

# HANDBOOK ON AND LIVELIHOODS



## Part II

Addressing and mitigating the effects of the application of CITES  
decisions on livelihoods in poor rural communities



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# HANDBOOK ON CITES AND LIVELIHOODS

## PART II

Addressing and mitigating the effects of the application of CITES decisions on  
livelihoods in poor rural communities

General Secretariat of the Organization of American States (GS-OAS)

Secretariat of the Convention on International Trade in Endangered Species of Wild  
Fauna and Flora (CITES)

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# Addressing and mitigating the effects of the application of CITES decisions on livelihoods in poor rural communities

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## Acronyms

CBD: Convention on Biological Diversity

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

CONACS: National Confederation dos Agente Comunitarios Saude

FFI: Fauna & Flora International

FSC: Forest Stewardship Council

FWS: Fair Wild Standard

IMO: Institute of Market-ecology

INRENA: National Institute of Natural Resources of Peru

ISSC-MAP: International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants

SIPPO: Programme for the Promotion of Imports from Switzerland

TRAFFIC: The Wildlife Trade Monitoring Network

UEBT: Union for the Ethical Biotrade



# Background

This second part of the Handbook on CITES and Livelihoods provides an in-depth discussion of activities and solutions that may be employed to address the impacts resulting from listing species in CITES on poor rural communities. It proposes mitigation and sustainable use measures that attempt to address the findings of the participatory rural appraisals carried out in Part I of the Handbook. However, in the event that a participatory rural appraisal has not been carried out prior to consulting this document, the information that follows can nonetheless contribute to the development of initiatives promoting the sustainable use of species.

Modifying species conservation programs so that they comply with CITES regulations may in turn disproportionately affect poor rural communities, as is discussed in Part I of this Handbook. More specifically, the implementation of decisions to include species in Appendix I and, to some extent, in Appendices II and III, imposes restrictions on trade and may limit the access of rural communities seeking legal trade, particularly in the short term. Changes in demand and access to trade opportunities will affect the suppliers of raw materials derived from CITES species (TRAFFIC, 2008) unless mitigation measures or livelihood alternatives are made available. In general, well managed projects promoting the sustainable consumptive and non-consumptive use of resources can help either maintain or restore CITES species populations, strengthen consumers' confidence in the sustainability of the use of the species, and generate income for poor rural communities.

Compliance with restrictions on trade will slow overexploitation, providing communities with long-term access to the resource in question. Favorable situations may also be generated when trade restrictions lead to higher prices and thus income (added benefits include moving to more sustainable production systems or alternative uses of the species), provided that those gains are distributed equitably along the value chain and do not incentivize illegal trade. Benefits may manifest themselves in additional ways, such as through improved education

and capacity building, potentially leading to the adoption of such measures in other places and for other species.

However, negative impacts may also be generated if the population of a species depleted by unsustainable use and traffic is revitalized, such as in the case of megafauna whose behavior, including attacking crops or livestock, may lead to conflicts between people and species (Jones, 2009; Woodroffe et al., 2005). If adequate compensation and / or mitigation and the protection and livestock are not provided, poor rural communities with few resources and alternatives may be severely affected. In cases such as this, mitigation solutions could include ecotourism focused on charismatic species (Trong and Drews, 2004), and the promotion of sport hunting activities (Weaver and Skyer, 2003), both of which could help to strike a balance between the income received by the rural poor and the risk posed by the megafauna.

This second part of the Handbook proposes a process comprised of six steps that outlines how Parties can address impacts and promote the sustainable use of resources and species. The steps may be used to focus on a particular species, or may be implemented at the national level in order to promote policies and strategies associated with the sustainable use of CITES species.

## Purpose of this Handbook

The purpose of Part II of this Handbook is to present relevant concepts and lessons learned originating from case studies on the sustainable use of CITES and non-CITES species. In addition, it provides six steps that aim to contribute to the establishment of coherent national policies and local incentives focused on mitigating the impact of CITES listings and promoting the sustainable use of CITES species, as listed below.

# Steps to mitigate impacts and promote the sustainable use of CITES-listed species

STEP  
1

IDENTIFY PRIORITY SPECIES AND REVIEW EXISTING LEGISLATION ON THE USE OF THE SPECIES

STEP  
2

GENERATE A DATABASE OF SCIENTIFIC AND TECHNOLOGICAL INFORMATION FOR THE SUSTAINABLE USE OF THE SPECIES

STEP  
3

EMPOWER POOR RURAL COMMUNITIES

STEP  
4

DESIGN INCENTIVES AND DEVELOP MARKETING STRATEGIES TO PROMOTE IN-SITU AND EX-SITU PRODUCTION

STEP  
5

PROMOTE ENGAGEMENT AND COOPERATION BETWEEN RELEVANT GOVERNMENTAL AGENCIES

STEP  
6

MONITOR AND EVALUATE THE IMPACTS OF MITIGATION AND SUSTAINABLE USE PROMOTION MEASURES



# Step 1. Identify priority species and review existing legislation on the use of the species

## 1.1 Identify the targeted species that will receive support. In order to do so you must select a species from one of the following categories:

1.1.2 Species that have benefited from a Participatory Rural Appraisal, such as one carried out using the instruments detailed in Part I of this Handbook.

1.1.3 CITES-listed species for which an impact appraisal has not yet been carried out. In this case, Parties must ensure that the species are being used by poor rural communities for commercial and subsistence purposes, representing one of its main sources of income.

## 1.2 Analyze the results of the Participatory Rural Appraisal once it is complete, in order to make use of the information collected.

## 1.3 Analyze the relevance of reviewing lessons learned from species not included in CITES

1.3.1 Information collected on the use of non-CITES species or higher taxa may be of some relevance. CITES-led studies on swiftlet bird nests (*Collocalia* spp.) and sea cucumbers (Holothurians - *Harpagophytum* spp.) consumed as food, for instance, provide some valuable lessons learned. Such literature that looks at the sustainable use of species is abundant and can make the learning curve associated with the sustainable use of CITES species more manageable. It would be especially useful to consult literature that deals with species that are not yet listed in CITES, but that are likely to be listed in the future.

## 1.4 Assess the implementation of measures listed in Article VII of the Convention

1.4.1 With regards to species included in Appendix I of CITES, it is recommended that Parties analyze the measures that take into account the exemptions listed in Article VII of the Convention, such as those related to captive breeding and artificial reproduction. The adoption of quota systems or measures to encourage the development of sustainable production systems can lead to the transfer of the national population of a species from Appendix I to Appendix II.

## 1.5 Review the legislation and regulations of each country and region

1.5.1 Inquire about the authorization processes, permits and transaction costs associated with production in captivity and extraction of wildlife for commercial use, with the appropriate environmental authority.

