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CITES and voluntary certification for WILD MEDICINAL AND AROMATIC PLANTS

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INTRODUCTION

The trade of wild-sourced medicinal and aromatic plants (MAPs) listed in Appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) totalled 25,000 t between 2006 and 2015. Trade chains for these species are often long and complex, involving multiple companies in several countries (Lehr and Jaramillo, 2017). Lack of capacity and resources may hamper the ability of CITES Parties to make non-detriment findings (NDFs) and Legal Acquisition Findings (LAFs) required under the Convention (Kasterine *et al.*, 2012). The implementation of CITES can often be a difficult process for MAP species when case-specific and field-based information is not available to CITES authorities.

This article presents findings of a project, implemented by TRAFFIC in collaboration with and with the support of the German Agency for Nature Conservation (BfN) in 2018–2019, with the aim to *identify how the application of voluntary certification standards (VCS) to CITES-listed MAPs might assist with the implementation of CITES and fulfilment of its requirements*. The findings will support governments in obtaining the information necessary to make decisions about trade in CITES species, aid industry in enabling sustainable and legal trade in CITES Appendix II species, and, overall, reduce barriers to sustainable and legal MAPs trade that is beneficial to conservation and the livelihoods of those depending on trade. The project findings have so far

been outlined in an information document presented to the participants of the 18th meeting of the Conference of Parties to CITES (CITES CoP18) (Furnell *et al.*, 2019), and the preliminary outcomes reported in the information document presented to the 24th meeting of the Plants Committee to CITES (Furnell and Timoshyna, 2018).

REGULATION OF TRADE IN MEDICINAL AND AROMATIC PLANTS

Approximately 60,000 plant species are used globally for medicinal purposes, of which about 28,000 have well-documented uses, and approximately 3,000 species are estimated to be traded internationally, with only one-third of those known to be in commercial cultivation (Jenkins *et al.*, 2018). In terms of the global threat to species, information is available for only 7% of MAPs globally, and for those, around 20% of species are threatened with extinction in the wild against the IUCN Red List criteria. The trade in MAPs is among the critical drivers of such threat: the value of the global trade in MAP species has almost tripled in the past 20 years (from USD1.1 billion in 1999 to USD3 billion in 2015), based on UN Comtrade data, a significant underestimate as the Customs code from which the figure is derived (HS1211) does not cover all relevant plants traded.

