BioTrade P&C call for clarity and predictability in administrative procedures, further efforts are required to improve and streamline these procedures to support compliance with ABS and related provisions. It is also crucial to clarify and enhance understanding when an economic/business activity triggers provisions under the Nagoya Protocol and national ABS regulations.
- **The importance of taking steps to protect national and Indigenous Peoples' interests and rights.** Including disclosure of source or origin of genetic resources and traditional knowledge in intellectual

property legislation is a defensive measure to protect national and Indigenous Peoples' interests and rights.

- **The importance of coordination and coherence among governmental policies and actors.** Developing coherent policy frameworks and promoting collaboration among actors is crucial to provide a regulatory and institutional framework that supports BioTrade and ABS (e.g. developing a supportive ABS and intellectual property frameworks). Transparent and effective coordination can address complexities and uncertainty caused by multiple public entities with different mandates and priorities,

C. Southern Africa region

South Africa

In South Africa, the Global BioTrade Programme has been collaborating with the Department of Forestry, Fisheries and the Environment (DFFE) and the Development of Value Chains Project of the United Nations Development Programme (UNDP) and Global Environment Facility-6 (GEF6) and DFFE. It is also collaborating with the ABS Compliant BioTrade in South(ern) Africa (ABioSA) Project and the BioInnovation Africa Project (box 4). Although the ABS Capacity Development Initiative implemented by GIZ works with the term BioTrade to emphasize the sustainability aspect of the ABS-related value chains, ABioSA uses the term “biotrade”, as it is a commonly used term in South Africa (GIZ, n.d.-a).

Relevant frameworks for BioTrade-related activities include the National Environmental Management: Biodiversity Act and the Bioprospecting ABS regulations as well as the National Biodiversity Economy Strategy (NBES) (GIZ, n.d.-b). For instance, the NBES (Republic of South Africa, 2016), covers, inter alia, bioprospecting (e.g. research on, or development or application of, indigenous biological/genetic resources for commercial or industrial exploitation) including biotrade,⁸ and the trading in and exporting of indigenous biological/genetic resources in order to develop and produce products. This strategy offers a framework to strengthen BioTrade activities (Naicker, 2024).

The DFFE, in partnership with the South African Biodiversity Institute, is developing the Conservation and Sustainable Use Biotrade Charter through a participatory process. It is a precursor to a national standard and certification scheme (Naicker, 2024). The BioTrade P&C informed the development of this voluntary sustainability mechanism (Matibe, 2024; UNCTAD, 2025). The charter is being piloted and seeks to foster the conservation and sustainable use of biodiversity, while enhancing South Africa's position in the biotrade sector (Naicker, 2024).

In collaborating with national organizations such as DFFE, the National Khoi and San Council, industry associations, and Indigenous Peoples organizations, among others, the ABioSA and BIA projects are promoting an enabling policy environment for ABS-compliant SMEs. This is done by supporting species-specific sector development plans (box 4) and facilitating dialogue among relevant stakeholders to identify sector challenges, align common goals and develop agreed-upon good practices and work plans (GIZ, n.d.-d).

For instance, an ABS agreement and a sector development plan were prepared for the buchu value chain – an endemic plant from the Western Cape (IOFI et al., n.d.; GIZ, n.d.-e). After three years of negotiations facilitated by DFFE, the industry-wide ABS agreement was signed between the Buchu Association, the National Khoi and San Council, the South African San Council and the South African government (DFFE) in 2023. It recognizes traditional knowledge and establishes a model for sharing monetary and non-monetary benefits from the commercial use of this species (IOFI et al., n.d.; GIZ, n.d.-d).

⁸ The NBES defines “BioTrade” as “the buying and selling of indigenous biological resources for the purpose of (a) bioprospecting; (b) product development; or (c) product manufacturing”. See the Glossary of Terms in Republic of South Africa (2016).