## 1.6 Postpone the entry into force of the decisions

1.6.1 Parties may consider the adoption of a flexible approach to the entry into force of CITES listings in order to ensure that there is sufficient time to implement the inclusions, and that the trade carried out in the framework of the listing is both legal and sustainable (e.g. sturgeon, seahorses, eels).

## Step 2. Generate a database of scientific and technological information for the sustainable use of the species

### 2.1 Establish links with universities and research centers

- 2.1.1 The establishment of alliances and agreements with biodiversity research centers as well as a budget that allows for scientific and technological research on ex-situ and in-situ production is essential for the design of sustainable extraction and production protocols intended for rural communities.
- 2.1.2 Establish partnerships with institutions that set quality, sanitary and phytosanitary standards and controls in order to comply with market standards. At this point, research on how to meet market standards will need to be undertaken. For example, both the US and in Europe require that medicinal plants derived from developing countries undergo toxicity tests. Such tests may entail substantial costs that could be covered by partner organizations.



## Step 3. Empower poor rural communities

### 3.1 Education and public awareness

3.1.1 Design public awareness campaigns, disseminate information, and conduct workshops with poor rural communities on the value of the sustainable use of the species, and the benefits to be gained by participating in community-based sustainable use programs.

3.1.2 Support the main users of wild products (eg. gatherers, farmers, administrators or other groups) in the creation of socially responsible associations or similar bodies that help create a governance structure for decision-making purposes.

3.1.3 Promote the adoption of extraction protocols and fair and sustainable trade standards in poor rural communities.

### 3.2 Design mechanisms for the equitable distribution of benefits

3.2.1 Design and implement participatory mechanisms for the rural poor that allow for the fair distribution and sharing of benefits resulting from the trade of CITES species.

3.2.2 Together with the rural community, design strategies to ensure that those affected by the implementation of the inclusion of species in CITES Appendices support the monitoring of the implementation and enforcement of the law to counter the trafficking of species.

3.2.3 Should cultural norms permit, establish specific strategies to expand the participation of women in productive, managerial and commercial activities.

### 3.3 Analyze poor indigenous and rural communities' access to resources and land tenure

3.3.1 Establish a plan and mechanisms that facilitate access to both the resource and land tenure as a strategy for sustainable use of the resource and the long-term welfare of the communities.

## Step 4. Design incentives and develop marketing strategies to promote in-situ and ex-situ production

### 4.1 Carry out market and production technology research

4.1.1 Conduct a study of the market structure in order to find out where value-added can be generated in the processing and marketing of the species or product, as well as to gather knowledge on potential clusters that can create a favorable environment for trade.

4.1.2 Conduct a local, national or international market study of the species to ascertain consumer preferences, negotiation terms (price, quality, volumes, seasons) and potential competitors in the sector or niche market.

4.1.3 Conduct a study of available national or international technologies (or prospective technologies) for reproduction in captivity or in-situ if appropriate, including value-added technologies (transformation, processing and transportation of the product or its parts).

### 4.2 Develop viable business and community initiatives

4.2.1 Encourage the development of prospective business ideas or initiatives so that poor rural communities may implement ex-situ production practices. The first step in strengthening promising business initiatives is the development of robust business plans, which could be supported by organizations that assist the development of micro and small businesses.

4.2.2 Establish agreements with local and national organizations that support entrepreneurship and trade promotion such as chambers of commerce, export promotion agencies and universities in order to effectively provide assistance while avoiding the duplication of efforts.

4.2.3 Conduct producer surveys in order to discern the need for access to microloans or other economic incentives that will aid the processing of products in order to meet market demands, for both the in-situ and ex-situ extraction of species.

4.2.4 Cultivate business linkages between domestic producer associations, international traders, and importers of CITES species.

4.2.5 Analyze the feasibility of establishing alternative production systems including agriculture, forestry or fishing that will help to diversify the source of income for poor rural communities and reduce the demand for CITES-listed species.

### 4.3 Mitigate conflict between humans and wildlife

4.3.1 When necessary, conduct an assessment of the potential impacts and losses caused by wildlife, particularly in the case of megafauna whose previously depleted stocks are in recovery. Depending on the case, evaluate together with the potentially affected communities the investments necessary to protect crops and livestock.

## Step 5. Promote engagement and cooperation between relevant governmental agencies

- 5.1 Define a technical, cross-sectoral work plan involving government agencies that deals with issues related to land and property rights, agriculture, conservation, rural development, trade and industry.
- 5.2 Interact and plan with international cooperation agencies to attract financial and technical support for the development of mitigation measures at the national level, or for each individual species at the local level.
- 5.3 Promote south-south knowledge exchange programs between stakeholders, national authorities, conservation agencies and international development experts related to the community management of natural resources.

## Step 6. Monitor and evaluate the impacts of mitigation and sustainable use promotion measures

### 6.1 Define a framework for the monitoring and evaluation of measures pursued.

6.1.1 Select indicators to evaluate business development initiatives.

6.1.2 Select social development indicators in accordance with the indicators selected in Part I of the Handbook

Questions that should be asked during the monitoring process include:

- Has the likelihood of conserving habitats and species of interest to the project increased? How has this benefited livelihoods?
- To what extent are the positive results likely to last in the long term?
- Are increased earnings attributable to the support received by the project?
- Have the successful experiences and failures of the project been documented and disseminated?

6.1.3 A useful tool for the monitoring and evaluation of impacts on the use of species was developed by the Cambridge Alliance for Conservation Measures and may be found here: <http://www.cambridgeconservationforum.org.uk/initiative/harmonising-measures-conservation-success>

6.1.4 The Theory of Change methodology may also be of use. A Theory of Change is a specific and measurable description of an initiative for social change that constitutes the basis for strategic planning, decision-making and evaluation (The Center for Theory of Change, Inc., 2013). This methodology may be consulted in the following publication: Organizational Research Services. 2004. Theory of Change: A Practical Tool for Action, Results and Learning. Prepared for Annie E. Casey Foundation. <http://www.aecf.org/m/resourcedoc/aecf-theoryofchange-2004.pdf>. Additional Information about ToC is available online at: Center for Theory of Change: <http://www.theoryofchange.org/library/publications/>

The steps above may be validated through existing standards and sustainability certifications for the use of wild resources. These standards, to be discussed in further detail below, offer a wealth of knowledge on the principles and criteria that must be taken into account in order to ensure economic, environmental and social sustainability.

# Existing standards and certifications for the sustainable use of species

The sustainable use of a species entails three broad pillars.

