CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Seventy-fourth meeting of the Standing Committee
Lyon (France), 7 - 11 March 2022

Strategic matters

Livelihoods

REPORT OF THE SECRETARIAT

1. This document has been prepared by the Secretariat.

2. At its 18th meeting (CoP18, Geneva, 2019), the Conference of the Parties adopted Decisions 18.33 to 18.37 on *Livelihoods*, as follows:

18.33 Directed to the Parties

Parties are invited to:

a) collate or conduct new case studies, using the standard template, that demonstrate how sustainable use of CITES-listed species contributes to the livelihoods of the indigenous peoples and local communities[*] involved in such use, including trade, and to the conservation of the species. Include examples of facilitating such involvement by wildlife-related authorities and other stakeholders and submit them to the Secretariat;

b) engage indigenous peoples and local communities[*] in CITES decision-making and implementation processes at the national level to better achieve the objectives of the Convention; and

c) where appropriate, incorporate issues related to CITES implementation and livelihoods into national wildlife conservation and socio-economic development plans, as well as in relevant projects being developed for external funding, including funding from the Global Environment Facility (GEF) through the Global Wildlife Program.

18.34 Directed to the Standing Committee

The Standing Committee shall establish an intersessional working group on CITES and livelihoods, which will work in collaboration with the Secretariat to:

a) monitor the progress made by Parties in implementing Decision 18.33 to engage indigenous peoples and local communities[*] in CITES decision-making processes to better achieve the objectives of the Convention; and

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[*] *For the purpose of these Decisions, "indigenous peoples and local communities" is understood to include rural communities.*

b) *review the report of the Secretariat on the progress made under Decision 18.35 and on the implementation of Resolution Conf. 16.6 (Rev. CoP18) on* CITES and livelihoods *and make recommendations, as appropriate, to the 19th meeting of the Conference of the Parties.*

Directed to the Secretariat

18.35 *Subject to the availability of external financial resources, the Secretariat shall:*

a) *support the collation or conduct of new case studies on CITES and livelihoods as described in Decision 18.33, paragraph a), and assist Parties to present the case studies in appropriate platforms, and in formats and manners that are most effective for targeted audiences;*

b) *commission an independent review, with inputs of experts from different disciplines, of relevant case studies on CITES and livelihoods, both existing and new, as well as existing guidelines on sustainable use of wildlife and engagement of indigenous peoples and local communities[*], to identify best practices;*

c) *based on the review, prepare guidance on how to maximize the benefits for indigenous peoples and local communities[*] of CITES implementation and trade in CITES-listed species;*

d) *taking into account past work on traceability reported in document CoP18 Doc. 42, explore the possibility of using registered marks of certification, existing and new, and other traceability mechanisms, for products of CITES-listed species produced by indigenous peoples and local communities[*] consistent with CITES provisions, in order to enhance conservation and livelihood outcomes;*

e) *facilitate the organization of a workshop to review the guidance developed as described in paragraph c) above, to present new case studies on CITES and livelihoods, and to facilitate the exchange of experiences in collaboration with relevant international and regional organizations;*

f) *organize the production of outreach materials, including publications and short videos based on the case studies, to raise awareness of and promote best practices in CITES implementation and livelihoods including its contribution to the United Nations Sustainable Development Goals (SDGs) and to share such materials on appropriate platforms, including the CITES website, social media channels, external media, and exhibitions; and*

g) *make efforts to establish global partnerships with relevant international and regional organizations, including conservation organizations and development agencies to work together in activities regarding CITES and livelihoods.*

18.36 *The Secretariat shall report to the Standing Committee on progress made with regard to the implementation of Decision 18.35 and Resolution Conf. 16.6 (Rev. CoP18) on* CITES and livelihoods*.*

18.37 *Subject to the availability of external financial resources, the Secretariat shall organize a joint meeting of the intersessional working group on engagement of indigenous peoples and local communities[*] and the intersessional working group on CITES and livelihoods to support the implementation of Decisions 18.31 and 18.34.*

Implementation of Decisions 18.33, paragraph a), and 18.35, paragraph a)

3. The Secretariat published Notification to the Parties No. 2020/029 of 31 March 2020 to invite Parties to conduct new case studies on CITES and livelihoods, indicating the availability of funding to support such work by Parties. The call for new case studies coincided with the emergence of the COVID-19 pandemic. As the preparation of case studies on livelihoods often involves fieldwork and travel which have been

[*] *For the purpose of th**ese** Decision**s**, "indigenous peoples and local communities" is understood to include rural communities.*

restricted by the pandemic in many parts of the world, the ability of Parties to contribute to new case studies has been considerably constrained.

4. Despite the COVID disruption, the Secretariat was able to commission case studies to ensure implementation continuity. Based on clear biological, geographical and trade criteria, 16 case studies were selected for different taxa that are subject to legal trade where benefits to livelihoods can be demonstrated. The 16 case studies listed below (one bullet may represent more than one case study), completed or ongoing, cover a wide range of taxonomic groups of species including mammals, reptiles and medicinal plants, found in Africa, Asia, Central and South America and the Caribbean, and North America, representing different purposes and forms of use:

   a) Cases in Africa

      i) Harvesting and trade in CITES Appendix-II-listed African cherry (*Prunus africana*) in Cameroon and the benefits for local communities

      ii) Harvesting and trade in monitor lizards (*Varanus exanthimaticus*, *V. niloticus*), pythons (*Python regius*), chameleons (*Chameleo gracilis, C. senegalensis),* and crocodiles (*Crocodylus niloticus*) in West Africa and the benefits for local communities

      iii) Trophy hunting and other non-commercial trade in specimens of African elephant (*Loxodonta africana*) and the benefits to rural communities in Zimbabwe

   b) Cases in Asia

      i) Harvesting and trade in CITES Appendix-II-listed jatamansi/spikenard (*Nardostachys jatamansi*) in Nepal and benefits for local communities

      ii) Harvesting and trade in CITES Appendix-II-listed agarwood (*Aquilaria malacensis, A. crassna,*
      A. chinensis) in one of the source countries of South-East and East Asia and benefits for local communities

      iii) Harvesting and trade in CITES Appendix-II-listed *Cibotium barometz* in Viet Nam and benefits for local communities

      iv) Harvesting and trade in a CITES Appendix-II-listed *Dendrobium* spp and the benefits for local communities in one of the source countries of South-East and East Asia

      v) Harvesting and trade in reticulated pythons (*Python reticulatus*) and water monitors (*Varanus salvator*) in Indonesia and Malaysia by indigenous people Orang Asli (Aboriginal) and other rural communities

      vi) Farming and trade in pythons (*Python bivittatus* and *Python reticulatus*) in the Mekong Delta area in Viet Nam and the benefits for local communities

   c) Cases in Central, South America and the Caribbean

      i) Harvesting and trade in CITES Appendix-II-listed holy wood (*Bulnesia sarmientoi*) in Paraguay and the benefits for local communities

      ii) Harvesting and trade in Argentine tegu (*Salvator rufescens*) and yellow anaconda (*Eunectes notaeus*) in the Chaco region of Argentina and the benefits for indigenous people and local communities

   d) Cases in North America

      i) Harvesting and trade in CITES Appendix-II-listed candelilla (*Euphorbia antisyphilitica*) in Mexico and the benefits for local communities

      ii) Harvesting and trade in CITES Appendix-II-listed American ginseng (*Panax quinquefolius*) in the United States of America and the benefits for local communities

iii) Promotion of vaquita-safe fishing methods that benefit local communities and the conservation of CITES species in Mexico

Funding for the case studies has been provided by China [including Hong Kong Special Administrative Region (SAR)] and the European Union.

5. The Secretariat supported a project designed to demonstrate that vaquita-safe fishing can provide a viable livelihood to local fishermen, thereby disincentivizing fishing with illegal gillnets that are harmful to the vaquita. Unlike other case studies which focus on livelihoods benefits from legal trade in CITES-listed species, this case study looks into ways of how local communities can benefit from not engaging in illegal activities that threaten the survival of CITES-listed species. It has been completed and is available in Annex 3 to the present document. The Secretariat thanks the Hong Kong SAR of China for providing the funding for this case study.

6. The key purpose of the preparation and compilation of case studies on CITES and livelihoods is to understand and support Parties' efforts in "maximizing the benefits for rural communities of CITES implementation and trade concerned" as called by Resolution Conf. 16.6 (Rev. CoP18), through sharing best practices and lessons learned. One way to facilitate this is the comparison and analysis of practices in the engagement of rural communities in the harvesting and trade in range countries of the same species, such as African cherry as discussed in the guidance that has been developed in response to Decision 18.35 c). Parties of range countries of same or similar species can also consider case studies on such species or involving similar types of use, such as trade in medicinal plants and reptiles traded for their skin.

Implementation of Decision 18.35, paragraphs b) and c)

7. In line with Decision 18.35, paragraphs b) and c), the Secretariat commissioned an independent review of relevant case studies on CITES and livelihoods, as well as existing guidelines on sustainable use of wildlife. Based on the review, the draft guidance on how to maximize the benefits of trade in CITES species for indigenous peoples and local communities was prepared (see Annex 1). The consultants reviewed nearly 50 existing case studies on CITES and livelihoods (the full list can be found in the annex to Annex 1 to the present document), summarized 10 lessons learned from the case studies, and proposed six key strategies for maximizing benefits from trade in CITES-listed species to indigenous peoples and local communities (IPLCs). The Secretariat is grateful to the Hong Kong SAR of China and the European Union for the funding to conduct the independent review and the preparation of the draft guidance.

8. On the basis of the review, six key strategies are proposed. The proposed strategies underline the critical importance of an enabling environment. While the concept of "enabling environment" depends largely on the context, the guidance places its focus on favourable domestic policies, strengthened awareness of CITES regulations and decision-making by IPLCs, and financial and technical support. The six key strategies are as follows:

   a) ensure that the enabling environment allows IPLCs to participate in sustainable wildlife management and trade;

   b) ensure that the domestic enabling environment allows IPLCs to participate in international trade in CITES-listed species;

   c) ensure that the enabling environment in consumer/importing countries allows IPLCs to benefit from trade in CITES-listed species;

   d) identify viable business opportunities for IPLCs and build their capacity to capitalize on them;

   e) strengthen IPLC organization and integration along the value chain; and

   f) build awareness of sustainable wildlife trade as a possible key contributor to resilient, nature-positive development in rich biodiversity areas.

   The Secretariat's reflections on the draft guidance and possible ways forward can be found in the discussion section below.

Implementation of Decision 18.35, paragraph d)

9. In line with Decision 18.35, paragraph d), the Secretariat commissioned a study to explore the use of registered marks, certification and traceability mechanisms for products of CITES-listed species produced by indigenous peoples and local communities to enhance conservation and livelihood outcomes (see Annex 2). The study notes the various aspects to bear in mind when assessing the merits of certification systems, i.e. governance, scope of application, verification, traceability and competitiveness. It then identifies a range of options of certification regimes that are in existence, from those governed by local community and national government, to business and multi-stakeholder voluntary standards. A CITES-governed certification scheme is developed as another possible option. The advantages and disadvantages of the options as well as cost implications and feasibilities are analysed in detail. The study also proposes to consider complementarity between these options, noting the considerable potential for using certification and other mechanisms for products of CITES-listed species produced by IPLCs to enhance conservation and livelihood outcomes.

10. The features, advantages and disadvantages, where applicable, of the various options, as discussed in the report, are summarized as follows:

    a) IPLC driven approach: This is the simplest means to employ certification that defines and verifies the source, i.e. from IPLCs, and specific livelihood benefits arising from their involvement in the production and trade in CITES listed species. Challenges to such schemes include difficulty of accessing investment and technical knowledge to support initial development. Market access can also be difficult, particularly where supply is destined for distant consumers through business intermediaries and retailers. An example of such a practice is the production and trade in extracts of Cape aloe (*Aloe ferox*) from South Africa that is used for medicinal and cosmetic purposes, which in some cases is already organised through locally governed producer groups.

    b) Government regulatory option: this is an option for individual Parties that can choose to make the demonstration of benefits to livelihoods a requisite before the issuance of CITES permits, as supplementary to the requirements for non-detriment and legal acquisition findings. The study considers the practices of national governments in regulating trade in *Hoodia* in southern African countries and vicuña in South American countries as examples of such practices. Groups of countries might also choose to collaborate in establishing complementary provisions for the same species.

    c) Business driven option: Such a system is typically developed and governed collaboratively by a group of companies with common interest in demonstrating quality and/or responsible sourcing. The practice of the International Reptile Leather Association to use an “endangered species protection tag” on finished leather products from CITES-listed reptile species can serve as an example, although it is not yet used to address livelihoods concerns. A potential weakness of this option is that they may be viewed by consumers and other stakeholders as lacking objectivity and representing a potentially vested interest.

    d) Multi-stakeholder voluntary sustainability standard option: A large number of multi-stakeholder voluntary sustainability standards exist and are potentially applicable to sourcing and trade in CITES-listed species. However, there are challenges for entry into such existing certification schemes, particularly in terms of costs of achieving certification for individual production operations.

    e) A CITES-governed certification option: The study draws attention to previous discussions in CITES (see document CoP15 Doc. 17 prepared by the Secretariat) which noted an increased recognition that the CITES permitting system is by itself a regulatory certification system for specimens in trade. Further, it suggests that the existing CITES universal tagging system for crocodilian skins and the labelling system for trade in caviar can be an inspiration for an additional “CITES Plus” certification system to incorporate assurances about other factors such as IPLC involvement and livelihood benefits accrued.

    Further reflections on the various options and the possible ways forward can be found in the discussion section below.

Implementation of Decision 18.35, paragraph f)

11. As mandated by Decision 18.35, paragraph f), the Secretariat received funding from Hong Kong SAR of China and the European Union to create short films on successful CITES and livelihoods stories in order to raise awareness and promote best practices. The production of some films has been completed. For others,

production is still ongoing or pending the ease of travel restrictions. The Secretariat's intention is to cover as wide a range of taxonomic groups and geographic regions as possible by such films. As with previous case studies, the Secretariat will promote the new studies through several means and platforms, including through side-events, exhibitions, websites, social media, etc.

Implementation of Decision 18.35, paragraph g)

12. In connection with Decision 18.35, paragraph g), the Secretariat has strengthened its global partnership on livelihoods-related objectives as outlined in Resolution Conf. 16.6 (Rev. CoP18) and in the context of the CITES contribution to the Sustainable Development Goals by working together with partner organizations on initiatives sharing similar interests and mandates. The Secretariat has been in close communication with the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) on livelihoods issues. A decision adopted at CMS CoP13 requests the CMS Secretariat to cooperate with the CITES Secretariat and the Secretariat of the Convention on Biological Diversity (CBD) on the organization of workshops and side-events to showcase livelihood experiences and exchange lessons learnt. The Secretariat also worked closely with the Sustainable Use and Livelihoods Specialist Group (SULi) of the International Union for Conservation of Nature (IUCN) to identify potential case studies and experts to undertake various studies.

13. Pursuant to Decision 18.35, paragraph g), the Secretariat also participated in livelihoods-related events of partner organizations, including:

    a) Annual meetings of the Steering Committee of the BioTrade Initiative of the United Nations Conference on Trade and Development (UNCTAD) held online in 2020 and 2021;

    b) UNCTAD BioTrade Congress in December 2021 where the CITES Secretary-General spoke at the high-level panel session and introduced successful CITES and livelihoods experiences; and

    c) IUCN's World Conservation Congress (Marseille, September 3 - 11, 2021) where the CITES Secretary-General gave a presentation at an online event on *Sustainable use: a powerful tool to ensure the conservation of species of wild fauna and flora.*

    The CITES Secretariat also planned to organize a joint side event with CITES Authorities of China during the CBD CoP15 in Kunming, China, to showcase the successful CITES and livelihoods case studies. The event has been postponed due to the postponement of the in-person session of CoP15.

14. World Wildlife Day 2021 was dedicated to the theme "Forests and livelihoods: sustaining people and planet". The Secretariat used the occasion of the global celebration of World Wildlife Day to highlight the intrinsic link between conservation and livelihoods of indigenous peoples and local communities. In her message for the day, the CITES Secretary-General Ivonne Higuero stated: "We wish to amplify the voices of representatives of these groups, so that their experiences and the novel paths they have taken in their march towards sustainability can inspire all global efforts to conserve forests and the species they harbour, without neglecting the needs of those who rely on them for their livelihoods."

Implementation of Decision 18.37

15. With regards to Decision 18.37, the Secretariat secured the funding to support the organization of a joint meeting of the Standing Committee working group on engagement of indigenous peoples and local communities (IPLCs) and the Standing Committee working group on CITES and livelihoods, which should also serve as the workshop envisaged in Decision 18.35, paragraph e). In consultation with the chairs of the two working groups, a joint online meeting which was scheduled for June 2021 was further postponed. It is the understanding of the Secretariat that the working group on IPLCs intends to request the extension of its mandate until after CoP19.

Discussion and implementation of Resolution Conf. 16.6 (Rev. CoP18)

16. The independent review of case studies and the preparation of a guidance to enhance livelihoods benefits as described in Decision18.35 paragraphs b) and c) are closely interlinked and have therefore been two components of the same undertaking, the output of which is presented in Annex 1. This study, which is a follow-up of a call in Resolution Conf. 16.6 (Rev. CoP18), represents the most comprehensive and in-depth analysis of the best practices in CITES and livelihoods so far, underpinned by nearly 50 case studies from across the world.

17. In general, the Secretariat believes that the strategies proposed in the draft guidance are in line with Resolution Conf. 16.6 (Rev. CoP18) and will be a valuable tool to guide Parties' efforts in supporting local communities to benefit from legal trade in CITES-listed species. The Secretariat would like to invite the Standing Committee to review the draft guidance and provide comments for further improvement.

18. The study on *Exploring the use of registered marks, certification and other traceability mechanisms for products of CITES-listed species produced by IPLCs to enhance conservation and livelihood outcomes* is also a follow-up of a recommendation in Resolution Conf. 16.6 (Rev. CoP18). As noted in the study, the main focus was on certification mechanisms which can vary in complexity, ranging from simple indications of provenance of the products to verification of compliance with complicated sectoral standards, through audit by accredited control bodies. The five options introduced in the study, each with its own merits, represent different levels of complexity, as well as cost implications which will all affect their feasibility and eventual application.

19. Since CITES itself is increasingly recognized as a regulatory certification system and represents a full set of legality and sustainability standards that are adopted and recognized by CITES Parties, the Secretariat is of the view that Parties can consider and eventually choose among the options provided and do so on a voluntary basis. In principle, the most effective and feasible solution could be a combination of a low-cost scheme with an option or options that deliver the most far-reaching impact. This may entail the collection of specific experiences and best practices on the ground and pilot testing of possible options. If the Standing Committee is interested in exploring further the above considerations, the Secretariat can prepare recommendations accordingly on the next steps in its working document for consideration at the 19th meeting of the Conference of the Parties.

Recommendations

20. The Standing Committee is invited to:

    a) review the draft guidance on maximising benefits to indigenous peoples and local communities from trade in CITES-listed species and provide recommendations for improvement so that the Secretariat can submit the draft guidance for consideration at the 19th meeting of the Conference of the Parties; and

    b) review the report on exploring the use of registered marks, certification schemes and other traceability mechanisms for products of CITES-listed species produced by indigenous peoples and local communities to enhance conservation and livelihood outcomes and make recommendations on possible way forward for inclusion in the Secretariat's document for consideration at the 19th meeting of the Conference of the Parties.

SC74 Doc. 21.2
Annex 1
(English only / únicamente en inglés / seulement en anglais)

CITES and Livelihoods:
Guidance on maximising benefits to Indigenous peoples and local communities from trade in CITES-listed species

(draft)

(This report is based on an independent review of existing guidelines and case studies on CITES and livelihoods in response to CITES Decision 18.35)

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Contents

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I. Background and introduction to this report

The responsible and sustainable use of biodiversity has significant implications for the survival of species, for the wellbeing of local people who rely on biodiversity for their livelihoods, and for long term maintenance and management of ecosystems and landscapes. Legal and well-regulated wildlife trade can support these three objectives. However, unless well-regulated, trade may have negative consequences for biodiversity conservation. In some cases, it has led to overharvest, population declines, and broader negative impacts on ecosystems.

In other cases, however, the benefits generated by trade have provided incentives for species and habitat management and protection and broader biodiversity conservation. Similarly, trade may have positive or negative consequences for the livelihoods of local peoples. As CITES Resolution Conf. 16.6 (Rev. CoP18 on *CITES and livelihoods*) notes: "*CITES-listing decisions are neither the sole cause of nor the sole solution to the livelihood problems of the rural communities, but that the effective implementation of such decisions can form part of a strategy to provide sustainable livelihoods for rural communities, consistent with paragraph 203 of the outcome document of the Rio+20 Conference The Future We Want*".

However, again, in some instances high-value commodities have been appropriated by powerful vested interests and benefits to poor communities have been nominal; illegal trade has even brought threats to local lives and livelihoods in some instances. A host of interdependent factors influence the positive and negative outcomes both for conservation and for people.

CITES was established to address the conservation of biodiversity – ensuring international trade in wild animal and plant species is ecologically sustainable - not the livelihoods of people dependent on that trade. The species for which trade is regulated by CITES are, with some exceptions, '*not widespread, abundant and/or highly used relative to many other wild species of commercial value*' (Roe et al. 2002). Nevertheless, the trade in some CITES-listed species may play a significant role in the livelihoods of people at the local level – as documented by the work of the CITES and Livelihoods Working Group.

CITES recognises that benefits derived from wildlife use can act as an incentive for conservation. Specifically, Resolution Conf. 8.3 on *Recognition of the benefits of trade in wildlife* adopted in 1992 recognises that '*commercial trade may be beneficial to the conservation of species and ecosystems and/or to the development of local people when carried out at levels that are not detrimental to the survival of the species in question*'. Nevertheless, while this Resolution notes the link between sustainable trade in wildlife and local development, it does not place any obligation on the Parties to establish or strengthen this link. However, following the rejection of a proposal to list Devils Claw - a Southern African medicinal plant - on Appendix II in 2000, partly on the basis of its potential impact on local livelihoods (Dickson 2008), an additional paragraph to Resolution Conf. 8.3 was agreed at CoP13. This new paragraph states that the Conference of the Parties '*Recognises that implementation of CITES-listing decisions should take into account potential impacts on the livelihoods of the poor*' (Resolution Conf. 8.3 (Rev. CoP13)).

At CoP16, Resolution Conf. 16.6 (Rev CoP18) on CITES and livelihoods recognised that the implementation of CITES is better achieved with the engagement of rural communities, especially those that are dependent on CITES-listed species for their livelihoods. The Resolution puts forward several recommendations for the empowerment of rural communities, their involvement in tackling illegal wildlife trade (IWT), mitigating negative impacts of listing proposals, and of moves from *in situ* to *ex situ* production. Several CITES Decisions have sought to provide practical tools and guidance to put this Resolution into effect (e.g., Decision 16.6 encouraging publication of CITES and livelihoods case studies; Decision 17.36 promoting the use of the CITES and livelihoods toolkit, Decision 18.33 encouraging collection of new case studies). Guidelines have been published in the form of a CITES and Livelihoods Handbook (CITES 2015), which provides guidance on how to assess the effects of implementing CITES Decisions on the livelihoods of the poor and how to address and mitigate those effects. This current report is concerned with a parallel decision, Decision 18.35, which calls for guidance on how to maximise the benefits for indigenous peoples and local communities (IPLCs) of CITES implementation and trade in CITES-listed species.

Maximising the benefits to IPLCs requires identifying the enabling and disabling factors that influence the accumulation and distribution of benefits and then **enhancing the enabling factors** while **minimising or mitigating the disabling factors**. Much has already been written on this issue as discussed in Section II below. Some sources of guidance include CITES-specific recommendations while others relate to wildlife trade or sustainable wildlife management more broadly. Other guidance relates to trade and enterprise from non-wildlife sectors but from which useful lessons can be learned.

