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SUSTAINING PEACEBUILDING AND POST-CONFLICT RECOVERY THROUGH BIOTRADE

LESSONS FROM
INDONESIA AND COLOMBIA



UNITED NATIONS

NOTE

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For further information on UNCTAD's BioTrade Initiative please consult the following website: <http://www.unctad.org/biotrade>, or contact: biotrade@unctad.org

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Guillermo Valles
Director
Division on International Trade in Goods
and Services, and Commodities (DITC)

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ACRONYMS

APC	Presidential Agency for International Cooperation (Colombia)
APED	Aceh Partnerships for Economic Development
ASOPROCAR	Asociación de Productores de Cacao de Rivera (Colombia)
Balitri	Indonesian Spice and Industrial Crops Research Institute
BAPPEDA	<i>Badan Perencanaan Pembangunan Daerah</i> (Regional Development Planning Agency)
BAPPENAS	<i>Badan Perencanaan Pembangunan Nasional</i> (National Development Planning Agency)
BCPR	Bureau of Crisis Prevention and Recovery (UNDP)
BKP3	<i>Badan Ketahanan Pangan dan Pelaksana Penyuluhan Pertanian</i> (Agency for Food Security and Agriculture Facilitation)
CAF	Development Bank of Latin America
CBD	Convention on Biological Diversity
CBS-C	Corporación Biocomercio Sostenible (Colombia)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COAPI	Cooperativa de Apicultores del Huila (Colombia)
CORAMBIENTE	Corporación Buen Ambiente
DDR	disarmament, demobilization and reintegration
Dishutbun	<i>Dinas Kehutanan dan Perkebunan</i> (Forestry and Plantation Agency)
Forpala	Forum Pala (Nutmeg Forum)
GAM	Free Aceh Movement (Gerakan Aceh Merdeka)
GAP	good agricultural practices
GEF	Global Environment Facility
IAWG-DDR	United Nations Inter-Agency Working Group on Disarmament, Demobilization and Reintegration
IFACS	Indonesian Forestry and Climate Support Project
MEA	multilateral environmental agreement
NGO	non-governmental organization
NSBP	National Sustainable BioTrade Programme (Colombia)
NTFPs	non-timber forest products
SDGs	Sustainable Development Goals
SECO	Swiss State Secretariat for Economic Affairs
SMEs	small and medium enterprises
UEBT	Union for Ethical BioTrade
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development

1. Introduction

Biodiversity is life's foundation as it provides resources for basic human needs, environmental services such as protecting water sources, and natural raw materials that enable the development of products and services. Around 1.6 billion people depend on forests and non-timber forest products (NTFPs) for their livelihoods (Secretariat of the CBD, 2015a). Many households in Asia, derived as much as 50–80 per cent of their annual household income from NTFPs, namely from biodiversity resources (Secretariat of the CBD, 2014). In the Latin American region some 75 per cent of households depend directly on biodiversity to meet their basic needs for food and water as well as to preserve their culture (CAF, 2015).

The importance of biodiversity is also increasingly recognized by business. Nowadays, it is not only seen as a source of natural inputs to develop value added processes but also as a business opportunity for capturing consumer preferences for socially, environmentally and health-friendly products. *The Economics of Ecosystems and Biodiversity* report (UNEP, 2010) estimated that by 2050, the sustainability-related global business opportunities in natural resources such as food, energy, forestry, agriculture, water and metals, would amount to US\$ 2 to 6 trillion. The markets for biodiversity-friendly products are growing. For instance, the natural cosmetics industry is estimated to be worth around US\$ 26 billion, the natural beverages industry US\$ 23 billion and the botanicals industry USD\$ 85 billion (Secretariat of the CBD, 2013).

Despite the importance of biodiversity, its depletion is occurring at alarming rates; “13 million hectares of forest being lost every year ... and 52% of the land used for agriculture is moderately or severely affected by soil degradation” (United Nations, 2015a). Livelihoods and natural-based industries are interlinked through biodiversity, so if the latter is not responsibly managed and sustainably used to generate livelihoods and business opportunities, it will not provide the basic needs and development of local communities. This is particularly relevant in post-conflict situations in developing countries, as two thirds of biodiversity hotspots and priority conservation areas around the world have been affected by conflict between 1950 and 2000 (Hanson et al, 2009).

As part of a sustainable peacebuilding process, affected individuals (e.g. displaced people, victims and ex-combatants) need to be integrated into civilian life by engagement in income-generating activities. The sustainable use of biodiversity can serve as a key foundation upon which conflict-affected communities and ex-combatants can derive economically feasible and environmentally friendly opportunities. They can sustainably use and transform their surrounding biodiversity into value added products and services that are traded to generate additional income. UNCTAD, through its BioTrade Initiative, has been promoting the development of value chains under economic, social and environmental sustainability criteria.

This study discusses the different approaches being used by the BioTrade Initiative and its partners in the sustainable management of biodiversity, trading its derived products and services, and promoting peaceful and inclusive societies in Africa, Asia and Latin America. The first chapter highlights the linkages between trade, biodiversity and peaceful, inclusive societies which are important goals in the 2030 Agenda for Sustainable Development (Secretariat of the CBD, 2015c). It is followed by an analysis of the different methodologies used to promote BioTrade in support of peacebuilding efforts. The next two chapters analyse case studies and lessons learned from leveraging BioTrade in peacebuilding in Indonesia and Colombia, respectively. The final chapter concludes with some recommendations on strengthening the contribution BioTrade can make to peacebuilding efforts in post-conflict settings.

For this study, the following definitions are considered:

- **Ex-combatant:** “A person who has assumed any of the responsibilities or carried out any of the activities mentioned in the definition of ‘combatant’, and has laid down or surrendered his/her arms with a view to entering a DDR process. Former combatant status may be certified through a demobilization process by a recognized authority. Spontaneously auto-demobilized individuals, such as deserters, may also be considered ex-combatants if proof of non-combatant status over a period of time can be given.” (UN IAWG-DDR, 2006.)

- **Reintegration:** “the process by which ex-combatants acquire civilian status and gain sustainable employment and income. Reintegration is essentially a social and economic process with an open time frame, primarily taking place in communities at the local level. It is part of the general development of a country and a national responsibility and often necessitates long-term external assistance.” (Note by the Secretary-General on administrative and budgetary aspects of the financing of UN peacekeeping operations, 24 May 2005 (A/C.5/59/31) in IAWG-DDR, 2014.)
- **Peacebuilding:** “involves a range of measures targeted to reduce the risk of lapsing or relapsing into conflict by strengthening national capacities at all levels for conflict management, and to lay the foundations for sustainable peace and development. Peacebuilding strategies must be coherent and tailored to specific needs of the country concerned, based on national ownership, and should comprise a carefully prioritized, sequenced, and therefore relatively narrow set of activities aimed at achieving the above objectives.” (UN Secretary-General's Policy Committee, 2007 quoted in United Nations Peacebuilding Support Office, 2015.)
- **Post-conflict:** “Can describe the time, period or events taking place in a given State or region that had experienced an outbreak of violence or conflict in its recent past.” (UN IAWG-DDR, 2006.)
- **Recovery:** “A restorative process in relation to the situation prior to the distress. It might entail ‘healing’, reparation, amelioration and even regeneration.” (UN IAWG-DDR, 2006.)

2. Linking biodiversity, peace and post-conflict recovery and development

At the UN Conference on Sustainable Development (Rio+20) in 2012, the international community joined forces in launching an inclusive process for defining the post-2015 development agenda in order to achieve “sustained and inclusive economic growth, social development and environmental protection and thereby to benefit all” (United Nations, 2012). To achieve this, the Rio+20 outcome document *The Future We Want* mandated establishing global Sustainable Development Goals (SDGs).

The Special Summit of the UN General Assembly held from 25–27 September 2015 adopted the new set of SDGs that succeeded the Millennium Development Goals. The SDGs comprise 17 goals (Box 1) and 169 related targets (and associated indicators to be elaborated), which have set the global development framework for the next 15 years. These goals aim to “end poverty, promote prosperity and people’s well-being while protecting the environment” until 2030 (United Nations, 2015b).

The 2030 Agenda for Sustainable Development (United Nations 2015d)

Box 1. Sustainable Development Goals

1. **End poverty in all its forms everywhere**
2. **End hunger, achieve food security and improved nutrition and promote sustainable agriculture**
3. **Ensure healthy lives and promote well-being for all at all ages**
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. **Achieve gender equality and empower all women and girls**
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. **Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. **Reduce inequality within and among countries**
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. **Ensure sustainable consumption and production patterns**
13. Take urgent action to combat climate change and its impacts
14. **Conserve and sustainably use the oceans, seas and marine resources for sustainable development**
15. **Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**
16. **Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**
17. **Strengthen the means of implementation and revitalize the global partnership for sustainable development**

Source: United Nations, 2015c.

aims at tackling the following critical areas for humanity and the planet:

- **People:** End poverty and hunger, promote dignity and equality.
- **Planet:** Protect the environment from degradation.
- **Prosperity:** All human beings enjoy prosperous and fulfilling lives, and technological progress is in harmony with nature.
- **Peace:** Foster peaceful, just and inclusive societies.
- **Partnerships:** Mobilize the means needed to implement the 2030 Agenda.

Implementing all SDGs must be achieved in an integrated manner considering environmental, economic and social actions, as well as peace and security. For example, tackling biodiversity loss requires environmental actions to conserve and manage it, as well as social and economic actions that provide livelihood options for local communities. These communities consume the products and services derived from biodiversity and also sell the surplus to generate family income. This, in turn, strengthens the interest and commitment of families to preserve biodiversity and harvest the resources sustainably so as to maintain their livelihoods. In this manner, sustainable biodiversity use and trade can be an economic incentive to safeguard biodiversity.

The integration of biodiversity and trade is reflected in the SDGs. For instance, the two biodiversity-related SDGs, Goal 14 on marine biodiversity and Goal 15 on terrestrial biodiversity include trade considerations. SDG 15 requires taking urgent action to end poaching and trafficking of protected species of flora and fauna, and to address both the demand and supply of illegal wildlife products (Target 15.7). Target 15.c enhances 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. Both targets seek to combat illegal trade in wildlife and recognize how these actions undermine local economies and livelihoods while endangering species. Consequently, the targets advocate for legal, reliable and sustainable trade of wild flora and fauna as a means of providing sustainable livelihoods for the communities affected by illegal poaching and trafficking. Trade is also identified as a means of implementation of the SDGs in Goal 17, but it is also included in other SDGs such as Goals 2, 8, 9 and 10.

The SDGs cannot be achieved without peaceful, equitable and inclusive societies where all humans are able to enhance their quality of life in a sustainable manner. The 2030 Agenda preamble encourages countries to “redouble our efforts to resolve or prevent conflict and to support post-conflict countries, including through ensuring that women have a role in peacebuilding and state-building.” (United Nations, 2015d, 35.)

SDG 16 recognizes and underscores the importance of promoting peaceful and inclusive societies for sustainable development, providing access to justice for all and building effective, accountable and inclusive institutions at all levels. High levels of armed conflict pose a direct threat to biodiversity when species are killed or their habitats are threatened. The loss of biodiversity and the essential services it provides could undermine or limit the livelihoods of local populations, minorities and vulnerable groups that depend on those resources. Exploitation, trafficking, sexual violence, corruption, no rule of law and unequal access to justice and decision making are also some features appearing in conflict areas that SDG 16 aim to tackle.