- I. The first pillar involves the environmental sustainability of the resource. Environmental sustainability implies that a constant supply of the species is maintained through sustainable harvesting practices, thus perpetually preserving a healthy number of stocks.
- II. The second pillar focuses on the resource's social sustainability, wherein it is expected that trade generates benefits for poor rural communities, thereby improving their quality of life and strengthening their livelihoods while simultaneously respecting their cultural norms and traditional uses and practices.
- III. The third pillar is based on the economic viability of productive initiatives. Economic viability implies that there is indeed a market for either the species or their parts. Demand must be steady and income stable, and opportunities to meet the conditions of the

market must be available. National and international regulations that permit the trade of the species are also required.

A number of sustainable use and fair trade standards as well as certification and verification seals are currently available. These standards and seals serve to ensure to consumers that the extraction or captive breeding of the species is carried out in a sustainable manner. In the event that the opportunity or viability of obtaining a certification for CITES species doesn't exist, the review of the following principles and criteria is still crucial to understanding the key elements and technical and management activities required for any project that seeks to promote the sustainable use of species.

Below are the four most relevant standards and certifications for CITES species that encompass principles and criteria for both timber and non-timber forest products, medicinal, aromatic and ornamental plants, and parts and products derived from wildlife.

TABLE 1: STANDARDS AND CERTIFICATIONS FOR SUSTAINABLE USE OF BIODIVERSITY

Standard	Scope	Principles and Criteria
Forest Stewardship Council (FSC)	<p>The principles and criteria of the FSC are applicable to all tropical, temperate, and boreal forests.</p> <p>Although the principles and criteria are primarily designed for forests managed for obtaining wood products, they are also relevant, in varying degrees, to forests managed for non-timber products and other services.</p> <p>More information at: <a href="http://www.fsc.org">http://www.fsc.org</a></p>	<p><b>Principle 1: Compliance with Laws</b></p> <p>The Organization shall comply with all applicable laws, regulations and nationally- ratified international treaties, conventions and agreements.</p> <p><b>Principle 2: Workers Rights and Employment Conditions.</b></p> <p>The Organization shall maintain or enhance the social and economic wellbeing of workers.</p> <p><b>Principle 3: Indigenous Peoples' Rights</b></p> <p>The Organization shall identify and uphold Indigenous Peoples legal and customary rights of ownership, use and management of land, territories and resources affected by management activities.</p> <p><b>Principle 4: Community Relations</b></p> <p>The Organization shall contribute to maintaining or enhancing the social and economic wellbeing of local communities.</p> <p><b>Principle 5: Benefits from the Forest</b></p> <p>The Organization shall efficiently manage the range of multiple products and services of the Management Unit to maintain or enhance long term economic viability and the range of environmental and social benefits.</p>

Standard	Scope	Principles and Criteria
		<p><b>Principle 6: Environmental Values and Impacts</b></p> <p>The Organization shall maintain, conserve and/or restore ecosystem services and environmental values of the Management Unit, and shall avoid, repair or mitigate negative environmental impacts.</p> <p><b>Principle 7: Management Planning</b></p> <p>The Organization shall have a management plan consistent with its policies and objectives and proportionate to scale, intensity and risks of its management activities.</p> <p><b>Principle 8: High Conservation Values.</b></p> <p>The Organization shall maintain and/or enhance the High Conservation Values in the Management Unit, through applying the precautionary approach.</p>
<p>International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP) (MPSG, 2007)</p>	<p>Designed to protect medicinal and aromatic plants (MAP). For the ISSC-MAP, the term “medicinal and aromatic plants” includes plants used to produce pharmaceutical products, diet supplements, natural health products, beauty aids, cosmetics, and personal care items, as well as some products marketed in the culinary/food sector (B. Paetzold, personal communication).</p>	<p><b>Principle 1. Maintaining Wild MAP Resources</b></p> <p>Wild collection of MAP resources shall be conducted at a scale and rate and in a manner that maintains populations and species over the long term.</p> <p>1.1 Conservation status of target MAP species</p> <p>1.2 Knowledge-based collection practices</p> <p>1.3 Collection intensity and species regeneration</p> <p><b>Principle 2. Preventing Negative Environmental Impacts</b></p> <p>Negative impacts caused by MAP collection activities on other wild species, the collection area, and neighbouring areas shall be prevented.</p> <p>2.1 Sensitive taxa and habitats</p> <p>2.2 Habitat (landscape level) management</p> <p><b>Principle 3. Complying with Laws, Regulations, and Agreements</b></p> <p>MAP collection and management activities shall be carried out under legitimate tenure arrangements, and comply with relevant laws, regulations, and agreements.</p> <p>3.1 Tenure, management authority, and use rights</p> <p>3.2 Laws, regulations, and administrative requirements</p> <p><b>Principle 4. Respecting Customary Rights</b></p> <p>Local communities’ and indigenous peoples’ customary rights to use and manage collection areas and wild collected MAP resources shall be recognized and respected.</p> <p>4.1 Traditional use, access rights, and cultural heritage</p> <p>4.2 Benefit sharing</p>



Standard	Scope	Principles and Criteria
		<p><b>Principle 5. Applying Responsible Management Practices</b></p> <p>Wild collection of MAP species shall be based on adaptive, practical, participatory, and transparent management practices.</p> <p>5.1 Species / area management plan collection practices.</p> <p>5.2 Inventory, assessment, and monitoring</p> <p>5.3 Transparency and participation</p> <p>5.4 Documentation</p> <p><b>Principle 6. Applying Responsible Business Practices</b></p> <p>Wild collection of wild MAP resources shall be undertaken to support quality, financial, and labour requirements of the market without sacrificing the sustainability of the resource.</p> <p>6.1 Market / buyer specifications</p> <p>6.2 Traceability</p> <p>6.3 Financial viability</p> <p>6.4 Training and capacity building</p> <p>6.5 Worker safety and compensation</p>
FairWild (FW) Standard		<p><b>WILD COLLECTION AND CONSERVATION REQUIREMENTS</b></p> <p><b>Principle 1. Maintaining Wild Plant Resources.</b> Wild collection of plant resources shall be conducted at a scale and rate and in a manner that maintains populations and species over the long term.</p> <p>1.1 Conservation status of target species</p> <p>1.2 Knowledge-based collection practices.</p> <p>1.3 Sustainability of collection rate</p> <p><b>Principle 2. Preventing Negative Environmental Impacts.</b></p> <p>Negative impacts caused by collection activities on other wild species, the collection area and neighbouring areas shall be prevented.</p> <p>2.1 Sensitive taxa and habitats</p> <p>2.2 Habitat (landscape level) management</p> <p><b>Principle 3. Complying with Laws, Regulations and Agreements.</b></p> <p>Collection and management activities shall be carried out under legitimate tenure arrangements and comply with relevant laws, regulations and agreements.</p> <p>3.1 Tenure, management authority and use rights</p> <p>3.2 Laws, regulations and administrative requirements</p> <p><b>Principle 4. Respecting Customary Rights and Benefit-Sharing.</b></p> <p>Local communities' and indigenous peoples' customary rights to use and manage collection areas and wild-collected target resources shall be recognised, respected and protected.</p> <p>4.1 Traditional use and practice, access rights and cultural heritage</p> <p>4.2 Benefit-sharing</p>