The guidance on maximising benefits to IPLCs that is presented in this report is based on the lessons learned from that existing guidance and from case studies of trade in CITES-listed species. The case studies that were reviewed to draw out lessons were primarily those that have been submitted – by Parties and by others. The most recent of these are, as yet, unpublished. However, 10 earlier case studies were published on the CITES website in 2019.[1] Other "mini" case studies are included in meeting reports from the CITES and Livelihoods Working Group (also available on the same webpage). The published and unpublished CITES and Livelihoods case studies were supplemented by a call-out to members of the IUCN Sustainable Use and Livelihoods Specialist Group (SULi) for additional case studies – not produced as part of the CITES and Livelihoods Working Group programme - available in academic and "grey" literature. The case study review is thus NOT a comprehensive analysis of the literature and the case studies included are not representative of the huge number and wide variety of species traded under CITES. Nevertheless the lessons drawn from them are broad and likely applicable across a wide range of taxa.

Section II of this report reviews and summarises the existing guidance; Section II provides an overview of the case studies considered and summarises the key lessons learned from them; and then Section IV presents consolidated guidance – in the form of six key strategies – for maximising benefits to IPLCs based on the case study experience and the recommendations in existing guidance that have been made over the last two decades. It is perhaps worth noting that this "new" guidance reiterates much of what has already

[1] See https://cites.org/eng/prog/livelihoods

been said before, suggesting a **challenge in implementation rather than a lack of guidance**. Nevertheless, it is hoped that by synthesising this experience and bringing it together in one report it will provide a clear re-cap of actions that can be taken in order to enhance the benefits currently received by IPLCs from trade in CITES-listed species.

II. Existing Guidance on maximising benefits from wildlife trade to IPLCs - an overview

The Nagoya Protocol[2], agreed by Parties to the Convention on Biological Diversity (CBD) in 2010, provides international binding guidance on equitable sharing with IPLCs of the benefits arising from the utilization of genetic resources. However, no such protocol exists for benefit sharing beyond genetic resources. Nevertheless, there is no shortage of voluntary guidance on how to maximise benefits to IPLCs from wildlife management, wildlife-based enterprises, wildlife trade and trade in CITES-listed species. This section highlights some - but by no means all - of the guidance that already exists (including that developed by CITES itself) - as a reminder of recommendations already made.

1 Guidance on IPLCs and sustainable wildlife management

Decades of practical experience and conceptual thinking on community-based natural resource management (CBNRM) and community-based conservation (CBC) has highlighted the key conditions that are critical for incentivising the involvement of IPLCs in stewardship and sustainable wildlife management – whether or not it involves use and trade of wild species. Numerous global, regional, and national reviews of the impact and effectiveness of community-based approaches have been conducted and the key enabling and disabling conditions highlighted. The UNEP *"Wild Life, Wild Livelihoods"* report (Cooney et al. 2018) summarises the lessons learned from this long and diverse experience. Key among these is the need for policies that provide an enabling framework for devolved benefits, management and sustainable use of wildlife. However, what has also become clear is that other sectoral policies, often operating in tandem, may incentivise livestock and agriculture over wildlife or, severely constrain wildlife production (e.g., veterinary or phytosanitary (plant health) regulations). These, and poor land use planning, can undermine the sustainability of wildlife management and use.

[2] https://www.cbd.int/abs/about/

Importantly, supportive policy frameworks are not the only requirement. Table 1 provides a brief overview of key factors incentivising and disincentivising community involvement in wildlife management.

Table 1: Lessons learned from community-based wildlife management on factors that enable and disable IPLC involvement – based on Cooney et al. 2018

Factors	**Enablers of IPLC involvement in sustainable wildlife management**	**Disablers of IPLC involvement in sustainable wildlife management**
Wildlife attributes	High economic and/or social/cultural value – or at least high enough to compete with other land uses. Wildlife needs to be close, accessible, and its use in tune with other livelihood strategies	Sometimes very high economic value restricts government willingness to support IPLC involvement and also makes it harder for communities to secure and enforce common property rights. Similarly, rare and/or localised species may be subject to more regulation Migratory species are more difficult to manage due to operational practicalities and difficulties gaining consensus on ownership and rights
Community attributes	Small homogenous user groups - experience implies these tend to work better together than widely dispersed, socioeconomically or ethnically diverse ones	Lack of understanding of actors and interests and the local institutional arrangements that mediate their relationships with each other

Community management organisations	Institutions and organisations that have the capacity and motivation to manage wildlife. Sometimes this will be a traditional authority, or a new institution Availability of support to build institutional capacity where it is weak Devolution to the lowest level possible with downward accountability Strong and effective leadership	External donors and imposed external organisations along with their rules (including sanctions and bans) and processes (e.g. monitoring protocols and key performance indicators) Powerful vested interests that resist devolution of resource rights
Community resource use rules	Strong, enforceable land and resource rights Locally determined and enforceable resource use rules often based on social norms Enforcement support when needed A balance between customary and statutory law	Lack of support for, recognition of, and implementation of local rules and regulations and imposition of contradictory, externally developed rules
National policy and legislation	Supportive national policy and legislative framework that facilitates all the factors identified above	Competing sectoral policies that undermine devolved management and sustainable use – e.g. “perverse” livestock subsidies; veterinary fencing; lack of coordinated land use planning Bureaucracy associated with complex regulations and guidelines Stricter policy and legislation in third party countries, for example, unilateral trade bans on the use of certain wild species or their products

External support and influence	Technical support provided by governments and NGOs Provision of appropriate and accessible infrastructure Capacity and skills development NGOs working as trusted partners Accessible and flexible financial support Business/enterprise development support and market linkages	Patronage and corruption – often associated with bureaucracy Agenda driven NGOs with no accountability to local people and little understanding of practical realities on the ground

2 Guidance on IPLCs and wildlife trade

The general recommendations for an enabling policy environment for community-based wildlife management are echoed in more specific guidance on maximising local livelihood benefits from wildlife trade such as that provided in a framework developed by the International Trade Centre (ITC) and IUCN (Cooney et al. 2015). That framework covers species factors, governance factors, supply chain factors, and end-user factors that influence conservation and livelihood outcomes from wildlife trade. Consistent with the broad recommendations for effective CBNRM highlighted above, the ITC/IUCN framework notes the critical importance of secure property rights governing the use of land and wildlife resources to ensure harvest and use is sustainable and supports local livelihoods. More specific guidance from the framework includes:

- **Species factors**: IPLC wildlife trade enterprises are likely to be more secure when based on **species that are resilient to harvest** because the inherent productivity of the species, and thereby the income stream it provides, will be more stable. Where wildlife cannot readily recover from regular or ongoing harvest, species stocks will decline and harvest is likely to become costly or unviable for local business and communities. **Species that are easy to manage and accessible** (for

example sedentary rather than fugitive) are also likely to generate more viable enterprises.

- **Supply chain factors**: IPLCs are often involved at the initial stage (tier 4) of the wildlife trade supply chain – as hunters, harvesters or collectors, or first tier traders. Long supply chains often mean those harvesting the raw materials attract only a small share of final sales revenue at the consumer end of the value chain. **Strengthening the integration and value-add of IPLCs along the entire value chain** can be highly effective in improving livelihood outcomes. **Producer cooperatives and associations** that help strengthen bargaining power can be one way to do this. **Avoiding monopolies further up the supply chain** is also important, because it tends to reduce the bargaining power of local communities involved in harvesting (as is the case with trade of vicuna fibre (Lichtenstein, 2010)).

Value chain and market factors are also prevalent in the literature on use and trade of **non-timber forest products** (NTFPs) – again a subject that has generated decades of critical insights and can inform decision-making linked to trade in CITES-listed species. For example, Marshall et al. (2007) highlight a **lack of market information, together with the capacity to act upon it,** as the key barrier to entry into NTFP trade for local communities. By implication, a key mechanism to maximise benefits from trade – whether in CITES-listed species or other products – is to find ways to overcome that barrier. This includes ensuring local people have:

1) Knowledge of and access to market information (which is increasingly made possible through accessibility of affordable smartphone technology)
2) The necessary levels of technical skills, business acumen and access to credit or small-scale loans (without the undue influence of local loan sharks) to establish and operate a viable enterprise
3) Physical access to markets (e.g. roads and transport)
4) Sufficient bargaining power and economies of scale – often achieved through associations – to operate effectively.

The **BioTrade Initiative** – launched by UNCTAD in 1996 to support the sustainable use objective of the CBD – also reflects some of these issues. The BioTrade Initiative has developed a set of guidelines to enhance sustainability of trade in biodiversity-based goods and services, articulated in the form of BioTrade Principles and Criteria (UNCTAD 2020). While not specifically focussed on enhancing benefits to IPLCs, Principle 3 (of 7 Principles) is "Fair and equitable sharing of benefits derived from the use of biodiversity" and this requires BioTrade activities to "involve long-term partnerships along supply chains, fair prices and contributions to local sustainable development." Principle 6 requires BioTrade activities to respect rights of all actors involved in the trade including IPLCs; and Principle 7 on "Clarity on right to use and access to natural resources "seeks to ensure that BioTrade activities respect land tenure and resource rights as well as associated traditional knowledge (UNCTAD 2020).

3 Guidance on IPLCs and small enterprises

Guidance from **outside the wildlife trade sector** on how to maximise benefits from enterprise development for local people mirrors many of wildlife trade specific recommendations above. For example, guidance on **investing in locally-controlled forestry** (Elson 2012) highlights two key priorities:

1) Getting the external environment right – tenure, rights and "good enough" governance – and the need for IPLCs to "organise to thrive" (Box 1) in order to secure the necessary economic and political bargaining power to influence these external conditions
2) Getting the internal environment right - capacity to conduct and manage a viable enterprise or initiative and the role of external partnerships that can provide technical support, skills development, business support, and access to markets.

Box 1: Organise to thrive – the role of cooperatives and associations in improving local outcomes from wildlife trade

Organising and consolidating into cooperatives, associations, and federations can help individual harvesters, collectors, and hunters increase the viability of their initiatives through better links to markets, to within-community loaning, external financial services, and to policy and decision-makers. It can also help strengthen them against external, powerful interests that may seek to access their resources or infringe their rights. The figure below shows how rights-holders form cooperatives, that in turn join associations, that then organise collective action in federations.

The CITES and Livelihoods Handbook Part II also highlights the value of cooperatives and associations and how these can help ensure that the distribution of benefits is equitable, captured at the most local level and does not work against the poorest sectors of society. An example of a successful implementation strategy of this concept in the field of international wildlife trade has been the provision of access to licensing of such associations (e.g., for *Hoodia* in South Africa).

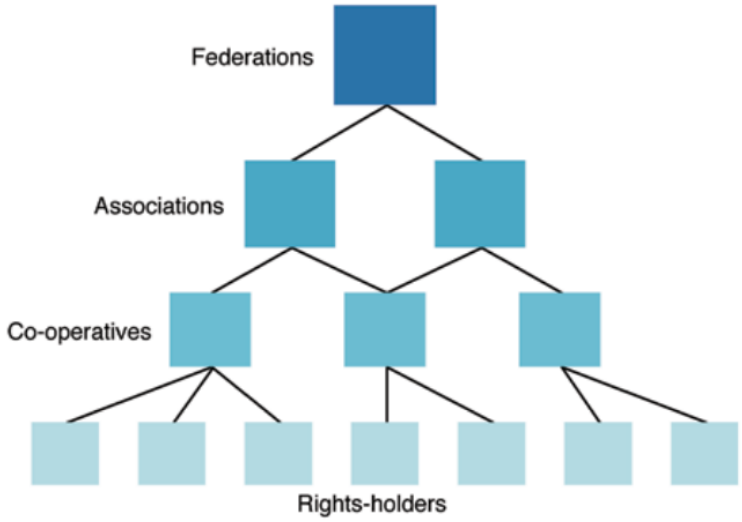


Figure 1: The hierarchy of organisation. *Source: Elson, D. (2012)*

Organising is also the first of six building blocks for community-based conservation enterprises highlighted by WWF in its *Nature Pays* Initiative[3]. It recommends:

[3] Nature Pays | WWF (panda.org)

1) Community organising – building the foundations for success by helping communities establish legal rights and access to decision-making structures
2) Product design – helping communities develop high quality, sustainable products that meet market demand and can generate a long-term livelihood
3) Operational capabilities – supporting the development of essentials including business planning, sales and marketing, and financial management
4) Environmental monitoring – ensuring that businesses contribute to conservation by helping to establish monitoring schemes, agreed performance indicators and environmental standards
5) Investment – funding community enterprises directly or connecting them with other sources of potential funding
6) Market access – helping communities ensure that their products are reaching the right customers in the right markets

The *Nature Pays* guidance also highlights key strategies that can be adopted at different stages of the value chain to enhance benefits to communities, summarised in Figure 1.

Figure 2: Tactics for improving community profit identified by the WWF Nature Pays Initiative[4].

[4] Source nature_pays___wwf_community_enterprise_practitioners_guide.pdf (panda.org)

4 Guidance on IPLCs and trade in CITES-listed species

Twenty years ago, before the issue of rural livelihoods came under discussion and debate within CITES, IIED and TRAFFIC published a report exploring the impacts of CITES regulations on the livelihoods of "bottom of the chain" harvesters and traders (Roe et al. 2002). Most of the recommendations in the report focus on integrating livelihoods considerations into CITES decision-making processes such as Significant Trade Reviews and listing proposals. But some recommendations also identified mechanisms to maximise local benefits which still remain relevant today. These include: adopting management practices that give preferential market access to communities that demonstrate sustainable harvesting; exploring the use of "pro-poor" certification mechanisms (recognising the barriers to poorer communities that can be presented by high cost certification); and building local capacity for ex-situ production in order to prevent a complete capture of market share by richer, remoter or more powerful stakeholders such as often accompanies a shift in production from wild harvest to captive production. Box 2 elaborates on the pros and cons of this approach.

Box 2: Incentivising *ex situ* production – pros and cons for IPLCS *and* for conservation

The criteria associated with import and export requirements for CITES-listed species act as a mechanism to encourage replacement of wild collected specimens with captive-bred or cultivated ones. In theory, if IPLCs are able to engage in ex-situ production of wildlife as opposed to relying on wild harvesting this could increase the benefits that flow to them through reduced trade constraints and hence more regular income. For example, small-scale farming of pythons and other reptiles in Viet Nam has provided a sustainable income stream for hundreds of households, while mitigating pressure on wild populations (Natusch and Lyons, 2014).

However, examples of successful and effective ex-situ production schemes are rare. While low barriers to entry are noted (in the NTFP literature and elsewhere) as a major advantage to harvesting of *wild* resources, involvement in captive production can be constrained by the requirement for capital investment which is beyond the reach of many poor people.

Furthermore, a critical issue, is that ex-situ production often happens outside of the species' natural range and decouples the use and trade of the species from in-situ conservation of the species and its wider habitat. The ITC-IUCN framework (Cooney et al. 2015) highlights for example

how wild harvest and trade of the blue-fronted parrot (*Amazona aestiva*) from Argentina to Europe generated significant local conservation incentives but once imports were banned into the EU the trade was largely replaced by trade from European captive-bred sources, with consequent collapse of the local conservation benefits. Experience from trade in crocodilians, a CITES conservation success story, is similar. The systems that maintain links to wild populations (either through direct wild harvest or offtake of eggs) typically have better species and habitat conservation outcomes than closed-cycle production systems (Hutton and Webb 2003; Natusch 2021). Natusch and Lyons (2014) note that even though ex-situ python farming has generated significant livelihood benefits, the benefit to wild python populations remains to be understood and that in the long term, ranching or wild harvest may provide greater incentives for broader biodiversity conservation and thus greatly outweigh the conservation benefit of purely closed-cycle python farming. It is therefore essential that python farming is not promoted in favour of sustainable wild harvesting. TRAFFIC (2008) suggests that to maximise the benefits of intensive production while minimising the negative effects of ex-situ production and/or cultivation there is a need for further exploration of *semi*-intensive production mechanisms that do not present barriers to entry for poor people and suggests this might mean coupling new production technologies with access to credit and training.

Guidance generated by CITES itself also reflects many of the issues raised elsewhere. Res Conf 16.6, for example, recognises the need for "maximizing the benefits for rural communities of CITES implementation and trade, concerned, in particular, to support poverty eradication" including through **promoting associations of primary users of wildlife**, and **recognizing resource tenure and ownership and traditional knowledge**. Decisions 14.3 on CITES and livelihoods directed the Standing Committee to initiate a process to develop tools and guidance for assessing - and then addressing the impacts of implementing CITES listing decisions on the livelihoods of the poor. This gave rise to the ***CITES and Livelihoods Handbook Part 2*** (CITES 2015) which, while focussed on mitigating the negative effects of CITES implementation on livelihoods, also includes some guidance on enhancing benefits (and echoes some of the recommendations made by Roe et al. (2002)). Key elements of the CITES guidance that can help maximise benefits from trade in CITES-listed species include:

- Supporting the creation of associations or other local level institutions that help create a governance structure for decision-making purposes.
- Promoting the adoption of fair and sustainable trade certification and standards in poor rural communities.
- Developing mechanisms for equitable benefit sharing.
- Supporting local-level ex-situ production enterprises.
- Facilitating partnerships with trade bodies and chambers of commerce.
- Providing access to micro credit.
- Minimising transaction costs associated with permitting and licensing.

Res Conf 16.6 also provides guidance on involving IPLCs in **CITES implementation** including:

- Engaging them in national processes when preparing and submitting listing proposals or other documents for consideration at meetings of the Conference of Parties and when reviewing such documents;
- Including them in official national delegations to meetings of the Conference of the Parties; and
- Promoting their participation in the development and implementation of national CITES-related policies.

These recommendations are reflected in the findings of an IUCN workshop on the links between CITES and CBNRM (Abensperg-Traun et al. 2011) which emphasised the importance of national governments in leading the way and proactively engaging with communities as well as support for developing local capacity.

More recently Cooney et al. (2021) provide some more detailed guidance on how implementation of CITES could be enhanced to maximise benefits for IPLCs and

conservation. They suggest that a broader range of stakeholders – including IPLCs – should be engaged in listing decisions and that the listing criteria could be usefully expanded to include a fuller range of social, economic, trade and ecological factors that influence conservation outcomes. This, they suggest, would help to ensure that the increased regulation required by governments once species are listed in CITES appendices is commensurate with local contexts, more manageable, and cost effective.

III. Ten key lessons from case studies of livelihood impacts of trade in CITES-listed species

Drawing largely from work of the CITES and Livelihoods Working Group, 48 case studies of local involvement in trade in CITES listed species were reviewed to identify key lessons. The case studies are summarised in Annex 1. The case studies cover 33 countries, with a high proportion (42%) from the Americas, followed by Asia (27%) and sub-Saharan Africa (24%). They discuss trade in > 40 separate species but with a strong bias towards reptiles. A more comprehensive review would be required to confirm if the lessons learned are applicable across a wider range of species and taxa.

The case studies demonstrate that trade in CITES-listed species delivers significant benefits to IPLCs. The most common of these is **income (93%)**, which supports increased food security, education and access to basic services in places where there are few other opportunities. Other benefits include:

1. **Job creation** – for example in Australia hundreds of people from rural communities are employed in the crocodile ranching industry
2. **Investments in community infrastructure** – for example funds from the harvest of Olive Ridley turtle eggs in one location in Costa Rica have helped to build a health centre, a high school, and secured an electricity supply
3. **Capacity development and training** – for example in Peru communities have been supported to build their management capacities for the sustainable use of yellow-spotted river turtle
4. **Food provision** – for example in Zimbabwe the meat from elephants hunted for trophies is shared amongst community members

5. **Availability of useful by-products** – for example in Argentina fat from yellow anacondas harvested for their skins is used for cooking and medicinal purposes
6. **Empowerment and pride** – for example in Argentina conservation outcomes and financial benefits are viewed as a source of pride by those involved in the harvest of caimans
7. **Cultural values** – for example in Canada the hunting of polar bears is part of Inuit culture and identity
8. **Environmental understanding** - for example in Mexico communities involved in the harvest and trade in Morelet's crocodiles report increased knowledge about animals and their habitats.

The case studies highlight ten key lessons learned for maximising benefits to IPLCs:

1. IPLCs need secure rights and responsibilities to manage wildlife and benefit from its use.
2. Incorporating traditional knowledge and skills into wildlife management can have more successful outcomes for sustainable use and trade.
3. Wildlife trade policy in both producer and consumer countries can, intentionally or unintentionally, undermine opportunities for IPLCs to benefit from sustainable wildlife trade.
4. Costly or bureaucratic licencing and permitting procedures for wildlife trade can act as a barrier to entry for IPLCs.
5. Even if entry barriers are overcome, technical support and capacity development in a wide range of skills – production, business, finance - is likely to be required to support the development of viable IPLC enterprises.
6. And when good business opportunities have been identified, financial support may be required for start-up or capital costs.
7. A lack of market awareness or ability to cope with fluctuating demand and prices can undermine the viability of IPLC enterprises.
8. Unequal market power can restrict the benefits captured by IPLCs.

9. Forming producer co-operatives or associations can help to empower and build capacity of IPLCs to negotiate better prices for their products and gain greater recognition of their role in sustainable management of wild species.
10. Multistakeholder partnerships can be central to providing technical support, overcoming barriers, scaling up approaches and ensuring longevity.

None of these lessons are new or surprising. They resonate strongly with those that emerge from decades of research and analysis in CBNRM, enterprise development and wildlife trade as highlighted in our summary of existing guidance on these issues. Below we illustrate each of the lessons with insights from the case studies.

1. IPLCs need secure rights and responsibilities to manage wildlife and benefit from its use

- The case study (#42) of community-based management of the giant river fish pirarucu (*Arapaima gigas)* highlights how giving communities a strong and recognized legal role in pirarucu use, management and trade, has been key to gaining their support and active involvement in sustainable management with resulting benefits for both livelihood and conservation. IPLCs involved in management are those residing in sustainable-use protected areas, on Indigenous lands or in other areas that are subject to state-recognised fishing agreements. They participate in monitoring, as well as in the development of local-level rules on the access and management of resources, such as the implementation of different use zones. The meat and skin of pirarucu are exported, both domestically (meat) and internationally (skins) to generate income and provide food for a large number of people as well as strengthening cultural values and traditional knowledge.
- In Bolivia there are fourteen management plans in operation across Indigenous territories and protected areas as part of a national conservation and use programme for the harvest of Yacare caiman. In the buffer zone of Iténez Park, members of the Bella Vista community participate in the hunting, processing and export of caiman skins for leather. The species management plan is updated every

five years and aims to "consolidate the processes of yacare harvesting, taking into account socio-cultural, economic, environmental, legal and institutional aspects, starting by strengthening co-management mechanisms that currently operate in Iténez Park and strengthening the capacity each of the actors that make up the organizational structure[5]". This case study (#25) recognises the importance of designing and implementing management plans that are based on local realities and notes that in Bella Vista they have achieved a high participation of Indigenous people in management decisions.

Spotlight: Polar bear hunting by Inuit communities (#47)

Species: Polar bear (*Ursus maritimus*)

Country: Canada

CITES Listing: Appendix II

In Canada, Inuit have traditionally hunted polar bears in their territories, with the activity being a major party of their identity, culture, values and livelihoods. Inuit have legally protected rights to harvest polar bears for food, cultural and livelihood purposes and directly use around 80% of harvested bears, with the remainder hunted as trophies.

Management is coordinated both locally and regionally, with community-based management playing an important role in enhancing community cohesion. Inuit roles and authorities in management are outlined in the Inuvialuit Final Agreement (IFA), which made Inuit partners in matters related to the management of wildlife in the Western Arctic. The agreement also recognised that traditional knowledge of the Inuit would be given full weight in determining the conservation status of wildlife populations.

This case study emphasises that meaningful engagement of Inuit communities, including recognition and respect for their interests, livelihoods, rights and knowledge, as well as proper implementation of obligations under agreements such as the IFA, is essential to ensure the ongoing effective conservation of the species.

[5] Llobet A (2018) Unpublished CITES and livelihoods case study.

2. Incorporating traditional knowledge and skills into wildlife management can have more successful outcomes for sustainable use and trade.