Box 4: The UNDP/GEF6/DFFE Development of Value Chains, ABS-Compliant BioTrade in South(ern) Africa (ABioSA), and BioInnovation Africa (BIA) Projects

The UNDP/GEF6/DFFE Development of Value Chains Project is being implemented in South Africa with a particular focus on developing value chains from the use of genetic resources in compliance with the Nagoya Protocol on Access and Benefit-Sharing (ABS) and the draft National Biodiversity Economy Strategy (Naicker, 2025). The overall project also pilots outcomes from the Presidential Operation Phakisa-Biodiversity Economy. The project takes a three-pronged approach to developing the sector (Naicker, 2025):

1. Support for R&D to advance biodiversity-based innovation in the African ginger, Devils claw, and Kanna value chains
2. Development of value chains by focusing on four particular value chains: *P.sidoides*, *aloe ferox*, honeybush, and rooibos
3. Capacity development to enhance stakeholder compliance in developing an Indigenous Knowledge registration system and the development of a Conservation and Sustainable Use Biotrade Charter.

The ABioSa Project has been implemented in the Southern Africa region (South Africa, Namibia, Botswana, Zimbabwe, Zambia and Eswatini) since February 2018. It is funded by Switzerland's State Secretariat for Economic Affairs SECO and implemented by the German Development Cooperation Agency (GIZ) in partnership with South Africa's DFFE (GIZ n.d.-c). ABioSA supports the development of a resilient Southern African biotrade sector that adds value to natural plant ingredients, develops new products, and stimulates economic opportunities while recognizing the importance of traditional knowledge, biodiversity, conservation and sustainable use (GIZ, n.d.-c). The project supports business competitiveness through capacity-building to become investment-ready, access funds, overcome regulatory hurdles to exporting products, and access local and international markets.

The project has included two phases: phase I from February 2018 to October 2021, and phase II from November 2021 to December 2024. The first phase supported 13 biodiversity-based value chains and plant species,¹ selected based on criteria including traditional and indigenous knowledge, ecological sustainability, market demand, potential for value-addition and job creation, and opportunities for participation of small businesses and local communities (GIZ, n.d.-c). From these selected species and value chains, phase II implemented sector development plans for six species (baobab, marula, *aloe ferox*, buchu, honeybush and a cluster of essential oils) during the call for financial support to implement the sector development plans. A proposal was received for *Sceletium Tortuosum*, which is being implemented (GIZ, n.d.-c).

BioInnovation Africa (BIA) supports African-European business partnerships for biodiversity-based value chains that are based on high ethical, social and environmental standards, including equitable benefit-sharing and the sustainable use of Africa's genetic resources (GIZ, 2020). BIA supports implementation of BioTrade in Cameroon, Madagascar, Namibia and South Africa from July 2019 to December 2025 (UNCTAD, n.d-f). In South Africa, BIA aims to improve the requirements to implement national ABS regulations, develop mechanisms using an ABS scheme for biodiversity conservation measures, and seize the market potential for biodiversity-based value chains (GIZ, n.d.-b). Under the second phase (2023 to 2025), it is supporting 13 value chains across all four partner countries, including value chains for marula, beeswax, honeybush, rooibos, and devil's claw, among others (GIZ, 2024).

¹ Under phase I, ABioSa supported the following species: Baobab (*Adansonia digitata*), Marula (*Sclerocarya birrea subsp. caffra*), Aloe (*Aloe ferox*), Buchu (*Agathosma spp.*), Honeybush (*Cyclopia*), Imphepho (*Helichrysum spp.*), Umsuzwane (*Lippia javanica*), Cape chamomile (*Eriocephalus spp.*), Rose geranium (*Pelargonium var Rose*), Kalahari melon (*Citrullus lanatus*), Mafura (*Trichilia emetica*), Sour plum (*Ximenia americana and X. caffra*) and Wild ginger/African ginger (*Siphonochilus aethiopicus*) (GIZ, n.d.-a).