Standard	Scope	Principles and Criteria
FairWild (FW) Standard	<p>The FairWild Standard addresses the chain of custody in four phases, from the to the final buyer. It applies to wildlife collection companies that seek to employ social and fair trade aspects in order to achieve sustainability. The FairWild Standard was designed by the Swiss Import Promotion Programme (SIPPO), Forum Ezzenzia, and the Institute for Market-ecology (IMO).</p> <p>In 2008 the FairWild Foundation was endorsed at the World Conservation Congress as the official administrator of the FairWild Standard and the ISSC-MAP and is responsible for the quality and implementation of a unified standard combining these two standards as well as a certification system.</p> <p>More information: <a href="http://www.fairwild.org/documents/">http://www.fairwild.org/documents/</a></p>	<p><b>SOCIAL AND FAIR TRADE REQUIREMENTS</b></p> <p><b>Principle 5. Promoting Fair Contractual Relationships between Operators and Collectors.</b></p> <p>Collectors have the structures and access to information needed to represent their interests and participate in FairWild Premium decisions. There is no discrimination against particular groups as collectors.</p> <p>5.1 Fair contractual relationships</p> <p>5.2 No discrimination against collectors</p> <p><b>Principle 6. Limiting Participation of Children in Wild-Collection Activities.</b></p> <p>Collection and processing by collectors is done without substantial work contribution of children.</p> <p>6.1 Children and young collectors</p> <p>6.2 Collectors contracting children for collection work</p> <p>6.3 Children helping their parents in collection</p> <p><b>Principle 7. Ensuring Benefits for Collectors and their Communities.</b></p> <p>Trade intermediaries are minimized, collectors are ensured a fair price for the collected goods, and community social development is supported through means of a FairWild Premium fund.</p> <p>7.1 Fair pricing and payment of collectors</p> <p>7.2 FairWild Premium use and administration</p> <p><b>Principle 8. Ensuring Fair Working Conditions for all Workers of Wild-Collection Operations.</b></p> <p>The collection operation ensures good working conditions for all workers of the wild-collection operation.</p> <p>8.1 Basic labour rights for wild-collection operation staff</p> <p>8.2 Safe work environment for wild-collection operation staff</p> <p>8.3 Fair employment conditions for wild-collection operation staff</p> <p><b>MANAGEMENT AND BUSINESS REQUIREMENTS</b></p> <p><b>Principle 9. Applying Responsible Management Practices.</b></p> <p>Wild collection of target species shall be based on adaptive, practical, participatory and transparent management practices.</p> <p>9.1 Species / area management plan</p> <p>9.2 Inventory, assessment and monitoring</p> <p>9.3 Implementation of sustainable collection measures by collectors</p> <p>9.4 Training and capacity building</p> <p>9.5 Transparency and participation</p> <p><b>Principle 10. Applying Responsible Business Practices.</b></p> <p>Collection of wild resources shall be undertaken to support quality, financial and traceability requirements of the market without sacrificing sustainability of the resource.</p> <p>10.1 Market / buyer specifications</p> <p>10.2 Traceability</p> <p>10.3 Financial viability and accountable trade relations</p>

Standard	Scope	Principles and Criteria
The Union for Ethical Biotrade (UEBT)	The UEBT developed a verification framework for native natural ingredients. It is directed to private sector organizations looking to make a contribution to sustainable development and the objectives of the Convention on Biological Diversity through recognition of their policies on quality, sustainable sourcing, and corporate social responsibility. More information: <a href="http://www.ethicalbiotrade.org">http://www.ethicalbiotrade.org</a>	<p><b>1.Conservation of biodiversity</b></p> <p>1.1 Characteristics of ecosystems in which sourcing activities take place shall be maintained or restored.</p> <p>1.2 Sourcing activities shall conserve and restore biodiversity.</p> <p>1.3 Sourcing activities shall be aligned with strategies, plans or programmes for conservation and sustainable use of biodiversity applicable to sourcing areas.</p> <p><b>2 Sustainable use of biodiversity</b></p> <p>2.1 The sourcing of the species shall be supported by management documents addressing, inter alia: harvest rates, monitoring systems, productivity indexes and regeneration rates.</p> <p>2.2 Employees, suppliers and collectors involved in sourcing activities shall be trained in the implementation of good collection, cultivation and quality assurance practices.</p> <p>2.3 Purchasing schedules shall be organised according to the supply of the sourced species or the harvesting seasons.</p> <p>2.4 Appropriate mechanisms shall be implemented to prevent or mitigate negative environmental impact.</p> <p><b>3 Fair and equitable sharing of benefits derived from the use of biodiversity</b></p> <p>3.1 Negotiations related to the sourcing of biodiversity shall be transparent and based on dialogue and trust.</p> <p>3.2 The organisation shall pay equitable prices for the natural ingredients that it sources.</p> <p>3.3 The organisation shall contribute to local sustainable development goals in sourcing areas, as defined by producers and their local communities.</p> <p>3.4 Traditional practices linked to the sourcing of species and ingredients shall be recognized.</p> <p>3.5 The organisation shall comply with legislative or regulatory requirements on access to biodiversity and associated traditional knowledge for research and development and the sharing of resulting benefits.</p> <p>3.6 For research and development activities, even if there are no legislative or regulatory requirements on access to biodiversity and associated traditional knowledge, such access shall be subject to prior informed consent and based on mutually agreed terms.</p> <p>3.7 For research and development activities, even if there are no legislative or regulatory requirements on the sharing of benefits arising from the use of biodiversity and associated traditional knowledge, as well as subsequent application and commercialisation, benefits shall be shared in a fair and equitable way and based on mutually agreed terms.</p> <p>3.8 Patents and other intellectual property rights shall be exploited and enforced in a manner that is supportive to the objectives of the CBD and the Ethical BioTrade standard.</p> <p><b>4 Socio-economic sustainability (productive, financial and market management)</b></p> <p>4.1 The organisation shall demonstrate sound financial management.</p> <p>4.2 The organisation shall integrate the requirements of the Ethical BioTrade Standard into its management system for its operations and supply chains.</p> <p>4.3 The organisation shall have a quality management system in place, in line with market requirements.</p> <p>4.4 A traceability system shall be in place allowing identifying the origin of the natural ingredients.</p> <p><b>5 Compliance with national and international legislation</b></p> <p>5.1 The organisation shall respect international agreements related to biodiversity, particularly the CBD, the Nagoya Protocol and CITES.</p> <p>5.2 The organisation shall respect national and local regulatory requirements related to the use and trade of natural ingredients.</p> <p>5.3 The organisation shall pay legally required fees, taxes and other charges.</p> <p><b>6 Respect for the rights of actors involved in BioTrade activities</b></p> <p>6.1 The organisation shall respect human rights.</p> <p>6.2 The organisation shall respect the rights of indigenous and local communities, as defined by UNDRIP, ILO 169 and national laws, in its sourcing activities.</p> <p>6.3 The organisation shall provide adequate working conditions for its employees.</p> <p>6.4 The organisation shall not threaten local food security.</p> <p><b>7 Clarity about land tenure, right of use and access to natural resources</b></p> <p>7.1 The organisation shall use land for its sourcing activities with respect of established rights.</p>