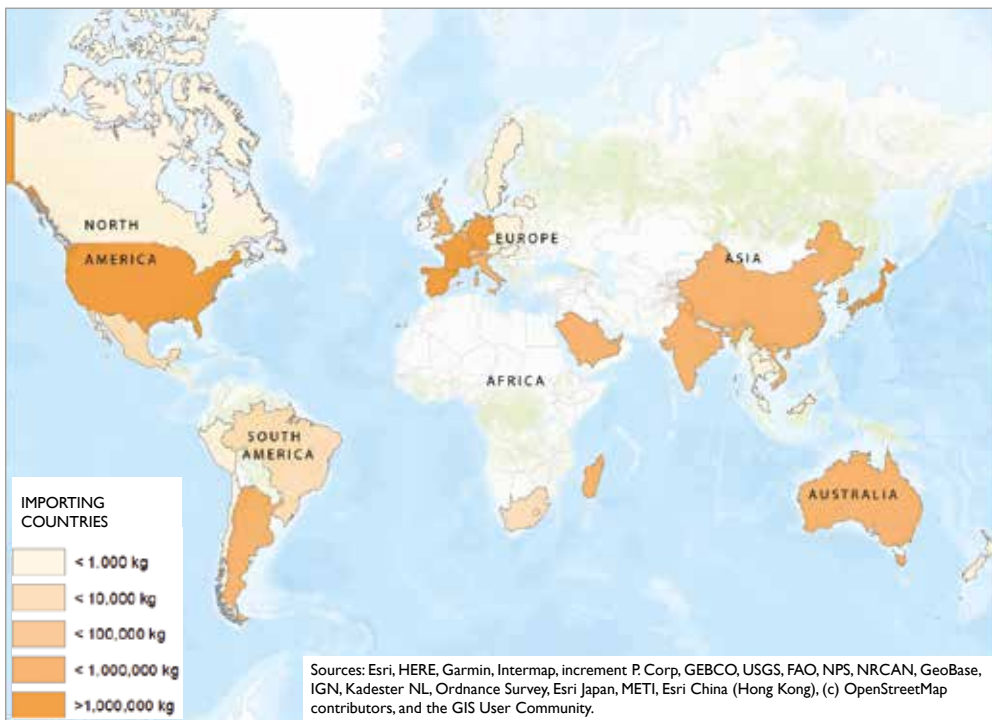
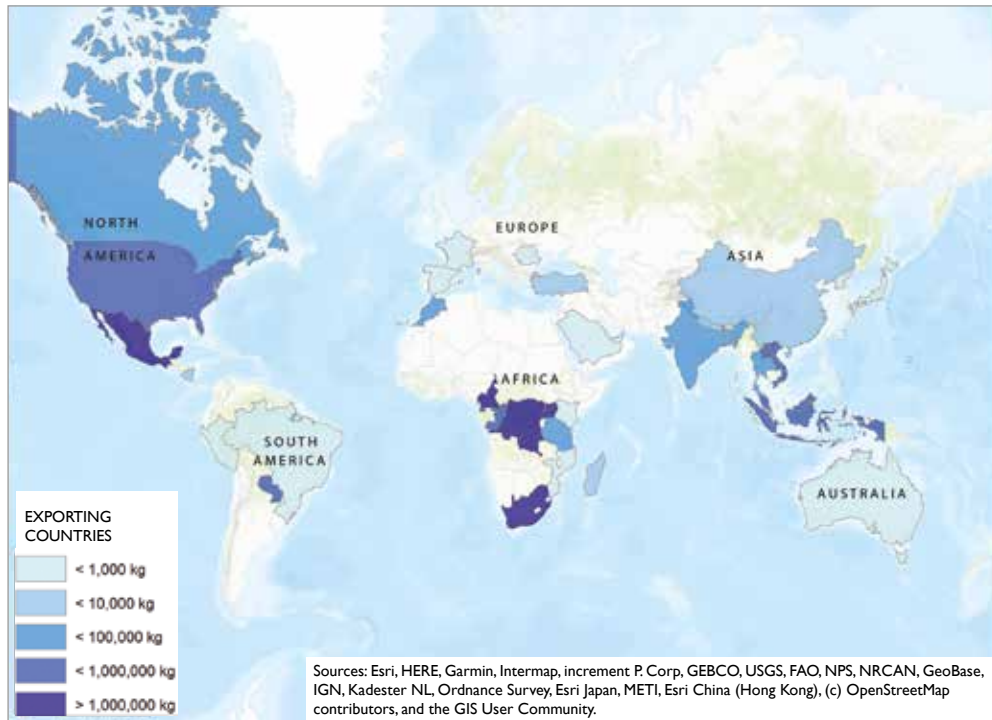


Fig. 1. Heat map (top) of most significant exporters of wild sourced, Appendix II-listed MAPs based on importer reported quantities (in kg) for commercial purposes between 2006–2015. Heat map (below) of most significant importers (in kg) of wild-sourced, CITES Appendix II-listed medicinal and aromatic plants for commercial purposes between 2006–2015.

Data source: CITES Trade Database, available at: <https://trade.cites.org/>.

CITES provides an important, and often the only, form of regulation of trade in MAPs. Over 800 species of MAPs are listed in CITES Appendix II. From the CITES trade data analysis covering the period 2006–2015, 43 CITES Appendix II wild MAP species were traded in significant volumes—some 25,000 t in total.

According to the annual reports of importers, the top three exporting countries were Mexico, Cameroon and South Africa, together representing 75% of all wild-sourced exports (kg as unit), while five countries were responsible for 77% of imports: France (26%), USA (16%), Japan (15%), Germany (11%) and Spain (7%). Fig. 1 illustrates the most significant exporters and importers of wild-sourced CITES Appendix II-listed MAPs; Fig. 2 shows the continuous reliance on wild sources in the trade in CITES-listed MAPs.

In terms of species with the greatest volume of specimens in trade, based on the data reported by importers, the trade in Candelilla *Euphorbia antisyphilitica* and African Cherry *Prunus africana*, accounted for 73%. Additionally, trade is significant in some MAP genera: aloe *Aloe* spp., *Dendrobium* orchid spp., and agarwood *Aquilaria* spp. In the analysis of trade data reported by the exporter, Jatamansi *Nardostachys jatamansi* from Nepal appears globally significant in trade.