Lessons learned from the South African experience are:

- **Collaborative and inclusive processes are important to develop sectors.** Fostering dialogue and partnerships among stakeholders allows for identifying common challenges and implementing solutions that are crucial to develop biodiversity-based sectors. Examples are the process for preparing the sector development plans and the Conservation and Sustainable Use Biotrade Charter.
- **Processes and dialogue are key elements to a successful outcome.** ABS or traditional knowledge-related processes involving Indigenous Peoples and local communities take time and require horizontal and intercultural dialogues to succeed.
- **There is a role for broader ABS actor-wide contracts.** Broader ABS actor-wide contracts, instead of individual ones with fixed royalty payments, can provide more beneficial outcomes. This requires inter-agency coordination and a multi-stakeholder approach.

D. Eastern Caribbean region

Blue BioTrade is a spinoff of the UNCTAD Oceans Economy and Fisheries Programme and the BioTrade Initiative. Integrating BioTrade P&C into the marine environment can promote the sustainable use of oceanic living resources and lessen the negative impact of human and economic activity on marine ecosystems.

At the United Nations Oceans Conference in 2017, UNCTAD, CAF, CITES and the International Ocean Institute explored how to adapt and contextualize BioTrade P&C. Subsequent research focused on developing and redefining the Blue BioTrade P&C, examining their connections with the ocean economy, trade law and the law of the sea.

In 2020, UNCTAD and the OECS, in cooperation with CITES, launched the pilot project “Seizing the Trade and Business Potential of Blue BioTrade Products for Promoting Sustainable Livelihoods and Conservation of Marine Biodiversity in Selected OECS Countries”. Implemented from 2020 to 2022 in St. Vincent and the Grenadines, Grenada and Saint Lucia, the project aims to “empower small-scale coastal producers from OECS Member States to produce and trade queen conch products in domestic, regional and international markets under the Blue BioTrade environmental, social and economic sustainability criteria, including CITES” (UNCTAD 2018b, 2024d: 1). The OECS is funding the project with support from the European Union under the Regional Integration Through Growth Harmonisation and Technology (RIGHT) Programme (UNCTAD 2018b, 2024d).

The selected species under this project is the queen conch (*Strombus gigas*), an Appendix II CITES-listed species. It is a highly appreciated seafood delicacy with important non-food uses, including for therapeutic products and handicrafts. While global demand is booming, small-scale coastal producers in the Eastern Caribbean do not fully seize the opportunities offered by sustainable conch markets. In many locations, early uncontrolled harvesting has resulted in overfishing, illegal landings, and a rapid deterioration of endowments of the resource (UNCTAD n.d.-b).

Key activities implemented under this pilot project have included (i) multi-stakeholder mapping; (ii) developing a queen conch product assessment (one per beneficiary country) and a regional Blue BioTrade action plan; (iii) BioTrade webinars and a participatory regional workshop; and (iv) dissemination and outreach (UNCTAD, 2024d). The project provided government officials, fishery agencies, and local producers in the three selected countries with extensive training on Blue BioTrade principles, CITES regulations and sustainable harvesting practices (UNCTAD, 2024d). The project helped to increase understanding of the queen conch value chain and its significance for the biodiversity and socioeconomic development of the region.

The following lessons can be derived from this Blue BioTrade project (UNCTAD, 2024d, n.d.-b.):

- **Integration of marine biodiversity and BioTrade is important.** Marine biodiversity and BioTrade can be harmoniously integrated, including in a regional context, as shown with the queen conch value chain in the Eastern Caribbean.
- **Multi-stakeholder processes strengthen implementation.** Leveraging the experience and expertise of different organizations (e.g. UNCTAD, OECS, CITES) and local and regional actors avoids duplicating efforts while enabling activities that take into account the realities of beneficiaries both in terms of their needs and opportunities.
- **Awareness-raising and capacity-building enhance sustainable practices.** Conducting awareness-raising, capacity-building and training activities is particularly relevant to enhance understanding and implementation of sustainable practices. Webinars, regional workshops, product assessments and regional action plans are key to enhance the knowledge needed to ensure the sustainability of resources and enhance livelihoods and economic activity.

IV. Lessons Learned

This section presents the main lessons learned in developing and implementing BioTrade and ABS-related policies in the selected countries.