The analysis of best practices, projects and lessons learned case studies regarding the use of species has been an important starting point since the Convention on Biological Diversity (CBD) and CITES first recognized the value of conservation, sustainable use and the fair and equitable distribution of benefits. In this light, and for the purposes of this Handbook, a series of relevant case studies were reviewed, resulting in eight key factors for the consideration of Parties when establishing mitigation and sustainable use promotion measures.

# Key factors for the establishment of mitigation measures

**Factor 1:** Compensation of the costs associated with the inclusion of species in CITES

**Factor 2:** Equity, empowerment and ownership

**Factor 3:** Formation of associations representing harvesters from poor rural communities

**Factor 4:** Market mechanisms and access to microcredit

**Factor 5:** Consumer confidence

**Factor 6:** Social and environmental certifications

**Factor 7:** Intersectoral technical support

**Factor 8:** Favorable international context

## Factor 1: Compensation of the costs associated with the inclusion of species in CITES

The impacts of conservation programs associated with CITES-listed species may have a disproportionate effect on poor rural communities. The implementation of decisions to list species in Appendix I and, to some extent, in Appendices II and III, implies the imposition of restrictions on trade and may limit the income sources available to the poor, particularly in the short term. Consequently, these communities may be negatively affected unless mitigation measures or alternatives intended to protect their livelihoods are designed.

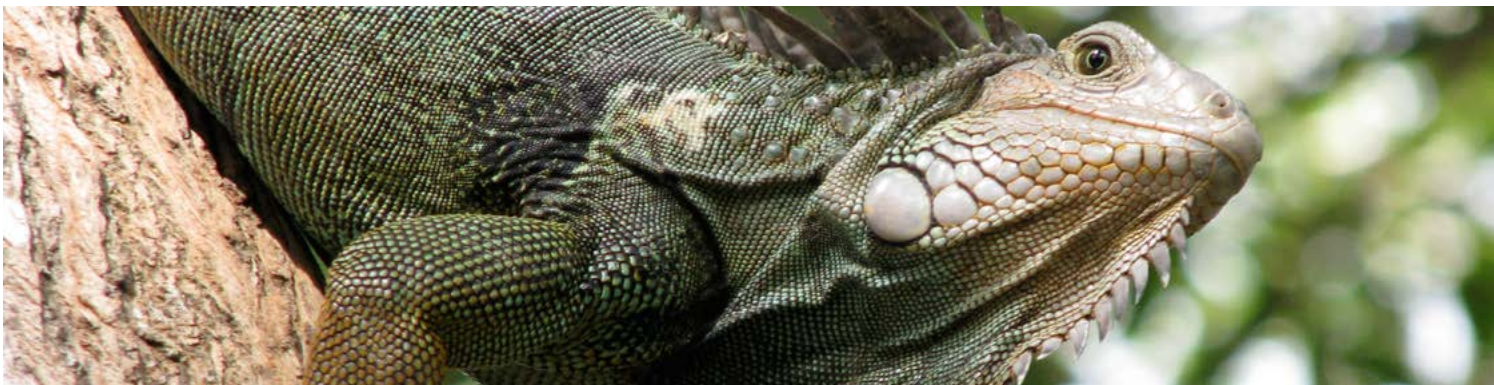
CITES implementation may also increase transaction costs (e.g. permits or authorizations). While intermediaries usually capture these costs, they have the potential of reaching actors throughout the value chain, including poor rural communities.

## Factor 2: Equity, empowerment and ownership

Many conservation programs seek to benefit poor rural communities, but experts suggest that the poorest of the poor do not derive equal benefits (see Jones, 2009; Honey, 1999). Inequities in terms of the ownership of resources, coupled with increased enforcement and compliance measures, a lack of education, and institutional weakness in terms of controlling illegal trade, affect the ability of the poor to stake their claim on the resources and increase their vulnerability to third parties (e.g. illegal extractors and wealthier people that can purchase or make use of the land) (FFI, 2008).

### Gender equality

Gender issues are explicitly addressed in most of the instruments proposed in this Handbook, but nevertheless deserve special attention. The European Commission (2008) highlights developing countries' lack of reliable and consistent data for the purposes of carrying out social analyses of trade in community products, particularly in areas such as gender differentiation. It is crucial for the execution of assessments and analyses of mitigation measures to distinguish between groups with different needs and livelihood strategies. Furthermore, the European Commission notes that within virtually all communities, differences according to gender, socioeconomic status, and geographic location exist (European Commission, 2008). In this light, whichever type of sustainability indicators is selected or designed to monitor mitigation measures should include gender indicators.



Marshall et.al. (2006) in their study of Mexico and Bolivia, emphasize that activities related to non-timber forest products (NTFPs) can give women a greater sense of self-confidence, potentially even improving their status within the household and community. The authors also stress that the successful commercialization of NTFPs can have a positive impact on the livelihoods of women, being one of the few activities that generates cash income for women in marginalized rural communities. What's more, the participation of both men and women in NTFP activities represent an economically viable activity in which an entire household may participate, as the work may be divided. Finally, given gender norms, women are more likely than men to participate in the processing and cultivation of NTFPs. In this sense, specifically helping women access technologies can increase women's yields in these activities and profit the whole household or community (Marshall et.al 2006).

To promote the commercialization of NTFPs so that it benefits women, we must work towards ensuring a sustainable supply of the resource, providing access to market information to women, and developing ways to overcome unequal barriers to power and market entry.