Natural resources, including biodiversity, are an asset for economic and livelihood recovery in developing countries as they are the cornerstone of production, food security and reduced vulnerability to natural disasters and social conflicts. Their adequate management could help promote peaceful and inclusive societies (Jaramillo Castro and Stork, 2015). Many armed conflicts involve natural resources or take place in biodiversity rich areas (Hanson et al, 2009; United Nations Peacekeeping, 2015). In post-crisis settings, therefore, after a peace agreement has been signed, individuals can access forests areas formally off limits due to security reasons to harvest biodiversity resources and thus threaten ecosystems unless sustainable alternatives are offered to them. Such developments could undermine the aims of SDG 15, for example: “to take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity...” (SDG 15.5.) In such situations, UNCTAD’s BioTrade Initiative can play a major role.

3. UNCTAD’s BioTrade Initiative and peacebuilding and post-conflict recovery efforts

3.1 BioTrade Principles and Criteria, and conceptual framework

In 1996, UNCTAD launched the BioTrade Initiative to promote trade and investment in biodiversity-based products and services, in line with social, economic and sustainability Principles and Criteria (see Box 2 and Figure 1). These Principles and Criteria are at the centre of the BioTrade framework and guide intervention activities implemented by its programmes, partners and beneficiaries. They include seven principles that encompass the three dimensions of sustainable development and are in line with the mandates of sustainable development objectives (SDGs/MDGs), UNCTAD, multilateral environmental agreements (MEAs) such as the Convention on Biodiversity (CBD) and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The three first principles include the three objectives of the CBD:

- 1) Conservation of biological resources;
- 2) Sustainable use of its components; and
- 3) Fair and equitable sharing of the benefits arising from the utilization of biodiversity.

BioTrade also contributes to promoting the legal, verifiable and sustainable trade in endangered animals and plant species consistent with CITES.

The BioTrade Principles, combined with the four approaches (value chain, sustainable livelihoods, ecosystem and adaptive management¹), guarantee the sustainability of the interventions. For instance, the Principles and Criteria enable the identification of the social, economic and environmental challenges and gaps of beneficiaries that need to be addressed through the implementation and monitoring of personalized workplans to guarantee the sustainability of the actions.

Box 2. What is BioTrade?

BioTrade refers to **the collection, production, transformation and commercialization of goods and services derived from native biodiversity** (ecosystems and species) under **social, environmental and economic sustainability criteria**.

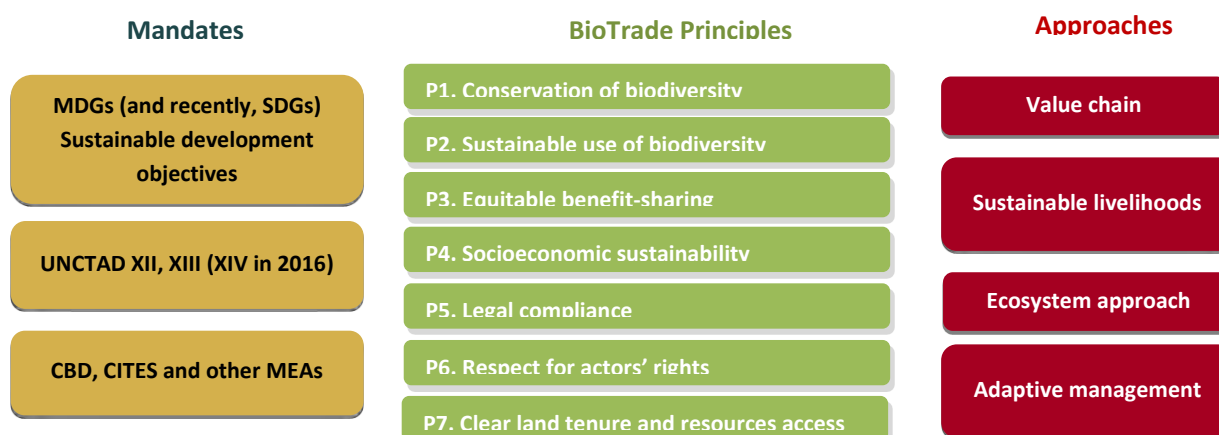
Its programmes seek to promote products that are derived from **native species** and which protect the biodiversity of the surrounding area through **value chain development, generating sustainable livelihoods through the sale of biodiversity products and services, and the sustainable management of biodiversity**.

BioTrade specializes in **niche products and services that are economically competitive**, including those that are speciality products of a given region and culture.

Included within the Principles and Criteria of BioTrade is an emphasis on **socioeconomic sustainability, equitable sharing of benefits and respect for the rights of actors** involved in BioTrade activities.

Source: UNCTAD, 2015.

Figure 1. BioTrade conceptual framework: mandates, principles and approaches



Source: Adapted from UNCTAD, 2007.

3.2 BioTrade sectors

For beneficiary countries working with BioTrade initiatives, a broad variety of products and services can be sustainably derived from their rich biodiversity. Efforts and resources should be prioritized and channelled into areas where major social, environmental and economic impacts can be achieved. For this reason, UNCTAD, regional and national programmes and experts developed the BioTrade Principles and Criteria to guide interventions on the ground. Several methodologies, protocols and guidelines have been produced to support implementation by partners and programme beneficiaries (e.g. SMEs, community-based associations) in the prioritized sectors. Table 1 shows the variety of sectors being prioritized by the countries and partners implementing BioTrade.

Table 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 (phyto-pharma)	Extracts, capsules and infusions from medicinal plants, etc.
Food	Fruits pulps, juices, jams, biscuits and sauces, spices, nuts, tuberous, snacks food supplements, meat from caiman and fish, etc.
Fashion	Skin and belts, purses 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, purses, shoes, etc.
Sustainable tourism	Ecotourism, nature-based tourism, community-based tourism, etc.

3.3 BioTrade countries

Twenty developing countries in Africa, Asia and Latin America have been implementing BioTrade with the support of national, regional and international BioTrade partners (see Figure 2). Some companies working in developed countries, such as France, Germany, Italy, Switzerland and United Kingdom, are also working under the BioTrade Principles and Criteria through the Union for Ethical BioTrade (UEBT).

At the international level, UNCTAD's BioTrade partners include the UEBT, the International Trade Centre and the United Nations Development Programme (UNDP), among others. UNCTAD's BioTrade Initiative receives support from donors, especially the Swiss State Secretariat for Economic Affairs (SECO).

Figure 2. Developing countries implementing BioTrade



At the regional level, it includes the Development Bank of Latin America (CAF), General Secretariat of the Andean Community and PhytoTrade Africa. PhytoTrade Africa, for example, supports the development of value added natural products from native biodiversity such as marula, baobab, devil's claws and kigela. It represents 56 member SMEs and their harvesters, collectors or communities in nine countries: Botswana, Madagascar, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Over 12 500 individuals, 78 per cent of whom are women, are beneficiaries of PhytoTrade Africa (Rossow interview). In 2014, the turnover of its members amounted US\$ 5.7 million and created 630 new local jobs, 40 per cent being full time (Rossow interview).

At the national level, it includes ministries of environment and trade in Colombia, Ecuador and Peru, trade promotion agencies in Ecuador and Peru, NGOs such as Helvetas Vietnam, Corporación Biocomercio Sostenible - Colombia (CBS-C), Corporación Fondo Biocomercio (Colombia), EcoCiencia (Ecuador), among others.

3.4 BioTrade capacity and skills development

Enhancing local capacities and skills for engaging in biodiversity-based resources in beneficiary countries has been a major focus of UNCTAD and its partners. These include guidelines, training material and documents, as well as creating a masters degree programme and online courses. The topics addressed and the tools developed include:

- **Policy frameworks:** Guidelines to fulfil regulations, protocols, management plans, patents, etc.
- **Market access:** Market studies, guidelines to develop and implement marketing and promotion strategies, requirements to access specific markets, etc.
- **Value chain development:** Methodologies to prioritize sectors and value chains, formulate implementation strategies and monitoring systems.
- **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 Appendixes II and III².

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.

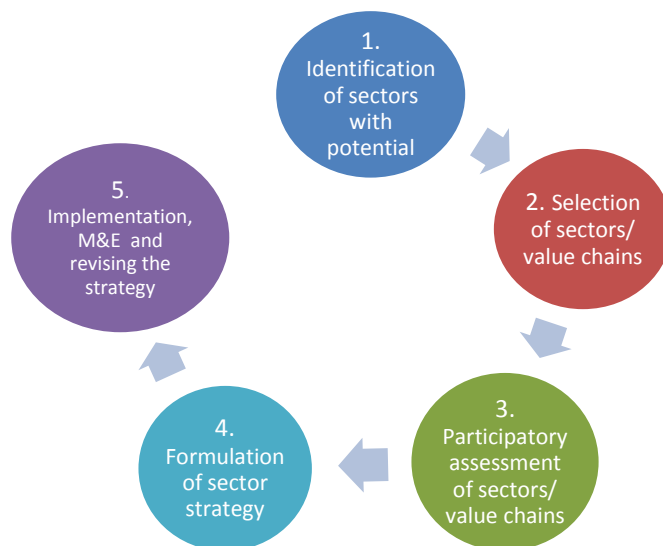
3.5 BioTrade's value chain methodology

UNCTAD's guidelines for a methodology to support value chains for BioTrade products and services (UNCTAD, 2009) enables the building of linkages between BioTrade and peacebuilding, and post-conflict recovery efforts. Value chains comprise the activities related to the development of a particular product or service, from the sourcing of the raw material to transportation, processing, commercialization, marketing and selling of the final product or service.

UNCTAD's BioTrade value chain methodology involves five steps, starting with the *identification* and *selection* of sectors or value chains based on environmental, biological, social, political, economic, market, technological and infrastructure criteria. In this phase, additional criteria related to target groups (women, youth, religious groups, ex-combatants or associated groups), geographical location as well as other criteria related to peacebuilding can be included. Then, a *participatory assessment* of the selected sector/chain is developed, which includes the identification of problems and solutions in accessing current and potential markets, in implementing sustainable and benefit-sharing practices, and promoting

peacebuilding and post-conflict recovery. Finally, a *sector strategy is formulated and implemented* to strengthen or develop the sector while promoting the empowerment of value chain stakeholders (from companies to communities and sector associations) in the process in the short, medium and long term. Governments, both local and national, play a key role by creating an enabling policy environment and promoting the value chain for instance through research and development, infrastructure and incentives. Academia, business incubators and civil society also play essential roles in the support network to help address the needs of the emerging value chains and businesses. A monitoring system is also designed and implemented (see Figure 3).

Figure 3. Steps of the BioTrade's value chain methodology



Source: UNCTAD, 2009 (elaborated by Lorena Jaramillo Castro).

Each one of these steps consists of activities that lead to the achievement of concrete results, through an active participation of government representatives, private sector, academia, NGOs, community-based initiatives and other actors working in the value chain or sector. The methodology follows an inclusive bottom-up approach that builds on existing capacities and knowledge, and promotes the sharing of information, coordination of activities and establishment of partnerships. This supports the development of inclusive, sustainable and equitable businesses and value chains based on native biodiversity, particularly in rich biodiversity countries such as those in the Amazon basin.

The value chain methodology allows for targeting of specific groups, such as women, youth, seniors and conflict-affected communities, while guaranteeing win-win actions for other value chain actors and stimulating local private sector development. BioTrade's value chain methodology works at the community level while also linking to the national (central government – ministries of trade, environment, agriculture and health).

The inclusive, participatory and bottom-up approaches fostered by BioTrade's value chain methodology provide opportunities for community members and other value chain actors to discuss and work together collectively to identify and overcome barriers, reach common goals and minimize negative impacts on any group of individuals. Spillover benefits are also generated for other value chain actors (e.g. non-target group members of the communities, government, academia, research and development centres, etc.). The basis for BioTrade is that all value chain actors work together to promote the development of businesses and value chains based on native species via the BioTrade Principles. Consequently, the risk of conflict arising or re-emerging is reduced as all actors are able to participate in the development of the value chain, agree and decide on their roles, responsibilities and benefit-sharing mechanisms, and define and implement mechanisms to guarantee the flow of information to all value chain actors. Additionally, it facilitates the participation of minorities and vulnerable groups (e.g. women, youth, children and seniors) in the decision-making processes and benefits derived.