- a. **A biodiversity-based approach to trade in biodiversity-based products is increasingly being recognized as important and, in many cases, is being adopted and implemented by governments covered by this study in partnership with social entrepreneurs, actors, and international cooperation agencies in the countries.** This approach is characterized by:
 - Self-recognition by the countries themselves of the richness of their biological resources, as most of the project countries have megadiverse resources.
 - The countries' recognition of their commitments under the CBD, and the political will needed to implement them.
 - Recognition and understanding of changing international dynamics and environmental/sustainability agendas that impact national biodiversity and trade policies.
 - Willingness to actively engage with the private sector on key programmes, projects and activities in support of responsible and sustainable use of biodiversity.
- b. **The acceptance of BioTrade in terms of international guidelines varies.** Many countries have already developed policies, institutional structures and legislation that refer indistinctively to BioTrade, biotrade, or green businesses, or have a broader scope such as the bioeconomy, blue economy, or nature-based solutions. Some of these concepts are informed by or reflect some or all of the BioTrade P&C. Environmentally conscious and sustainable businesses – both large and medium sized – have seen continued growth over the years, though many of them are unaware or indifferent to BioTrade as a specific and regulated form of doing business that requires compliance with certain parameters. Indeed, unless used in conjunction with BioTrade, which is governed by a set of universally accepted, sustainable P&C, these different concepts are understood and may be flexibly applied and offer no assurance of respect for biodiversity and the people involved in its collection, harvesting or production. Often these concepts explicitly or implicitly integrate some of the BioTrade P&C to determine the contours of a wide range of environmentally friendly business strategies, plans, policies and specific activities, but may not cover all areas. These new concepts could present an opportunity for the long-term resilience, adaptability and applicability of BioTrade. Emerging economic and governance models and concepts such as the Social and Solidarity Economy, which encompasses many of the BioTrade organizations implementing the BioTrade P&C, could be examples.
- c. **Clarity in the use of terminology, backed by experience and standards, is important.** International, regional and national programmes still broadly and interchangeably refer to BioTrade, biotrade and green businesses. With its broadly agreed-upon and well-defined P&C, visibility, and implementation and measurement tools to ensure its sustainable and practical applicability, BioTrade remains an influential approach to undertaking sustainable business practices and creating environmentally/socially friendly value chains. Especially when complemented by UEBT and other private sector actor initiatives, BioTrade is a robust tool to address the conservation of biodiversity and sustainable development challenges. More recently, application of the BioTrade P&C to marine resources shows the practical utility and adaptability of BioTrade in supporting sustainability across different ecosystems and resources.