### **Factor 3: Formation of associations representing harvesters from poor rural communities**

The need for the poor to be represented through harvester and trader organizations was discussed during the 2006 CITES and Livelihoods Workshop (FFI, 2006), where it was agreed that representation mechanisms play an important role in ensuring that the distribution of benefits is equitable and does not work against the poorest sectors of society. An example of a successful implementation strategy of this concept is providing access to licensing to support such associations (e.g., for Hoodia in South Africa, as discussed in Annex I of this Handbook).

### **Factor 4: Market mechanisms and access to microcredit**

Unforeseen market forces have the ability to significantly impact actors throughout the value chain. It may turn out that the use of a CITES species is not profitable long term due to fluctuations in demand or market saturation, even when sustainability measures such as extraction quotas are put into practice.

The supply and demand for products derived from wildlife species may vary for reasons unrelated to CITES or conservation in general, for example, climate change or external market forces such as the introduction of replacement products. In other cases, price reductions may occur due to a specimen or product inundating the market. This particular phenomenon has been noted in the crocodile skin trade and sales of live white rhinos and Bighorn (Marco Polo) Sheep hunting trophies in Mexico (MacGregor, 2006; Reidl, 2006).

In addition, demand for wildlife specimens often falls when captive breeding proves to be more profitable, as captive-bred specimens have the advantage being tame, free of disease, and available in unusual color variations (Robinson, 2001). However, ex situ production of some species continues to be costly, so there are limited possibilities for sustainable wildlife production among those with limited resources (C. Ó Críodáin, personal communication). While microcredit represents a viable way for such communities to invest in ex situ production, access to microcredit may be restricted for the poorest populations. (Entwistle, 2002; Roe, 2002)

In order to address these situations, consideration could be given to broader development policies that support strengthening entrepreneurial capabilities, including providing access to microcredit for poorer communities. This may in fact go beyond the context of CITES implementation to include other methods for generating income unrelated to species use, such as agriculture, handicraft production, and other activities.

### **Factor 5: Consumer confidence**

The CITES vision statement begins with the words "Conserve biodiversity and contribute to its sustainable use..." (Strategic Vision, Conference Resolution 14.2). However, CITES is perceived as a convention that protects species against overuse, so it is considered to restrict rather than to promote trade. Although Appendix II listings are a positive way to promote sustainable trade, that is not how CITES is generally perceived from the outside, particularly among non-timber forest product, fishing, and timber producers (UICN, 2000). To instill consumer confidence, it is advisable to continuously highlight the Convention's non-detriment findings and enforcement and compliance measures

## Factor 6: Social and environmental certifications

When feasible, and when a certification standard for CITES species exists, certification should be sought. Even if the market does not require it for that particular species, environmental authorities may request certification to ensure sustainability. Consideration should be given to the fact that certification may be costly and thus become an obstacle to trade initiatives of the poor, unless there are organizations to assist them in obtaining certification (Bodmer, personal communication; Watson, 2005). Certification of the sustainable extraction of species could reverse current trends towards ex situ production, as in the case of crocodiles (Macgregor, 2006).

Certifications or compliance with rules and standards are thus an important and necessary mechanism. However, Parties must seek to support the poor so that they may benefit from them. To achieve this, existing certifications and standards should be included when planning the management of a country's timber and non-timber resources. If scientific authorities comply with accreditation standards as in the case of the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP), certification costs could be significantly reduced. Efforts are being made to achieve this through ISSC-MAP pilot projects in China, Cambodia, Nepal, India, Ukraine, Bosnia and Herzegovina, Brazil, and Lesotho.

The ISSC-MAP includes all of the standards required of a government, industry, and others (including poorer communities) for adopting and managing a resource sustainably while taking into account access, the sharing of benefits, value added, and FairWild certification processes.

The ISSC-MAP standard can be adopted within or outside the CITES species framework, because its purpose is to strengthen domestic management rather than placing management in the hands of CITES or the certifier. However, adoption of the ISSC-MAP does not preclude CITES listings. This approach encourages national authorities to consider the social criteria of livelihoods and biological resources simultaneously, as required by the Convention on Biological Diversity. Naturally, the ability to implement such a system is limited by a government's resources, but over the long term it may bring about significant gains (D. Newton, personal communication).

It is important to note that a large number of CITES species have no specific guidelines for certification of sustainable use, but using a general certification framework can help reorient Parties towards sustainable use without necessarily resulting in certification.

## Factor 7: Intersectoral Technical Support

Livelihood issues relating to the implementation of species listings in CITES Appendices can only be addressed successfully if they are part of broader poverty reduction strategies (C. Ó Críodáin, personal communication). When these strategies operate in isolation, their impact may be minimal.

It is therefore important for CITES authorities to establish intersectoral links with government agencies involved in issues of land and property rights, agriculture, conservation, rural development, trade, and industry. Technical assistance and partnerships will help CITES Parties to establish solid non-detriment findings; improve enforcement and compliance with the Convention's standards; employ market mechanisms when feasible; and ensure appropriate benefit-sharing mechanisms, with the objective of mitigating negative impacts.

## Factor 8: Favorable international context

The implementation of CITES listings implies stricter domestic measures pertaining to certain species and restricted market access for products originating from these species, subsequently affecting the income that can be earned from the sale of these species/products. Concerns of this nature have been voiced in relation to crocodile and sport-hunting product exports to the USA, of wild bird exports to the USA and Europe, of reptiles to Europe, and of a variety of species to Australia (Kievert, 2000; Cooney & Jepson, 2005). Stricter domestic measures may also have an impact on export opportunities as in the case of the Appendix II listing of seahorses in the Philippines (Christie, forthcoming). Finally, the recommendations of the CITES Significant Trade Review may also affect trade opportunities (Roe, 2002). It is thus recommended that Parties take part in international trade law discussions in order to address the potential impacts of such legislation on poor rural communities.



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# Annex I. Case studies

## I. Ecotourism

### A. Sea turtles (Appendix I)

Marine Turtle populations have been severely affected by harvest, by-catch, shipping and destruction of nest beaches. However, marine turtles are viewed as a “flagship species” and are reportedly a valued component of ecotourism projects that are being developed to contribute to local livelihoods. The potential for revenue generation from marine turtles for tourism purposes is reportedly greater than that from turtle products, and has the added benefit of being a more sustainable source of income long term. However, benefits derived from such projects depend on the level of investment and the stability of the tourism market. Also, benefits to the poor generally materialize in the form of employment, which in turn may require the poor to have prior education and training.

In the Caribbean, as in other parts of the world, marine

turtles are harvested both legally and illegally, particularly for domestic use of their eggs and flesh. Often there is little government enforcement of regulations and government is increasingly entering into co-management agreements with communities whereby the community receives benefits in exchange for the sustainable use of the resource, whether consumptive or non-consumptive. Such projects are frequently supported by NGOs who lend training, research and management assistance.