3.6 BioTrade and peacebuilding and post-conflict recovery

In the last 60 years, according to UNDP, at least 40 per cent of all armed conflict between government and in-state groups “have a link to natural resources, and that this link doubles the risk of a conflict relapse in the first five years. Since 1990, at least 18 violent conflicts have been fuelled by the exploitation of natural resources, whether ‘high-value’ resources like timber, diamonds, gold, minerals and oil, or scarce ones like fertile land and water” (United Nations Peacekeeping, 2015). This demonstrates the importance of sustainably managing natural resources (including biodiversity), developing sustainable livelihoods and promoting peaceful, inclusive and peaceful societies, in achieving SDG 16.

BioTrade activities supporting peacebuilding processes and post-conflict recovery are being implemented in Asia by UNCTAD, in cooperation with the UNDP Bureau of Crisis Prevention and Recovery (BCPR), e.g. the development of the nutmeg value chain in Aceh Selatan, Aceh Province, Indonesia. Other partners have also supported peacebuilding processes in Colombia under the National Sustainable BioTrade Programme (NSBP). BioTrade is also being implemented in other countries affected by lower level internal conflict such as Mozambique, Peru, the Plurinational State of Bolivia and Zambia.

Experience has shown that the implementation of BioTrade can also act as a tool for reintegration and livelihood recovery in post-crisis settings – including in the substitution of illegal crops – in which local resources can be used as an engine to develop income-generating activities and businesses with tradable products and services. Reintegration options are provided through employment and alternative sources of income and livelihoods recovery for ex-combatants, displaced people and other affected groups. BioTrade products are often part of traditional culture and community identity, and thus support the integration of communities and stakeholders involved with the biological resources.

For conflict-affected communities in rural areas in Colombia, livelihoods are intricately related to their surrounding biodiversity from where they obtain their basic needs. Community members harvest plants, fruits, roots, fish and honey, and sell or transform them for ingredients or final products in the food, pharmaceuticals, crafts, construction and personal care industries, among others. Standing forests and their biodiversity and natural landscapes are also attractive tourist destinations that help generate income for families. When armed conflict interrupts, the normal functioning of people’s income-generating activities is endangered, their access to markets, consumers and costumers and even food and medicine, is limited. In parallel, insecurity and violence grows, motivating some individuals to flee to rural areas. By providing biodiversity-based livelihood options for these actors, including displaced families, as well as ex-combatants and associated groups, BioTrade is supporting peacebuilding and reintegration efforts.

In fact, BioTrade has been mainstreamed into technical papers and UN standards related to peacebuilding and the reintegration of ex-combatants and associated groups. The *Operational Guide to the Integrated Disarmament, Demobilization and Reintegration Standards* (UN IAWG-DDR, 2014) under the section on Integrating Natural Resources into disarmament, demobilization and reintegration (DDR) planning and programmes, recognizes that BioTrade can be used in DDR programmes as an economic and social reintegration opportunity that supports sustainable livelihoods in post-conflict contexts. The economic and social reintegration opportunities that can be generated by BioTrade and natural resource-based value chain development include:

- **Economic:** The “production, processing and/or selling of natural resource-based products (wild or cultivated) through a value-chain approach and micro-enterprise support.”
- **Social:** “Target groups are linked and cooperate through a market-based value chain; enterprise development supports them in forming a new identity as a business person/trade; within value chains, appropriate opportunities can be identified for all participants in consideration of gendered division of labour and gender-related norms.” (UN IAWG-DDR, 2014.)

The UNDP-UNCTAD Indonesia experience is also featured in the UNEP-UNDP (2013) study on *The Role of Natural Resources in Disarmament, Demobilization and Reintegration: Addressing Risks and Seizing Opportunities*. Moreover, the study identifies BioTrade within the “natural resource sectors that are important for reintegration and offer opportunities to contribute to DDR objectives of improving security and laying the ground for recovery and long-term development”. It particularly recognizes the importance of building partnerships and exemplifies UNCTAD BioTrade Initiative’s expertise in sustainable value chain development to support gender-sensitive reintegration programmes.

4. Case study: Joint UNCTAD/UNDP project on BioTrade and peacebuilding in Aceh Selatan, Indonesia³

UNCTAD started collaborating with UNDP's BCPR in 2009, by exploring joint areas to foster economic and livelihood recovery, sustainable use of biodiversity and trade of its derived products and services. As BCPR and UNCTAD BioTrade were already working together in Colombia and Indonesia, capitalizing on the natural synergy further, a pilot project was implemented from June 2010 to December 2011 to develop the nutmeg value chain in Aceh Selatan, Indonesia via UNDP's "A Gender-Responsive Approach to Reintegration and Peace Stabilization: Pilot Project in Aceh Selatan" (see Box 3). Under the project's *Component 2: Economic support to vulnerable persons, with a focus on women*, UNCTAD contributed through the BioTrade Initiative to facilitate the recovery and empowerment of the community's economy through the development of the nutmeg value chain under BioTrade Principles and Criteria. This section presents the main results and lessons learned.

4.1 Background information

Owing to its 17 508 islands and diverse population of hundreds of ethnic groups, Indonesia's struggle to stay united and peaceful has been a perpetual challenge. Additionally, between 2004 and 2013, Indonesia ranked as the world's most disaster-prone country registering the largest number of people affected and/or killed (UNESCAP, 2014). The mega-earthquake and tsunami that hit South Asia on 26 December 2004 took its worst toll on human lives and livelihoods in Aceh Selatan, a coastal province. Prior to these massive natural disasters, the province had been suffering a 30-year conflict between the central government and the separatist group Free Aceh Movement (*Gerakan Aceh Merdeka* or GAM). (Doocy S et al, 2007; United Nations Information Management Service, Office of the UN Recovery Coordinator for Aceh and Nia, 2005; UNEP, 2007.)

Box 3. UNDP Gender-Responsive Approach to Reintegration and Peace Stabilization Project, June 2010 to December 2011

The project was designed to address the adverse impacts of the conflict on women in rural areas in Aceh Selatan, Indonesia. It strengthened participatory conflict-sensitive development planning in pilot villages of Aceh Selatan and provided individual and institutional capacity building to improve legal, psychosocial and economic services to vulnerable people, particularly women. Initiatives under this pilot project have been applied and followed up by the local government.

The project's second output, relating to BioTrade, was to provide "economic support to 450 vulnerable persons, with a focus on women, including female ex-combatants (FXC), women associated with armed forces and groups (WAAFGs) and conflict victims (focus on GBV victims), in high conflict villages through involvement in the supply chain of selected BioTrade products/services."

Sources: Trinurini-Adhi and Wuriati, 2012; Suhud (interview); UNDP and Government of Indonesia, 2012.

In August 2005, the Government of Indonesia and the Free Aceh Movement signed the Helsinki Memorandum of Understanding that ended the conflict in the Aceh Province (Large and Large, 2008; BBC, 2105a)⁴. The conflict affected the province negatively by limiting its physical, social and economic development and also increased gender-based violence against women (Trinurini-Adhi and Wuriati, 2012). Disparities between the urban and rural population had also risen with poverty rates increasing proportionally with distance from urban areas. Thirty per cent of Aceh's households lived below the poverty line, 50 per cent more than those living in the rural areas (Trinurini-Adhi and Wuriati, 2012). To tackle these challenges, the Gender-Responsive Approach to Reintegration and Peace Stabilization Project was implemented with the support of UNDP BCPR's Bureau for Development Policy and UNDP Target Resource Assignment from the Core (TRAC) funds. The project was implemented under the bigger umbrella project, Peace Through Development, in cooperation between the UNDP Country Office Indonesia and the National Development Planning Agency (BAPPENAS) from 2006 until mid-2012 (Suhud, interview).

Within this UNDP project, was *Component 2: Economic support to vulnerable persons*, which included BioTrade as a strategic alternative to support (under a community-based approach) the reintegration of women, including female ex-combatants, women associated with armed forces and groups and conflict victims in Aceh Selatan.

Aceh Selatan is a coastal district covering 3 842 km² with 80 per cent of the land within the Leuser Ecosystem⁵ 70 per cent of which is conservation areas or protected forests. It is a district with high biodiversity as evidenced by having the largest remaining population of the critically endangered Sumatran tiger, as well as elephants, orangutans and 90 per cent of the mammal species found on the IUCN Red List of critically endangered species. The conservation and sustainable management of its territory is essential not only to the survival of species but also to the health of the Leuser Ecosystem (UNCTAD, UNDP and UNEP, 2010). Aceh Selatan comprises 18 sub-districts and its capital is Tapaktuan. The district is also renowned for nutmeg – fruit, mace and dried seeds – the last two are commercialized as spice and essential oil. Nutmeg oil is marketed to Medan and Padang in Indonesia, and further exported mainly to Asia, Australia and Europe (Aziz, 2009). In practice, women are traditionally involved in the production of nutmeg syrup and sweets, which are generally sold locally.

Figure 4. Nutmeg fruit, sweet and a woman collector in Aceh district



Photo credits: Lorena Jaramillo Castro.

4.2 Project implementation

The UNCTAD BioTrade value chain methodology guided the intervention, enabling a holistic approach, and addressed all steps and stakeholders in the chain from on-farm cultivation to commercialization of the value added products. It started from developing a BioTrade assessment of Aceh Selatan, which included not only the identification of initiatives and native species being used, but also an analysis of their demand and supply.

Box 4. Aceh Selatan nutmeg and the pilot project

Nutmeg (*Myristica fragrans* Houtt) or *pala* in Bahasa Indonesia has been a historical and cultural commodity that has generated livelihoods for communities in various regions of Indonesia, particularly Aceh Province, over the last 500 years. In 2013 world production of nutmeg oil reached 600 tonnes, 40 per cent (280 tonnes) of which was from Aceh Province (Forpala, 2015). Nutmeg trees are tropical evergreen trees indigenous to Indonesia and the fruits (and their derivatives) have long been traded across the globe with Indonesia the major nutmeg producer globally. Production is environmentally friendly and developed under policulture methods, i.e. mixed with other plants such as patchouli, coconut and areca. Although all parts of the nutmeg fruit are aromatic, the most common products include: seeds and mace (used in the food processing industry) and essential oils (used in food, cosmetics and the perfume industry). The district of Aceh Selatan is one of the nation's main producers of nutmeg.

During the armed conflict, the majority of nutmeg farmers and producers had limited access to and could not maintain their nutmeg plantations due to insecurity. Consequently, nutmeg trees were severely affected by pests and diseases,

rendering 60–80 per cent of the plants damaged or unproductive. After the peace agreement, farmers continued to depend on nutmeg as a key income source, but as the trees were unproductive or damaged, many farmers looked for new jobs or tried to change their production focus, though alternatives were severely limited at the time. Indeed, the paucity of feasible livelihood opportunities posed (and continue to pose) a significant risk for the peaceful development of the district (Ruhanawati, 2012a).

The UNCTAD-UNDP intervention on BioTrade in Aceh Selatan began at the reintegration phase, after five years of the peace agreement, and economic reintegration actions for ex-combatants and conflict-affected communities were essential. At this stage, 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 crops' 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 (e.g. creation of an association or similar), enhancement of the quality of nutmeg and its derived products, increase in product diversification, and better market information and access (UNCTAD, UNDP and UNEP, 2010).

Other sources: FAO, 1995.

Afterwards, potential value chains were identified, mapped and screened based on social, economic and environmental criteria and inputs from national and international experts. After a participatory assessment and value chain workshop organized in Medan in September 2010 with all value chain stakeholders (producers, processors, industry, government, academia, NGOs and international cooperation agencies), the nutmeg value chain was selected. A field trip was organized and, once all the inputs had been gathered, a workplan was formulated and subsequently implemented to develop the nutmeg value chain. Indeed, nutmeg was an established choice as it has always been a very important product for Aceh's economy and culture as shown in Box 4.