- d. **One way to leverage BioTrade is by formally recognizing it in laws, policies and sectoral strategies that may have been approved by a legal norm.** It is harder to consciously overlook BioTrade once it is acknowledged officially by the government. This has already occurred in some countries highlighted in this study, such as Peru and Colombia, where BioTrade is embedded in different forms in various planning instruments and processes. All of the countries make at least one reference to BioTrade/biotrade or some variant of business and private sector involvement and sustainability in the use of biodiversity. For instance, in Colombia, Ecuador and Peru, in particular, the approval of ABS and BioTrade programmes, strategies, action plans and other policy and action-oriented instruments through legal norms provides additional political weight, making them de facto mandatory and ensuring their implementation beyond just one specific ministry or government entity. In relation to trade policies, Peru included BioTrade in its national export plan that supports small businesses working under BioTrade through technical assistance and provides discounts for their participation in selected trade fairs. This showed how “BioTrade can be a factor of export competitiveness when integrated into a national export strategy” (UNCTAD, 2021b: 23).⁹ There has also been a big step forward for BioTrade in terms of its multilateral recognition and use. During the CBD negotiations in 2022 that led to the adoption of the KMGBF, BioTrade partners successfully proposed that it be referenced under the complementary indicator Target 5: *Trends of trade and commercialization in biodiversity-based products that is sustainable and legal (in line with BioTrade P&C and/or CITES requirements* (UNCTAD et al. 2020). BioTrade P&C is now featured as a KMGBF complementary indicator for Target 5 (CBD, 2022). BioTrade P&C are also better aligned and can contribute to achieving various SDGs and targets. For instance, organizations working under BioTrade principles are promoting improved livelihoods through better income, food security and gender empowerment (since the majority of the actors are women, connecting them to international value chains contributes to their economic empowerment), and through ABS (SDGs 1 to 5) (UNCTAD, 2018c). These organizations support sustainable practices in land and marine ecosystems (SDGs 6, 12-15) and contribute to prosperity for communities through value addition, innovation and technology transfer (SDGs 8-11), among other issues (UNCTAD, 2018c).
- e. **Designing and implementing a mutually supportive and coherent policy framework involving all relevant stakeholders is crucial.** One of the core lessons learned is the importance of a robust and coherent national regulatory and policy framework that aligns with social, biodiversity and economic diversification goals. Regulatory measures relevant to BioTrade ensure that biodiversity is conserved, ecosystems are protected, and trade practices contribute to the sustainable development of Indigenous Peoples and local communities. The alignment of regulations with on-the-ground implementation ensures that policies are not only well-designed but also effectively executed. This multi-stakeholder engagement promotes ownership and accountability, leading to more sustainable and impactful outcomes. Peru serves as a case study in this regard, as it has made significant strides in integrating BioTrade principles into its national policies, particularly through the inclusion of these principles in its NBSAPs. By adopting a holistic approach that involves various stakeholders, including government agencies, private sector entities, academia, Indigenous Peoples and local communities, Peru has created a conducive environment for BioTrade. Countries have also put in place regulations mandating or encouraging corporate social responsibility practices that align with the SDGs, for example, by requiring enterprises engaged in BioTrade activities to report on their activities, including those related to environmental protection and community development.

⁹ See UNCTAD (2021b) for more information on the Peruvian experience.

- f. **BioTrade linkages with ABS discussions are important and should be considered at different levels.** The cases reviewed in this study show direct and indirect connections and convergences between BioTrade/biotrade and ABS. Strong connections occur at the regulatory level with specific cross-references in laws and programmes and at the policy process level during negotiations, including international negotiations. Weak connections occur at the operational level, where such activities as biological collection and research take place or where capacity-building on BioTrade places business/entrepreneurs in front of government officials in charge of ABS. BioTrade/biotrade activities, especially when they involve R&D, are broadly covered under the scope of ABS regulations in Colombia, Ecuador, Peru and South Africa. Likewise, ABS is integrated into BioTrade P&C. In many instances, BioTrade acts as an enabler of ABS discussions in national policy processes, for instance in South Africa and the Mekong region countries. In these cases, ABS-related P&C have created strong connections with national/regional ABS processes. Often, national ABS policy processes are not only activated by ABS per se and, more recently, the Nagoya Protocol implementation, but also by broader BioTrade conversations between a wide range of actors (particularly researchers and entrepreneurs often aware of and affected by the ABS agenda and ABS regulations).
- g. **Effective grassroots community engagement is key to the success of any BioTrade project or activity.** Grassroots communities stand to benefit from BioTrade, but may not be familiar with the concept. Hence, reaching grassroots communities and ensuring their engagement can be a complex but necessary step. Streamlining BioTrade into local agendas and training isolated communities often remains challenging, as residents often speak different languages, have different cultures, and be difficult to reach, including due to climate hazards that affect roads and communications. Increased and dedicated support and financing should be directed to Social and Solidarity Economy entities, such as cooperatives and associations of women, Indigenous Peoples and local communities, connecting them to regional and international markets. Procurement of BioTrade products can increase demand for BioTrade. Among the cases studies, the South African experience reflects initiatives with grassroots communities working on the buchu value chain.
- h. **Providing positive incentives for businesses to adopt sustainable practices and to support BioTrade-oriented research and development can facilitate implementation of BioTrade and ABS-related policies.** Incentives can take various forms, including financial subsidies, tax breaks, and grants for R&D. In the context of BioTrade, these incentives can be focused on two areas:
 - i. **Incentivizing the adoption of sustainable practices:** Incentives such as grants or government programmes aimed at encouraging businesses to adopt sustainable practices have shown positive results.
 - ii. **Promoting social inclusion, including ABS:** Beyond environmental sustainability, it is essential to promote social inclusion within BioTrade practices and enhance its ability to contribute to rural development, including often-marginalized communities, many of which are organized as cooperatives, associations, or other types of organizations, such as Social and Solidarity Economy entities. In addition, incentives that encourage businesses to engage in ABS agreements with local communities not only support compliance with the Nagoya Protocol but also ensure that local and Indigenous communities benefit from the use of their traditional knowledge and resources. This inclusive approach fosters equitable economic growth and strengthens the social fabric of biodiversity-rich countries and regions.
- i. **Enhancing market access both domestically and internationally for biodiversity-based products is essential.** Market access is a critical component of BioTrade, as it determines the economic viability of sustainable biodiversity products (UNCTAD, 2014). One of the key lessons learned in the various BioTrade projects and initiatives is the importance of product differentiation through certification and