In Cuba, marine turtles were formerly harvested for food as per local livelihood needs, and their shells were stockpiled. Following the defeat of proposals to move the Cuban population of marine turtles to a CITES Appendix enjoying less stringent conservation rules so that the shells could be sold on the international market to raise extra revenue, there is currently no market for these shells (though CITES amendment proposals were submitted at CoP 10, 11, 12). These proposals proved controversial, partly due to the regional range of turtle populations.



G. Webb (pers. comm.) notes that “Clearly, had Cuba’s proposal been supported by the IUCN MTSG (Marine Turtle Specialist Group), and the legal trade allowed, CITES would have been in a prime position to maintain the incentives to increase legal trade and counter illegal trade. No such incentives exist today.”

#### **Key factors leading to success or failure**

- Flagship species;
- Consumptive use less profitable than value to ecotourism;
- Stability of tourism market.

#### **Future issues**

- Need to reduce by-catch and other sources of mortality and implement existing legislation
- Where tourism is not possible, need to find means to support disadvantaged poor.

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## C. Trophy hunting – Markhor (Appendix I)

Markhor were included in Appendix I in 1975, while Urial were included in Appendix II. Populations of both species inhabit the vast mountainous and forested regions across Central and Southern Asia. Both species declined due to poaching in the 1980s, leading to the establishment of a conservation programme with assistance from USFWS. Following negotiation, local tribesmen agreed to stop local hunting in exchange for potential employment and hunting opportunities and it wasn't until 1986 that the markhor and urial hunting resumed. Finally, in 1997 a CITES trophy hunting quota, which was subsequently doubled in 2002, was agreed upon. The Programme has continued to employ local tribesmen and provide support through extension work with the objective of improving infrastructure and agriculture, while the wildlife population continues to grow.

### *Key factors leading to success or failure Multispecies hunts;*

- Multispecies hunts;
- Conservation Champions;
- High value, Low off-take, allowing population recovery;
- Community buy-in and agreement;
- Community benefits through: employment, infrastructure projects and agricultural outreach.

### *Issues for the future*

This successful markhor project appears to provide a model for other communities to emulate. However, results from a Mexico case study suggest that increasing the supply of trophies may reduce prices and impact the projects (see Reidl, 2006).

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## I. Medicinal – *Hoodia* spp. (Appendix II)

*Hoodia* spp grow in southern Africa. Certain species, such as *H. gordonii*, produce a complex of substances that have appetite suppressant properties. They are also used as ornamental plants.

Trade in the genus reached a peak during the 2003 to 2007 period, causing widespread damage to wild populations of *H. gordonii* and to a lesser extent other *Hoodia* species. Consequently, in 2004 the genus *Hoodia* was listed in Appendix II with an annotation that indicated that CITES permits would not be needed for products originating from controlled harvesting and production operations collaborating with the CITES authorities in Botswana, Namibia, and South Africa (Anon 2008a.). This essentially means that trade not managed by the abovementioned state authorities is subject to CITES controls. According to proponents of the annotation, the intent was to encourage pharmaceutical companies to deal directly with countries to provide added value in the countries of origin. However, while recognizing the importance of supporting livelihoods, Switzerland placed a reservation noting that the annotation goes beyond the remit of CITES, regulating in effect only material from artificially propagated sources, or sources not working with the range state authorities (Swiss CITES MA, 2005). None of the range states have thus far entered into commercial agreements with companies, effectively meaning that trade in the entire *Hoodia* genus is controlled under Appendix II with no exceptions.

By 2009, the wild harvest industry had virtually shut down due to a glut of artificially propagated material and a decision by Unilever to pull out of an industry which benefited relatively few people - mostly farmers and business people in the medicinal plants industry in Namibia and South Africa. The only poor people to benefit were farm workers (both local and originating from cities), and this was curtailed by the plant's seasonal growth and the cancellation of permits to harvest wild plants. The only exception to this was the agreement signed with the South African Council (SAN) that allocated farm workers (through a trust fund) a portion of profits from the business based on their intellectual knowledge related to the use of the plant as an appetite suppressant (see Rachel Wynberg 2008 and 2009). Now that the industry has gone into decline due to Unilever pulling out, the value of this agreement

is questionable. There is still a demand for *Hoodia*, but mainly for alternative medicine purposes, and it is unclear how much poor rural communities will benefit.

### Key factors leading to success or failure

Unilever's decision to cease trade in *Hoodia* has led to a dramatic decline in the industry and its future remains uncertain. The continuation of the industry will depend on how much value is attributed to the inherent medicinal value of the plant and to some extent its ongoing use as an alternative medicine, and whether any other large industry players enter the space left by Unilever. The decline of the formal medicine market represented by Unilever leaves the future of the industry largely in the hands of the alternative medicine market, which does not add much value to the product in South Africa or Namibia as it is mainly dried plant material that is exported and value is added in the importing country. Income from this is likely to be minimal and income streams to poor communities and the SAN Council will also decline. As the annotation for this species is based on commercial agreements, its future without substantial corporate interest seems somewhat uncertain; and this similarly seems to limit livelihood options (D. Newton, pers. comm.).

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## J. Aromatics – Agarwood (Appendix II)

Agarwood is an aromatic material used in the production of incense. It comes from fungal infections on trees from the *Aquilaria* and *Gyrinops* genera. In 1995, *Aquilaria malaccensis* was listed in CITES Appendix II, and in 2005, the remaining *Aquilaria* and *Gyrinops* species followed suit. Agarwood harvesting is mostly carried out by organised groups, but some opportunistic harvesting may also exist. The majority of the harvest is likely to be destined for international trade. Studies in Lao PDR suggest that harvesters obtain a comparatively high proportion (20%) of the final sale price compared to other NTFPs at the national level, making it a significant contribution to livelihoods. However, the resource seems to be declining in all range states and more time is required on harvesting trips to gain comparable returns, even though prices are increasing in line with the scarcity of the resource.

Since the CITES listing, plantations have been developed in some countries, ranging from small-scale home gardens to larger commercial enterprises. These plantations have increased in number due to levels of scarce supply, particularly for higher quality grades of agarwood.

### Key factors leading to success or failure

- High Value;
- Lack of enforcement;
- High proportion of final price captured by harvesters;
- Donor and Business investment in plantation.

## Future Issues

- Sustainability;
- Tenure and governance.