- In Brazil, community-based pirarucu management involves supporting community rights to monitor fish populations and to harvest the species for meat and skin under government approved quotas. Pirarucu need to surface every 20 minutes to breath, which allows them to be counted by highly experienced local and Indigenous fishermen who are skilled in knowing the subtle visual and auditory cues of surfacing individuals. In this case study (#42), drawing on this knowledge was key to establishing a monitoring methodology to effectively monitor pirarucu and decide sustainable quotas.
- In India, the Irula Co-operative Venom Centre was established in 1978 to support Irula tribal people to earn an income by sustainably extracting venom from several snake species (including CITES-listed cobra *Naja naja*) and selling it to anti-venom manufacturers. The case study (#32) is a good example of a tribal community maintaining their traditional lifestyle and skills through the sustainable use of wildlife. Irulas are skilled traditional snake-catchers and will not hunt depleted areas, instead relying on their innate sensitivity to habitat changes and knowledge of the species to ensure wild capture is sustainable.
- A key learning from a case study (#30) in Peru where communities harvest and artificially incubate yellow-spotted river turtle eggs is that traditional knowledge should be valued and integrated into management and decision-making. Amazonian communities, who live within the species range, have traditionally depended on the harvest, consumption and sale of turtle eggs for food and income, and their traditional knowledge about the species is critical to successful implementation of the programme and in carrying out effective monitoring.

Spotlight: Crocodile ranching in Northern Territory (#21)

Species: Saltwater crocodile (*Crocodylus porosus*)

Country: Australia

CITES listing: Appendix II

In Australia, rural communities harvest saltwater crocodile eggs from the wild to farm and raise the species for their skins, meat, and other products. Commercial crocodile farms pay a royalty to landowners, including Aboriginal traditional owners, for egg collection, which provides important income and motivates landowners to conserve crocodile habitats on their land. Crocodile harvesters and farmers must apply for a permit from the Northern Territory Government, who implement a Management Program of Saltwater Crocodiles in the Northern Territory. Under this program, the Northern Territory Government monitors wild populations and sets harvest quotas for the species to ensure that trade is sustainable and non-detrimental.

Both Indigenous and non-Indigenous community members are involved across most stages of harvest and trade. Around half of crocodile egg collection is undertaken by Indigenous people, and community members are also involved in ranching activities, such as incubating eggs, and raising and processing crocodiles for skins. In addition, Aboriginal ranger groups are involved as both harvesters and regulators, which has significantly added to community-based conservation and management of wildlife on traditional lands. Traditional knowledge is also used to support the programme at all stages, notably in searching for and locating crocodile eggs.

The case study lists several factors for success, including the cooperative roles played by Aboriginal communities and Indigenous support organisations, as well as strong oversight and management from both Northern Territory and national government in Australia.

3. Wildlife trade policy in both producer and consumer countries can, intentionally or unintentionally, undermine opportunities for IPLCs to benefit from sustainable wildlife trade

- In Nepal, the Jatamansi plant is commercially harvested and traded for medicinal and cosmetic purposes (#9). Between 100-150 tonnes of Jatamansi rhizomes are traded annually, which is a key source of income for many rural communities. Concerns over declining populations of the species due to overharvesting and habitat loss led to its inclusion on CITES Appendix II in 2007. In 2017 the government of Nepal adopted an Act aimed at strengthening CITES implementation in the country which banned exports of all Appendix II listed species, reducing local income generation. Beginning in 2018, a project led by TRAFFIC aimed to work with the Nepalese government to amend this Act to enable sustainable and legal trade in Jatamansi and other Appendix II listed

species. In 2019 new CITES Regulation was approved in Nepal, which allowed traders of CITES listed species to submit applications to obtain export permits, therefore enabling international export of Jatamansi to resume.

- Mismanagement of the harvest of African cherry (*Prunus africana*) bark for medicinal purposes led to the suspension of imports to the European Union (EU) in 2007 from Cameroon (#1). Since then, several steps have been taken to ensure sustainable management of the species, including the development of national sustainable management guidelines and efforts to ensure traceability and proper harvest techniques. This led to the EU overturning the suspension on imports in 2010.
- An EU suspension on imports of reticulated python skins in 2002 has reduced the economic benefits IPLCs in Malaysia are gaining from the trade (#33). Although exports from Malaysia are allowed under CITES the EU's Scientific Review Group is concerned that imports are detrimental to wild populations of the pythons. Steps taken by the Malaysian government include the establishment of a licensing and sustainability monitoring system, as well as improvements to governance and trade-management structures. Nevertheless, to date the EU ban remains in place. This appears to have initiated a spiral of decline - as well as reducing revenue to IPLCs. The ban also has resulted in reduced political will to undertake harvest monitoring and other supply chain improvements (e.g., animal welfare, trade transparency and traceability).

Spotlight: Domestic restrictions on harvesting crocodiles in Colombia (#15)

Species: American Crocodile (*Crocodylus acutus*)

Country: Colombia

CITES Listing: Appendix II

ASOCAIMAN is a community association with members involved in a sustainable use conservation strategy for the American crocodile in the Bay of Cispatá, Colombia. Two objectives needed to be achieved before the local community could start to legally harvest the species and support a sustainable industry in the international trade in crocodile skins:

1. Recover the population in the Bay of Cispatá

2. Have the Bay of Cispatá population moved from CITES Appendix I to Appendix II to allow regulated international trade in skins

Since 2003 ASOCAIMAN have been involved in research, monitoring, management and education activities directed towards recovery of the local population of American crocodiles. One of the aims is to build the capacity of local people to manage and benefit from wildlife and has included activities such as training former crocodile hunters to become protectors. Using 16 years of experience, the project developed an Integrated Management of Mangrove of Cispatá Bay for the species and its habitat.

Based on the success of the initiative, it was agreed at the CITES CoP17 that the Bay of Cispatá population could be downlisted from Appendix I to Appendix II. Ultimately, the sustainable harvest of American crocodile eggs for ranching for skins is expected to generate economic, social and ecological benefits for local communities, and this understanding has sustained the enthusiasm of local communities for a number of years.

However, as yet these benefits are not fully realised as a ban by the Colombian Ministry of the Environment means it remains illegal to harvest the eggs of the species in the Bay of Cispatá (despite the down-listing). The project remains reliant on ecotourism activities until this is lifted.

4. Costly or bureaucratic licencing and permitting procedures for wildlife trade can act as a barrier to entry for IPLCs

- In Georgia, a key challenge faced by communities involved in the snowdrop bulb trade (#11) is state ownership of natural resources and the requirement to have a license to harvest the species from the wild. This prevents communities from being able to harvest and sell bulbs directly because they cannot afford to buy licenses themselves. Licenses are instead bought by trading companies who hire communities to harvest, prepare and transport bulbs on a contract basis, limiting their involvement in trade to these activities. While the licensing system does help to ensure harvest is sustainable, it has curtailed the opportunity for IPLCs to be the primary producers, forcing them to operate through middlemen, and restricted the income that they are able to generate from the trade.

- In Nicaragua, Costa Rica and Panama, surveys from 1997 showed that farmers who wanted to breed iguanas for their meat, eggs, skins and as pets, needed to acquire several permits and certificates prior to obtaining founder animals from the wild (#38). The process entailed writing a project proposal requiring knowledge of natural resource management. Many poorly educated farmers therefore were disadvantaged and needed to get professional help in order to formulate and write their project proposals.
- Due to its listing on CITES Appendix II, in South Africa national regulation requires that permits be obtained for the harvest of Cape aloe for international export for medicinal or pharmaceutical purposes (#7). This places limitations on poor local harvesting communities, who are frequently unable to afford permit administration fees to harvest the species. In this respect, at CITES CoP 18 South Africa submitted a successful amendment to Annotation #4 to remove this regulatory burden for trade in finished products containing Cape aloe. The amendment was not expected to hinder effective regulation of the species given raw Cape aloe extracts (which dominate demand) would still be subject to strict controls. Instead, it was hoped that the amendment would simplify permitting and reporting, and eliminate the need to inspect consignments of finished products that contain minimal amounts of Cape aloe material.
- In Argentina, the eggs of two caiman species are collected for ranching in captivity and subsequent production of exotic leather (#16 and #24). Any raw, tanned, or finished caiman skins entering the market for international trade are required to be double tagged (via both national and CITES tagging systems) and government wildlife authorities are responsible for this. Reportedly, this requirement has significantly reduced illegal trade of the species, but it has also added costs to permits and reduced profits, particularly for small businesses.

Spotlight: Strengthening IPLC participation in the supply chain of snowdrop bulb harvesting (#11)

Species: Green snowdrop (*Galanthus woronowii*)

Country: Georgia

CITES listing: Appendix II

Rural communities harvest snowdrop bulbs in Georgia both from wild populations (which requires a license) and on lands registered as sites of artificial propagation. The majority of both wild stock and artificially propagated bulbs are exported to Turkey before being re-exported to the Netherlands via middlemen. The reason for re-exporting bulbs through Turkey is the poor capacity of Georgian harvesters and exporters to dry, store and transport bulbs. This allows Turkey to capture the added value of the services they provide. Based on informal information, the amount paid to primary harvesters is very low at around USD $1.6 per 1,000 bulbs. For comparison, a middleman may sell 1,000 bulbs for USD $30. This, however, remains an important source of income in an area with few other employment opportunities and middlemen do support trade by providing access to markets.

To improve livelihoods benefits from the trade of snowdrop bulbs, the case study recommended that communities be more involved throughout the value chain, for example by producing, preparing and selling bulbs directly to final consumers. This could be through capacity-building, development of producer associations, reform of regulatory and legal frameworks to better empower and enable harvesters, or by establishing of incentive schemes.

5. Technical support and capacity development in a wide range of skills – production, business, finance - is likely to be required to support the development of viable IPLC enterprises

- In the Democratic Republic of Congo rural communities who harvest the bark of the African cherry tree (*Prunus africana*) for medicinal purposes are not generating maximum benefits (#2). This is partly due to poor harvesting techniques and the case study recommends that communities are taught how to harvest the bark effectively without causing damage to the source trees. In comparison, in Cameroon an important factor in the success of the harvest of this same species (#1) has been the training of harvesters in proper de-barking methods.
- In Bolivia, rural communities capture and shear wild vicuña for their fibre which is then exported for the fashion industry, primarily to Italy (#49). A key factor in the

success of trade in vicuña fibre has been technical training in the capture, shearing and release process, particularly as it considers animal welfare and disease prevention.

- In Kenya, a ranching programme for Nile crocodiles is operated by three companies (#19). These ranches engage local communities to collect eggs seasonally from zones along the Tana River system. Community members are also employed at the ranches, where eggs are incubated and reared for skins for the international fashion market. The ranches provide initial training in best practices for egg collection, as well as ongoing training on a needs basis.
- In the Peruvian Amazon, the eggs of yellow-spotted river turtles are harvested and hatched in artificial beaches, with 50% of hatchlings exported for the international pet trade. The communities involved in the ranching programme receive 31% of the export value of the turtles, but this proportion could be increased by enabling community management groups to establish direct contact with buyers. The case study (#30) suggests that a way to do this could be through-capacity development both in the commercialization process and in meeting the documentation requirements of CITES.

Spotlight: Training in farming or wild-harvesting reticulated pythons (#33 and #34)

Species: Reticulated python (*Python reticulatus*)

Country: Viet Nam and Malaysia

CITES listing: Appendix II

In Viet Nam, roughly 1,000 households farm and trade pythons for their meat, skins, and other products. Farms range in size from small farms used to supplement income to larger operations with employees. Surveys with python farmers in 2014 indicated that many wanted to scale-up their operations, but that they lacked the financial or technical capacity to do so. Most farmers had not received any formal training in python farming and identified several areas where they felt training would benefit their business, including training relating to disease, hygiene, and temperature control.

Industry, government, and support agencies could enhance livelihood benefits from python farming through actions to: 1. Improve farm management practices, for example with guidelines and training; 2. Improve capacity of smaller farms to breed, for example by sharing best practices; and 3. Improve market information, for example by sharing market data. Farmers have highlighted the need for training to help them improve their business and generate better returns.

In Malaysia, reticulated pythons are harvested from the wild for their meat, skins, and other products and this represents a valuable income source for communities, contributing to food, housing and utilities. Although the biggest priority for this industry is to regain access to the EU market (an EU Negative Opinion on imports of python skins remains in place), a survey carried out in 2015 also indicated the need to improve hunting safety and sustainability, for example by providing guidelines and best practice when hunting pythons. A more recent review of python trade in Malaysia discusses how the Department of Wildlife and National Parks (PERHILITAN) have since undertaken workshops for harvesters, agents, and processing facility staff to provide hands-on training in correct techniques.

6. Even when good business opportunities have been identified, financial support may be required for start-up or capital costs

- The case study (#7) on Cape aloe tapping and processing, notes that being involved in the trade of wild species can be attractive to poor communities due to low entry requirements. For example, there is no need to have high levels of education or skills, nor the need to purchase expensive technology, meaning communities can combine aloe tapping or processing with other income-generating activities.
- But not all wild harvesting is low cost. In the case study (#42) of Pirarucu harvest and trade in Brazil for example, it was noted that the high costs of boats, fuel and ice that were needed to harvest and then store the fish limited the overall returns from the enterprise. The case study authors suggest that federal and state support, including subsidies, would be necessary to scale-up the approach.
- Costs can be particularly high when captive production is involved. For example, the case study (#34) of python farming in Viet Nam highlighted how many farmers

would like to expand their businesses to generate more income, but that they lacked the financial means to purchase additional cages.

Spotlight: Iguana farming in Central America (#38)

Species: Green iguana (*Iguana iguana*)

Country: Nicaragua, Costa Rica, Panama

CITES Listing: Appendix II

In Central America, iguanas are farmed for skins as well as for the pet trade for international markets. With few livelihood options available to resource-poor farmers, government institutions and NGOs proposed farming the species in the hope that the practice would provide extra income and protein, stimulate knowledge of and positive attitudes towards conservation, and reduce deforestation.

A survey conducted in 1997 to evaluate iguana farming systems in Nicaragua, Costa Rica and Panama showed that a key constraint to iguana farming by IPLCs was the high initial investment needed.

To begin iguana farming, materials such as cages, supplies and founder animals had to be purchased, along with feed on an ongoing basis. The average price of purchasing founder animals was much higher in Nicaragua than Costa Rica, whilst in Panama individuals could be wild caught with a permit. In some cases, credit programmes were available to start iguana farming, for example in Nicaragua FAO supplied farmers with capital to purchase founder animals and equipment and in Costa Rica they provided loans. The iguana farmers who received this assistance during the start-up phase were able to endure an initial period of low production, concluding that unassisted resource-poor farmers were not able to start iguana farming without these credit programs due to high initial costs.

7. A lack of market awareness or ability to cope with fluctuating demand and prices can undermine the viability of IPLC enterprises

- In Viet Nam python skin farmers have limited capacity to respond to market volatility as they have low understanding of the international exotic leather market (#34). For example, when asked about the potential impacts of a

hypothetical European trade ban as part of a wider survey undertaken in 2014, farmers responses underestimated how much of an economic impact this would have on their business.

- Trade in crocodilian skins appears to be particularly susceptible to demand fluctuation skins. For example, case studies on caiman harvest for skins in Argentina (#16 and #24) and Venezuela (#23), and crocodile harvest for skins in Papua New Guinea (#17 and #22) and Australia (#21), all identify fluctuating markets as a challenge which can adversely affect livelihoods benefits from wildlife trade. More stable demand for crocodile skins could help to enhance livelihoods benefits of communities involved in this trade. In Malaysia, the Department of Wildlife and National Parks (PERHILITAN) allows traders to **stockpile** skins in from wild-harvested Asian water monitors and reticulated pythons as a mechanism to buffer changes in demand (#36).
- In Bolivia IPLCs face key challenges due to the increasing tendency for buyers to purchase Yacare caiman skins from captive breeding operations rather than wild-sourced in order to secure higher quality products (#25). Prices for wild-sourced skins have declined as a consequence. A similar situation is reported in the case study (#30) of Amazonian communities in Peru involved in managing the harvest and artificial incubation of yellow-spotted river turtle eggs, which records a shift in demand within the international pet market to one favouring captive-bred sources of turtles. The case study suggests this could weaken conservation incentives for the species in the wild and livelihood benefits of those involved in the trade.
- A challenge facing the wild harvest and trade of Cape aloe in South Africa is the restriction on imports by some businesses due to its CITES status and a perception that this means trade is detrimental. This places products derived from the wild harvest of the species - in which IPLCs are involved - at a disadvantage compared to those from the widely commercially cultivated aloe vera – in which IPLCs are generally not involved. The case study (#7) suggests that improved communications are required to highlight the benefits (to IPLCs and species

conservation) of well-managed, legal trade in wild species in order to help resolve misconceptions.

- Tagging or certification can be a way to overcome this problem. For example, the yellow anaconda is harvested in Argentina primarily for skins for luxury leather markets (#35). Once skins have been harvested and dried, they are tagged before being shipped to a warehouse and tagged again with CITES-compliant export tags. These unique markers ensure that a premium is paid for skins and an annual price-setting process with local stakeholders means that these benefits trickle down to primary harvesters. It should be noted however, that tagging, traceability and certification schemes can increase costs to local producers - an issue discussed further in Broad and Natusch (2021).

Spotlight: Adding value to the harvest of vicuña fibre in the Andes (#48)

Species: Vicuña (*Vicugna vicugna*)

Country: Peru, Bolivia, Argentina, Chile

CITES listing: Appendix II

Peru and Bolivia are the two largest range states of vicuña in South America, where IPLCs capture and shear vicuña for their fibre which is then sold to both national and international buyers. While the sale of vicuña fibre is an important source of income, there is a desire within communities to explore ways to increase prices paid for fibre and particularly to add this value at the local level. Currently, there is limited scope for local involvement beyond capture and shearing, due to a lack of capacity and costs associated with equipment. The highest proportion of value addition takes place during machine processing, design and retail phases, which usually occurs in importing countries.

The case study makes several recommendations have been made that could assist IPLCs to add value and increase their benefits from trade:

1. Formulate policies and ethical fashion initiatives that support an enabling environment for local people to capture more value through cleaning, de-hairing and producing yarns locally.

2. Explore a joint commercial strategy among Andean countries to improve prices paid for the fibre.

3. Find ways to improve information exchange between countries and among producers.

4. Strengthen producer associations in their organizational, management and business development capacities.

5. Explore strategies to make the business environment more conducive to greater competition between buyers, thus pushing up prices paid to producers.

8. Unequal market power can restrict the benefits captured by IPLCs

- In Andean counties, the market for vicuña fibre is made up of low number of buyers of fibre from thousands of sellers. Rural communities who capture and shear vicuña for their fibre currently receive a small share of the final product value. This case study (#48) suggests that the nature of the current market structure means that prices paid to communities selling fibre are lower than if the market was more competitive.
- In Tajikistan, trophy hunting of Asiatic ibex and markhor can operate under community-based wildlife management systems, which generate economic benefits and incentivises conservation. This case study (#45 and #46) discusses that a key challenge to enhancing benefits to IPLCs however is competition with powerful national private hunting groups, many of whom are unsupportive of locally-owned wildlife management efforts.

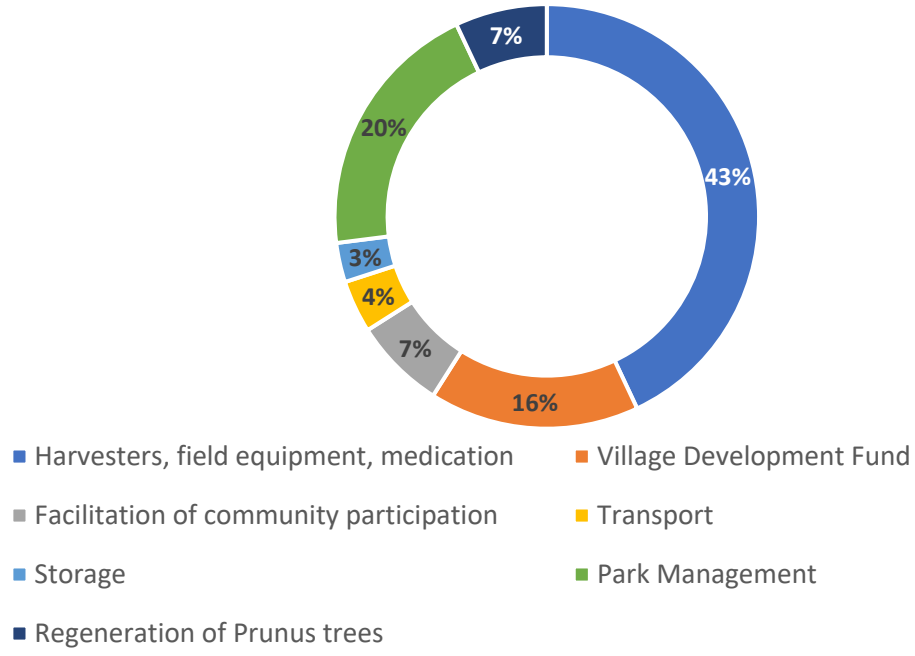
- **Spotlight: Comparing *Prunus Africana* trade in three African countries**
- Country: Cameroon, DRC, Uganda
- Species: African cherry tree (*Prunus Africana*)
- CITES listing: Appendix II
- Three case studies on the trade in *Prunus Africana* bark in Cameroon (#1), DRC (#2) and Uganda (#3) highlight some important reasons why trade contributes to livelihood benefits in some areas but not in others.
- Cameroon has a long history of trade in the species with periods of both unsustainable and sustainable harvesting. In 2007, the EU banned imports of *Prunus* bark due to observations of mismanagement and concerns about the wild harvest in the country. This was lifted in 2011 and measures have since been introduced to help ensure that quotas are not detrimental to

the species. The case study reports that there are three separate harvest models operating in the country and these vary in their reported success for generating livelihood benefits: 1. Private companies operating in Prunus Allocation Units (PAUs), 2. Harvest from community forests and 3. Harvest from protected areas (e.g. Mount Cameroon National Park)

- In the case study in the DRC, a lack of funding means there is no formal project where communities are involved in harvesting the bark of *Prunus.* Despite this, around 120 households harvest the species in areas to the west of the Rwenzori Mountains National Park in North Kivu province.
- In Uganda, communities are involved in planting, harvesting and selling *Prunus* bark from trees on their private lands to Cudwell Industries Ltd, which is the only registered trading company in the country. Cudwell pay harvesters directly, providing communities with an additional source of income alongside agricultural activities.
- Comparatively, the three case studies highlight several factors that have contributed to increased livelihood benefits:
- **1. Participatory management**
- In Cameroon, the model that is reportedly generating the most livelihood benefits for communities is *Prunus* bark harvest from within Mount Cameroon National Park. This is due to a participatory approach where local people are involved in management, leading to higher prices per kilogram of bark. In comparison, the case study reports that the price per kilogram is lower for bark harvested in community forests, where management needs to be strengthened. Likewise, harvest within PAUs, where communities are not involved in management, generates the least livelihoods benefits.
- In the DRC the lack of a formal management structure means that communities are unable to derive sufficient social and economic benefits from *Prunus* bark harvest. As a solution, the case study suggests that communities set up co-operatives or associations. This has benefitted local communities in Uganda, who have formed an umbrella association called Uganda Prunus Farmers Association, which advocates for ethical, regulated and sustainable harvesting of the species.
- **2. Training in proper harvesting methods**
- A key issue in the DRC has been the lack of training for local communities on appropriate bark harvesting techniques, which can be detrimental to the species. This was similarly a key factor which led to the EU ban on imports of *Prunus* from Cameroon and the country now ensures that trees meet a Minimum Exploitability Diameter as well as de-barking rotations of between 5 and 10 years. Despite this, private operators harvesting the species within PAUs do not

always respect these standards, whilst those harvesting from community forests are often not aware of proper techniques.

- Conversely, compliance with these operating standards in the Mount Cameroon National Park has been reported as a success factor along with the training of harvesters on debarking methods. In Uganda, communities are likewise trained in harvesting methods that are in line with sustainable utilisation principles.
- **3. Fair distribution of benefits**
- Across the three countries economic benefits are not generally equally distributed. A 2016 study found that harvesters working in the Mount Cameroon National Park received under US$1 per day and directly benefitted only 0.0004% of the population around the park (Cunningham, Anoncho and Sunderland, 2016). However, more recent information suggests that a revenue sharing mechanism is working effectively and that communities are receiving a fair proportion.
- ***Figure 3: Agreed benefit sharing for Prunus from the Mount Cameroon National Park (Betti et al. 2016)***



- In DRC, a key priority is to establish an effective benefit sharing mechanism for communities harvesting *Prunus* bark in North Kivu province. In Uganda, harvesters receive payments directly from Cudwell, which has provided an alternative source of livelihood for over 5,000 farmers. However, the case study reports that as Cudwell is the sole trader of *Prunus* bark in the country communities do not receive competitive prices and there is currently no value

addition – although Cudwell are in the process of constructing a *Prunus* bark processing plant which should provide increased local employment.