eco-labeling. Promoting trade in certified or eco-labeled products can significantly incentivize sustainable practices. Certification and eco-labeling schemes provide a mechanism for businesses to signal their commitment to sustainability to consumers. An example is the BioTrade Peru (*Biocomercio Peru*) seal for the agro-industries working with functional food (cultivation and non-timber forest products), forestry and garment industries.

V. Conclusions

UNCTAD's work on BioTrade and its collaboration with partners provides invaluable lessons on creating an enabling policy environment and enhancing market access for sustainable biodiversity products, while at the same time creating jobs and livelihoods for people in remote and marginal areas who have an incentive to conserve their biodiversity.

By leveraging these lessons, UNCTAD and its partners continue to drive progress in promoting the sustainable use of biodiversity, ultimately contributing to global biodiversity conservation and the SDGs.

Based on these lessons, and to continue supporting biodiversity conservation, climate change mitigation and adaptation, and overall sustainable development, the following pathways could be considered:

- a. **Enhancing market recognition for companies, organizations and entities that comply with regulatory and administrative procedures related to BioTrade and ABS.** This will encourage more companies to comply and signal that requirements and procedures are not unreasonable or insurmountable (Prathapan et al., 2018).⁹ This could include public/social recognition in media; inclusion in official websites or institutional logs or seals; inclusion of cases in reports related to national biodiversity and trade as part of best practices; invitations to participate in relevant national policy/regulatory processes; recognition of environmental or sustainability good practices through prizes and awards; references in BioTrade-related articles; undertaking BioTrade self-assessment exercises; and similar activities intended to highlight the use of BioTrade.
- b. **Supporting precision and clarity in the scope and coverage of ABS frameworks applicable to biodiversity products.** Clarity and predictability regarding the scope and procedures of ABS remain elusive for most, especially from the perspective of the private and research sectors. In most situations, regulatory burdens have proven detrimental to incentivizing biodiversity-related businesses, including in BioTrade/biotrade, and even basic research. Precision and clarity in the scope and coverage of ABS legal frameworks are needed to avoid duplication, delays in procedures and overall inefficiencies. This requires a motivated and vibrant R&D sector, a supportive environment for entrepreneurship and Social and Solidarity Economy entities in biodiversity-related product trade, and efficient regulatory and oversight agencies. The ABS system could be revisited and re-conceptualized (Laird et al., 2020) to better understand how incentives can be aligned through economic thinking and conceptual approaches, and how all three interrelated objectives of the CBD can be met coherently and support one another (SPDA/The ABS Capacity Development Initiative, 2021).
- c. **Providing technical assistance, capacity-building and financial support to grassroots community organizations and Social and Solidarity Economy entities to engage in BioTrade.** Increased and dedicated support (including technical assistance and capacity-building) and financing, including by implementing procurement policies, should be provided to entrepreneurs (including social entrepreneurs and Social and Solidarity Economy entities) that are considering engaging in BioTrade activities. Such support is crucial because trade in biodiversity-based products often supports the livelihoods of Indigenous Peoples, rural communities, women's associations and small-scale producers who are directly dependent on biodiversity for their