To ensure that BioTrade was considered as an approach to support environmentally sensitive livelihoods recovery programming where appropriate, information on best practices and lessons learned on BioTrade was provided for the development of UNDP's post-crisis livelihoods recovery, inclusiveness, employment and economic revitalization policies. Furthermore, the UNCTAD-UNDP partnership ensured that aside from the existing resources and tools of the BioTrade Initiative, the pilot project's guidance and methodologies were adapted to incorporate principles of conflict sensitivity, gender responsiveness and resilience to future disasters and conflicts to aid the post-crisis livelihoods practitioners. Technical assistance was provided, for instance, on challenges identified, such as the need to address problems regarding the pests and diseases of nutmeg trees, foster associations and enhance production practices. 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 such as the Dutch Centre for the Promotion of Imports from developing countries and the Swiss Import Promotion Programme, market experts and other stakeholders who were part of UNCTAD's BioTrade network.

4.3 Achievements

4.3.1 Nutmeg-based organizations

One of the major accomplishments of the project was the creation of the Nutmeg Forum (or Forum Pala, Forpala) and the Nutmeg Cooperative in Aceh Selatan. The project set up the basis for and provides the legal support upon which Forpala was established, including developing its vision, mission, objective and operation. Through such strong foundation and with the commitment of its members, Forpala is still operational and has continuously received strong support from local government and international cooperation.

Forpala was formally established in Aceh Selatan in December 2010, an event attended by representatives from local government, academia, nutmeg farmers, traders and representatives of relevant sector

associations, such as the Indonesian Essential Oils Council. The forum's main goal is to enhance the economic welfare of the "nutmeg community" through strengthened collaboration and cooperation amongst farmers, producers, distillers and local government. It aims to promote nutmeg products and improve the services offered to farmers and producers through training and capacity-building activities provided within the framework of the forum. Forpala was built upon lessons learned from the Coffee Forum established under the Aceh Partnerships for Economic Development (APED) project supported by UNDP Indonesia, as well as from UNCTAD's BioTrade experience around the world. (UNDP, 2012; Ruhanawati, 2012a). One of the key achievements of Forpala is the support that it has received from the local authorities, "the establishment of *Forum Pala* has successfully advocated to the South Aceh Government (Forestry and Plantation Agency (Dishutbun), Agency for Food Security and Agriculture Facilitation (BKP3), Regional Development Planning Agency (BAPPEDA) to continue the pilot intervention to improve nutmeg production and marketing in their development plan" (Trinurini-Adhi and Wuriati, 2012).

Several months after Forpala was founded, the Nutmeg Cooperative was established on the basis of advice from UNCTAD and other business actors. Reports indicate that this cooperative has been useful for increasing access to credit for the producers involved in the nutmeg value chain. In addition, financial and technical assistance from the United States Agency for International Development (USAID) Indonesian Forestry and Climate Support (IFACS) project supports Forpala's activities in further developing the nutmeg value chain (UNDP, 2012; Ruhanawati, 2012a; Forpala, 2015).

In an effort to enhance the economic productivity of nutmeg as a commodity, a workshop on nutmeg business development was organized in Aceh Selatan in October 2011. A broad range of stakeholders in the nutmeg sector attended, from government and private sectors, academia and civil society. The Tapaktuan Agreement was a key outcome of this workshop. The agreement commits a wide range of stakeholders (the Government of Aceh Selatan, the Provincial Government of Aceh, the Directorate for Plantation in the Ministry of Forestry, private sector, farmers, producers, research institutions, universities and other nutmeg-producing districts and provinces in Indonesia) to continued advocacy on and support to developing the nutmeg value chain (UNDP, 2012; Ruhanawati, 2012a).

Figure 5. Workshop where the Tapaktuan Agreement was signed



Photo credit: UNDP Indonesia.

4.3.2 Capacity-building activities and other technical assistance provided

When the project started, many nutmeg trees had already been lost due to years of damage and destruction from pests and diseases, which farmers' lacked knowledge on how to combat. The project commissioned the Indonesian Spice and Industrial Crops Research Institute (Balittri) to conduct research on this issue. The farmers benefited further from demonstration plots that were set up to apply various pest and disease control techniques aimed at improving nutmeg farming methods. Also, nutmeg

producers and farmers received technical assistance from field extension workers trained in cultivation and pest and disease management (see Box 5). As a positive indication of government support after the project was implemented, district level Dishutbun and BK3P replicated training on nutmeg cultivation practices, pest management and post-harvest in 2012 (Trinurini-Adhi and Wuriati, 2012; UNDP, 2012; Ruhanawati, 2012a).

Box 5. Testimonials from a beneficiary of the project's capacity-building activities

Abdurrahman (nutmeg farmer and businessman)

“During the insurgency, most of the people (especially men) in Aceh Selatan were scared to pursue their usual economic activities for fear of being caught between the violent fights between the government and the GAM. People abandoned their farms for security reasons. I was one of them. I used to grow areca nuts, mango trees and some nutmeg trees. When I returned to my farm after the conflict, the nutmeg trees were destroyed by pests. I didn't know what to do. Luckily, Forpala offered some training on nutmeg plant grafting and I was encouraged to learn the techniques to protect my farm. The activities offered by Forpala were very interesting and useful and I decided to manage my farm and plant more nutmeg trees. My nutmeg farm is not completely pest-free yet but I feel more confident now to continue growing nutmeg. It takes time, but I'm looking forward to harvesting my first nutmeg fruits in the near future, and hopefully, master the cultivation of quality nutmeg trees.”

Source: Ruhanawati, 2012a.

To complement activities in the field, the project included training to develop and commercialize quality value added products from nutmeg, including sweets, syrups and essential oils. Women mainly led the production of sweets and syrups in their houses effectively enhancing their source of income directly by the project. Many of the beneficiaries diversified their markets and have now ventured into selling their products in other districts (see Box 6) (Ruhanawati, 2012a).

A total of 516 nutmeg producers and 182 farmers participated and were trained via the pilot project, almost 50 per cent of whom were women (UNDP, 2012). As a result, nutmeg producers and farmers have enhanced their farming practices by applying new methods to increase productivity. Additionally, there is more evident awareness of the importance of managing pests and diseases; and local government has committed and planned to allocate funds from the district's autonomous fund to control nutmeg pest and diseases. The project also strengthened local institutions and empowered them to provide technical assistance to the beneficiaries. Guidance to the farmers on group management and the benefits of working together were provided by BKP3 (UNDP, 2012; Ruhanawati, 2012a).

In essence, the work undertaken by UNCTAD and UNDP on BioTrade has enabled local organizations to:

- Provide business and vocational skills training to women, including training of trainers, so women entrepreneurs can provide counselling and skills training in their communities.
- Establish linkages with the private sector as well as credit and savings groups that can help to stabilize newly created and existing enterprises.
- Encourage marginalized and poor women to save for income-generating investments and unforeseen expenses.
- Promote market access for women entrepreneurs, e.g. opportunities to participate in trade fairs.

The capacity building activities and Forpala's participation at a provincial level trade exhibition (one of the first activities of the cooperative after it was established) not only allowed it to make an initial turnover of IDR 13 million (US\$ 1 480) but also encouraged its members to add value to their products by obtaining food and health permits, improve their techniques for processing and refining nutmeg oil, enhance the packaging of their nutmeg food products and diversify nutmeg food products to make them more appealing to both national and international markets. This has resulted in improved bargaining strength and an increase in demand for nutmeg products.

Box 6. Testimonials from women beneficiaries of the project's enhancement of commercial nutmeg products

Yusnida (mother, businesswoman and nutmeg business advocate)

"I have been working with nutmeg food products for as long as I can remember and I am very passionate about this business as it has helped me and my family financially over the years. I sell my nutmeg sweets and desserts all over Indonesia and the establishment of Forpala in Aceh Selatan has made me very happy as I can share my experiences with others who would like to start their own nutmeg sweets business. I don't mind seeing more people get involved with nutmeg business after attending Forpala's trainings and workshops as I used to be one of them (beginners in the business) and I consider it a positive challenge for me to innovate my products and be aware of other great nutmeg products out there. I only feel privileged to promote and represent Aceh Selatan's nutmeg industry at various trade fairs and expos all over the country. I'm sure there will be a lot more in the near future. For now, my time is spent creating new recipes and assisting Forpala whenever and however I can."

Raini (housewife and businesswoman)

"I have not attended any training held by the Nutmeg Forum (sponsored by UNDP-UNCTAD) yet, but its presence in Aceh Selatan has changed my life from that of an ordinary housewife and mother to becoming a nutmeg product producer. I used to think that profits from nutmeg were for traders and farmers only until one of the training participants shared with me some ways to capitalize on nutmeg-based products. I was then encouraged to make nutmeg cakes and sell them. Since 2012, my business has steadily grown. I make about 300 pre-ordered packages per month and I am confident that there will be a regular demand for my products going forward. Nutmeg has become a part of my life and I see the same change in other people in the village. There are more nutmeg trees being planted as we realize there is much potential in it. Thanks to Forpala and UNDP-UNCTAD, as they have changed my life and that of many others in this village for the better."

Source: Ruhanawati, 2012a.

At the end of the project, nine out of the 16 sub-districts in the area had started to grow nutmeg and produce several products derived from the nutmeg fruit and seed such as sugared candies and syrup, spice and essential oil. Each product forms part of the overall value chain and is important to the economic livelihood of the targeted groups in the communities. There was also an increase in interest among the many actors along the value chain as the intervention created incentives and opportunities for small business innovation and investment. The increased access to financing and economic support through Forpala strengthened support for crisis-affected people (including ex-combatants and internally displaced people), 40 per cent of whom were women, who, due to local customary laws and cultural values, could not benefit from reintegration programme benefits available post-crises (UNDP, 2013). Forpala's capacity and other relevant institutions that support women's economic empowerment were strengthened and women's employability in post crisis Aceh Selatan was enhanced (See Box 6, Ruhanawati, 2012a).

4.3.3 Final comments

This pilot project in Aceh Selatan also assessed and recognized the relevance of BioTrade as a reintegration option in post-conflict settings. The results achieved (UNDP, 2012), as well as the integrated and positive behavioural changes among the multi-stakeholders, indicated improved mutual trust, awareness of communities' guardianship of the rehabilitation process as well as a more cohesive approach to peace, development and livelihood recovery – all of which contribute to building more peaceful and inclusive societies in Aceh Selatan, Indonesia. Environmental benefits have also been generated by the project as evidenced by the district head in Aceh Selatan issuing a "*perda* or *peraturan daerah* (local regulation) that regulates the prohibition of catching, caging and killing a specific bird species known to be a predator of a particular pest/worm that feeds on the roots of the nutmeg tree trunk. The issuance of this *perda* is one of the policy supports of the supply chain of nutmeg in Aceh Selatan district." (Suhud, interview).

The technical assistance and financial support provided by UNDP and UNCTAD's BioTrade Initiative during the project's life span, enabled the establishment of Forpala as an organization that leads the development of nutmeg in the Aceh Selatan. As UNDP's final project report (2012) stated:

"The promotion of nutmeg as a BioTrade commodity in Aceh Selatan has been a success. The project integrates a holistic approach and has addressed all steps in the value chain process, from on-farm cultivation to off-farm marketing. Prior to the intervention, the potential of nutmeg was not explored comprehensively. The skills knowledge and attitudes of both community and government have changed significantly and the actors have brought together under the Forpala..." (UNDP, 2012).