- There are strengths and weaknesses to each of the different country models. Overall, the harvest of *Prunus* bark from within Mount Cameroon National Park appears to be most successful in generating livelihood benefits for surrounding communities due to a combination of participatory management and an effective revenue sharing mechanism. However, the other two harvest models in the country are not reportedly working as well. This is because in community forests, communities are not well organised and lack awareness on proper harvesting techniques, whereas in PAUs communities are not involved in management and receive a very low price for the bark. In the DRC, the key issue is a lack of any project or initiative that formally involves communities in harvesting *Prunus* bark. In Uganda, *Prunus* bark harvest supports the livelihoods of over 5,000 farmers but there are concerns that continued low prices for the bark could turn them to alternative land use options. This case study suggests that government facilitate competition by allowing other *Prunus* traders to enter the market, which should increase prices paid to harvesters. Overall, whilst communities are benefitting in Mount Cameroon National Park, none of the countries currently have a nation-wide *Prunus* bark harvesting model that is working effectively for all communities involved.

9. Forming producer co-operatives or associations can help to empower and build capacity of IPLCs to negotiate better prices for their products and gain greater recognition of their role in sustainable management of wild species

- The case study (#25) of Yacare caiman harvesting in Bolivia for the international leather industry describes how tanneries have increasingly rejected wild-sourced skins (on the basis of poor quality) thus resulting in reduced income for harvesters – an issue not reported in Argentina where eggs are collected and ranched (#24). The case study suggests that formation of a harvester association could increase the bargaining power of the communities and help them resist price manipulation by the buyers (although this would not overcome the issue of the market preferring the unblemished quality of skins generated through captive production compared to the more “battled scarred” skins of wild-harvested animals).

- In a case study (#33) from Malaysia on the trade in wild harvested reticulated python skins, primarily for the fashion industry, it was suggested that a way to improve livelihood benefits was to improve transparency and communication between stakeholders. This could be achieved through the establishment of a national reptile skin association that could link together existing operations and facilitate the dissemination of best-practice standards.
- In Brazil, the Association of Rural Producers of Carauari links Pirarucu harvesters directly to buyers, selling skins directly to one of the largest tanneries in the country, and increasing returns to the local level (#42).

Spotlight: The Albertina Aloe Tappers Agricultural Primary Co-operative (#7)

Species: Cape aloe (*Aloe ferox*)

Country: South Africa

CITES listing: Appendix II

Cape aloe is South Africa's most extensively wild-harvested and commercially traded indigenous plant. Income from aloe tapping is vital in many rural areas where there are very low education levels and limited employment opportunities. Income is generally used for basic household needs although trade also supports livelihood outcomes such as resource access and land tenure. These livelihood benefits appear to incentivise conservation and current levels of harvest are not thought to be detrimental to overall populations.

In Albertina, in Western Cape Province, aloe tappers are self-employed but affiliated with the Albertina Aloe Tappers Agricultural Primary Co-operative. The Co-operative was established to distribute a greater share of product value to aloe harvesters and to enhance members' collective bargaining power with exporters. It is wholly owned by community members and was originally focused on aloe tapping, however is has now expanded into processing.

Aloe harvesters have been able to enhance livelihood benefits by earning a salary as tappers and in the processing factory, with products sold to upstream – downstream? aloe processors. Income is divided between the Co-operative (75% of payment from buyers is pooled and shared as salaries) and landowners (25%).

This case study recognises that harvester communities require financial support, training in processing, administration and marketing, and capacity building to assist them to form similar co-operatives or producer associations in the future.

10. Multistakeholder partnerships can be central to providing technical support, overcoming barriers, scaling up approaches and ensuring longevity.

- In Argentina, two species of caiman (Broad-snouted and Yacare) are harvested from the wild by rural communities. The case studies (#16 and #24) focus on the collection of caiman eggs, which are hatched and raised primarily for skins. The two species are managed under a single programme, with the Dirección Nacional de Fauna y Flora Silvestres (the Argentine Wildlife Directorate) responsible for the enforcement of regulations governing the programme. The IUCN SSC Crocodile Specialist Group provides additional support by carrying out annual monitoring. The caiman programme was initially supported by NGOs, which was fundamental to piloting and scaling-up approaches, and it has also received long-term support from government authorities. The case study recognises that both small and larger scale support has provided an enabling environment for effective monitoring, research and adaptive management that underpin the program.
- In Bolivia, a case study (#49) on vicuña management for the harvest of fibre highlights how international cooperation has played an important role in providing technical training as well as legal advice to IPLCs and their regional associations who manage the species. It also discusses how long-term commitment from government authorities has supported communities both with the identification and establishment of an international platform of buyers and with the process of selling their products.
- In Cameroon, several different players – government, private companies and local communities – are involved in the harvest of African cherry tree bark for medicinal purposes in Mount Cameroon National Park (#1). The harvest scheme in the park has been particularly successful (compared to other in-country operations) because development plans stipulate that local people should be involved in

management of the species. A revenue sharing mechanism also ensures that collectors are given 43% of revenue, with a further 16% going to a Village Development Fund. This has contributed to better food, housing, and school and health facilities for communities bordering the park.

Spotlight: Pilot project on sustainability, production systems and traceability of skins in Mexico (#18)

Species: Morelet's crocodile (*Crocodylus moreletii*)

Country: Mexico

CITES listing: Appendix II

In Mexico, the "Pilot project on sustainability, production systems and traceability of Morelet's crocodile skins in Mexico", is coordinated by the Mexican CITES Management, Scientific and Law Enforcement Authorities in collaboration with other stakeholders. The project involves ranching, monitoring, and management of the crocodiles to obtain skins for commercial trade. Community members collect and incubate eggs and raise hatchlings before they are sold to captive-breeding facilities. The aim of the project is to establish a sustainable, legal, and traceable production system for skins that delivers both conservation and livelihood benefits.

Project activities are guided by the "Ranching Protocol for the Morelet's crocodile in Mexico" published by the National Commission for the Knowledge and Use of Biodiversity (CONABIO) - which is the CITES Scientific Authority in Mexico - and developed in collaboration with the Mexican Crocodilian Expert Group.

Throughout the project, the coordination among actors involved in the value chain has been of the utmost importance for defining market strategies and improving production practices. For example:

1. CONABIO promotes both the crocodile monitoring programme and the development of the ranching protocol
2. The General Direction of Wildlife of the Ministry of Environment and Natural Resources (CITES Management Authority) provides support to communities to register their lands as Management Conservation Units and promotes sustainable use under legal frameworks
3. The Federal Attorney for Environmental Protection (CITES Law Enforcement Authority) helps to verify the legality of the ranching project and the traceability of skins

4. The National Commission of Natural Protected Areas helps to supervise the sustainability of activities
5. The Specialist Group on Crocodilians of Mexico supports with expertise in crocodilian management.

IV. Six key strategies for maximising benefits from trade in CITES-listed species and CITES implementation

Based on the lessons learned on best practice from the existing guidance and our case study review the final section of this report proposes some consolidated guidance for maximising benefits to IPLCs from trade in CITES listed species and implementation of CITES. Perhaps the most important recommendation is for Parties to **implement the guidance that has already been provided** – in some cases over a very long time period – including in multiple CITES Decisions and Resolutions. This existing guidance, combined with the lessons from the case studies, can be synthesised into six overarching strategies:

1. Ensure there is a domestic policy environment in wildlife producer countries that confers rights to own, access and/or benefit from sustainable wildlife management on IPLCs
2. Ensure there is an enabling environment in wildlife producer countries that specifically supports the participation of IPLCs to participate in international commercial trade in CITES-listed species
    a. Build IPLCs' capacity to understand how CITES operates, and the implications of listing decisions for their engagement in international trade.
    b. Ensure domestic wildlife trade policy does not inadvertently clos off opportunities for IPLC involvement
    c. Ensure CITES permitting and licensing processes are simple, affordable, are not unnecessarily bureaucratic
3. Ensure the enabling policy, consumer and market environment in consumer/importing countries supports the involvement of IPLCs in trade in CITES-listed species
4. Identify viable business opportunities for IPLCs and build their technical, business and financial capacity to capitalise on them
5. Strengthen IPLC organisation and integration along the value chain

6. Build awareness of sustainable wildlife trade as a key contributor to resilient, nature-positive development

In many cases these strategies imply action by governments in wildlife exporting countries. But support organisations are also critical. NGOs can play a major role in providing technical support, financial literacy training; best practice management and production techniques. Businesses can provide market information and awareness, facilitate links along the value chain and also provide similar technical support to NGOs in some contexts. We make suggestions as to who could take action to implement each of the strategies but this is in no way intended to be prescriptive – help comes in many forms in many different contexts and it is not possible to capture all of those in this short document.

1. Ensure the enabling environment allows IPLCs to participate in sustainable wildlife management and trade

A key first step is to ensure the domestic policy and legislative environment in wildlife producer countries supports the participation of IPLCs in wildlife trade. As already highlighted in existing guidance on community-based wildlife management and sustainable use, this means ensuring they have the appropriate rights to own or access wildlife and benefit from sustainable wildlife management and use. This includes devolution of authority to manage and benefit from wildlife, strong property rights, and avoidance of contradictory policies that undermine sustainably, locally-led, wildlife use and management. The case study of pirarucu management in Brazil highlights the positive impact of devolved wildlife management and strong, legally recognised user rights, on both conservation and livelihoods. Similarly, the case study in Canada discusses the legally protected rights Inuit have to hunt polar bears or to sell their hunting licences to others.

In some cases the policy framework may be partly enabling and partly disabling. For example, in some countries, IPLCs may have rights to manage and use wild species

(enabling), but this may not extend to use for commercial purposes (disabling). Or rights to manage and use wild species may exist but only for some species and some uses.

ACTIONS REQUIRED: For some countries the appropriate conditions are already in place. In other cases this may require revision of national (or sub-national) wildlife policy and legislation; forest, land and wildlife tenure reform; review and reform of policies that potentially undermine wildlife management – such as agriculture; and integration of wildlife use and trade into national and local development strategies.

BY WHO: National and sub-national government depending on the country involved and how wildlife and other sectoral policy and legislation is set.

2. Ensure the domestic enabling environment allows IPLCs to participate in international trade in CITES-listed species

Even where IPLCs have strong resource rights and the overall national policy framework for locally-led wildlife management is supportive, use and international trade of CITES-listed species brings with it a whole host of other requirements that IPLCs may be unaware of and around which their knowledge and understanding needs to be built. As the case studies demonstrate, a change - or even a proposed change - in the listing status of a species may change the ability of IPLCs to use and/or benefit from the species in the way they were doing before the listing. Implementation of CITES inherently involves a higher level of management and regulation in the form of licensing, permitting and quota setting, which may act as a barrier to IPLCs if it is unnecessarily expensive or bureaucratic as the snowdrop bulb harvesting example from Georgia illustrates. For example, if it takes 3-6 months to secure an export permit and a long trip to a capital city to make an in person application it is unlikely a viable business will be easy to establish.

ACTIONS REQUIRED:

a. Ensure IPLCs are aware of CITES, how it operates, and the implications of listing decisions for their engagement in international trade.

It is important to build IPLC awareness of how CITES operates in order to avoid unrealistic expectations. Involving IPLCs in the collection of information to submit or respond to a

listing proposal can be an effective way to build this awareness and knowledge. Similarly, involving IPLC representatives of wildlife user groups in national CITES delegations can provide an opportunity for them to directly raise their concerns over the potential positive or negative impacts of listing decisions at meetings of the CoP.

BY WHO: National and sub-national, governments can ensure IPLC wildlife user groups are consulted and, subsequently, represented in official delegations. Support NGOs can help build technical capacity amongst IPLC wildlife user groups to understand CITES processes and associated opportunities and limitations, NGOs involved in collecting information and evidence for CITES listing proposals can help ensure IPLCs are able to contribute to the process and that their knowledge is reflected. Donors and CITES Secretariat can help ensure financial support is available to enable IPLC members of delegations to attend CoPs.

b. Ensure domestic wildlife trade policy does not inadvertently close off opportunities for IPLC involvement

As the ASOCAIMAN example from Colombia highlights above, sometimes Parties will ban trade in a species despite it being listed on Appendix II rather than I, which limits livelihoods benefits. Similarly in the Philippines there is a domestic ban on trade of Appendix II-listed seahorse species, curtailing a source of livelihood for harvesters and traders (and also, in this case negatively impacting conservation since the ban stimulated a black market, higher prices and over-exploitation) (Christie et al. 2011). If there is a reason why stricter wildlife trade restrictions are considered necessary then involving IPLC wildlife user groups in discussions about this will help raise awareness and increase local support.

BY WHO: National/sub-national wildlife management authorities

c. Ensure CITES permitting and licensing processes are simple, affordable, are not unnecessarily bureaucratic,

As the case studies of snowdrop harvesting in Georgia and Cape aloe harvesting in South Africa illustrate, permits to harvest snowdrop bulbs from the wild are unaffordable for IPLCs, so are instead purchased by trading companies. This limits community involvement to the primary harvest of the bulbs and restricts them from increasing their income from trade.

BY WHO: National and/or sub-national wildlife management authorities - including the national CITES Management Authority - are responsible for licensing and permitting and may need to review the process and requirements to determine how it can best be simplified and made as accessible as possible to IPLCs. NGOs can provide technical support and guidance in this regard including best practice examples from other countries or other sectors. NGOs can also support individual producers/harvesters to organise into cooperatives and/or associations as a way to spread costs and capacity to engage with bureaucracy.

3. Ensure the enabling environment in consumer/importing countries allows IPLCs to benefit from trade in CITES-listed species

In some cases the domestic policy and legislative environment in wildlife producer countries may be highly supportive of IPLC involvement in trade in CITES-listed species but external pressures may still limit their ability to maximise the opportunities that international wildlife trade presents. For example, in some cases international consumers may have little understanding of what it means if a species is CITES-listed and may assume all trade is illegal and that species are on the brink of extinction and therefore should be avoided. In other case consumers may assume purchasing wildlife and wildlife products from captive bred facilities is more beneficial for conservation and livelihoods than wild-sourced products. As well as consumer pressure, importing countries may implement stricter domestic legislation than those deemed necessary by CITES, curtailing an export market for some goods. These “stricter domestic measures” may be driven by political lobbying in consumer countries on the basis of animal welfare concerns – for

example in relation to the import of hunting trophies or “exotic” leather such as that from snakes or crocodilians – or by prevailing legislation in importing countries such as the US Endangered Species Act.

ACTIONS REQUIRED: Diplomatic engagements between exporting and importing countries. Sensitisation of consumers of wildlife products and of concerned citizens in importing countries as to what CITES listings do and do not mean, and also on livelihood and conservation impacts of trade in CITES-listed species, is also required. To date, however, sensitisation campaigns have not proven effective and more innovation in approach and messaging is required.

BY WHO: Government representatives from producer and consumer countries and/or trade envoys can lobby and negotiate with respective counterparts. Governments in consumer countries can regularly review their domestic legislation to ensure it is based on best available evidence. Parties could also take part in international trade law discussions in order to address the potential impacts of such legislation on poor rural communities (CITES 2015). NGOs can help raise awareness amongst consumers and citizens.

4. Identify viable business opportunities for IPLCs and build their capacity to capitalise on them

If the external environment is supportive of involvement of IPLCs in trade in CITES-listed species, the next step is to identify viable business opportunities that IPLCs could take advantage of. As identified in *Wild Life, Wild Livelihoods* and in the ITC/IUCN Framework, not all wildlife lends itself to community managed harvest and trade. Viable businesses require a consideration of a) the attributes of the wildlife species that might be traded: Is it close by? Is it easy to harvest? Is it resilient to harvest? b) Of the IPLCs and their organisations wishing to engage in wildlife trade - how many people are involved? How aligned are their interests? Do they have sufficient capacity? And c) of the market for different products – is there demand? Do consumers prefer wild harvested or captive bred/cultivated? Are the costs of production manageable?

Tools exist from the small enterprise sector for identifying market opportunities and some conservation organisations have adapted some of these specifically for conservation-linked enterprises.[6] The WWF *Nature Pays* Initiative suggests starting with products already being harvested/used first and look at how these markets might be expanded and how the share of the value captured can be improved. And then look to diversity into new products and services – ensuring proper market research has been conducted and that evidence of demand exists.

ACTIONS REQUIRED: If viable wildlife trade opportunities do exist, the next step is to provide the necessary support for IPLCs to take advantage of these opportunities. Depending on the specific context this might involve technical support (for example in sustainable harvesting and production techniques or in business skills and financial literacy); financial support in terms of start-up costs, equipment costs or ongoing access to micro-finance; market information and access and capacity to act on that.

BY WHO: NGOs often provide this kind of support to community enterprises – indeed *Nature Pays* highlights this as a role for WWF. But in many cases NGOs are not themselves sufficiently business-oriented to fill this role. Ideally this role should be filled by private sector partners – investors, enterprise developers, buyers – who are able to make market linkages, identify exactly what kind of quality/traceability or other standards their sector or individual business demands, provide market intelligence and information and spot new and emerging opportunities. Support can also come from government - for example through extensions services and/or other training provision.

5. Strengthen IPLC organisation and integration along the value chain

IPLCs are most commonly involved at the very start of wildlife supply chains, as individual collectors, harvesters and hunters, whereas most of the value of wildlife trade is captured further along the chain – by processors, exporters and sellers. One key mechanism for enhancing benefits to IPLCs from wildlife trade is to move them beyond the lowest tiers

[6] See for example the Cambridge Conservation Initiative EXCITED initiative (Expanding Conservation Impact through Enterprise Development (EXCITED) | Cambridge Conservation Imitative) and the USAID Conservation Enterprise Learning Group (Conservation Enterprises — Conservation Enterprises Collaborative Learning Group (biodiversitylinks.org)).

of the supply chain and look for opportunities for **participation in downstream activities** including processing and other post-harvest activities either as entrepreneurs or employees.

Supporting the **development of cooperatives and associations** is a further way to increase the capacity and negotiating power of IPLCs – for example, establishing a harvesters' union in Cameroon has improved livelihoods and sustainable management of the bark of African cherry (*Prunus africana*), traded internationally for medicinal products (Ndam and Marcelin, 2004). **Avoiding monopolies -** particularly at upper ends of the chain - can prevent an imbalance of power and the pushing down of prices further down the chain as can the development of **equitable private sector partnerships** where IPLCs – by virtue of their ownership and knowledge of wildlife - are valued and respected partners, with a role in governance and decision-making rather than just a cheap source of raw materials or labour.

ACTIONS REQUIRED: Value chain analysis should be conducted to understand where the key points in the chain are that IPLCs are involved, where they could best be involved and what are the barriers to their involvement. Technical and financial support, organisational capacity development and occasionally regulatory intervention are then required as appropriate to ensure IPLCs have the necessary skills, capacity and opportunities to get involved.

BY WHO: Private businesses can identify and extend opportunities to IPLCs including partnerships with clearly defined roles and responsibilities but also, simply, jobs. Government may be needed to intervene if, for example, regulation against monopoly power is required. NGOs and research institutes can undertake value chain analysis, provide technical support and capacity development.

6. Build awareness of sustainable wildlife trade as a key contributor to resilient, nature-positive development

Well regulated, sustainable, legal wildlife trade at the domestic and international level can generate significant benefits for conservation and for livelihoods – as recognised by CITES. Increasing public and political interest is currently being paid to the role of

“nature-based solutions” in tackling global challenges included climate change, food security, health and development. Indeed, the Leaders Pledge for Nature agreed at the UN General Assembly in 2020 encourages countries to put nature at the heart of their Covid-19 recovery strategies. To date little attention has been paid to wildlife trade as a potential nature-based solution. And yet, as TRAFFIC notes, “Promoting wildlife trade that is legal and sustainable, and tackling illegal and unsustainable resource use, can help countries make the shift to resilient, green economies that provide positive economic and environmental returns"[7]. Wildlife use and trade can often provide the critical incentives for the conservation rather than conversion of ecosystems that in turn deliver the crucial services required to respond to global challenges. But the conservation community has not done a good job in communicating the role of responsible, wild-sourced product trade with the consequence that trade in wild species of flora and fauna is commonly portrayed as a problem for conservation and for human wellbeing rather than a nature-based solution.

ACTIONS REQUIRED: An evidence-based **communications campaign** targeting consumers and corporates that raises awareness about the role responsible wildlife trade can play in meeting commitments (national, corporate and personal) to the Sustainable Development Goals, the Conventions on Biological Diversity and on Climate Change is urgently needed. Standards and traceability mechanisms for wild products can help raise awareness and build consumer confidence - although care needs to be taken to ensure these do not increase net costs for IPLCs.

BY WHO: NGOs and research institutes can help compile convincing and credible evidence as the basis for such a campaign. NGOs can launch a campaign but, critically, it has to be supported by source country governments, by businesses and by IPLCs themselves. Standards and traceability schemes are often developed by NGOs and/or required by corporate wildlife buyers such as fashion houses. Both can provide technical support to IPLCs to ensure they are not disadvantaged by the introduction of such

[7] Climate Summit urged to implement wildlife trade solutions to tackle climate change - Wildlife Trade News from TRAFFIC

schemes. Broad and Natusch (2021) provide further insights into wildlife trade standards and certification.

Sustainable well-regulated wildlife trade is already providing conservation incentives for millions of hectares of wild habitat and contributing to the livelihoods of millions of IPLCs. However, to date its contribution to both conservation and to livelihoods has not been maximised. The lessons from community-based wildlife management and from successful small business development have been stated and re-stated over many years. Implementing the recommendations from this experience – from within CITES and from outside CITES – could see a step change in the contribution wildlife trade can make to local livelihoods at one end of the spectrum and to global challenges at the other.

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Annex 1: Summary of case studies reviewed

No	Species	Country	Trade	Primary use	Reference
	Trees				
1	African cherry (*Prunus africana*)	Cameroon	International	Bark extracted and exported for the pharmaceutical industry	Betti J (2021) Detail on the technical itinerary of the management of Prunus africana (Hook F.) Kalkman in Cameroon. Unpublished CITES and livelihoods case study.
2	African cherry (*Prunus africana*)	Democratic Republic of Congo	International	Bark extracted and exported for the pharmaceutical industry	Kamate C (2018) Unpublished CITES and livelihoods case study.
3	African cherry (*Prunus africana*)	Uganda	International	Bark extracted and exported for the pharmaceutical industry	Owoyesigire G (2018) Unpublished CITES and livelihoods case study.
	Orchids				
4	Orchid (*Phragmipedium kovachii)*	Peru	Domestic	Artificial propagation for the horticultural trade	Urtecho R (2018) Unpublished CITES and livelihoods case study.
5	Orchids (various)	Solomon Islands	Domestic	Artificial propagation for sale in domestic markets	Babaua R (2018) Unpublished CITES and livelihoods case study.
6	Dendrobium species	China	Domestic	Artificial propagation for traditional Chinese medicine and food products	Yi-bo L (2018) Rare and endangered dendrobiums being benefits to marginalized local rural population. Unpublished CITES and livelihoods case study.
	Other plants				
7	Cape aloe (*Aloe ferox*)	South Africa	International	Sap extracted from the leaves of live specimens for medicinal and pharmaceutical purposes	Kumalo O (2019) Cape aloe harvesting and trade in South Africa. CITES and livelihoods case study.
8	Cycad species	Colombia	International	Artificial propagation for the horticultural trade	Higuera D, López-Gallego C and T Nuñez (2018) Unpublished CITES and livelihoods case study.
9	Jatamansi (*Nardostachys grandiflora*)	Nepal	International	Wild harvested and their rhizomes traded for medicinal and cosmetic use	TRAFFIC (2020) Benefitting species and people: the journey towards sustainable and equitable Jatamansi trade.