⁹ The idea is *not* to reward a person or institution for the sake of rewarding, or for actually complying with the law, which is an obligation in itself. Rather, these are ways to incentivize certain behaviours and demonstrate that procedures in place do work. This has been particularly necessary over the years for ABS, as users of biodiversity/genetic resources have found it difficult to understand and thus comply with ABS requirements.

sustenance and income. However, the expansion of this trade poses challenges to the social dimensions of these communities, particularly in terms of equity, access to resources, and the preservation of cultural heritage. Protecting these social dimensions is crucial to ensure that the benefits of biodiversity trade are shared fairly and sustainably. The lessons that follow represent key areas for such support.

- d. **Recognizing and upholding the rights of Indigenous Peoples and local communities.** One of the most critical aspects of protecting the social dimensions of biodiversity trade is recognizing and enforcing the rights of Indigenous Peoples. Indigenous communities often possess intricate knowledge of biodiversity, developed over generations, that is essential for the sustainable management and use of these resources. Ensuring that these communities have control over their resources and that their traditional knowledge is respected and compensated is fundamental. This can be achieved by implementing international agreements such as the Nagoya Protocol, which mandates that benefits arising from the use of genetic resources be shared fairly and equitably with the communities that provide them.
- e. **Promoting fair trade practices.** Fair trade practices should be at the core of biodiversity-based product trade. This involves setting fair prices for the raw materials sourced from local communities, ensuring that these communities receive a fair share of the profits, and supporting community development projects. BioTrade guidelines and certification schemes, such as fair trade and organic certifications, can play a significant role in promoting these practices. These schemes not only help ensure that products meet specific environmental and social standards; they also provide consumers with the assurance that their purchases contribute to sustainable and equitable trade practices. However, because of the cost, to implement these practices, support is needed beforehand to assist these communities during the transition, as well as for monitoring, verification and reporting.
- f. **Strengthening local governance and capacity.** Empowering local communities and cooperatives (including Social and Solidarity Economy entities) through strong governance structures and capacity-building initiatives is essential to protect the social dimensions of biodiversity trade. Local governance structures should be inclusive, ensuring that all community members, including marginalized groups, have a voice in decision-making processes. Capacity-building initiatives should focus on improving local communities' understanding of their rights, the value of their biodiversity resources, and how to negotiate fair agreements with external parties. This can be supported through government policies and through technical and financial assistance provided by national and international development organizations to local communities. The latter can be accompanied by creating Social and Solidarity Economy entities such as cooperatives, which have built-in participatory governance.
- g. **Ensuring transparency and accountability.** Transparency and accountability are crucial to ensure that the social dimensions of biodiversity trade are protected. This includes transparent reporting on the sourcing, pricing and profit-sharing of biodiversity-based products, including through the use of corporate social responsibility or certification processes. Companies and organizations involved in this trade must be held accountable for their social and environmental impacts. This can be achieved through independent monitoring and reporting mechanisms, as well as the involvement of civil society organizations in overseeing trade practices. By making information accessible to all stakeholders, particularly local communities, transparency can help prevent exploitation and ensure that the benefits of trade are distributed equitably.

- h. **Encouraging sustainable biodiversity resource management.** Sustainable biodiversity resource management is essential for the long-term protection of both biodiversity and the communities that depend on it. Critical measures include encouraging sustainable harvesting practices, enforcing regulations on resource use, and promoting the conservation of biodiversity. Communities should be supported in developing and implementing sustainable management plans that balance their economic needs with the preservation of biodiversity. This approach not only protects the environment but also ensures that future generations can continue benefiting from these resources. Helping these communities self-organize as Social and Solidarity Economy entities facilitate achieving these goals.

Through its BioTrade Initiative and its broader work on trade and biodiversity, UNCTAD stands ready to continue supporting and collaborating with Member States and other stakeholders to promote biodiversity conservation, sustainable livelihoods and policy coherence through trade.

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