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## V. Timber Products

### K. Mahogany (Appendix II)

In the Maya Forest of Mexico land is managed communally, by ejidos. These plots of land are used for timber production as well as farming. Mahogany is the most valuable product, commanding higher prices than the softwood and other hardwoods produced in the region. The ejidos recently developed management plans and operate on a 25-year cutting cycle. In addition, experiments on mahogany regeneration have shown that collecting seeds, producing seedlings and replanting in large areas of disturbance is beginning to show positive results. These locally managed forests are contributing to local livelihoods.

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## VI. Fiber and Skin Products

### L. Vicuña fiber (Appendices I and II)

As a native species, the vicuña is perfectly adapted to the harsh climatic conditions of the high Andean mountains, making it an ideal renewable animal resource. The species also plays a very important role in the ecosystem (I. Sanchez, pers.comm.).

Vicuña populations were included in Appendix I in 1975 as numbers had been driven to low levels by competition with livestock and poaching. Following its listing in Appendix I, the species has shown a dramatic population recovery, resulting in occasional conflicts with local people due to grazing competition. During the late 1980s and 1990s, many populations were moved to Appendix II, latterly for the purposes of live shearing and allowing trade in wool and wool-derived products, provided that such products are marked with the country of origin (all other products remain in Appendix I). Shearing is reportedly also successful in delivering benefits from wool sales to local people.

The management of vicuña related activities differs between range states depending on their socio-economic status and policies. In Bolivia and Peru, traditional Inca Chakus, or round-ups, are employed. Conversely, in Argentina, where land is generally under private ownership, the vicuña are maintained on ranches, while in Chile there is a mixture, with Chakus on communal lands and ranches on private lands. There are concerns however that the development of these fenced areas in some countries could lead to population fragmentation and genetic erosion. In Peru, the live capture and shearing has been shown not to adversely affect population status. Issues have also arisen surrounding the distribution of benefits, role of privatization, and problems associated with marketing boards. Modelling studies have recently warned that if community based conservation is not implemented carefully, its impact may be perverse.

National censuses carried out by various bodies (PEURV, INRENA and CONACS) showed that vicuña populations increased in Peru from a few thousand individuals in the 1960s to around 120,000 by 2000. In 1994, local communities were permitted by law to use vicuñas sustainably. Ensuring the conservation of the species, however, remains the responsibility of The Government (I. Sanchez, pers. comm.).

Law No. 26496 officially recognised over 600 local community organisations as entitled to sustainably use the species. This successful experience in which local communities manage the trade has placed Peru as a leader in the recovery and sustainable use of threatened species. It has also had a positive impact on the cohesion of local communities, as the whole community, including men, women and children, is involved in vicuña related activities (I. Sanchez, pers. comm.).

Despite the social and economic importance of vicuñas to poor rural communities in Peru, lack of infrastructure, including access roads serving areas where shearing takes place, is a common problem faced by fibre producing organizations, limiting their ability to profit from the trade. In 2008 the national market price per kilo of untreated wool was between US \$350 and US \$380. Combed fibre can reach US \$650 per kilo. Local women are responsible for combing the wool, receiving US \$70-140 per kilo. Export prices per kilo, on the other hand, are much higher, ranging from US \$400 for untreated wool, to US \$1,575 for combed wool (I. Sanchez, pers. comm.).

More than 5,680 communities (>2 million people, or 40% of the total rural population) control 39.8% of agricultural land in Peru, consisting of mostly natural pasture in the high Andes. The majority of these people live in conditions of extreme poverty. Therefore, in order to ensure sustainable development, these communities need to be officially recognised and permitted to benefit as much as possible from the trade in vicuña wool (I. Sanchez, pers. comm.).

Lichtenstein (2009) notes that despite the high international commercial value and worldwide demand for vicuña products, benefits for local communities remain elusive: intermediaries capture much of the value of the production chain. In addition, the vicuña fibre market is comprised of only a handful of large buyers and a large number of sellers (an oligopsony), which places control of the trade and most of the profits with the buyers. Lichtenstein maintains that a key element in tackling poverty alleviation in this case is to secure exclusive usufruct rights to vicuñas for Andean communities.



### Key factors leading to success or failure

- Ban in trade contributed to long-term population recovery;
- Split-listings allowed some experimentation with novel approaches to develop sustainable collection methods;
- High value product;
- Donor investment in projects to develop the new approach.

### Future issues

- Need for marketing of sustainable products amongst consumers;
- Need for in-situ production, and review of captive husbandry;
- Equitable sharing of benefits with the poor;
- The vicuña provides a particularly relevant case study for future consideration of livelihoods impact.

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Following large population reductions in a number of crocodilian species populations (although the statuses of some species were contested), many species were included in Appendix I in the early days of the Convention, thus banning their commercial trade. However, a number of trading states who were non-Parties continued to trade the species, and some Parties formulated reservations for particular species, permitting them to continue trading. Application of the Appendix I listing was in effect patchy, allowing some trade to continue. In addition, the Convention allows specimens of Appendix I species bred in captivity to be traded as Appendix II specimens, thus encouraging a switch from wild caught to captive-bred specimens. As the definition of “bred in captivity” was narrowed, a procedure for transferring crocodilians from Appendix I to Appendix II for farming purposes was introduced, eventually resulting in the split listing of several taxa. Ranching of crocodilians increased during the 1980s and 1990s, but communities are increasingly turning to farming or captive breeding.

### Key factors leading to success or failure

- Ranching provisions;
- Split listings;
- Individual/ commercial investment in crocodile facilities;

- Need for marketing of sustainable products to consumers;
- Need for in-situ production, linking production with the poor;
- More equitable sharing of benefits with the poor.

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## N. Peccary skins (Appendix II with zero quotas)

Peccaries, listed in Appendix II, produce a high-grade leather for which there is international demand. Following significant trade reviews in the 1990s coupled with concern over the high level of export of peccary skins, trade was banned in many range states. Thus, those involved in the trade of peccaries lost much of their revenue. Subsistence hunting, which represented the main benefit for the poor, continued despite the lack of value for the skins. In Peru, projects that develop added value for the skins have been implemented in exchange for the implementation of sustainable forest management with the assistance of donors and NGOs. The communities involved are working to develop management plans geared towards regulating the hunting of forest animals and the harvest of plant products in order to reach sustainable levels. Once sustainable harvests are in place and verifiable, then pelts can be certified as originating from forests that are managed for sustainable use. Given that Peccary pelts provide a high-end leather product, it is anticipated that a certification programme would increase benefits to local communities. However, the development of such programmes requires the investment of substantial financial and human capital over what could be a long period of time.

### Key factors leading to success or failure

- Population recovery; reduced consumption; investment in experimental projects;
- High value skins;
- Local communities obtaining rights to use natural resources;

## Future issues

- Individual returns on skins uncertain;
- Management of hunting for sustainability should allow continued hunting, but at lower levels than in the past.

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