10	Kuth (*Saussurea costus*)	India	International	Cultivated with cut roots traded for medicinal purposes	Rawat G (2018) Livelihoods associated with Kuth (Saussurea costus) in the Indian Himalaya and future Strategies. Unpublished CITES and livelihoods case study.
11	Snowdrop (*Galanthus woronowii*)	Georgia	International	Wild and artificially propagated bulbs collected and exported for horticultural trade	Karchava T (2019) Harvesting of Green snowdrops in Georgia. CITES and livelihoods case study.
	Coral				
12	Coral (*Euphyllia ancora*)	Indonesia	International	Collection of live coral for the aquarium industry	Handayani N (2018) Unpublished CITES and livelihoods case study.
13	Coral (*Acropora* species)	Solomon Islands	International (dried coral) and domestic (lime production)	Collection of live coral	Babaua R (2018) Unpublished CITES and livelihoods case study.
	Crocodilians				
14	American alligator (*Alligator mississippiensis*)	United States	International	Wild animals harvested and eggs collected for ranching for fashion leather industry	Elsey R (2018) Unpublished CITES and livelihoods case study. Woodward A (2018) Unpublished CITES and livelihoods case study.
15	American crocodile (*Crocodylus acutus*)	Colombia	International	Eggs collected for ranching for fashion leather industry	Delgado G (2018) Unpublished CITES and livelihoods case study.
16	Broad snouted caiman (*Caiman latirostris*)	Argentina	International	Eggs collected for ranching for fashion leather industry	Larriera A (2018) Unpublished CITES and livelihoods case study. Aust P (2021) The sustainable use of Caiman in Argentina. Unpublished CITES and livelihoods case study.
17	Freshwater crocodile (*Crocodylus novaeguineae)*	Papua New Guinea	International	Wild animals harvested and eggs collected for ranching for fashion leather industry	Solmu G (2018) Unpublished CITES and livelihoods case study.

18	Morelet's crocodile (*Crocodylus moreletii*)	Mexico	International	Eggs collected for ranching for the fashion leather industry	Díaz H (2018) Unpublished CITES and livelihoods case study.
19	Nile crocodile (*Crocodylus niloticus*)	Kenya	International	Eggs collected for ranching for the fashion leather industry	Obare F (2019) Harvest and ranching of Nile crocodiles in Kenya. CITES and livelihoods case study.
20	Nile crocodile (*Crocodylus niloticus*)	Madagascar	International	Wild animals harvested and eggs collected for ranching for the fashion leather industry	Lippai C (2018) Unpublished CITES and livelihoods case study.
21	Saltwater crocodile (*Crocodylus porosus*)	Australia	International	Eggs collected from wild for ranching for the fashion leather industry	Brien M, Beri P and C Browne (2018) Unpublished CITES and livelihoods case study. Fukuda Y and G Webb (2019) Saltwater crocodile harvest and ranching in Australia's Northern Territory. CITES and livelihoods case study.
22	Saltwater crocodile (*Crocodylus porosus*)	Papua New Guinea	International	Wild animals harvested and eggs collected for ranching for the fashion leather industry	Solmu G (2018) Unpublished CITES and livelihoods case study.
23	Spectacled caiman (*Caiman crocodilus crocodilus*)	Venezuela	International	Wild animals harvested for the fashion leather industry	Velasco A (2018) Unpublished CITES and livelihoods case study.
24	Yacare caiman (*Caiman yacare*)	Argentina	International	Eggs collected for ranching for fashion leather industry	Aust P (2021) The sustainable use of Caiman in Argentina. Unpublished CITES and livelihoods case study.
25	Yacare caiman (*Caiman yacare*)	Bolivia	International	Wild animals harvested for the fashion leather industry	Llobet A (2018) Unpublished CITES and livelihoods case study.
26	Yacare caiman (*Caiman yacare*)	Brazil	International	Eggs collected for ranching for fashion leather industry	Girardi W (2018) Unpublished CITES and livelihoods case study.
27	Yacare caiman (*Caiman yacare*)	Paraguay	International	Wild animals harvested for the fashion leather industry	Bauer F (2018) Unpublished CITES and livelihoods case study.
	Turtles				
28	Hawksbill turtle (*Eretmochelys imbricata*)	Solomon Islands	Domestic	Wild animals harvested for domestic meat and jewellery markets	Babaua R (2018) Unpublished CITES and livelihoods case study.

29	Olive Ridley turtle (*Lepidochelys olivacea*)	Costa Rica	Domestic	Eggs collected for sale in food markets	Campbell L, Haalboom B and J Trow (2007) Sustainability of community-based conservation: Sea turtle egg harvesting in Ostional (Costa Rica) ten years later. Environmental Conservation. Sardeshpande M and D MacMillan (2019) Sea turtles support sustainable livelihoods at Ostional, Costa Rica. Oryx.
30	Yellow-spotted river turtle (*Podocnemis unifilis*)	Peru	International	Eggs collected for ranching for the pet trade	Gálvez-Durand Besnard J (2019) Harvest and ranching of Yellow-spotted River Turtle in Peru. CITES and livelihoods case study.
	Snakes				
31	Ball python (*Python regius*)	Togo	International	Animals farmed and exported for the pet trade	D'Cruze N, et al (2020) Searching for snakes: ball python hunting in southern Togo, West Africa. Nature Conservation.
32	Cobra (*Naja naja*)	India	Domestic	Live animals captured for their venom for medicinal purposes and released back into the wild	Whitaker R and H Andrews (1995) The Irula Co-operative Venom Centre, India. Oryx.
33	Reticulated python (*Python reticulatus*)	Malaysia	International	Wild animals harvested for the fashion leather industry	Nossal K, et al (2016) Trade in Python Skins: Impact on Livelihoods in Malaysia. International Trade Centre, Geneva, Switzerland. Khadiejah S, et al (2021) Management and Trade in Reticulated Pythons (Malayopython reticulatus) in Peninsular Malaysia. Department of Wildlife and National Parks Peninsular Malaysia (PERHILITAN)
34	Reticulated python (*Python reticulatus*)	Viet Nam	International	Animals farmed for the fashion leather industry	Nossal K, et al (2016) Trade in python skins: Impact on livelihoods in Viet Nam. International Trade Centre, Geneva.
35	Yellow anaconda (*Eunectes notueas*)	Argentina	International	Wild animals harvested for the fashion leather industry	Aust P (2021) The sustainable use of Yellow Anacondas in Argentina. Unpublished CITES and livelihoods case study.

	Other reptiles				
36	Asian water monitor (*Varanus salvator*)	Malaysia	International	Wild animals harvested for the fashion leather industry	Khadiejah S, et al (2020) Management and Trade in Asian Water Monitors (Varnanus salvator) in Peninsular Malaysia. Department of Wildlife and National Parks Peninsular Malaysia (PERHILITAN).
37	Black and white tegu (*Salvator merianae*)	Argentina	International	Wild animals harvested for the fashion leather industry	Aust P (2021) The sustainable use of Tegu lizards in Argentina. Unpublished CITES and livelihoods case study.
38	Green Iguana (*Iguana iguana*)	Costa Rica, Nicaragua and Panama	International	Animals farmed for the fashion leather industry and pet trade	Eilers K, et al 2002) Analysis of *Iguana iguana* farming systems in Nicaragua, Costa Rica and Panama. Interciencia.
39	Red tegu (*Salvator rufescens*)	Argentina	International	Wild animals harvested for the fashion leather industry	Aust P (2021) The sustainable use of Tegu lizards in Argentina. Unpublished CITES and livelihoods case study.
40	Reptiles/amphibians (various)	Madagascar	International	Live animals caught for the international pet trade	Robinson J, et al (2018) Supplying the wildlife trade as a livelihood strategy in a biodiversity hotspot. Ecology and Society.
	Fish				
41	Hammerhead shark species (*Sphyrna lewini, Sphyrna zygaena, Sphyrna mokarran*)	Costa Rica	International	Animals caught as by-catch and their meat and fins traded commercially	Organization of American States (2015) Effects of the application of CITES decisions on livelihoods in poor rural communities: Hammerhead shark use in Puntarenas, Costa Rica. OAS.
42	Pirarucu (*Arapaima gigas*)	Brazil	International	Wild harvest for fashion leather industry	Correia de Mello C, Correa Mota S and C Buck Silva (2019) Harvest and trade of pirarucu in the Brazilian Amazon. CITES and livelihoods case study.
	Mammals				
43	African savannah elephant (*Loxodonta africana*)	Zimbabwe	International	Hunting and export of trophies	Gandiwa P, Jonga C and V Booth (2020) Trophy hunting of elephants: How this supports the Zimbabwe Campfire Program. Unpublished CITES and livelihoods case study.

44	Bighorn sheep (*Ovis canadensis*)	Mexico	International	Hunting and export of trophies	Mosig Reidl P and L Muñoz Lacy (2019) Community-based trophy hunting of Bighorn Sheep in Mexico. CITES and livelihoods case study.
45	Asiatic ibex (*Capra sibirica*)	Tajikistan	International	Hunting and export of trophies	Karimov K (2019) Community-based trophy hunting of Ibex and Markhor in Tajikistan. CITES and livelihoods case study.
46	Markhor (*Capra falconeri*)	Tajikistan	International	Hunting and export of trophies	Karimov K (2019) Community-based trophy hunting of Ibex and Markhor in Tajikistan. CITES and livelihoods case study.
47	Polar bear (*Ursus maritimus*)	Canada	International	Hunting and export of trophies	Schalk G and J Cheechoo (2019) Inuit harvest and trade of Polar Bear in Canada. CITES and livelihoods case study.
48	Vicuña (*Vicugna vicugna*)	Argentina, Bolivia, Chile, Peru	International	Fibre collected from wild animals for the international fashion industry via live shearing	Kasterine A and G Lichtenstein (2018) Trade in Vicuña: The Implications for Conservation and Rural Livelihoods. International Trade Centre, Geneva, Switzerland.
49	Vicuña (*Vicugna vicugna*)	Bolivia	International	Fibre collected from wild animals for the international fashion industry via live shearing	Villcarana G and H Chugar (2019) Harvest and trade of Vicuña fibre in Bolivia. CITES and livelihoods case study.

Exploring the use of registered marks of certification and other traceability mechanisms for products of CITES-listed species produced by indigenous peoples and local communities to enhance conservation and livelihood outcomes

Prepared under contract from the CITES Secretariat by Steven Broad and Daniel Natusch.

Table of Contents

1. INTRODUCTION

This report examines the potential of using registered marks of certification and other traceability mechanisms for products of CITES-listed species produced by indigenous peoples and local communities consistent with CITES provisions, to enhance conservation and livelihood outcomes. It has been prepared in response to paragraph d) of CITES Decision 18.35, itself a component of follow-up to CITES Resolution Conf. 16.6 (Rev. CoP18) on *CITES and Livelihoods*. Further background on action on this subject under the auspices of CITES can be found at www.cites.org/eng/prog/livelihoods.

Considering the background to CITES Decision 18.35, the exploration presented in this report centres on certification and traceability mechanisms that might enhance livelihood outcomes for indigenous peoples and local communities involved in the production for trade of CITES-listed species. Related conservation outcomes, positive or negative, are then considered in this context.

The report begins by framing how conservation and livelihoods outcomes relate to trade in CITES-listed wild animal and plant species, and how the enhancement of such outcomes relates to the Convention's existing provisions. It then examines the types of enhanced livelihoods outcomes that indigenous people and local communities as producers (as distinct from other groups of beneficiaries) may derive from trade in CITES-listed species. The report then identifies a range of relevant existing certification options and assesses how they might complement CITES provisions in achieving enhanced livelihood outcomes for local producers alongside the conservation outcomes already at the heart of the Convention's purpose and approach. It also considers the option of developing bespoke mechanisms under a CITES mandate for the same purpose. Finally, the report compares the merits of options available and identifies potential follow-up actions.

2. ENHANCING WILDLIFE TRADE OUTCOMES

2.1 Wildlife trade, conservation, and livelihoods

Wildlife trade, the commercial sale, purchase, and exchange of wild species and their parts and derivatives, by people, can contribute to a wide range of conservation (or biological) and livelihood (or socio-economic) outcomes. From both conservation and livelihood perspectives, it is important to take account of the fact that wildlife trade is a subset of the wide spectrum of human exploitation of wild species, alongside many diverse forms of non-commercial and non-consumptive use.

From a ***conservation perspective***, depending on the mode of exploitation, wildlife trade may impact the reproductive performance of individual animals and plants, the conservation status of species and populations, or related ecological relationships and ecosystem functions.

From a ***livelihood perspective***, wildlife trade produces valued goods, the commerce in which can provide economic benefits to people involved in collection/harvest/fishing, processing and sale, and a diverse range of socio-cultural benefits to people along the value chain, from producers to end users (Roe et al. 2002). At the same time, such commercial exploitation may alter accessibility for people who derive non-commercial and/or non-consumptive benefits from the species involved (Roe, 2008).

As highlighted in the United Nations *2030 Agenda for Sustainable Development*, the present and future welfare of people and nature are inextricably entwined. Positive conservation outcomes have potential to contribute to enhanced livelihoods for people and sustainable nature-based economies have potential to provide positive conservation incentives by competing with other, environmentally harmful alternatives (Roe et al., 2002).

This philosophy formed the basis for the UNCTAD BioTrade Initiative (www.unctad.org/topic/trade-and-environment/biotrade), established in the mid-1990s to support global efforts to meet combined biodiversity conservation, economic development and livelihood enhancement opportunities. The BioTrade Principles and Criteria have become an important reference point for many of the government, business and civil society sustainability initiatives for trade from nature referred to in this report.

However, the human quest for economic and other benefits from wildlife utilisation has all too often led to negative conservation outcomes. This is demonstrated by the extent to which over-exploitation by people, an activity no doubt contributing to the livelihoods of some, has been flagged as one of the most important and ongoing threats to nature (IPBES, 2019). Indeed, this concern was a primary motivator for the development of CITES in the early 1970s. At the same time, there are genuine concerns that some well-intended conservation interventions may have negative impacts on the livelihoods of some people, by restricting access to land, resources, or income, and undermining the value of traditional knowledge.

It is not the purpose of this report to explore further the tensions and synergies between conservation and livelihood outcomes of trade measures and other policy interventions, but it is important to recognise the complexity of the relationship between these two factors and to avoid an assumption that enhancement of one will automatically result in positive impacts for the other.

2.2 Enhancing outcomes: the CITES context

Though crowned with a preamble expressing the mutual dependence of people and the natural systems of the earth, the operational provisions of CITES focus entirely on the establishment of trade regulation measures aimed to protect wild animal and plant species against over-exploitation through international commerce. The measures provided are focused on assuring ecologically non-detrimental levels of exploitation, legality of sourcing and the minimisation of injury, damage to health, or cruel treatment of living specimens. CITES provisions do not require any assurance of what livelihood benefits might flow from such trade, nor how their distribution along the trade value chain might impact conservation incentives (Cooney et al., 2021).

Nevertheless, the question of how livelihood and conservation outcomes are affected by interventions made under CITES, particularly the listing of species in the CITES Appendices, has long been a subject of debate between the Parties (Cooney et al. 2021). Resolution Conf. 8.3 (Rev. CoP13), originally adopted in 1992, but revised during the 13th meeting of the Conference of the Parties (Bangkok, 2004), recognized that implementation of CITES-listing decisions should consider potential impacts on the livelihoods of the poor.

More recently, Resolution Conf. 16.6 (Rev. Cop18), adopted at the 16th meeting of the Conference of the Parties (Bangkok, 2013) and amended at CoP18 (Geneva, 2019) recommended a wide range of considerations on CITES and livelihoods, including encouragement to work strategically with key stakeholder groups to implement CITES listings, to empower and better engage rural communities, and to mitigate short-term negative impacts of trade interventions.

Although clear that CITES provisions do not set any direct regulatory conditionality with respect to livelihood outcomes, it is important to take account of the fact that each CITES Party implements the Convention as just one element of a range of international and national environmental and social policies, and legal provisions. In fact, there are at least as many policy and legislative settings for CITES implementation as there are CITES Parties, and even within national boundaries there are many examples of variance between sub-national jurisdictions. Therefore, though CITES Parties collectively lack standard tools to motivate and support combined conservation and livelihood outcomes, it is likely that many individual Parties do have such measures in place or could develop them under their own mandate.

Perhaps the most obvious examples are rules governing participation in harvest, processing, and trade prior to export, which may favour particular groups of people, types of business or modes of production. In fact, despite the lack of specific mandate under CITES, the Parties have in various cases

adopted trade conditions with more or less explicit socio-economic objectives through annotations to listings in the Appendices (www.cites.org/eng/app/appendices.php). These vary from simple inclusion or exclusion of certain parts and derivatives that may be intended to support value-addition within a source country prior to export, through to two cases (for *Vicugna vicugna* and *Hoodia* spp.) in which specific socio-economic objectives were declared when annotated listings were agreed. However, perhaps because there is no clear mandate to do so, there appears to have been limited attention paid under CITES auspices to whether such measures are successful once adopted.

2.3 Livelihood outcomes from wildlife trade: potential benefits to local producers

Before examining the potential role of certification and traceability mechanisms to enhance livelihood outcomes for local producers from trade in wildlife species that complement positive conservation results, it is important to consider at least briefly what types of benefits might be expected and the breadth of strategies typically pursued to encourage progress and measure success.

First it is important to be clear that local communities and indigenous peoples involved in the production of wildlife goods are part of a wide spectrum of potential beneficiaries from trade in wild species. There may be other types of producers, such as hired collectors/harvesters/fishers or business operators not identified as being from local communities or indigenous peoples. There may also be individuals and businesses involved in trade, processing, product manufacture, retail, and end use along the trade chain in the same country or elsewhere, all of whom derive some form of benefit from participation. The mandate of this report is to focus on local producers, but it is critical to keep in mind that the factors influencing their livelihood outcomes are part of a wider socio-economic system.

The relationship between wildlife trade and livelihoods of local producers is complex and multi-faceted. In terms of positive benefits, the most obvious are the income and employment opportunities for those involved in collection/harvest/fishing, processing, and trade. In some cases, such activity may contribute most of the household income, in others wildlife trade may be a supplementary income source, for example through seasonal engagement or alongside agricultural or other economic activities (Cooney et al., 2015; Nossal et al., 2016; Roe et al., 2002).

However, wildlife trade can provide additional, perhaps less obvious local livelihood outcomes, such as community cohesion and empowerment, enhanced spiritual identity, preservation of traditional knowledge, skill development, and improved security in times when other activities are constrained (e.g., in periods of economic or climatic volatility; Nossal et al. 2016). Some wildlife trade-related occupations do not require high levels of education, skill or investment in expensive harvesting technology and can therefore be more accessible to poor communities with limited alternatives than other livelihood options (Cooney et al., 2015).

Policy, legal, or voluntary interventions aimed to enhance livelihood outcomes related to wildlife trade may include participation incentives or restrictions, pricing and wage guarantees, and measures aimed to improve employment conditions and safeguards. Nevertheless, it is often the case that policy and legal measures directly affecting wildlife trade are designed primarily to address conservation concerns and attention to associated economic and livelihood impacts is often overlooked, despite the obvious risks to conservation success.

Measurement of livelihood impacts can be complicated, often focusing on a subset of socio-economic factors such as changes in household income or working hours. Other important impacts, such as levels of participation in decision-making, community cohesion, or confidence in personal security can be measured through social research methods, but results can be difficult to generalise and conditions

can greatly vary within communities managing the same resource, depending on the enabling and constraining conditions in each location (Cooney et al., 2015).

2.4 Livelihood outcomes from wildlife trade: potential risks

Negative livelihood impacts related to wildlife trade can also result from changes in market conditions and other factors. Emergence of commercialised collection/harvest/fishing and trade may involve changes in participants and beneficiaries. Even when local people remain involved, they are often engaged in primary production at the bottom of a value chain within which the majority financial benefit is derived by downstream actors.

Such circumstances can all too easily become associated with poor labour practices, such as lack of health and safety protection, employment insecurity, and poor working conditions. There may also be less accessibility to sustain local uses of the same species, with resulting negative impacts on medicinal, nutritional, or other benefits for local communities. It is also possible that commercially driven over-exploitation will lead to legislative intervention and reactive criminal activity with resulting degradation of personal and community security, and exposure to conflict.

3. CERTIFICATION AND TRACEABILITY OPTIONS

3.1 Understanding certification and traceability mechanisms

In its broadest sense, certification of commodities in trade encompasses a very wide range of practices and processes designed to verify that a certain product meets specific qualification criteria stipulated in regulations, standards, or commercial contracts. Such criteria might relate to public safety, product reliability, avoidance of environmental harm, management of sustainability, targeting of economic benefits to producers, or achievement of other purposes.

Certification mechanisms can vary in complexity from simple indications of provenance through to verification of compliance with complicated sectoral standards, through audit by accredited control bodies. In some cases, such standards are established through government legislation (for example those applicable to manufacture and sale of fire safety equipment in many countries), and in other cases they are developed and governed by private standard-setting bodies established by communities, groups of businesses, or through negotiation between diverse stakeholders and experts in a particular trade sector.

Incentives for businesses to trade products within the scope of certification systems can be shaped by regulatory requirements for market access (particularly in the case of safety-related concerns), but in many cases participation is voluntary and driven by the desire of businesses to demonstrate to buyers (whether other businesses or end consumers) their commitment to good environmental, social, ethical, legal, and safety practices. Such demonstration is often reinforced by the application of product labels or registered marks visible to retail consumers, the display of which is licensed by the standard setting body to confirm compliance.

Some important aspects to bear in mind when assessing the merits of certification systems are:

- **GOVERNANCE**: who sets the applicable standard and oversees certification and how are stakeholders consulted?
- **SCOPE OF APPLICATION** what environmental, social and other requirements are covered by the standard?

- **VERIFICATION**: how and by whom is compliance with the standard checked and certified?
- **TRACEABILITY**: what is done to ensure that products later claimed as certified are genuine?
- **COMPETITIVENESS**: how are genuinely certified products made visible and attractive in the market?

Traceability mechanisms for products in trade are commonly employed to verify the origin, location, and identity of raw materials and manufactured goods along supply chains. Often, they are used within businesses for purely internal purposes of inventory management and control, but sometimes they are required to demonstrate regulatory compliance (e.g. CITES) or as a way to link items in trade to the claims made under certification schemes. In terms of methodology, they vary from simple paper-based stock and movement recording processes through to sophisticated marking, tracking, and information management systems. Since traceability mechanisms do not themselves establish conservation or livelihood benchmarks for trade, this paper focuses largely on the potential role of certification in its various forms.

Box 1. The difference between certification and traceability processes

Certification and traceability, although sometimes linked, should not be confused. **Certification** is aimed to verify claims (environmental, social, etc.) made with respect to a certain product, in line with a defined set of standards. **Traceability** is the process of linking information to a product as it moves along a supply chain.

Traceability enhances certification claims by helping to prove that certification claims being made about a product can indeed be linked (i.e., traced) at different stages of a trade chain.

Some traceability systems are themselves subject to verification by control bodies as part of comprehensive certification systems.

3.2 Certification and livelihood outcomes

Trade certification schemes address livelihood outcomes in a wide variety of ways. In some cases, the emphasis is on reducing socio-economic risks to producers and in others, on enhancing the economic returns from participation in a particular trade sector. Some sustainability standards address a mixture of both approaches.

Risk reduction approaches are built into sustainability standards in a variety of ways. A useful benchmark is the Ethical Trading Initiative (ETI) Base Code, which is founded on the conventions of the International Labour Organisation (ILO) and provides an internationally recognised global reference standard and code of labour practice (ETI, 2018). ETI's nine codes, listed below (see www.ethicaltrade.org/eti-base-code for more detailed guidance), form a basis for design of standards under which social audits can be carried out and for developing ethical trade action plans.

1. Employment is freely chosen (no forced labour)
2. Freedom of association and the right to collective bargaining are respected
3. Working conditions are safe and hygienic
4. Child labour shall not be used
5. Living wages are paid
6. Working hours are not excessive

7. No discrimination is practiced
8. Regular employment is provided
9. No harsh or inhumane treatment is allowed

Schemes focused on enhancing economic returns to producers are typified by those providing for fair trade certification, the most widely used being the *International Fairtrade Certification Mark* owned and managed by Fairtrade International. These schemes set various criteria for producer rights and labour standards, alongside provisions that set guaranteed and minimum prices, and require additional premium payments for investment in producer's businesses and socio-economic conditions.

Studies of the socio-economic impact of such certification schemes have sometimes indicated weak evidence of enhanced livelihood benefits. Costs of inspection, certification, and marketing can significantly reduce the flow of what are intended to be enhanced benefits to producers, with certified trade struggling to compete with cheaper competition for market share. Even if prices increase, wages paid to primary-level workers may not be higher (Oya et al., 2017). On the other hand, such studies have identified less-tangible benefits to producers, such as improved reputation in the market and stronger business relationships with buyers (Blackman and Rivera, 2011; FAO/INRA, 2016).