The project opened up opportunities for practitioners to better understand and implement tailored approaches on environment, peace, reintegration and livelihood recovery in Aceh Selatan. Forpala has been strengthened and continues to operate even after the conclusion of the UNDP-UNCTAD project. Currently, financial and technical support to Forpala is being provided by USAID IFACS, together with local government cooperation (see Box 7).

Box 7. Forpala and its activities after the conclusion of the UNDP-UNCTAD pilot project



Forpala aims to increase family income in South Aceh by enhancing the nutmeg value chain, via four goals:

- Improve skills and knowledge of best practices in nutmeg planting; emphasising integrated pest and disease control.
- Improve the skills and knowledge of farmers in producing high quality nutmeg oils and other derived products, such as food products.
- Improve the quality of the branding, packaging and market penetration for nutmeg oil, food and beverages.
- Strengthen Forpala as a multi-stakeholder forum for nutmeg producers in nine districts in South Aceh.

Forpala has been a beneficiary of the USAID IFACS project. It has worked in collaboration with local government to implement several activities to benefit farmers in South Aceh districts. Some examples of the outputs achieved under the USAID IFACS project are:

- Establishment of a network in nine districts, benefiting 225 households.
- Study visits organized to Aceh Coffee Forum and to the Cooperative of Baburrayyan, benefiting 22 participants from the nine districts, in addition to the Forpala board and project team.
- Continued implementation of nutmeg pest controls with the support of Balittri and Syiah Kuala University (UNSYIAH).
- Trained 618 nutmeg farmers in 11 districts to mitigate damage caused by pests and diseases, and implement good agriculture and environmentally friendly practices, including the production of compost.
- Conducted training on the preparation of nutmeg derived products such as sweets, instant beverages and sauces.

Source: Forpala, 2015.

5. Case study: Contribution of the National Sustainable BioTrade Programme to peacebuilding in Colombia

Colombia is a megadiverse country⁶; with only 0.22 per cent of the earth's surface it hosts more than 10 per cent of known global biodiversity (Chaux et al, 2014). It has many endemic species and is the country with the biggest bird and orchid species diversity and second largest in plants, butterflies, freshwater fishes and amphibians (Secretariat of the CBD, 2015b). However, the five decades of armed conflict have taken their toll both in human lives and lost economic opportunities, including from deforestation and damaged forest ecosystems. However, limited access of humans to forests due to insecurity or interdiction by armed groups enabled the conservation of many hectares of forest, many of which are still

pristine. UNDP studies (2014; 2015a) on Colombia identified that most of the best conserved locations are in remote areas where development was limited due to conflict insecurity. Furthermore, 90 per cent of the post-conflict priority municipalities have protection instruments on natural resources (e.g. national parks or forestry reserves) which limit the activities that can be developed. Only in areas where conflict actually took place were the surrounding natural resources threatened and affected, such as from the placement and explosion of personal mines in some forest areas.

In search of livelihood opportunities, ex-combatants, affected communities and individuals will enter forest areas and extract natural resources⁷, sometimes on an unsustainable basis – converting forests for intensive agriculture or livestock systems. This will ultimately undermine the natural resources needed in peacebuilding processes to develop livelihoods; hence the importance of BioTrade. A peace process has been underway in Colombia since 2012 to end the armed conflict. As it progresses, and once peace is established, there will be a huge need to find gainful employment for income generation.

Biodiversity and BioTrade, particularly in a country such as Colombia, can play a major role in building stable, lasting and sustainable peace. Developing local models based on the sustainable use of rich biodiversity could be the focus of building livelihoods for beneficiaries in peacebuilding and reintegration programmes, instead of focusing only on traditional livestock and intensive agriculture activities (UNDP, 2014). In fact, BioTrade has already been defined as a priority within the Colombian International Cooperation Roadmap 2015–2018, of MinPosconflicto and the Office of the High Commissioner for Peace for the implementation of a possible Peacebuilding Agreement (APC, 2015). Similarly, the UNDP study (2014) recognizes the contribution of BioTrade and suggests it can be further developed in communities, for conflict victims and ex-combatants in Colombia.

5.1 BioTrade in Colombia

In 1998, the globally pioneering National Sustainable BioTrade Programme (NSBP) was launched in Colombia. The Colombian Ministry of Environment and Sustainable Development (MADS) manages the programme under its Green and Sustainable Businesses Unit. From 2010 to 2012, MADS began a process to revise and update the conceptual framework and strategy of the programme, which at that time was implemented in partnership with the Alexander von Humboldt Institute. The revised programme (2014–2024) aims to enhance the comparative advantages of the country in terms of its biodiversity, and to facilitate the collective construction of sustainable businesses that promote equity and social justice. It includes seven strategic dimensions (Duque and Sosa, 2014).

1. **Strengthening of policies:** Harmonize and articulate regulations and public policies related to the use and sustainable management of native biodiversity.
2. **Construction and strengthening of capacities for the development of value chains:** Strengthen businesses and institutional capacities to promote the development of BioTrade in the country.
3. **Access to markets and product differentiation:** Position BioTrade products with high value added or certificates of differentiation in local, regional, national and international markets.
4. **Science, technology and innovation:** Research and innovate in technologies, processing raw materials and products, and promoting social appropriation of knowledge.
5. **Economic and financial incentives:** Increase access to financial resources (specialized or differentiated) and develop and implement financial incentives to support the growth of Colombian BioTrade companies.
6. **Product and market information system – National BioTrade Observatory:** Generate and disseminate updated and reliable information on BioTrade products and services, and markets at national and international levels.
7. **Monitoring and evaluation system:** Use the monitoring and evaluation tools needed to follow BioTrade initiatives and the implementation of the NSBP.

The sectors supported include: 1) ingredients and natural products for the cosmetic, food, phyto-pharmaceutical and fashion industries; 2) flowers and foliage; 3) wildlife and pets; 4) construction materials;

5) crafts and decorative articles; and 6) ecotourism (Duque and Sosa, 2014). Almost 2 000 projects have been supported under the NSBP, benefiting community organizations and private actors working to promote the sustainable use and trade of biodiversity-derived products and services (Ministry of Environment, Housing, and Territorial Development, 2009; Rodriguez and Chau, 2014).

Key organizations currently supporting the implementation of the BioTrade framework include: Fondo Biocomercio, CBS-C and the Sinchi Institute (Instituto Amazónico de Investigaciones Científicas). Local and national government entities, private associations, academia and civil society as well as international organizations are part of the network that supports and implements BioTrade activities in the country.

Under the NSBP, several initiatives have been implemented in the coastal, Andean and Amazon regions affected by conflict. Some even have the aim of providing legal economic alternatives to illegal crops. The initiatives are supported by BioTrade partners such as Fondo Biocomercio, CBS-C, Sinchi Institute, CORAMBIENTE/CAF, and the Alexander von Humboldt Institute/CAR CORPOAMAZONIA, to name a few.

The value chain approach used has enhanced inclusiveness, participation of all stakeholders and consensus building, while boosting the competitiveness of the businesses and the territories in which they are located. Value chains promoted include NTFPs (e.g. natural dyes, functional foods and cosmetic products) and sustainable tourism (e.g. birdwatching and trails). These initiatives are developed in the departments of Amazonas, Antioquia, Arauca, Bolivar, Caldas, Caquetá, Cauca, Córdoba, Chocó, Guaviare, Huila, La Guajira, Nariño, Norte de Santander, Putumayo, Risaralda, Tolima, Valle del Cauca, among others (Arcos Dorado et al, 2009; Duque and Sosa, 2014; CAF, 2012; CAF, 2015, CBS-C, 2015; Zuleta interview). These departments include almost all the 186 municipalities with high priority for post-conflict efforts identified by the UN (Equipo Humanitario Pais Colombia, 2014)⁸.

The following sections present two BioTrade examples that promote the development of biodiversity-based economic activities that enhance livelihoods for conflict-affected communities in different areas of Colombia. The first initiative was developed under the Andean BioTrade project of CAF, Fondo Biocomercio and MADS, that supported BioTrade initiatives in the departments of La Huila, Guajira, Risaralda, San Andres Providencia and Santa Catalina, and Tolima. The second experience was developed by CBS-C and ISAGEN E.S.P. and promoted BioTrade in the departments of Antioquia and Caldas.

5.2 Andean BioTrade Project (GEF-CAF) in Colombia (2010–2014)

The regional Andean BioTrade project supported and strengthened BioTrade at the local, national and regional levels as a strategy for the conservation and sustainable use of biodiversity in Colombia, Ecuador and Peru. It is a Global Environmental Facility (GEF) project managed by the Development Bank of Latin America (CAF) jointly with partners in each country. In Colombia, the project is executed by the NGO Fondo Biocomercio⁹ in cooperation with the MADS.

This project included the following components: (1) policy strengthening; (2) market access; (3) capacity building; (4) product and market information; (5) leverage of financial resources for BioTrade initiatives; and (6) development of pilot projects. Moreover, the project enhanced the value chain approach used by the NSBP before 2010 and included four key principles to articulate the implementation of activities on the ground:

- **Inclusive development:** Coordinating value chains and generating equitable relationships between stakeholders that encourage economic inclusion.
- **Contextualized solutions:** Adapting the activities to the environmental and socioeconomic dynamics and characteristics of the areas where BioTrade is implemented.
- **Systematic approach:** Implementing activities at macro, meso and micro levels.
- **Capacity-building:** Providing training and technical assistance to enhance individual and collective skills to reinforce dialogue platforms and multisectoral collaboration.

Under the regional Andean BioTrade project implemented in Colombia, Ecuador and Peru, more than 29 600 beneficiaries improved their working conditions and quality of life; sales of project beneficiaries increased on average by 65% between 2011 and 2014, reaching US\$ 310 million; and more than 282 000

hectares of land were managed according to BioTrade Principles and Criteria, ensuring conservation and sustainable use of biodiversity (CAF, 2015).

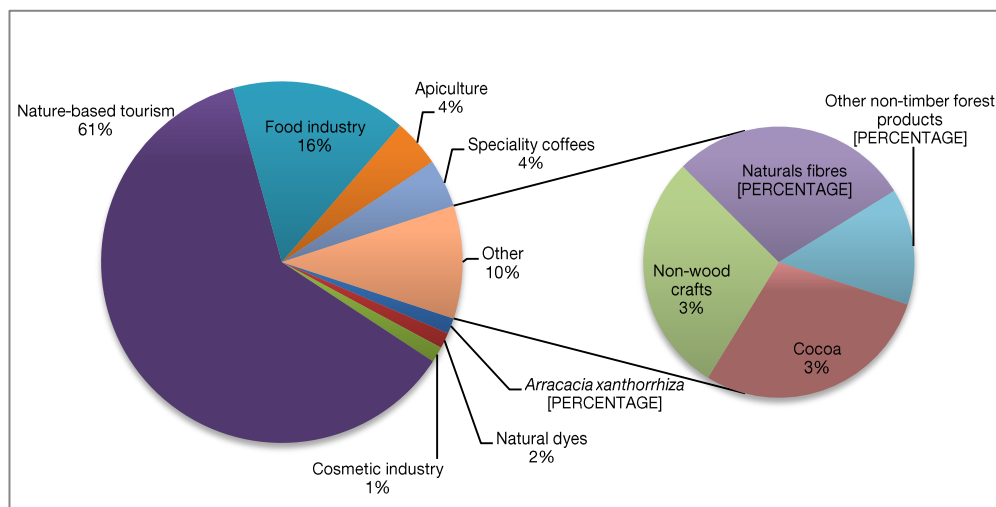
In Colombia specifically, 100 pilot projects were supported in 23 departments (75 per cent of the country) in the coastal (Atlantic and Pacific), mountain and Amazon regions: Amazonas, Antioquia, Arauca, Atlántico, Bolívar, Boyacá, Caldas, Caquetá, Chocó, Córdoba, Cundinamarca, La Guajira, Guaviare, Huila, Magdalena, Nariño, Putumayo, Risaralda, San Andres y Providencia, Santander, Sucre, Tolima and Valle del Cauca. These pilot projects were on ecotourism, NTFPs, sustainable agriculture and sustainable forestry. They have generated over 2 200 new jobs, US\$ 40 million in sales between 2011–2014, with an average growth rate of 63 per cent for the period 2011–2014 and benefited 5 844 families at the first stage of the value chain (producers, farmers, collectors), out of which 40 per cent were women (Chaux et al, 2014; CAF, 2015)¹⁰. Innovation was also fostered as 24 new biodiversity-derived products were developed, such as Omega-3, 6 and 9 capsules derived from sacha inchi, extracts from açai and chontaduro powders, cosmetic products derived from açai, functional beverages derived from camu camu, açai and green tea, chips from arracacha, among others (Chaux et al, 2014). By supporting businesses and value chains in diverse and remote parts of Colombia, BioTrade offers income-generating opportunities in otherwise isolated regions of the country.

BioTrade is considered an important activity that can significantly contribute to establishing peace by offering legal and sustainable opportunities to support post-conflict and reintegration efforts of vulnerable populations. With this perspective, a joint project was developed by the Colombian Presidential Agency for International Cooperation (APC) under the Andean BioTrade project in Colombia to implement BioTrade as part of the post-conflict efforts taken in the departments of La Guajira, Tolima, Huila, Risaralda, and San Andres Providencia and Santa Catalina (Fondo Biocomercio, 2015). Thirteen initiatives were supported under this initiative (13 per cent of all pilot projects supported were under the GEF-CAF project in Colombia).

The joint APC/Andean BioTrade project included four components:

1. **Strengthen regional capacities related to the sustainable use of native biodiversity:** Enhancing the capacity of local government institutions as well as other actors that support BioTrade entrepreneurs.
2. **Strengthen prioritized BioTrade value chains:** Developing, identifying and assessing existing resources and strengthening the selected value chains on the themes prioritized (this relates to steps 1 to 5 of BioTrade's value chain methodology).
3. **Strengthen innovative initiatives that use products derived from native biodiversity:** Under the framework of *Impact Hub Fellowship in BioTrade*, a contest was conducted to search for innovative ideas that link entrepreneurship and native biodiversity in the specific regions.
4. **Monitoring, evaluation and systematization of the activities implemented:** Aiming to document every action implemented but also provide a territorial policy document on BioTrade that can guide the intervention of local government.

The results achieved by this joint project in a conflict setting demonstrate that BioTrade can support the livelihoods of vulnerable communities. For instance, 439 jobs were generated and over 16 000 hectares of land was sustainably managed to generate products derived from native biodiversity. Local capacities were strengthened with the establishment of five regional grids to enhance entrepreneurship on BioTrade – building the local network of service providers and supporters. Eleven value chains (Figure 6) were strengthened by providing technical assistance to 67 initiatives on a broad range of areas including entrepreneurship, business management, marketing, commercialization, logistics, promote associativity, governance, and organizational and business development. A financial tool to support BioTrade local companies to access financial resources was also developed.

Figure 6. Value chains supported by the project

Source: Source: Fondo Biocomercio 2015.

The *Impact Hub Fellowship on BioTrade* aimed at building an entrepreneurship culture. It demonstrated that native biodiversity sustainably managed could make good business. In all 161 initiatives were registered out of which 105 were qualified to participate, 24 per cent came from Huila, 22 per cent from Risaralda, 21 per cent from San Andres Providencia and Santa Catalina, 18 per cent from Tolima and 15 per cent from La Guajira. Of these initiatives, projects or operational companies, 38 per cent were led by women, and Afro-American and indigenous communities led 35 per cent of the total. Out of the seven semi-finalist initiatives, the three winners were: first – SeaFlower Coral Nursery Ecotour (San Andres Providencia and Santa Catalina); second – COSMETICOS CAFECAO S.A.S. (Huila); and third – Yarumo Blanco (Risaralda). The winners received seed funding as well as a membership of the *Impact Hub*, enabling them to participate in workshops on developing ideas, co-funding, business management and Lean Startup methodology. They were also provided with technical assistance for prototype development, facilitating access to funding, legal issues, and marketing and communication. The winners were also connected to a global network of worldwide entrepreneurs and innovators.

5.2.1 COSMETICOS CAFECAO S.A.S. – natural personal care products derived from native cocoa and bee products¹¹

The Rivera Municipality is a traditional and peaceful cocoa producer area, despite its geographical boundaries with conflict-affected departments such as Cauca and Valle del Cauca. In 2006, the community established a “Citizens’ Mandate for Life, Human Dignity and Peace” as a response to the February 2006 killing of nine councillors of the Rivera Constituent Assembly that were elected in December 2005 (UNDP, 2008). The stability and secured environment of the Rivera Municipality has enabled the flourishing of businesses and thriving of entrepreneurs such as CAFECAO which currently benefits almost 1 000 people¹².

COSMETICOS CAFECAO S.A.S (or CAFECAO) is an SME led by entrepreneur Diana Milena Pedroza Obando in the Rivera Municipality (Huila) that develops cocoa-based personal care products enriched with bee products: facial, hair and body masks and a lip balm. It was conceived in 2011 under the Young Entrepreneurs Programme of the National Service for Learning (*Servicio Nacional de Aprendizaje*, “SENA”) of Neiva Huila. SENA provided technical assistance to standardize CAFECAO product formulas, which were refined after several trials. The products were then commercialized at the Hotel Campestre Los Gabrieles (Rivera) as well as in local and national trade fairs with the support of SENA. No profit was generated for the first few years of operation and five of the members left the company, leaving Diana and a colleague, Oliva Arévalo, to continue the endeavour.

CAFECAO is also supported by the National Police Carabineers Division (*Dirección de Carabineros*) in Neiva as part of their initiative on Productive Projects for Rural Prosperity and the Green Markets Programme of the Autonomous Corporation of the High Magdalena. The support provided enabled CAFECAO to reach other consumers at the national level by participating in national fairs in Bogotá, such as Agroexpo (2013 and 2015) and Colonias Fairs (2014).

CAFECAO works under a value chain approach and established strategic alliances directly with its suppliers:

- **Cocoa suppliers:** Cocoa Producers Association of Rivera (*Asociación de Productores de Cacao de Rivera*, ASOPROCAR) in the Rivera Huila Municipality and includes 185 members; and Chocolate Riverense that processes the cocoa used by CAFECAO.
- **Apiculture suppliers of wax, honey, propolis and royal jelly:** Apiculture Cooperative of Huila (*Cooperativa de Apicultores del Huila*, COAPI) in Huila and includes 64 members, some of which are from the indigenous reservation of Panikita. COAPI has also been a beneficiary of the NSBP in Colombia.

These partnerships enabled CAFECAO to work directly with suppliers, enhancing the quality of the cocoa and apiculture products, and implementing traceability systems. ASOPROCAR is supported by CAFECAO to implement good agriculture practices (GAP) and use natural inputs. The SME purchases the cocoa and bee products at premium prices. This price aims to motivate cocoa producers to conserve their cocoa farms and resist transforming them into other land uses.

In 2014, CAFECAO participated in the contest of the *Impact Hub Fellowship on BioTrade* and won second place. It received seed funding as well as tailor-made coaching on the topics required by CAFECAO. Following this success, CAFECAO is developing a new corporate image for the company and its products, and is obtaining the sanitary permits for its products from the National Institute of Food and Drug Monitoring (INVIMA). The permits are essential for selling their products in stores. In addition, BioTrade is enabling the company to distribute and sell its products in stores throughout the country.

Figure 7. Products from COSMETICOS CAFECAO S.A.S



Photo credit: Diana Milena Pedroza Obando, CAFECAO.

CAFECAO is also leading work on an aromatic herbs project, jointly with SENA-Huila and the Carabineers Division, in the drying of herbs and commercializing them as infusions. The aromatic herbs project involves 22 families of displaced individuals and women head of households in Community 8 of Neiva city, which is a critical location with a high poverty rate and many displaced individuals¹³. Under the project, the main greenhouse is located in the carabineers property, where the plants are produced and distributed to sow in the family gardens owned by the beneficiaries. Afterwards, the herbs collected are dried, packed in bags and commercialized as herbal infusions. The families are also receiving coaching on how to produce high quality essential oils with the support of SENA-Huila. In the future, CAFECAO aims to incorporate this group as suppliers of essential oils for their new veterinary product line that is under development.

The future is promising for Diana and Oliva, as their dream to sell their products on the shelves of main distributors nationwide has become more real with the support of the *Impact Hub Fellowship on BioTrade*.

Moreover, they expect to industrialize CAFECAO's production processes thanks to the EMPRENDER Fund contest that they won in 2015. Their perseverance and entrepreneurship are traits that have enabled CAFECAO to grow, while promoting the need to "advance holding hands together" ("*avanzar todos de la mano*", as she stated).

5.3 Corporación Biocomercio Sostenible (CBS-C) and ISAGEN E.S.P. project (2010– 2013)¹⁴

The Andean region in Colombia is endowed with a rich biodiversity due to its landscape, altitude, microclimates, among other factors, enabling the existence of over 10 000 species. Despite its rich resources, the region has a high deforestation rate estimated at over 80 000 hectares of Andean forest per year (Burgos et al, 2014).

The importance of protecting Andean forests led CBS-C¹⁵ and ISAGEN E.S.P.¹⁶ to establish a partnership for promoting BioTrade within the 100 250 km² of Andean forest area that is conserved and protected by ISAGEN E.S.P. BioTrade had a dual goal to conserve biodiversity and generate additional income for local communities in the centre of the Colombian mountain region, in Eastern Antioquia and Caldas. In particular, the project focused on the municipalities of San Carlos and San Rafael in Antioquia Department and the municipalities of Manzanares, Marquetalia, Victoria and Norcasia in Caldas Department. This project also collaborated with local government entities particularly municipalities and the regional autonomous corporations, as well as community-based associations, NGOs and other stakeholders working in the target area.

Assessment activities were carried out to identify potential BioTrade products and services to be supported, as well as operational initiatives working in the target region. Market studies were also developed to assess the demand side for the selected products. These studies assessed the potential of the initiatives and the region to establish feasible businesses dealing with ecotourism, NTFPs, sustainable agroforestry systems and apiculture. In 2010, CBS-C identified 48 companies, 58 per cent located in Antioquia and 42 per cent in Caldas, taking into account social, environmental and legal considerations. Targeted technical assistance was provided to each initiative considering the gaps identified in the assessments, covering themes such as business management, processing, logistics, marketing and co-funding. The value chain approach was also introduced to the beneficiaries in order to strengthen their businesses, foster regional development, promote collaboration and be more competitive based on the sustainable use of the resources, cultural recognition and an equitable sharing of benefits.

For communities affected by conflict and displaced individuals, receiving assistance to overcome their needs can help them build and/or recover their livelihoods. The project, guided by BioTrade's Principles and Criteria and the value chain methodology, built the capacities of local initiatives through technical assistance, training and grants. Co-funding was provided, for instance, on processing equipment and instruments, building compost bins, acquiring beehives, establishing family gardens, developing company branding and the legal constitution of companies. BioTrade has generated positive livelihood impacts for conflict-affected or displaced families as described in the following examples.

5.3.1 Rodolfo (businessman), Antioquia

Rodolfo Giraldo's family has been producing *panela* (solidified sugarcane juice) traditionally since his grandfather built a mill over 70 years ago. They used an animal traction mill that was not always adequate to process all the sugarcane available and despite the long working hours (3am to 5pm) some was wasted. In 1995, Rodolfo, together with his brother-in-law, began thinking about introducing a machine to mill the sugarcane. Unfortunately, this was undermined by various factors, including the presence of armed groups that fought to control the area in 1998. This enhanced violence, insecurity, fear and humiliation among local families caused many to flee the area. Rodolfo and his family took their basic belongings and their horse – used to mill the sugarcane – and fled to the municipality's capital city. After 14 months, they decided to return, where only three families had stayed put. Rodolfo and his family started from scratch, and their survival was even made difficult as the main routes were closed, rendering the products not marketable in other regions and cities like Medellín. Furthermore, his brother-in-law was killed during the

conflict. By himself, he continued milling sugarcane manually, with the help of his horse, as life gradually returned to normal from 2000 onwards.