3.3 A range of options

The range of possible certification options that might help enhance livelihood and conservation benefits from wildlife trade can be characterised from several different perspectives. For the descriptions that follow, the factor used to differentiate between options is governance: in other words, who sets the standard under which certification is carried out?

The options described are: local community standards; government standards; business standards; and voluntary multi-stakeholder sustainability standards. For each option there follows a basic description of key elements and some examples of current application.

Local community standards

Some standards are established by single or collaborating local communities or indigenous peoples to demonstrate the provenance of a product or other characteristics, such as raw material qualities, who is involved in production, distribution of benefits and how any processing is carried out. Such standards may be unilaterally declared and operated, but in some cases benefit from trademark protection or are recognised in government policy or regulation. Certification may be self-verified or subject to external audit. Visibility of certified products may be self-promoted through labelling and marketing at community level, sometimes amplified by retailers and organisations promoting small-scale production with social and environmental values.

There are many examples worldwide of community-driven and governed certified production channels in the agricultural sector, based on sustainability standards related to good agricultural practice and agro-ecological approaches. A recent FAO review of innovative markets for sustainable agriculture, based on case studies from 13 countries in Asia, Africa, and Latin America, documented a range of options, including participatory guarantee (PGS) networks and grassroots community-supported agriculture (CSA) schemes. The review suggested that such practices were connecting to consumers through an emerging "moral economy", based on considerations of fairness, justice, and concern for environmental impact. Although international sustainability and good agricultural practice standards were often a point of reference for such schemes, both the scope of promises attached to their

market positioning and the verification of compliance tended to be locally decided (FAO/INRA, 2016).

Local organisation of management measures and distribution of benefits is a strong feature of many operations focused on harvest and trade of wild animal and plant species. Producer cooperatives are a common feature of the trade in non-timber forest products and small-scale fisheries, for example, with differing degrees of success in achievement of positive environmental and socio-economic outcomes (Neumann and Hirsch, 2000; Basurto et al., 2013). As in the agricultural sector, such locally-governed initiatives face obstacles in gaining visibility of and buy-in to the measures they are taking by remote buyers along the trade chain.

An example of onward promotion of production of agricultural products under local quality standards is the Slow Food organisation (www.slowfood.com), which promotes small-scale production and quality values, but does not itself set or ensure compliance with a universal standard. Similarly, in the wildlife trade sector the Global Shea Alliance (www.globalshea.com) provides guidance to local producers of wild-harvested extracts from the Africa Shea Tree (*Vitellaria paradoxa)* used for production of cosmetics and as a substitute for cocoa butter, and promotes market development based on sustainable and fair production values. Again, the choice and oversight of management arrangements typically remains a matter for community governance, but the sector as a whole benefits from collective support and representation.

There is considerable merit in the principle of local governance of sustainable production standards, tailored appropriately to specific circumstances, and there is significant growth in the use of this approach in the agricultural sector. Challenges to the development and sustainability of such schemes include difficulty of accessing investment financing and technical knowledge to support initial development. Market access can also be difficult, particularly where supply is destined for distant consumers through business intermediaries and retailers. It is perhaps inevitable that questions arise about trust in self-assessed compliance with locally developed standards, particularly when businesses downstream along the trade chain are holding themselves accountable to in-house, sectoral, or independent standards subject to formal audit or third-party certification.

Government standards

This category includes a wide range of arrangements under which governments establish standards through legislation or regulatory policy that set some sort of conditionality on production and trade. Such mechanisms may address a diverse range of environmental, social, safety, and other concerns, with details of conditionality firmly under government jurisdiction. Participation may be mandatory or voluntary, with confirmation of compliance carried out by statutory bodies or through independent certification bodies. Use of product labels for such schemes is typically licenced directly by government or through private arrangements managed under their jurisdiction.

CITES-related wildlife trade legislation is itself a good example of mandatory conditionality on trade being set by government. Although overall obligations to demonstrate legality of acquisition and non-detriment are agreed multi-laterally, the establishment of detailed criteria under which such judgements are made is a matter of national government jurisdiction (though potentially scrutinised from a compliance perspective through mechanism such as the CITES *Review of Significant Trade in Appendix II Species*). Such conditionality may incorporate reference to wildlife management arrangements that

designate who can participate in production and trade and how costs and benefits are to be distributed.

Other examples include trade measures adopted under national BioTrade programmes and in the context of the World Health Organisation's guidelines on Good Agricultural and Collection Practices for Medicinal Plants. Also of relevance here are the provisions of the *Nagoya Protocol on Access to Genetic Resources and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity*, an international agreement which entered into force in 2014 and by late 2021 had been ratified by 132 Parties. The Protocol sets out core obligations for member governments to take regulatory, compliance and other measures to ensure fair and equitable sharing of monetary and non-monetary benefits from biodiversity use. These include specific attention to traditional knowledge and the access rights of indigenous and local communities. However, implementation can be challenging. A recent case study review of implementation in six Latin America countries noted great variability in the way the Nagoya Protocol is being implemented and mixed progress towards the realisation of benefits for stakeholders, including local communities (Heinrich et al. 2020).

Examples of government established arrangements for which participation is voluntary are those in place in many countries for the oversight of trade from organic farming, a form of production based on ecosystem management rather than external agricultural inputs. Although historically developed through private efforts, core standards for organic production are now set under government jurisdiction in many countries, including those of the European Union, the US, Japan, and Canada. Independent certification bodies are subject to government approval, with arrangement guided by the International Organic Accreditation Service. Use in the marketplace of product descriptions indicating organic origin is voluntary, but the terms under which such claims can be made is governed by legislation. However, in many cases supplementary labels governed by independent organisations (sometimes the certification control bodies) are used to demonstrate compliance with conditions over and above the core standard set by government regulation (e.g., Soil Association certification and labelling in the UK). Government oversight of organic standards is motivated by concern to gain public understanding of and trust in claims being made and as a component of efforts to promote expansion of this mode of production.

An advantage of government-established standards, whether applied through mandatory or voluntary modes of use, is the potential credibility provided by their development through a public institution. However, such credibility can easily be undermined by policy compromise during standard development. Also, when enshrined in legislation, processes of revision can be cumbersome. Finally, there are clearly significant practical challenges in satisfying diverse stakeholder expectations about benefits through a publicly managed process (Heinrich et al., 2020).

Business sector standards

A business sector standard is typically developed and governed collaboratively by a group of companies with common interest in demonstrating quality and/or responsible sourcing. Their motivation may be to respond to buyer concerns, to pre-empt regulatory intervention, to establish stronger market positioning or to drive sectoral transformation towards sustainable practice. Compliance and traceability may be self-certified or subject to external audit. Visibility can include use of product labels and complementary scheme marketing.

A notable example of an industry-governed scheme is GlobalGAP, which establishes good agricultural practice standards and certification systems covering factors such as food safety,

sustainable production methods, worker and animal welfare, and responsible use of water, compound feed, and plant propagation materials (www.globalgap.org). Although development of individual sectoral standards under GlobalGAP may involve engagement with a wide range of stakeholders, its overall governance and management is led by representatives of producer and retail businesses. This includes the arrangements for accreditation of certifiers and the licensing of consumer-facing product labels.

Although there are numerous instances of business alliances and collaborative representation in the wildlife trade sector, through trade associations and other mechanisms, examples of business-governed sustainability standards dedicated to wildlife trade are apparently rare. Nevertheless, an illustrative example of how such initiatives might be established is provided by the International Reptile Leather Association (Internationaler Reptilleder Verband e.V. or IRV - www.reptillederverband.de/EN/) established by a membership of exotic leather suppliers, manufacturers, processors, and retailers. The IRV developed an "endangered species protection tag", which can be fixed to finished leather products from CITES-listed reptile species to support proof of legal origin. Although this system does not address associated livelihood issues, it provides a useful illustration of both business-governed certification and the use of traceability systems for CITES-listed species.

Another relevant example in the wildlife trade sector is the International Crocodilians Farmers Association (IFCA - www.internationalcrocodilian.com) formed by business representatives from the crocodilian farming sector with support from business in the leather goods manufacture and retail. IFCA has developed a standard and certification system addressing good operational practice in relation to animal welfare, environmental, and social issues. Although reportedly developed through a multi-stakeholder review process, the standard and certification systems apparently remain under private sector governance.

There are also examples of sectoral business-governed standards not aimed specifically at wildlife trade, but potentially applicable for wild-sourced ingredients, such as the COSMOS (www.cosmos-standard.org) and NATRUE (www.natrue.org) standards for the natural and organic cosmetics. However, their primary focus is on environmental standards, ingredient quality and testing.

A potential weakness of trade standards governed exclusively by participants in a particular business sector is that they may be viewed by consumers and other stakeholders as lacking objectivity. There may also be cases in which sustainability standards set within a business sector may be perceived as knowingly weak or dysfunctional in order to "greenwash" products and services. As a result, many sustainability standards with prominent and well-intentioned involvement of participating businesses have evolved into or were originally established as multi-stakeholder sustainability standards (see below), with strong engagement from NGOs and other civil society representatives.

Multi-stakeholder voluntary sustainability standards

Many sustainability standards are established and governed collaboratively by a broad range of stakeholders and experts in a particular sector, including business representatives. Their scope may include a range of environmental and social criteria, compliance with which is usually verified by formal certification. Typically, there is a separation of functions between certification bodies, often accredited under international standards (principally ISO/IEC 17065), and the institution responsible for setting applicable quality standards. Organisations that accredit such certification bodies are also subject to international quality assurance, particularly under the ISO 17011 standard. Traceability may also be subject to certification

audit and use of consumer-facing product labels is commonly licensed by the standard-setting organisation, which is often active in providing capacity building and other support to participation.

Multi-stakeholder sustainability standards have proliferated over the past four decades. In 2021, the International Trade Centre Standards Map detailed over 300 voluntary sustainability standards, applicable to sectors including agriculture, textile and garments, consumer products, forestry, mining and services, and reportedly active in 192 countries (www.standardsmap.org). The Ecolabel Index (www.ecolabelindex.com) currently tracks the use of 455 ecolabels in 199 countries, and 25 industry sectors. Development of common principles and collaboration between sustainability standards is facilitated by membership of ISEAL (www.isealalliance.org) and the United Nations Forum on Sustainability Standards (UNFSS) (www.unfss.com) has been established to help producers, traders, consumers, standard-setters, certification-bodies, trade diplomats, non-governmental organizations, and researchers to talk to each other, find out more about voluntary sustainability standards, and influence decision makers at the intergovernmental level.

Multi-stakeholder sustainability standards that are already or are potentially applicable to trade in wild animals and plants include some that have been established with a specific focus on wildlife trade sectors and others designed primarily to target the production of and trade in agricultural goods, though having scope to extend their provisions to wildlife products (in this context it is important to note that trade in wild species may be derived from both wild-sourced production and from what will be loosely termed here "wildlife farming", in CITES terms: captive-breeding or artificial propagation). Table 1 illustrates some examples chosen to demonstrate the diversity of relevant schemes.

Table 1 Examples of multi-stakeholder sustainability standards already or potentially applicable to trade in wild animals and plants

System	Applicability	Certification focus	Traceability mechanisms
Aquaculture Stewardship Council www.asc-aqua.org	Farmed seafood	Dedicated standards for selected species groups covering: • Environmental impact of farming • Management of fish health and resources • Socially responsible employment and community interactions	Chain of custody standard and product labelling
Fair for Life www.fairforlife.org	Natural raw materials and materials used in handcrafts (crops, wild plants, beekeeping, aquaculture etc.) *[note: excepting those from "species of flora and fauna indicated as threatened"]*	Certification programme for fair trade and responsible supply chains covering: • Respect of human rights and fair working conditions • Respect of the ecosystem and promotion of biodiversity, sustainable agriculture practices • Respect and betterment of local impact	Certification extends through the trade chain from producers through to retailers
Fairtrade www.fairtrade.net	A wide range of products, mostly agricultural commodities, but including herbs, spices, nuts and other plant	Standard and certification system aimed to: • ensure that producers receive prices that cover their average costs of sustainable production • provide an additional Fairtrade Premium which can be invested in	Certification under a trade standard and use of product labels

	ingredients that may be wild-harvested as well as cultivated.	projects that enhance social, economic and environmental development • enable pre-financing for producers who require it • facilitate long-term trading partnerships and enable greater producer control over the trading process • set clear core and development criteria to ensure that the conditions of production and trade of all Fairtrade certified products are both socially and economically fair as well as environmentally responsible	
FairWild www.fairwild.org	Wild-harvested plants (in the process of incorporating fungi)	Standard governs certification of individual production operations covering: • Conservation requirements • Legal and ethical requirements • Social and fair trade requirements • Management and business requirements	Trader registration and reporting, and product labelling
Forest Stewardship Council www.fsc.org	Timber, non-timber products and ecosystem services from certified management of natural forests, plantations and other land uses involving the growing of trees	Certification based on the principles addressing: • Legal compliance and land tenure and use rights. • Recognition and respect of indigenous people's rights. • Social and economic well-being of forest workers and local communities and respect of worker's rights. • Equitable use and sharing of benefits derived from the forest. • Environmental impact and maintenance of the ecological functions. • Management planning, monitoring and assessment. • Maintenance of High Conservation Value Forests (HCVFs) • Specific requirements for plantation forestry	Chain of custody certification and product labelling.
Marine Stewardship Council www.msc.org	Seafood from wild-capture fisheries	Generic standard applied to individual fisheries covering: • Sustainable fish stocks • Minimising environmental impact • Effective fisheries management (including legal compliance)	Chain of custody standard and product labelling
Union for Ethical Biotrade Ingredient Certification www.ethicalbiotrade.org *[also extended through the UEBT/Rainforest Alliance joint Herbs and Spices Programme)*	Ingredients from biodiversity, including plant parts and compounds, algae and beeswax (including those derived from both cultivation	Certification based on the principles addressing: • Conservation of biodiversity • Sustainable use of biodiversity • Fair and equitable sharing of benefits derived from the use of biodiversity • Socio-economic sustainability • Compliance with national and international legislation	Product labelling

	and wild collection)	• Respect for rights of actors involved in BioTrade activities • Clarity about land tenure, right of use and access to natural resources	

4. CERTIFICATION OPTIONS: CITES AND LIVELIHOODS

4.1 Assessing potential

There is a wide range of scenarios under which these different formulations of sustainability standards and certification schemes might be applied for trade in CITES-listed species to enhance livelihood and conservation outcomes. The following analysis examines potential applications for each of the four classes of certification option explained above and takes stock of the additional possibility that enhanced certification could be developed under a direct CITES mandate.

4.2 Local community governed option

Perhaps the simplest means to employ certification as a complement to CITES regulatory measures is through the establishment by producer communities of provisions that define and verify specific livelihood benefits arising from their involvement in the trade of listed species. Such provisions might be established by an existing community representation group or through some form of producers group or cooperative.

Claims could be as simple as identifying production by a specific community or with specific livelihood enhancements, such as defined social safeguards, individual or community economic benefits. Both the nature of the claim and the verification of compliance would remain under community jurisdiction, as would the licensing of any associated product labels. Gaining trademark protection is a possibility, though ensuring comprehensive cover and protection can be expensive.

For wildlife trade, as for agricultural production, the most viable circumstances for standalone use of local sustainability assurance schemes addressing social and environmental concerns are those in which consumers are in close proximity or can be otherwise closely engaged with positive narratives about the provenance of certain ingredients or products via retail channels. There may also be potential to reinforce the authority of such schemes through government endorsement or promotion by supporting organisations, as in the case of the Slow Food example noted above.

In terms of compatibility with CITES implementation for products entering international trade, there is the opportunity for the government of an exporting country to confirm that specimens within such a shipment were produced in compliance with a locally governed standard by entering relevant information in Box 5 (Special Conditions) of the standard CITES document form. Such an entry could, for example, indicate that a shipment is confirmed to be derived from a certified supply if the CITES document is accompanied by a referenced supplementary document.

However, some important practical considerations would need to be addressed. To avoid confusion government communication would need to make clear that compliance with the local standard is a voluntary add-on to CITES requirements, rather than a mandatory pre-condition for export. Also, under either of these scenarios, some sort of traceability arrangement may be needed to provide assurance that the claims confirmed by the CITES document are valid.

This community-governed approach presents a reasonably accessible extension to existing practice in some sectors of trade in CITES-listed species. For example, production for export from South Africa of extracts from Cape Aloe (*Aloe ferrox*), used for medicinal and cosmetic purposes, is in some cases already organised through locally governed producer groups, such as the Albertina Aloe Tappers Agricultural Primary Cooperative (Kumalo, 2019). Adherence to principles of sustainable production and fair sharing of benefits are already strong features of some such operations. Even for business-to-business sales, there is clearly potential to build a brand position based on community-governed environmental and social assurances that may improve competitiveness for the local operations and those purchasing for manufacture of final products. However, complications should not be over-looked, particularly those related to achieving equitable sharing of benefits.

4.3 Government regulatory option

Since trade in CITES listed species is already subject to mandatory government trade regulation, there may be possibility to extend licensing conditionality beyond the core requirements of CITES to include provisions aimed to enhance producer livelihoods. If such extended provisions become formal requirements through government-mandated management programmes or by cross-referencing to other relevant regulatory or legislative provisions, they may be interpreted as prerequisites for making of legal acquisition findings before CITES documents are issued.

Compliance may be subject to government inspection or potentially through independent certification under government jurisdiction. As for the previous option, conformity with extended livelihood-related provisions and reference to relevant documentation could be confirmed through entries to Box 5 (Special Conditions) of the standard CITES document form. There is also potential to link such measures to product labelling, drawing attention to associated benefits from such trade.

Such provisions already apply for regulation of trade in *Vicugna vicugna* fibre and extracts from *Hoodia* spp. from South American and Southern African range states respectively, for which governments have established national management programmes with specific provisions about community participation and benefits, that formed a reference point in the justification of current annotations to listings in the CITES Appendices. For vicuña, these measures are coordinated through the provisions of the Vicuña Convention and reinforced using labelling of raw material shipments.

However, in both cases, the details and on-going performance of social provisions under the management programmes referred to in proposals to amend the CITES Appendices are not easy to discern, which appears to be a missed opportunity to showcase the linkage between conservation and livelihood benefits (Liechtenstein, 2010). In the case of vicuña, there is an added complication that exports under a common labelling system are actually derived from different production systems: some under local community management and others through commercial operators with local people as employees.

A CITES Party could decide to extend this type of approach to major sectors or the whole of its export economy for CITES-listed species. This could create an added value “CITES plus” trade offer backed by government oversight of both CITES compliance and conformity, with associated measures aimed to enhance livelihoods of local community producers involved in the trade chain. Although operating under a government mandate, the details of any such provisions aimed to enhance local producer livelihoods from trade in CITES-listed species could, and should, be developed through consultation with business and community stakeholders.

This mode of regulatory alignment of existing CITES provisions with associated local livelihood concerns would be a choice of individual CITES Parties and should not in itself present concerns about extension of the Convention's mandate. Such additional certification would be supplementary to, not a replacement for, current requirements for non-detriment and legal acquisition findings. As in the cases of the existing *Hoodia* and vicuña examples noted above, it may be that groups of countries might choose to collaborate in establishing complementary provisions for the same species.

4.4 Business-governed option

It is perhaps surprising that there has not been significant emergence of business-led sustainability standards and certification systems in the wildlife trade sector. This may reflect the fragmented mix of sub-sectors engaged in wildlife trade, challenges with securing collaboration between individual companies, and lack of buyer (retail and consumer) pressure to provide greater transparency about environmental and social impacts. On the latter point, retailers and consumers are often simply unaware of the fact that they sometimes purchase wild-sourced animal and plant products, and uninformed about the associated potential conservation and livelihood risks and benefits (Jenkins et al., 2018).

A review of future options for the reptile industry published a decade ago concluded that the investment needed to create a third-party certification system for this wildlife trade sector on a global scale would be enormous and that the most cost-effective way to improve confidence in sustainability was to improve compliance with CITES, backed up by industry-led proactive communication about associated conservation benefits (Webb et al., 2012).

The IFCA initiative for verification of good practice in the crocodilian farming sector explained above demonstrates the potential for further emergence of business-governed sustainability standards and certification for CITES-listed species. However, for reasons already noted, there remain strong incentives for any such scheme to move towards multi-stakeholder governance to increase credibility and a sense of objectivity.

4.5 Multi-stakeholder voluntary sustainability standard option

Many of the large number of existing multi-stakeholder voluntary sustainability standards are potentially applicable to sourcing and trade in CITES-listed species. This is particularly the case for trade in wild plants for multiple uses (including timber) and trade in marine species used for food, since there are already many wild species subject to certification and traceability provisions under applicable standards. As explained earlier in this report, such schemes offer a wide spectrum of different environmental and socio-economic points of reference relevant to the enhancement of livelihood and conservation outcomes from trade in CITES-listed species.

In terms of opportunities offered by multi-stakeholder voluntary sustainability standards, probably the biggest positive factor is that the significant costs associated with initial development of standards and certification systems have already been covered. In addition, such schemes typically have resources to support development of capacity and of trade relationships for individual and sectoral groups of producers.

Many such schemes have already achieved significant market visibility using consumer-facing labels. Incorporation of trade chains for CITES listed species into such schemes has significant potential to reinforce as well as complement implementation of the Convention's provisions. An obvious example is that detailed resource assessments and management plans typically required under certification

schemes and often subjected to independent audit, could in some cases provide significant supplementary information for the making of non-detriment findings by CITES Scientific Authorities.

However, there are challenges for entry into such existing certification schemes, particularly in terms of costs of achieving certification for individual production operations (Shanley et al., 2008). Furthermore, the plethora of applicable standards means that in the agricultural sector, producers often find themselves under pressure from buyers to demonstrate compliance with multiple schemes to enter different market channels, thus resulting in increased costs of certification and associated audit fatigue. For wild harvesting, the scale and logistical requirements for resource assessment and audit of production, when compared to typical agricultural applications under such schemes, may also present significant cost challenges. In addition, the basic review of scope of potentially applicable standards presented in Table 1 above noted potential limitations for the application of some schemes with respect to "threatened species", which rightly or wrongly may be interpreted to embrace all CITES-listed taxa.

A useful examination of such factors was carried out within a recent project, implemented by TRAFFIC with the support and collaboration of the German Agency for Nature Conservation (BfN), with the aim to identify how the application of voluntary certification standards (VCSs) to trade in CITES-listed medicinal and aromatic plants might assist with the implementation of CITES and fulfilment of its requirements, particularly in the making of non-detriment and legal acquisition findings.

Results indicated there was a positive response from both government and industry stakeholders asked whether voluntary certification might assist CITES implementation, though both potential costs and benefits were anticipated, as summarised in Table 2. Ensuring close synergy between regulatory and voluntary processes in such circumstances was noted to be particularly important in order to increase confidence among participants (Furnell and Timoshyna, 2018; Furnell et al., 2019; Timoshyna et al., 2019). Several of the schemes considered as potentially applicable under the study address both livelihood and conservation factors

It is worth noting that trade in a small number of CITES-listed species is already carried out within the scope of multi-stakeholder voluntary sustainability standards. Examples include CITES Appendix II-listed Jatamansi (*Nardostachys jatamansi*) from Nepal, certified under FairWild, and Big-leafed Mahogany (*Swietenia macrophylla*) and Spanish Cedar (*Cedrela odorata*) from Brazil and Mexico, certified by the Forest Stewardship Council. In such cases, certification has been driven by individual producer operations aiming to demonstrate both compliance with CITES and the additional environmental and livelihood safeguards and benefits verified under voluntary sustainability standards by third-party audit. How successful they have been in securing such safeguards and benefits does not appear to have been documented. It may also be the case that regulatory and voluntary processes remain disconnected, for example area-based forest management certification may not support the level of species-specific information necessary to support CITES non-detiment findings.