In 2011, CBS-C and ISAGEN E.S.P. co-funded Rodolfo to obtain a sugarcane mill machine, as well as a compost bin, a family garden and trees (fruits and timber) to diversify his three-hectare farm, promote food security and implement good practices to conserve biodiversity. He also received capacity-building activities on GAP. Currently, the mill processes between 10 to 12 *arrobas* (147–176 kg) of *panela* and benefits five families that harvest sugarcane and jointly mill it with Rodolfo's machine. The benefits generated by the *panela* sales are equitably distributed among all those participating in the mill.

5.3.2 Leonel (businessman) and Estrella (businesswoman and head of household), Antioquia

The region, due to its different ecosystems, species, climate and landscape, has huge tourism potential, once security is established. The CBS-C/ISAGEN E.S.P project identified key tourist attractions as well as initiatives that could be further strengthened in order to contribute to biodiversity conservation, enhance local livelihoods and be economically feasible. Two examples are described below.

The first initiative is the ecotourism centre “Los Lagos” which is a family business headed by Leonel Rendon in the Municipality of San Rafael (Antioquia), in the rural community of Manila. Family fishing was the family business activity, which was prosperous until different armed groups visited their region and violence and intimidation arose. Leonel and his family decided to stay on their farm despite the risks and fear, as they could at least find something harvested from the forest for food – which was not possible when living in urban areas. When the armed groups left the area, Leonel decided to rebuild his fish farm and sell fish again. As the business progressed, he started offering recreational fishing activities. The CBS-C and ISAGEN E.S.P. project supported the creation of a new ecological trail and provided tailored capacity-building activities to enhance the ecotourism centre and the tourist services provided. The business continues to grow and has received support from local stakeholders on reforestation activities and also on promotional campaigns (e.g. inclusion in the department's tourism offer). Through a loan, Leonel expanded his fish farms and has also set up two rooms for accommodating clients who want to fish in the morning and walk the forest trail. Leonel now has ten fish farms with 13 000 to 14 000 fish.

Another experience is that of Estrella de Jesús Echeverry, from La Granja, in the Municipality of San Rafael. She is an entrepreneur who took on sole responsibility for her four daughters after her husband was killed by paramilitaries in front of her house. After the incident, she went to live in another community for a few weeks, but decided to return home and manage her farm. Despite the progress made in developing their livelihoods, military groups continued to visit her home and would take all their food (chickens and fish). She never gave up; continuing to advance to build a better future for her family. Fortunately, she received support from local institutions such as Corporación Autónoma Regional de las Cuencas de los Ríos Negro y Nare, Codesarrollo (now Social y Ambiental Foundation) (Social y ambiental, 2014), Fondo para la Acción Ambiental and the municipality's government which aimed at supporting violence-affected populations in 20 municipalities in Antioquia through agriculture activities (e.g. poultry, family gardens). In addition, Estrella participated in reforestation programmes led by local organizations and benefited from ISAGEN E.S.P. training activities to develop apiculture. She received 19 hives and equipment to manage them. Under this project, additional capacity-building activities were also developed which enhanced participants' (including Estrella) knowledge on the management of apiculture and Meliponini bees. Furthermore, training was also provided on ecotourism and the implementation of good practices and tools for environmental conservation, as well as a compost bin and 100 fruit and timber trees. This support has enabled her to obtain additional income from beekeeping, as well as from the tourist attractions her farm offers (e.g. fish farming). Her dream is for the business to continue growing and be able to offer more tourist services (e.g. accommodation) to her visitors.

6. Conclusions and recommendations

The 2030 Agenda for Sustainable Development and associated SDGs emphasize the importance of promoting the three pillars of sustainable development in a harmonized and integrated manner. Peace (and inclusive societies), Planet (environmental sustainability), People (sustainable livelihoods), Prosperity, and Partnerships (established for instance through the value chain approach) are the cornerstones of this agenda. BioTrade can contribute to the achievement of these goals by promoting sustainable livelihoods and prosperity in peacebuilding and post-conflict recovery efforts. Trade, and particularly BioTrade, can be an essential component and incentive for promoting sustainable development as well as inclusive, peaceful societies.

The experience with the nutmeg value chain in Indonesia helped ensure that the conservation and management of biodiversity and trade of its products are supported as a pillar for sustainable, inclusive and peaceful development. This collaboration between UNCTAD and UNDP has supported the livelihoods of vulnerable populations that are recovering from the damaging impacts of armed conflict by sustainably using biodiversity and trading its derived products and services.

Efforts to build peace in post-conflict settings and facilitate the reintegration of ex-combatants, displaced people and other conflict-affected groups through economic activities share similar goals with BioTrade. Thus, UNCTAD together with international and local partners (such UNDP, Fondo Biocomercio and CBS-C) in conflict-affected countries have developed initiatives based on economic empowerment. There are some similarities between BioTrade beneficiary organizations in post-conflict settings and those in other non-conflict regions because some themes tend to be the same in terms of social, economic and environmental issues. However, in conflict settings the level of development and the challenges faced are tougher, since micro businesses and SMEs encounter constraints that limit, for example, the distribution of products and access to raw materials and inputs from forests or other regions due to road blockages and insecurity. Finding expertise in the area (e.g. field agronomists) can also be a challenge. The timeframe needed to support the implementation of activities while enabling stakeholders to gain trust and collaborate further tends to be longer in post-conflict situations. Experience shows that this process can take between three to five years, where resources need to be channelled to support the implementation of activities, ideally including also beneficiaries' contributions (in-kind or monetary). It is also essential that the initiatives supported are market driven and, as far as possible, create a business culture with social and environmental principles from the outset.

Many post-crisis countries are also areas of high biodiversity, where globally and/or regionally significant species and ecosystems exist. Biodiversity is essential for the healthy functioning of ecosystems that provide services to satisfy the needs of populations – food, shelter, medicine, livelihood, clean water and nutrient cycling in soils. As countries emerge from crisis, meeting the basic needs of their populations is vital for recovery and this necessitates healthy and functioning ecosystems. Ensuring recovery through promoting livelihoods can result from the sustainable use and development of biodiversity based on market-driven approaches and programmes that build upon the unique products and advantages that a country's particular biodiversity may offer. This is precisely what BioTrade does.

The synergies between BioTrade and peacebuilding are articulated in Table 2.

Table 2. Synergies and complementarities between BioTrade and post-conflict peacebuilding

Issue	BioTrade	Post-conflict peacebuilding
Goals and objectives	<ul style="list-style-type: none"> • Use trade as an enabler that supports the conservation and sustainable use of biodiversity, and develop sustainable livelihoods through policy and programmatic support. • BioTrade Principles and Criteria are used to assess and guide the intervention of activities and beneficiaries to achieve sustainable development in relation to economic, social, and environmental sustainability criteria. BioTrade Principle 3, for instance, contributes to guarantee a fair and equitable distribution of benefits and non-discriminatory participation in the value chain among all stakeholders, 	<ul style="list-style-type: none"> • Establishes sustainable reintegration options for ex-combatants, internally displaced people and conflict-affected community members. • Recognizes that when conflicts are fuelled by disputes over natural resources, relapse into conflict within five years is twice as likely.

	<p>essential for peacebuilding.</p> <ul style="list-style-type: none"> Engages government representatives, producers, NGOs, academia, industries, traders and others under the common objective of promoting local sustainable development by generating initiatives that are socially, economically and environmentally feasible for ex-combatants and participating communities. The value chain approach is implemented within the BioTrade Principles – providing income-generating opportunities and livelihood options. It also enables informed decision making and participation of all value chain stakeholders (government, private sector, communities, academia and civil society at local, regional and national levels) contributing to building peaceful societies and enabling policy environments. 	<ul style="list-style-type: none"> It is usually sited in rural areas and is agriculturally based. Addresses the role of natural resources in supporting livelihoods.
Synergies	<ul style="list-style-type: none"> Provide alternative legal livelihoods, particularly in areas that are rich in biodiversity and that are affected by conflict dynamics. UNCTAD's BioTrade, by providing technical expertise, methodologies and market connections, can enable the development of businesses and value chains that are environmentally and socially friendly, minimizing the risk of biodiversity loss, complementing UNDP peacebuilding, conflict-sensitivity and reintegration programmes. The Integrated Disarmament, Demobilization and Reintegration Standards (IDDRS) (United Nations, 2006), recognize BioTrade as an economic and social reintegration opportunity in natural resources management that can be implemented in disarmament, demobilization and reintegration programmes. (IAWG-DDR, 2014). 	
Common challenges	<ul style="list-style-type: none"> Involve conflict-sensitive and inclusive programmes that address the specific needs of each group, while generating win-win opportunities for the other stakeholders related to the value chain and the area. Individual and collective gains need to be captured fairly by all stakeholders involved. Programmes are practised in conflict-affected settings that may lack infrastructure, are remote and suffer limited cooperation among public and private entities; producers tend to be isolated from commercial channels, governance is usually limited, and institutions may be weak. To visualize and obtain results under these circumstances, takes time, patience and resources, and project implementers need to manage beneficiaries' expectations in a realistic manner. Creating economically feasible initiatives that can continue over time, despite the logistical, infrastructure and technical challenges faced due to remote locations. The lack or uncertainty of funding compromising the ability to move past the pilot phase often leads to sporadic strategic leadership, lack of comprehensive strategies, duplication of efforts in some areas, waste of resources and efforts and eventually, failure to put in place conditions for long-term sustainable recovery. Where there is uncertainty about the continuity of project implementation due to financing constraints, the status of activities that have already been implemented is beset by the question of sustainability. Building strong beneficiary organizations, enhancing support from the government, as well as the commitment and empowerment of beneficiaries should be developed throughout project implementation. Monitoring and evaluation of the relationship between stakeholders and short- and medium-term activities to strengthen individual and collective skills in order to understand and overcome problems resulting from the different levels of development of the beneficiaries. For instance, agreed criteria and roles and responsibilities need to be developed in a concerted manner and validated by all value chain actors. This is relevant, for example, if an order is placed by a buyer which is smaller than the group offers, to decide who would have the right to fulfil the order. Social funds in addition to rotation funds could also be used to address this issue. The sustainability of the value chains, once the project is completed, depends on the empowerment, ownership and commitment of the actors involved. Entrepreneurship and innovation are also important elements for businesses under development. In post-conflict settings, implementing BioTrade (e.g. its framework and value chain methodology) from preparatory stage to implementation process needs a dedicated team that works closely with communities and relevant stakeholders on a continuous basis (e.g. daily). Trust and confidence should be established among communities and stakeholders with the help of this dedicated working team. Without this, continuity of the initiative may not be achieved. Following support from UNDP and UNCTAD, Forpala continued to receive technical assistance and support from USAID IFACS which maintained local government's attention and cooperation (Suhud, interview). 	
Common opportunities	<ul style="list-style-type: none"> Market trends as well as the 2030 Agenda for Sustainable Development provide opportunities for developing BioTrade and peace related activities, from a broad range of areas: industry, consumers, cooperation agencies and national government. Identify further opportunities to re-orient livelihoods along sustainable pathways using 	

environmentally sound business practices or options as demonstrated by BioTrade interventions and technical assistance provided. Together with other projects, identify the best practices that can be strengthened to rebuild livelihoods and sustain human security especially for those who rely on the natural resources, in particular, biodiversity.

- Opportunities for sustainable livelihood options that support biodiversity conservation and sustainable use, while encouraging entrepreneurship and innovation based on native resources (e.g. species and ecosystems).
- Promote specialized value chains that have cultural and environmental significance and market advantages.
- Governments, particularly at the local level, are aiming to identify economic models that do not only contribute to reintegration, peacebuilding and livelihoods, but also to the sustainable use of natural resources. These initiatives could also capture the interest of the donors and industries keen to join efforts and build partnerships to enhance the value chains.

Source: Adapted from Jaramillo Castro and Stork, 2015 with inputs from Durleva, and Suhud interview.

As shown by the experiences in Colombia and Indonesia, innovation and entrepreneurship are essential in demonstrating that biodiversity can be a source of inspiration for building feasible economic businesses in post-conflict areas. Opportunities to learn from these types of initiatives, including from the leadership and perseverance demonstrated in the case studies, can motivate other actors to develop new initiatives that conserve and take advantage of their rich natural and cultural heritage. Co-funding not only from partners but also from the beneficiaries, either in-kind or monetary, is also essential for developing businesses in order to create a competitive business culture and reduce the dependence of initiatives on external resources.

BioTrade enables conflict-affected people to develop businesses under a value chain and sustainably utilize their surrounding biodiversity to develop products that meet market demands and requirements, while promoting equitable benefit-sharing schemes. It is important to note that **BioTrade contributes to broader peacebuilding efforts**, complementing the livelihood component. Other issues still need to be tackled including conflict sensitivity, social cohesion and awareness, psychosocial and legal support. Consequently, supporting business and value chain development needs to involve a holistic approach tailored to the specific circumstances of the area and its inhabitants. It needs to work at macro, meso and micro levels to strengthen institutional and local capacities and skills and to build a network of service providers that will satisfy the needs of the beneficiaries beyond the duration of the project.

Due to the challenges faced by conflict-affected communities, working under the BioTrade framework requires the involvement of multiple stakeholders in order to provide the necessary expertise over a broad range of issues from governance, business and association development, market access, processing, conflict management, psychosocial support and enhancing infrastructure and communication, among others. Enhancing livelihoods and economic opportunities for intended beneficiaries requires the active collaboration of many actors and institutions (UNEP-UNDP, 2013). In the case of Indonesia, Forpala and related government institutions such as food security and agriculture facilitation, industry, trade and cooperatives, among others, have undertaken the implementation of the value chain strategy, covering cultivation, processing and marketing. Particular efforts were made to engage enterprises in strengthening supply chains and linking local producers and farmers (UNDP, 2012).

The BioTrade framework and methodology, particularly the value chain, promote inclusive societies by linking and coordinating actions and efforts between the different downstream and upstream stakeholders involved. It also helps to clarify the roles and responsibilities of each actor. As a bottom-up approach, it is built jointly to satisfy the needs of grassroots communities, industries, government and civil society that are interlinked and working together towards common and agreed goals. The value chain approach, as used under BioTrade, has proven essential for improving and maintaining social cohesion for local communities (Ruhanawati, 2012b). Spaces for dialogue, sharing of experiences and negotiations are created to promote social cohesion among community members and to advance sustainable development peacefully.

Cooperation, empowerment and enhancement of the skills and capacities of all stakeholders involved in the value chain, particularly communities, can also result in enhanced social cohesion and participation of marginal groups. For instance, this can improve the information flow among stakeholders, where communities can take informed decisions in developing BioTrade activities and participate fairly in the benefits generated. The horizontal and vertical integration of value chain actors also helps to build trust,

capture economies of scale, diversify sourcing areas, products and risks, increase quality and enhance value chain competitiveness. In some cases, they have even enhanced the territorial competitiveness, identity and cohesion of stakeholders in a region, which is a good base for building and maintaining peace.

Strengthening existing networks of local stakeholders including government, academia, NGOs and private sectors not only enhances governance, but also provides a space for dialogue and concerted action. This can also be reinforced by enhancing the cultural and traditional identity and practices that are linked to biodiversity as well as empowerment, as shown in the case study in Indonesia. The creation of product forums (which are important at the regional and international levels), such as Forpala, can bring public, private and civil society together, including marginalized groups.

The UNCTAD-UNDP partnership builds upon the expertise of both organizations and provides an opportunity to enhance programmes supporting peace, recovery and sustainable development in developing countries affected by conflict, as well as in areas with high levels of biodiversity and potential for BioTrade development. In Indonesia, both agencies joined their expertise to carry out this work: UNCTAD on trade and BioTrade, and UNDP on peacebuilding and disarmament, demobilization and reintegration. However, joint peacebuilding and BioTrade programmes should not only target conflict-affected groups, but should further enhance the development of the community and the service providers (network to support the development of the businesses and value chains). Efforts must be undertaken to develop win-win initiatives where all stakeholders gain, both individually and collectively. This also goes in line with the aim to foster an equitable and fair sharing of benefits and avoid conflicts that may arise from individuals feeling left out. Individual and collective gains need to be captured fairly by all stakeholders involved.

Finally, it is essential to empower local organizations (government, beneficiaries, NGOs, academia, among others) to formulate, prioritize, implement and, where possible, co-finance the activities, in the initial stages in particular. Bottom-up, participatory and community-based approaches need to be fostered so stakeholders can identify their common needs and jointly decide on a path to overcome them as a group. For example, workplans must be formulated in a broad participatory manner involving all stakeholders, starting with the joint definition of priorities, problems, causes and consequences, as well as establishing tools to develop and monitor implementation of activities. Prioritization of activities as a group by reaching consensus is important as well as to foster cooperation and synergies, and build on existing work and resources. Consequently, guaranteeing the sustainability of the initiatives depends on strongly developing the empowerment, ownership and commitment of the stakeholders to work under a shared and common vision and goal. This has been demonstrated excellently by Forpala in Indonesia: its stakeholders' sense of ownership, empowerment and commitment to achieve the common goal of developing economic and resilient livelihoods and ensure post-conflict recovery and peacebuilding is being achieved by strengthening the nutmeg value chain.

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Further reading

Samper C and Scanlon J (2015). *The New Sustainable Development Goals: A Vision for Living in Harmony with Nature*. Posted by the Wildlife Conservation Society. National Geographic Society. Available at: <http://voices.nationalgeographic.com/2015/09/25/the-new-sustainable-development-goals-a-vision-for-living-in-harmony-with-nature/> (accessed 22 December 2015).

Interviews and emails exchanges

- Maja Suhud, UNDP Indonesia, 23 and 24 November 2015.
- Véronique Rossow, PhytoTrade Africa, 12 November 2015.
- Diana Milena Pedroza Obando, CAFECAO COSMETICOS S.A.S, 10 and 11 November 2015.
- Jimena Durán and Santiago Molina, APC, 26 August 2015.
- Ana Karina Quintero, MADS, 24 August 2015.
- Diana Mejía and José Antonio Gómez, CBS-C, 24 August 2015.
- Olga Lucia García and Gustavo Urrea Piñeros, Corporación Fondo Biocomercio Colombia, 18 August 2015.
- Siti Ruhanawati, 2 December 2015.
- Marisela Vega Zuleta, BioTrade expert, 3–8 December 2015.

Notes

- ¹ The interaction of these approaches and BioTrade:
(a) value-chain approach: where the strengthening of value chain is a critical element in implementing BioTrade Principles and Criteria;
(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.
- ² CITES Appendices I, II and III are "lists of species [of flora and fauna] afforded different levels or types of protection from over-exploitation" (CITES, 2015a). **Appendix I** includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances. **Appendix II** includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival. **Appendix III** contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade (CITES, 2015b).
- ³ This section was prepared by Lorena Jaramillo Castro and Maía Durleva with inputs from Maja Suhud, UNDP Indonesia and Siti Ruhanawati (Indonesia). Information was also extracted from several UNDP and UNCTAD reports, including Trinurini-Adhi and Wuriati, 2012; Final report June 2010 – December 2011 (UNDP, 2012), Ruhanawati, 2012a and the Forpala website (www.forpala.org). It is also based on the field experience of UNCTAD (Lorena Jaramillo Castro) during project implementation from 2009–2012.
- ⁴ Details the agreement and commitment of the Government of Indonesia and the GAM to rebuild itself after the 2004 tsunami disaster and to terminate the conflict between the parties for a "peaceful, comprehensive and sustainable solution to the conflict in Aceh with dignity for all" (Large and Large, 2008).
- ⁵ The Leuser Ecosystem is an area of forest located in the provinces of Aceh and North Sumatra on the island of Sumatra, Indonesia. Covering more than 2.6 million hectares, it is one of the richest expanses of tropical rain forest in Southeast Asia and is the last place on earth where Sumatran elephant, Sumatran rhinoceros, Sumatran tiger and Sumatran orangutan are found within one area (https://en.wikipedia.org/wiki/Leuser_Ecosystem accessed 23 December 2015).
- ⁶ Megadiverse countries are those countries that collectively account for 70 per cent of the world's biodiversity. These countries are: Australia, Brazil, China, Colombia, Democratic Republic of the Congo, Ecuador, India, Indonesia, Madagascar, Malaysia, Mexico, Papua New Guinea, Peru, Philippines, Plurinational State of Bolivia, South Africa, the United States and Bolivarian Republic of Venezuela. (Secretariat of the CBD, 2007; UNEP-WCMC, 2014).
- ⁷ As the Colombian peace process advances, land reform issues have been discussed as part of the La Habana Peace Process in Colombia, between the Colombian President, H.E. Juan Manuel Santos, and the FARC. For instance, a fund will be developed to distribute land for free and rural property will be formalized. Additionally, both parties are also agreeing to eradicate and substitute illegal crops. Emphasis has also been put on rural development, where peace needs to be built by developing the local level and in line with the development needs defined by grassroots and the actors directly involved (bottom-up approach) (UNDP, 2015b; BBC, 2015b; Universidad de los Andes, 2015).

- ⁸ In 2015, the prioritized 186 municipalities to be supported are distributed in the following departments: Arauca, Antioquia, Caquetá, Cauca, Chocó, Córdoba, Guaviare, Huila, La Guajira, Meta, Nariño, Norte de Santander, Putumayo, Tolima and Valle del Cauca (Equipo Humanitario Pais Colombia, 2014).
- ⁹ Fondo Biocomercio is a not-for-profit entity that aims to support the CBD objectives through the formulation, coordination and management of programmes that strengthen BioTrade and green markets strategies in Colombia, which generate social impact under environmental, social and economic sustainability criteria. For further information, visit: <http://www.biocomerciocolombia.com>
- ¹⁰ This figures does not include participants that benefited from capacity-building activities, for instance on the policy frameworks relevant to BioTrade, on implementing BioTrade Principles and Criteria, on the access and equitable sharing of benefits, as well as a workshop to enhance and update norms related to BioTrade (Chaux et al, 2014).
- ¹¹ Section based on the interview with and information provided by Diana Milena Pedroza Obando, CAFECAO COSMETICOS S.A.S, and *La Nación* - Editora Surcolombiana, 15 February 2015.
- ¹² CAFECAO benefits 249 families producing cocoa and bee products, with an average of four individuals per family.
- ¹³ Neiva is part of the 186 municipalities prioritized by the UN for post-conflict efforts in its 2015 Strategy (Equipo Humanitario Pais Colombia, 2014, 2015 Strategic Response Plan Colombia).
- ¹⁴ Section based on Burgos et al, 2014.
- ¹⁵ CBS-Colombia is a non-profit NGO that promotes the use and conservation of biodiversity through BioTrade, as an alternative to achieve sustainable development. For further information, see: www.biocomerciosostenible.org
- ¹⁶ ISAGEN E.S.P is a mixed company that generates and sells energy in Colombia. For further information, see: www.isagen.com.co