Table 2: Perceptions of the benefits and costs of certification in the implementation of CITES for Appendix II-listed MAP species [reproduced with permission from Timoshyna et al., 2019]

BENEFITS	COSTS
CITES AUTHORITIES	
- "Free", useful and reliable information - Reduction in processing time - Reduction of the perception of CITES hindering trade - Communication between industry and authorities can benefit both and improve quality of product - Assisting the Review of Significant Trade (RST) process - Support of livelihoods	- No liability for the certifier to give correct information - Initially, it could take longer to obtain information - Parties with fewer resources could rely on certification without undertaking additional checks - Disadvantage for smaller companies if authorities start to require information
INDUSTRY STAKEHOLDERS	
- Assurance of quality products - Provides transparency and confidence to consumers - Ease of access to markets - Clarity of full supply chain - Assurance of sustainability - Prestige and recognition from the government - Certification label can make product more desirable - VCS data can ease the compliance with CITES processes and increase efficiency and confidence - Time taken by compliance with CITES requirements can be reduced, certification can create knowledge on how to comply - Create the confidence of investors in the company, both for industry and consumers - Help with rectifying misconceptions about what CITES does - Create opportunities for collaboration with other companies - Risk mitigation - Brand-holder confidence - Potential to overcome trade restrictions and possible de-regulation, de-listing of species (supported by self-regulation/voluntary compliance) - Business planning opportunities (new products and new markets when there is more thorough thinking about the ingredients in supply chains) - Potential for reducing corruption through greater capacity in government authorities and the certification body involved - Creating atmosphere of trust between governments and businesses - More stakeholder leverage in ensuring the quality of VCS and compliance, than of compliance with CITES requirements - VCSs provide a strong traceability basis, strong "insurance" against mis-compliance - Assurance of equitable trade and fair-trade practices	- Financial costs of certification - Time-consuming, complicated and too much administration - Ongoing maintenance of certification label (compliance and audit) - Non-conformities can be revealed with additional sustainability requirements, putting additional pressure on industry players - Lack of knowledge of certification schemes for some products, ingredients or species - Different schemes might confuse consumers/companies - Standards can change creating the risk of reliance on supplies - Costs of information sharing - Ingredients can become more expensive - Regulatory burden - Reputational risk being associated with a certain certification that is not keeping up with what has been promised

4.6 A CITES-governed certification option?

CITES Appendix II documentation should already provide an assurance of non-detriment and legal acquisition for specimens of listed species in international trade. It is therefore not surprising that the question has been raised in the past about the potential for expansion of trade measures under CITES jurisdiction to provide more comprehensive traceability and market visibility along the trade chain, including the potential use of a CITES sustainability label (Roe et al., 2002). In fact, this option was raised formally at CITES CoP15 in a report on outcomes of a review of incentives for the implementation of the Convention (see CITES CoP15 Doc 17), though Parties decided not to pursue the idea further at that time.

In a basic form, such extended CITES certification could focus solely on enhancing visibility and understanding of assurances of non-detriment and legal acquisition already provided by the Convention's trade conditions, in effect simply marketing better the safeguards for trade in CITES listed species that should already exist (noting the reality that quality of application varies from country to country). As for the IRV reptile skin trade noted above, additional complementary measures could include marking of specimens through to the end market and making publicly available the identity of producers and other businesses involved in the trade chain. Options for such traceability measures keyed to existing CITES documentation have already been subject to extensive discussion by the Parties. Some examples are already in operation under CITES auspices, including the universal tagging system for crocodilian skins (Crocodile Specialist Group, 2021) and the labelling system for trade in caviar (see: https://cites.org/eng/node/55902). The CITES website provides a range of applicable tools and best practice guidance and provides links to past briefing materials, Decisions, and Resolutions on this subject (https://cites.org/eng/prog/Cross-cutting_issues/traceability).

There is also potential for such "CITES plus" certification to extend further by incorporating assurances about other factors beyond those enshrined in the Convention text, including for example, higher resolution information on geographic provenance, details of community involvement in production and, potentially, the livelihood benefits accrued. There may also be circumstances in which other reference points would be relevant, such as animal welfare standards within a management programme. For this to work, the following issues would likely need to be resolved:

i) clarity about the relationship between CITES and "CITES plus" trade channels, especially the extent to which the choice of options is mandatory or voluntary;
ii) details of requirements to qualify for such extended certification – in effect a complementary "CITES plus" standard and certification system;
iii) clarity about how this standard and certification system is to be established and amended, including how this does or does not link to existing CITES governance mechanisms;
iv) designation of how compliance is to be audited and certified, for example through accredited third-party control bodies or under the government mandate already in place for verification of existing CITES provisions at a national level;
v) if independent verification is to be carried out, the details of how and by whom control bodies will be accredited;
vi) as for other sustainability standards, what efforts will be made to support participation and promote market visibility and buy-in;
vii) how standard, certification, trademark protection, labelling and support processes will be financed.

Potential advantages of this approach are that it could present a reliable and standardised assurance of a set of extended positive attributes for trade in CITES listed species. This could help counterbalance the negative assumptions about such trade commonly held by businesses and consumers, who often take literally the "E" in the name of CITES as a signal to avoid involvement. A system designed specifically to complement existing CITES provisions could also have the advantage of avoiding duplication and increasing efficiency.

Audits of businesses or supply chain operations against a CITES standard could incur a levy, such that the costs of the system were covered without placing strain on CITES' core budget, in the same manner than independent sustainability standards operate. If marketed successfully, with demonstrable market benefits for local communities and other businesses within the value chain, a 'CITES Plus' certification scheme could theoretically generate additional funds to defray the costs of other CITES processes.

However, there are a range of practical challenges that present significant barriers to development in this direction. Development and management of sustainability standards is complicated and, if done properly with adequate stakeholder input from the full diversity of wildlife trade sectors, would require lengthy and expensive processes. Governance, especially decision-making, would be difficult if linked directly to CITES processes such as the Conference of the Parties or Standing Committee. Additionally, the great diversity of wildlife trade sectors implicated would present very significant challenges to the formulation of a standard applicable to all CITES-listed taxa. If heading in this direction, it might prove more practical, in terms of stakeholder engagement and design of detailed provisions, for CITES to develop a range of complementary voluntary sectoral standards for defined trade sectors.

5. CONCLUSIONS

5.1 Opportunities

There is considerable potential for using registered marks of certification and other traceability mechanisms for products of CITES-listed species produced by indigenous peoples and local communities to enhance conservation and livelihood outcomes. This paper has identified a wide range of options varying from those governed at community level through to use of multi-stakeholder voluntary standards.

Such mechanisms could be employed to complement and reinforce compliance with and visibility of the basic requirements of CITES or trade in listed species, particularly through adoption of traceability mechanisms and uses of product labels. They also provide significant opportunity to enhance CITES safeguards with other provisions aimed to motivate and demonstrate environmental and social responsibility, including the enhancement of livelihood outcomes for local communities and indigenous peoples.

There are many models for systems aimed to enhance livelihood outcomes for local communities in different productive sectors through certification and improved traceability, including some already employed for trade in wild animals and plants. Risk-based tools, such as those assessing social risk with reference to the ETI Basecode, and financial mechanisms, such as those employed under various fair trade standards, provide a range of potential mechanisms for enhancement of livelihood outcomes. If there is interest in putting such systems into action, a critical question is what scenarios are likely to be feasible and effective.

5.2 Reality check

The mandate of this paper is to explore options for the use of certification and other traceability mechanisms that might enhance livelihood outcomes for local communities and indigenous peoples involved in the production of CITES-listed species. As discussed, there is a wide range of opportunities to take steps in this direction. Nevertheless, it is essential not to ignore the considerable body of evidence that demonstrates the complexity and difficulty of positively influencing rural livelihoods through trade interventions in a meaningful and sustainable manner (Blackman and Rivera, 2011; Roe et al., 2002). The most deserving beneficiaries are often seriously marginalised economically and socially, with limited ability to exert meaningful influence even within stakeholder-driven decision-making processes. These groups are often the least able to meet the stringent standards imposed by certification schemes, such that those schemes inadvertently become barriers to entry.

It also needs to be recognised again that local producers are part of a wider spectrum of groups of beneficiaries from trade and that measures aimed to support one group, may be detrimental to another. For example, measures aimed to promote value-added processing in an exporting country to benefit national manufacturers could potentially lead to reduce benefits to local people involved in primary production. It is critical that any attempts to enhance benefits to such communities are designed to avoid superficial or counter-productive outcomes and that on-going impact assessment and adaptation is embraced.

Sadly, it is also the case that regulatory and voluntary measures aimed to support positive conservation and livelihood outcomes from wildlife trade can be undermined by corruption, which needs careful attention during design and implementation (Musing et al., 2016; Timoshyna and Drinkwater, 2021).

Finally, experience across the sustainability standard sector has demonstrated that there are substantial challenges in achieving widespread take-up of processes that, in the short-term at least, are likely to increase business complexity and product costs. Ultimately, buyers need to be convinced and motivated by the benefits they contribute towards, even if a price premium is necessary.

5.3 Tailored solutions

From a perspective of feasibility, an accessible option for individual or groups of local communities engaged in a particular wildlife trade sector is to assume direct governance over shared principles that form an environmental and/or socio-economic claim for market positioning and successful trade. This is common in the agricultural sector and there are many existing examples linked to wildlife trade. Although self-governance and verification may prove insufficient to address business requirements or consumer ethics for some potential buyers, such arrangements can be convincing and effective when markets are nearby or effectively connected by associated marketing mechanisms. Governments and NGOs may be well-placed to enhance such outreach.

Government-overseen certification schemes placing CITES regulatory measures within a wider policy and regulatory context alongside measures aimed to support producer livelihood enhancement also have significant potential. Since trade in CITES listed species is already subject to government oversight, there may be significant advantage in such integrated approaches. However, their effectiveness would likely depend to a large extent on design issues, particularly the extent to which local community stakeholders are able to play a meaningful role in the development, evaluation, and adaptation of provisions aimed to provide benefits to them.

Employing multi-stakeholder voluntary sustainability standards in the wildlife trade sector already has significant precedent, particularly for trade in forest and marine products. Although some schemes appear reticent to embrace risks perceived as associated with management of trade in species classified as threatened, there are clearly opportunities to attract more trade in CITES-listed species into such schemes, particularly if regulatory and voluntary provisions are harmonised effectively. Entry costs for individual community producer operations can be considerable, but many schemes support capacity development and already have a solid track record in mobilising business engagement at community level. Such schemes are likely most attractive for wildlife products entering markets for which there is already pressure on brand companies and retailers to demonstrate environmental and social responsibility, such as those for higher quality furniture, food, cosmetic, or medicinal ingredients in some countries.

In all likelihood, standards developed under a business sector mandate will evolve towards a multi-stakeholder model in order to enhance credibility and effectiveness, so this option is not addressed separately here.

There would undoubtedly be significant challenges with development of an extended "CITES plus" standard and certification scheme under the Convention's mandate, but if those challenges could be resolved there are certainly attractions to this approach. If nothing else this might help address the negative associations common among business and consumers about participating in trade in CITES listed species. Realistically, a CITES-led enhanced certification approach incorporating livelihood concerns could be more feasible to develop and manage for one or more specific trade sectors for which provisions can be effectively tailored to production and trade chain realities. Such a direction could perhaps be trialled with a specific trade sector motivated to participate in such a scheme.

Finally, it would make sense to consider complementarity between these options. For example, local community-governed measures could benefit from supportive government policy and capacity, and individual government-overseen schemes could benefit from CITES encouragement and communication. Similarly, there is considerable potential for proactive cooperation between CITES and individual multi-stakeholder standards to encourage and support their use for trade in CITES Appendix II species to embrace complementary conservation and livelihood safeguards and benefits.

6. POTENTIAL FOLLOW-UP

The following follow-up actions are worthy of consideration by the Parties:

1. Support a process to compile and analyse lessons learned from local community self-governed production and marketing programmes aimed to enhance conservation and livelihood outcomes from trade in CITES-listed species.
2. Seek from CITES Parties any examples of government policy and regulatory practice that link CITES implementation with wider conservation and livelihood safeguards and benefits.
3. Encourage the CITES Secretariat to engage with relevant multi-stakeholder voluntary sustainability standards to assess potential for complementary action to support connected conservation and livelihood outcomes for trade in CITES-listed species.
4. Encourage development of collaboration between businesses engaged in distinct sectors of CITES-listed species to consider options for certification and traceability systems that might enhance livelihood and conservation outcomes.

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Supporting vaquita-safe fishing in Mexico's Upper Gulf of California and disincentivizing illegal totoaba trade

CITES Livelihood Case Study

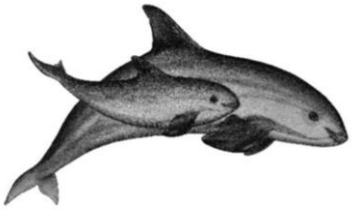
Country	Mexico
Name of agency, organization or individual submitting the case study	Cetacean Action Treasury, with local partners Museo de Ballena y de la Ciencias del Mar (Museo de Ballena) and Pesca Alternativa de Baja California (Pesca ABC)
Contact person (name, title, email, telephone)	Kristin Nowell, Executive Director, kn@cetact.org, +1 207-703-9887
Methodologies used in the case study (e.g. desk-based, interviews, local surveys etc.)	Modification, testing, cost-subsidizing and marketing support for legally mandated vaquita bycatch reduction fishing gear through local NGO-fisher partnerships

1. Introduction

This is a tale of two CITES Appendix I species for which commercial trade is prohibited: the vaquita porpoise and the totoaba fish. Mexico's endemic vaquita marina porpoise *Phocoena sinus* is the CITES-listed species which is closest to extinction. Accidental entanglement in large-mesh illegal gillnets set to poach totoaba have been the primary driver of the vaquita's collapse over the last decade. The vaquita is also entangled in other types of illegal gillnets used to harvest commercial species of shrimp and other finfish. This case study describes a pilot project to demonstrate that vaquita-safe fishing can provide a viable livelihood, to disincentivize fishing illegally with gillnets and/or poaching totoaba. Unlike other CITES Livelihoods Case Studies, which focus on community benefits from trade in CITES-listed species, this case study explores ways that communities can benefit from **not** engaging in illegal trade-related activities harmful to CITES-listed species.

1A. Species

i. Name	**Vaquita *Phocoena sinus***	**Totoaba *Totoaba macdonaldi***
ii. CITES listing	Appendix I (1979)	Appendix I (1977)
iii. Population Size	<10[1]	N/A[4]
Trend	Decreasing, with a 99% decline since 2011[2] IUCN: Critically Endangered (2017)[3]	Decreasing, with at least 30% decline since the mid-1980s. IUCN: Vulnerable (2021)[5]
Distribution	Restricted to the Upper Gulf of California	Gulf of California; migrates north for concentrated seasonal spawning in the Upper Gulf

1B. Communities

1B(i). Brief description

This is also a tale of two fishing communities whose traditional way of fishing with gillnets, since the 1940s, has been prohibited, and who have suffered economically from the impacts of national and international legislation meant to protect the two species. San Felipe (population approximately 19,000), lies closest to the area where the last few vaquitas were detected, on the western side of the Upper Gulf of California. El Golfo de Santa Clara (population approximately 4,000), is on the northern tip alongside the area where the Colorado River used to enter the Gulf, until upstream damming and agricultural use largely robbed it of freshwater inputs. Fishing is an integral part of the livelihood of these two communities, although San Felipe also has a considerable tourism-based economic component. National measures to protect vaquita and totoaba over the past several decades, and especially since 2020, have resulted in a complex set of marine protected areas with different types of fishing restrictions. These are described and mapped in Annex 1, developed by project partner Pesca ABC; note the community of Santa Clara is identified by its one legal landing site, El Zanjon.

1B(ii). Role and activities of the communities in the fishery

There are at least 1,000 fishers in these two communities, and can be identified as belonging to four main types:[6]

1) ***Authorized fishers using legal gear***. This is the group the project is working with and attempting to grow; it currently comprises less than 50 fishers.
2) ***Authorized fishers using illegal gear***. This is the largest group, approximately 900, and is growing. They are semi-compliant in that its members follow many of the regulations, with the exception of the most important one: that is, they obtain permits to use legal gear, but use gillnets instead.
3) ***Irregular fishers using illegal gear for commercial species***. This is a small group, with unknown numbers but with explosive growth. This group fishes without permits and uses gillnets for shrimp and other commercial finfish.
4) ***Illegal persons using illegal gear for protected species***. This is the group which largely focuses on totoaba poaching. There are likely at least one hundred and possibly several hundred, mostly young men who work seasonally for cash or drug payments.

The first two groups are organized into cooperatives of various sizes; the owners of the cooperatives finance much of the costs of fishing and market the catch. All fishers are linked to several thousand more people in the two communities that process and sell the catch. For commercial seafood species, some of the processing is done in households, but most takes place in locally owned processing facilities (approximately ten major facilities). While seafood is sold informally, locally and nationally, export

markets are the most valuable, and the Upper Gulf lost its main buyer in 2018 when the US first embargoed seafood imports from the region due to vaquita bycatch. The value of the region's US export market is estimated at approximately $US50 million, with shrimp the most valuable species.[7]

For the illegal totoaba fishery, it is important to note that both towns were first established in the 1920s as a fishing camps for totoaba. The fish were easy to catch when they migrated north and concentrated in huge numbers to spawn in the Upper Gulf in the winter and spring. They were speared or caught by hook and line, and the swim bladder extracted and dried for sale to a Chinese businessman. The swim

A bale of large dried totoaba swim bladders

A catch of large totoaba fish

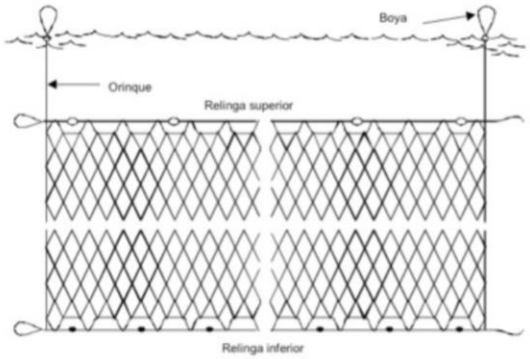
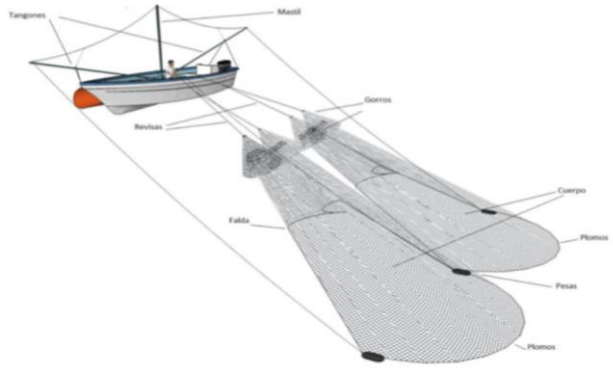
bladder trade continued legally up until CITES protections came into place in the 1970s, but starting around 2011 illegal trafficking to China surged. The use of huge, large-mesh gillnets began, and scientific monitoring of vaquitas showed a coincident catastrophic decline due to bycatch. Little is known about the totoaba processing chain due to its illegal nature, but a series of arrests and organized crime charges in 2020-21[8] have resulted in sharp reductions in local prices paid for swim bladders compared to ten years ago when totoaba poaching took off (see later Figure X). Totoaba meat is also consumed and sold locally, illicitly.

1B(iii). Participation of women

Fishing is predominantly but not exclusively a male occupation; one of the fishers participating in the project is female and more are interested in joining. Women, however, predominate in the processing segment. Since 2010 Environmental Defense Fund has employed groups of female community catch monitors for one of the commercial fisheries (Gulf curvina *Cynoscion othonopertus*) to establish legality (quota and catch shares) and traceability,[9] but the program has recently been halted due to lack of funding.[10]

1B(iv). Traditional knowledge and management approaches relevant to the project

Traditional fishing is with banned passive demersal bottom-set gillnets, up to 500 m in length and tens of meters high, weighted to rest on the sandy bottom with lead sinkers and held upright underwater by a top floatline rope. Mesh sizes range from 2 3/4s inches (for shrimp) to up to 10-12 inches (for totoaba). Fishers believe that the strong tidal currents around the full and new moons are necessary to drag the gillnet through the water and help hold it upright, and that catches are increased at these times. There is predictably greater fishing effort on a monthly basis during these times of large tidal flux. Some past catch data disputes this belief,[11] but it is shared by the fishers our project works with on legal actively managed nets for shrimp, including suripera cast nets and small trawls. The project captures their knowledge of fishing techniques, and our NGO partners have facilitated interactions with Mexican federal fishing regulators to obtain both experimental and commercial permits for gear modifications proposed by local fishers.

Schematic of illegal passive gillnet	**Schematic of legal actively managed suripera cast net**
	

1C. The Vaquita-Safe Fishing Project

1C(i). Main objective

Enforcing the gillnet ban in the Upper Gulf of California has proved challenging because the non-compliance rate is over 95%, and a strategy that relies primarily on deterrence and voluntary compliance has failed both the vaquita and totoaba. This project seeks to incentivize fishers to use legally required vaquita-safe fishing gear. We support and test their gear modification designs, subsidize some of their initial costs (salaries and boat fuel and maintenance), and help them connect with national buyers who seek to create a vaquita-safe seafood brand. Our theory of change is that more fishers will be attracted to join this group, which carries no severe legal penalties like totoaba poaching, and attracts a better market price for commercial species than illegally captured seafood.

1C(ii). Sources of funding

Sources of funding for the project include: the CITES Secretariat's Livelihoods program, Museo de Ballena and Diego Ruiz, Pronatura Noroeste, Environmental Defense Fund – Mexico, Marisla Foundation, and the GEF-funded project implemented by CONANP and Espacios Naturales y Desarollo Sustenable (ENDESU) "Strengthening the Management of the Protected Area System to Better Conserve Endangered Species and Their Habitats."

1C(iii). Project start, management and methodology

This project builds on a foundation of efforts to develop vaquita-safe fishing gear begun by the government of Mexico and NGO partners in the mid-2000s.[12] This early research culminated in a September 2020 regulation[13] specifying the type of fishing gear that can be used in historical vaquita habitat, an area of approximately 12,000 km2 called the Gillnet Exclusion Zone. That gear is limited to **small trawls, suripera cast nets, hook and line, box traps, and "hooka" diving** (divers forage on the sea bottom while breathing from an air tube and held by a safety line to a fishing skiff). Under the joint management of Museo de Ballena and Pesca ABC, this project began in September 2019, the beginning of commercial shrimp season (which runs annually in the Gulf of California from mid-September to early March of each year), working with small groups of fishers on suripera cast nets.

The first fishers to work with the project were selected because they had both the skills and the wills to use the cast nets. At that time, the gear was still experimental, but tests and trials with the project's fishers resulted in its being recognized as legal commercial gear in September 2020, and commercial permits are now available to fishers willing to apply for them. The ultimate multi-year vision of the project is to move more and more local fishers into the "authorized fishers using legal gear" group, and expand into all the permissible gear types.

The first year a new fisher joins this group, the project aims to cover payments for gear construction, onboard fishery observers and to subsidize fuel costs (active legal gear entails a higher fuel burn than setting passive gillnets). The second year, the project will continue to support gear and boat adaptation costs. For subsequent years, only the costs of traceability (onboard observers and/or Shellcatch GPS cameras) will be supported, ideally by industry (the purchaser of the catch).

1C(iv). Harvest methods

Initially working only with the suripera cast net illustrated above, the project has expanded to include testing a modified version of the RS-INP-MX small trawl for shrimp called the "phantom trawl." In addition, Pesca ABC developed a research protocol jointly with INAPESCA (Mexico's scientific fishing authority) and Upper Gulf gear experts at the University of New Hampshire for fish pods (box traps). These will catch commercial species such as Gulf curvina *Cynoscion othonopterus* and Sierra mackerel *Scomberomorus concolor.* The research protocol was approved and commercial permits will be available for participating fishers in the winter of 2021. The project is also exploring the creation of a premium market for live-caught, flash-frozen fish using handlines, and testing a version of the Danish purse seine net which has been proven in the Baltic Sea to have minimal bycatch risk for the harbor porpoise *Phocoena phocoena*. The project is also looking at using Chesapeake crab traps, to catch a potentially high value product which is under-exploited and could be fished for all year, as well as expanding the "hooka" diving technique from clams to other species.

1C(v). Area of extraction

See Annex A for map of the marine protected areas of Mexico's Upper Gulf of California, associated regulations, and locations of the two communities of San Felipe and Santa Clara (identified by its landing site, El Zanjon).

2. Livelihood Benefits

This project aims to demonstrate to the two primary fishing communities of the Upper Gulf that it is possible to earn a livelihood that is legal AND sustainable. Although average trip catches are lower using legal gear (because only one set can be carried aboard a fishing skiff, whereas multiple gillnets are typically deployed), prices obtained may be higher. In the onset, this is partly due to cost subsidization, and is challenging because access to the primary "green" export market, the United States, is closed due to the embargo. But Mexican buyers have been contacted who are willing to offer higher prices and to invest in creating a domestic market for vaquita-safe seafood. In addition, prices paid for illegally harvested seafood are lower due to corruption payments, and there is the risk of legal penalties including seizure of fishing gear, fines or even imprisonment, although in practice the risk of getting caught has so far been low. However, Mexico is under three separate types of fisheries sanctions from the US in 2021,[14] and there is intense pressure for fishing authorities to ensure that fish is caught legally and chain of custody can be adequately documented to ensure no co-mingling of IUU seafood.

2a. Livelihood assets

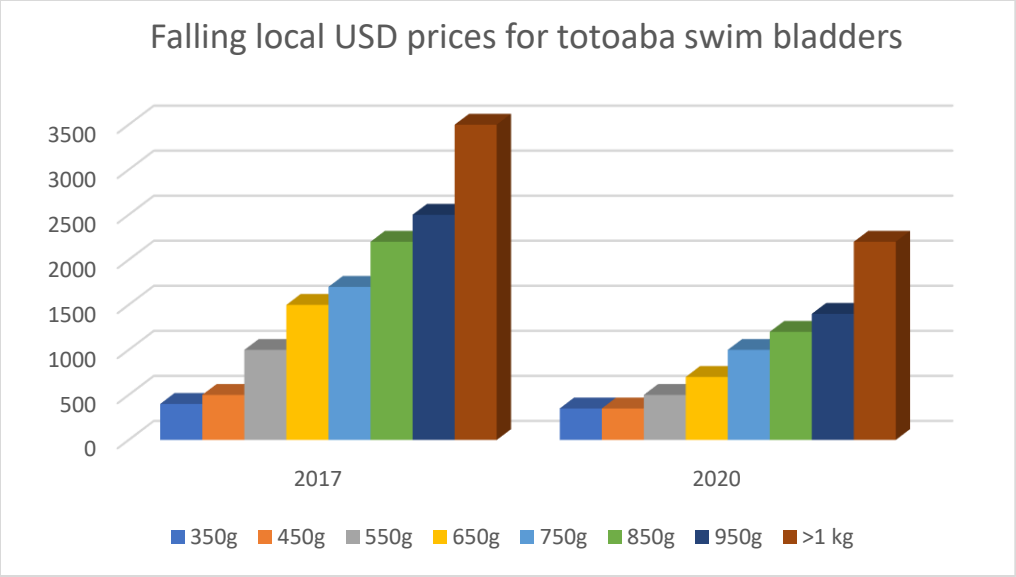
The benefits of earning a living from fishing legally and sustainably benefit five categories of livelihood assets as follows:

Human capital

The project teaches fishers skills to build and use legally required gear, and then subsequently the trained become trainers themselves, thus spreading knowledge and skills through peers as well as from experts.

Financial capital

Poaching totoaba used to be a highly profitable activity. In 2014-2015, local prices in San Felipe for large (>1 kg fresh weight) swim bladders topped $8,000.[15] The price has since declined, as shown below, and is quoted according to approximate weights, with smaller swim bladders worth much less than large.[16] The most recent prices were reported in March 2020 as the coronavirus pandemic was spreading. Anecdotally, prices were even lower in the 2021 spring spawning season, in part due to the recent arrests by Mexico referenced above of key players in the illegal trade.



With higher prices paid for legal suripera-caught shrimp, the average gross earnings per fishing trip compare well with the average for illegal shrimp gillnets. It should be noted, however, that gillnets are capable of occasional very large trip hauls, over 100 kg, while the maximum we recorded for suriperas was 82 kg. Still, suripera shrimpers have zero risk of legal and financial penalties, and experienced fishers have higher catches. Even an average totoaba poaching trip is far more profitable than either legal or illegal shrimping, and exceptional catches of up to 120 totoaba per trip have been documented from 2017-2019. However, this activity carries increasing risk, with penalties now ranging up to 15 years imprisonment if involvement in organized crime can be proved in court,[17] and multiple persons now in custody facing such charges cooperating with authorities and driving intelligence-led investigation.

Totoaba poachers filmed by Sea Shepherd Conservation Society aerial drone, December 8, 2019

Approximate gross average fishing trip earnings for legal shrimp, illegal shrimp, and illegal totoaba

Gear and species	Average trip capture	Average price	Gross earnings/trip

One set of suripera shrimp cast net[18]	11 kg	$13/kg	$143
2-3 illegal shrimp gillnets	23 kg[19]	$7.50/kg[20]	$173
2-3 illegal totoaba gillnets[21]	3 swim bladders	$800/bladder	$2,400

Overall, the financial capital generated by this project is small. According to expert analysis of the official landings report disclosed by CONAPESCA, the fisheries regulatory agency in Mexico, in the 2020-2021 shrimp fishing season, Upper Gulf fishers landed around 400 metric tons of shrimp. [22] In contrast, only a little over 1 ton was captured legally and sustainably by fishers associated with this project. Some believe that much of the 400 tons was fraudulently exported to the United States despite its embargo on Upper Gulf shrimp, with paperwork laundered so as to appear that its origin was elsewhere.[23]

Social capital

In previous year, fishers who tried to use legal gear often suffered harassment or obstruction (actively managed gear cannot be used effectively in the presence of gillnets) from their peers. Since this project began (and international sanction have begun to take hold), community interest and respect has been growing. One of the project fishers is an 18 year old former totoaba poacher, who at first suffered taunts from his former colleagues, but now says some are asking to join his group to give up their stressed and addiction-risk lifestyle (totoaba poachers generally work at night, and due to cartel links are often paid with or supplied with methamphetamine).

Natural capital

If illegal use of gillnets can be reduced through a combination of incentives and deterrence, there is no question that vaquita and totoaba populations will benefit, as well as the entire marine ecosystem since gillnets pose a bycatch risk to other species and also threaten scientific fisheries management with large unreported catches.

Physical capital

Greater compliance among the Upper Gulf artisanal fishers will place less stress on the enforcement infrastructure; port facilities are limited in the number of enforcement vessels that can be housed, maintained and fueled there.

2B. How could livelihood benefits be improved?

This project is in its early stages; we continue to refine gear design and deployment and explore other potential fisheries for market development, such as the crab fishery and quality hooked live finfish markets (finfish often drown in gillnets).

For shrimp, in 2021-22, we plan to expand testing of the phantom small trawl for shrimp as well as a smaller 35 foot version. We also feel that suripera catches will increase with experience, based on flume tank tests conducted in previous years by the Marine Institute in Newfoundland, Canada. Evaluations by the Marine Institute show that the hydrodynamic performance of the suripera cast net is optimal when facing currents of 2 knots – differences in the tide speed should require giving more rope or less rope to

compensate. Thus, with correct and precise operation indications the performance of this cast net could increase the consistency of the catches, moving the average closer to the maximum observations.

Fish pods are one of the most promising and less tested options for fishers to stop using gillnets. In 2020, Pesca ABC wrote the fishing protocol jointly with experts and the University of New Hampshire and made all the paperwork for obtaining the permits for testing the pods. However administrative confusions made the permits come when the season was over. While doing paperwork a good dialogue was open with INAPESCA – the fisheries scientific authority in Mexico, this conversation resulted in a good outcome: now the fish pods are allowed to be used commercially and are already in process, so for the next season there will not be the need for obtaining testing permits again. We have already started with the paperwork for commercial permits for five years – the longest period allowed by law for a fishing permit.

If enforcement were to become a more systematic and effective deterrent to using illegal gillnets for commercial seafood and totoaba poaching, we feel more fishers would be attracted to the group that is proving that legal fishing is a viable livelihood. We also need to work with the US and other export markets to apply for permission to export the traceable vaquita-safe seafood catches from our expanding project. In the meantime, it will have great conservation impact nationally to develop awareness in the Mexican domestic market of legal vaquita-safe seafood.

3. Conservation Impacts

3A. Benefits for CITES-listed species

With such a small percentage of Upper Gulf fishers working in compliance with the law, there is not yet a measurable conservation impact for population recovery of the CITES-listed vaquita and totoaba. The 2021 spring totoaba poaching season was one of the worse yet, due to the absence of NGO net removal vessels, [24] which have served a deterrent role in that in the past on numerous occasions they have been able to push totoaba poachers out of critical vaquita habitat. Acoustic surveys for vaquita are currently underway in the late summer-fall of 2021 to try to detect any remaining animals.[25] However, it is hoped that the intelligence-led enforcement efforts against organized crime elements involved in totoaba poaching and trafficking begun by the Mexican government in November 2020 and ongoing will provide a strong disincentive to continued poaching in the next season.

There is a gleam of hope toward developing a community-managed fishery, modeled after a similar effort on the eastern side of the Upper Gulf of California.[26] Our work has also helped improve relations between federal fisheries authorities and some local fishers. The traceability and catch monitoring of our project is providing the first robust fisheries data for the region; our vessels are the only ones equipped with GPS monitors and fisheries observation and recording personnel and equipment (vessel monitors are legally required in the Upper Gulf, but the system has been inoperable since early 2020 due to the government's letting the data contract lapse[27]).

3B. Relationship of trade to conservation benefits

Pressure on Mexico to improve fisheries management has never been greater, due to multiple IUU seafood-related sanctions levied by the United States, its primary export market, in 2020-2021. We feel that our work in the Upper Gulf can provide a national model for achieving voluntary compliance, establishing traceability mechanisms, and growing national awareness of the costs of tolerating IUU

seafood. Having the fishing community recognize and accept that it is financially viable and personally safer to transition to legal fishing is a critical component for achieving conservation benefits for the vaquita and totoaba.

3C. Cultural role in livelihoods and conservation benefits of this project

Our project is working to change the culture of acceptance of illegality in the Upper Gulf fishing communities. The large group of fishers described as "Authorized fishers using illegal gear" consider themselves legal; they frequently meet with authorities and have suffered no consequences for not abiding by their permits which allow only vaquita-safe gear. By working with other fishers to carry their own ideas for how legal gear can be effectively designed and modified to the federal authorities and to their peers, we are empowering them as community agents of cultural change.

Lessons Learned: Successes and Failures

4A. Key factors for success

Our project has benefited from NGO presence in the two communities which in the past has not been there. NGO presence has helped build better relations with government authorities, and has helped elevate the prestige of participating fishers and attract illegal fishers to wanting to join their ranks. Mexico lags far behind other major fishing countries in having broad consumer awareness of IUU seafood; by working to develop a national vaquita-safe brand that can command high prices, we will not only achieve local benefits for wildlife and communities, but also grow national conservation awareness and consumer behavior change.

4B. What has been learnt from the history of failure in the Upper Gulf?

Just as it is too early in this project to identify significant conservation benefits or success, it is also too early to identify failures. However, the vaquita's crash toward extinction points to over a decade of failure in the Upper Gulf to curb totoaba poaching and illegal use of gillnets, and to implement the use of legal vaquita-safe gear. Building capacity, creating new fisheries, and constructing the formal and informal agreements needed to incentivize the responsible use of natural resources requires time and dedicated effort.[28] What is clear is that a more **effective enforcement deterrent** would accelerate this process, as financial and social incentives from legal fishing will never be sufficient on their own to counter the lure of cash bonanzas from totoaba poaching.

4C. Main challenges

The main challenge has been that the law enforcement actions of the authorities are mostly lenient and non-deterrent, and activities of illegal fishers therefore continue with impunityout on the water in vaquita and totoaba habitat in the Upper Gulf and at the points of embarkation. We are trying to pioneer a conservation-friendly model of "fish less, earn more" by assisting resource users to access consumers willing to pay a price premium for certified sustainable seafood. However, without a credible enforcement deterrent, totoaba poachers have been able to "fish less, and earn MUCH more."

4D. Key Lessons for CITES

The CITES Appendix I listing of vaquita and totoaba were made on biological grounds in the late 1970s, and the status of both species has worsened considerably since then,[29] especially for the vaquita, due to

illegal harvest and trade of totoaba and other commercial seafood species. Neither species would benefit from making the use of gillnets legal, although there is discussion nationally of legalizing hook and line sport fishing of totoaba and exports from totoaba aquaculture, although both would need to be controlled more carefully than the past history of fisheries management in the region suggests is a realistic expectation, at least in the short term.

In fact, the economic harm suffered by the fishing communities of the Upper Gulf has been caused by their participation in illegal harvest and trade of totoaba and other commercial seafood. It is estimated that, if the US embargo on seafood from the region were effectively implemented, the loss to communities would amount to $50 million USD per year.

The only way to rebuild the Upper Gulf community fishing economy is for fishers to convert to legal and sustainable fishing. Otherwise, not only species, but also human livelihoods, will continue to decline.

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[19] Erisman, B., Mascareñas-Osorio, I., López-Ságastegui, C., Moreno-Báez, M., Jiménez-Esquivel, V., & Aburto-Oropeza, O. (2015). A comparison of fishing activities between two coastal communities within a biosphere reserve in the Upper Gulf of California. *Fisheries Research*, *164*, 254-265. And C. López-Ságastegui presentation at Pesca ABC *Foro sobre el Embargo Pesquero* Aug 5 2020. Average trip captures for gillnets calculated from landing reports filed in the two Upper Gulf communities from 2000-2015, when gillnets were still legal. Table A1 in Vaquita Enforcement Study Group. Eliminating vaquita-gillnet interactions through incentives, enforcement and net removals. Recommendations to the Intergovernmental Group for Sustainability in the Upper Gulf of California. February 2021.

[20] Average price on landing reports filed by cooperatives in the Upper Gulf fishing legally and illegally with gillnets in fall 2020. Table A2 in Vaquita Enforcement Study Group. Eliminating vaquita-gillnet interactions through incentives, enforcement and net removals. Recommendations to the Intergovernmental Group for Sustainability in the Upper Gulf of California. February 2021.

[21] Average number of gillnets per poaching skiff, average trip capture, and average price (all from 2017) calculated from data in Cisneros-Mata, M.A., Román-Rodríguez, M.J., Rodríguez-Félix, D. and Castellanos-Rico, M.A. 2020a. Captura ilegal de totoaba. Chapter 4 in Cisneros-Mata, M.A. (ed.). 2020. Evaluación de la población de *Totoaba macdonaldi*. Centro Regional de Investigación Acuícola y Pesquera de Guaymas. Instituto Nacional de Pesca y Acuacultura. SADER. Mexico City.

[22] https://www.excelsior.com.mx/nacional/con-regulacion-existente-mexico-pretende-que-eu-permita-seguir-exportando-camaron/1452609

[23] *Trade Flow of Illegal Wild Shrimp from the Upper Gulf of California, Mexico*. March 2021 (Sustainable Fisheries Partnership briefing to US importers) See also.

[24] https://www.excelsior.com.mx/nacional/continua-pesca-ilegal-de-totoaba-en-san-felipe-bc/1443345

[25] https://www.excelsior.com.mx/nacional/invierten-2-mdp-para-contar-cuantas-vaquitas-marinas-quedan-en-alto-golfo-de-california

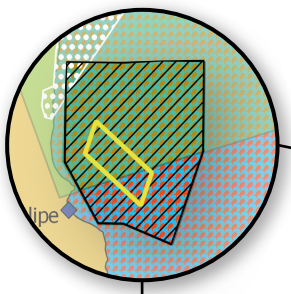
[26] Morzaria-Luna, H., et al. "Coastal and Marine Spatial Planning in the Northern Gulf of California, Mexico: Consolidating stewardship, property rights, and enforcement for ecosystem-based fisheries management." *Ocean & Coastal Management* 197 (2020): 105316.

[27] https://mexicotoday.com/2020/10/11/opinion-saving-the-vaquita-marina-urgency-of-this-fall/

[28] Sanjurjo-Rivera et al. in submission. The economic impacts of policies to reduce vaquita bycatch.

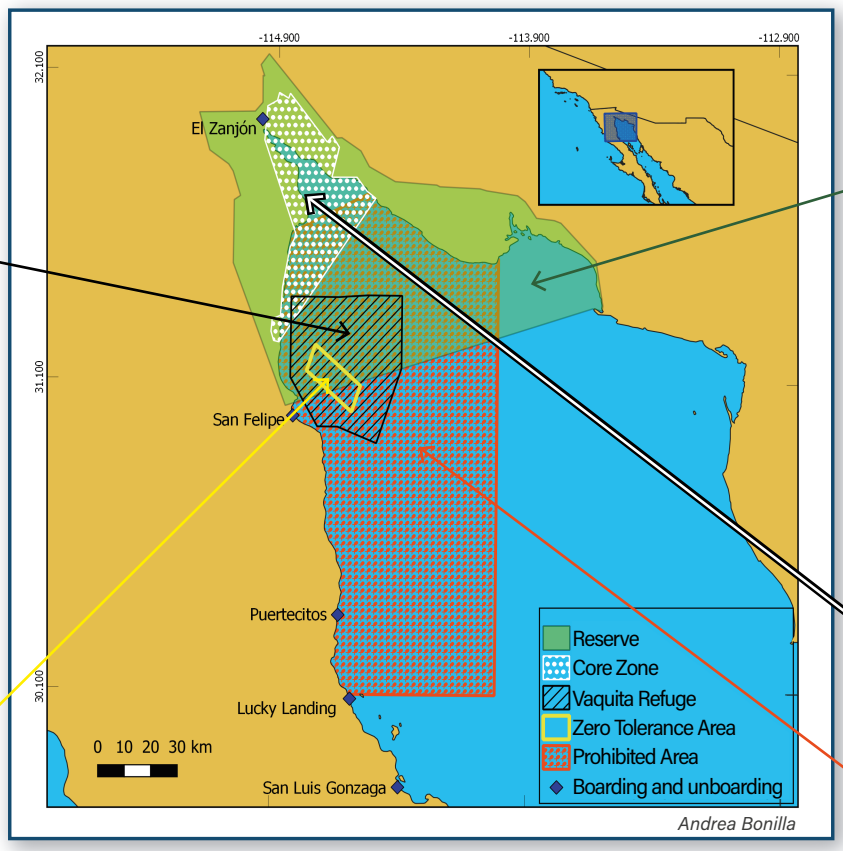
[29] Although the September 2021 IUCN Red List re-assessment of the totoaba has downgraded its status from Critically Endangered to Vulnerable, this is a non-genuine change based on better information, and does not reflect an actual improvement of threat status.

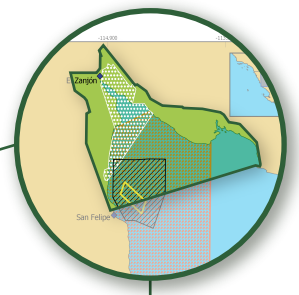
Legal Fishing Guide for The Upper Gulf of California



Vaquita Marine Refuge Area (BLACK ZONE)

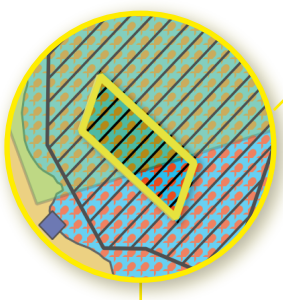
NO fishing with nets of any type in the northern portion that lies within the Biosphere Reserve (green area). In the southern part, outside the Zero Tolerance Area, **YES** suripera-equipped boats, hooklines, longlines, traps, and hooka diving





California Upper Gulf and Colorado River Delta Biosphere Reserve (GREEN ZONE)

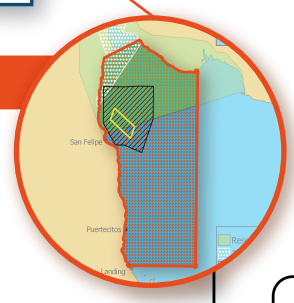
YES Small trawl in the green-shaded portion of the BR buffer zone that is outside the Vaquita Refuge.
YES fishing with gillnets, including driftnets, authorized (registered and marked according to the tagging program) in the buffer zone of the reserve that is outside the gillnet prohibition area (East Adair Bay/ north of Puerto Peñasco). But **NO** fixed, passive, stretched, or sleeping nets.
NO collecting of fish for keeping as pets.
YES Temporary fishermen camping in "Campo el Zanjón", "El Tornillal", "El Tornillalito" y "Los Pinitos"
NO camping in the Montague and Pelícano islands.



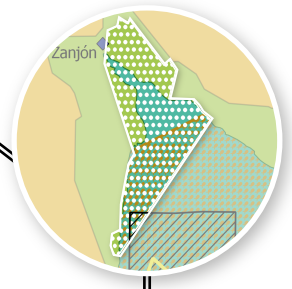
Zero Tolerance Area (YELLOW ZONE)

TRANSIT AND FISHING OF ANY KIND IS PROHIBITED.

Gillnet Prohibited Area (ORANGE ZONE)



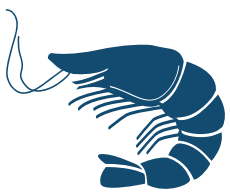
NO fishing with gillnets, including driftnets, passive nor active nor encircling.
NO possessing, selling, or transporting gillnets in areas 10 km around the prohibited area.
NO fishing between 4 pm and 5 am.
NO transportation of fishing products.
YES trawl nets, suripera-equipped boats, hooklines, longlines, traps and free or semi autonomous diving with hooks. Different gear restrictions apply inside the protected areas (Green, Black, Yellow and White zones).
YES informing Conapesca of any interaction with marine mammals.
YES having a monitoring system installed and working.
YES removing of illegal and ghost fishing gear, by authorities in collaboration with other sectors.



Biosphere Reserve Core Zone (WHITE ZONE)

NO FISHING IN THE CORE ZONE
(Montague/Gore and Pelícano islands, La Ramada estuaries and shallow channels and zones in front of the town of El Golfo de Santa Clara, Punta Zacatosa and El Chinero.)

SHRIMP



- **YES** using trawl nets with DEP and DET.
- **YES** using suripera-equipped boats.
- **NO** fishing in the core zone or in the Vaquita marine refuge area.

GULF CORVINA

- **NO** fishing in the core zone or in the Vaquita marine refuge area.
- Minimum capture size: 65 cm. of total length.

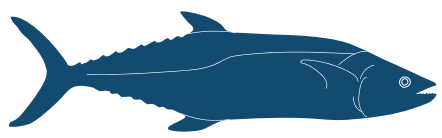
In the Orange zone:

- **NO** fishing with gillnets, including driftnets.
- **YES** fishing with permitted gear, such as handlines.
- **NO** fishing with nets through the encircling system (except Cucapá native community).
- **NO** fishing between 4 pm and 5 am.

Outside of the Orange zone:

- **YES** fishing with authorized nets. Only one net per vessel.

FINFISH



- **NO** fishing in the core zone or in the Vaquita marine refuge area.
- Fishing gear and measures that are established in the permit. **Watch out!** Within the gillnet prohibition area (orange zone) it is only possible to fish with trawl nets, suriperas, fishing line, longlines, traps and free or semi-autonomous diving with hooka.
- **NO** fishing Sierra fish with encircling method (except Cucapá native community).

SOME INFRACTIONS

- Fishing without concession or permit.
- Fishing with prohibited fishing gear or methods.
- Fishing during prohibited hours.
- Not having satellite monitoring equipment or having manipulated it.
- Not using the fishing binnacle/logbook or falsifying information.
- Catching species with a size or weight below minimum.
- Replacing the holder of a fishing concession or permit without Conapesca's authorization or fishing with different vessels than those authorized.

SOME CRIMES

- Capturing, damaging or killing marine turtles or mammals (vaquitas, dolphins, whales, sea lions, or others) or collecting/storing their products or by-products.
- Capturing, transforming, collecting, transporting, destroying or trading abalone, shrimp, sea cucumber and lobster, within or outside the closed fishing seasons, without the corresponding authorization, in quantities that exceed 10 kilograms.
- Fishing or capturing a wildlife species with a non-permitted method (including non-fishing methods)
- Trafficking, capturing, possessing, transporting, damaging, introducing or taking specimens from the country, including products or by-products of wildlife species which are at risk or are in closed fishing season.

IF FOUND FISHING SPECIES DURING THE CLOSED FISHING SEASON WITHIN THE RESERVE:

- Penalty of up to 12 years in prison, and a fine, plus possible confiscation of boats, fishing gear, products, suspensions or revocation of a fishing permit, etc.

Content Research: DAN, PESCA ABC

Elaborated on: March 22, 2020

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