CHALLENGES AND OPPORTUNITIES

Beyond the legal trade reported by CITES Parties and analysed above, there is evidence of illicit trade in medicinal and aromatic plants. This is exemplified by the analysis of CITES-related seizures reported by the Member States of the European Union (EU). Between January and December 2017, 27% of all seizures reported were of medicinal plant and animal products and parts/derivatives for medicinal use (TRAFFIC, 2019). This included 218,693 plant-derived medicinal items (and an additional 13,511 kg and 32 litres), with many Appendix II-listed MAPs seized, including aloe *Aloe arborescens*, *Gastrodia elata* orchid, Hoodia *Hoodia gordonii*, *Prunus africana* and *Euphorbia antisyphilitica*.

The trade in wild-sourced MAPs has particular features, which creates both challenges and opportunities. The challenges include the increasing demand (including by the constantly diversifying industry sectors), complex trade chains and traceability issues. Millions of wild harvesters in poor and marginalised regions around the world are reliant on this trade, which is often operating in the context of complex legality (including the issues of land access, tenure and use rights), with much of the trade being informal and under-reported. There are also issues of identification as MAPs are mostly traded as parts, derivatives, and finished products, including in mixed and processed form. On the other hand, market awareness of sustainability issues is growing, and best practices are available, as well as some policy and legislative frameworks in place (notably including CITES regulations), creating opportunities for establishing the conditions for sustainable and legal trade in wild MAPs,

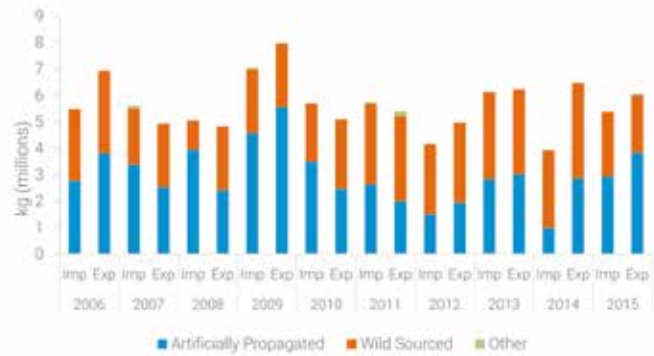


Fig. 2. Importer- and exporter-reported quantities of wild sourced (W), artificially propagated (A) and other material of CITES Appendix-II listed MAPs, 2006–2015, when quantities were reported in kg.

benefiting livelihoods, ecosystems and other species, as well as providing healthcare opportunities and food security.

This project explored an opportunity for appropriate voluntary certification standards (VCSs), if implemented for CITES Appendix II-listed MAPs, to provide case-specific and field-based data and information necessary for making NDFs and hence support CITES authorities in the implementation of its provisions in making both NDFs and LAFs.

VOLUNTARY CERTIFICATION STANDARDS AND THEIR RELEVANCE FOR CITES

VCSs were created to address consumer concerns regarding social, environmental and ethical aspects of production (Shanley *et al.*, 2008). These schemes exist in many industries to evaluate performance against a set of standards and can be led by governments, third parties or companies themselves.

Voluntary standards allow for external third-party auditing and tend to require more exacting scientific standards. These are able to separate genuinely responsible companies from those that merely engage superficially in environmental issues (Shanley *et al.*, 2008). Examples of third-party certification schemes include the Marine Stewardship Council (MSC), which certifies sustainable fisheries and the Forest Stewardship Council (FSC), which certifies areas of forest that harvest timber and non-timber forest products (NTFPs) sustainably.

In the context of wild-sourced plants (excluding timber), fungi and lichens, the most comprehensive system currently in use is the FairWild Standard, which sets out key criteria and principles for companies and producers to observe in order to ensure sources are sustainable and the trade equitable; compliance is assured through third-party auditing. A selection of certification schemes are backed by laws, such as the EU organic production regulation which came into force in 2009 (The Council of the European Union, 2007), which sets out the standard for organic certification.

NDFs Res. Conf. 16.7 (Rev. CoPI7).	9-step NDF for perennial plants (steps where relevant information would be collated) (see Fig. 3)	FairWild Standard Ver. 2.0 Performance Indicators	Field Checklist for UEBT/UTZ	FSC International Generic Indicators Certified Herbal Tea	EU Organic Regulation, from: (EC) 834/2007 and (EC) 889/2008
A. Species biology and life-history characteristics	Steps 1 and 5	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
B. species range (historical and current);	Steps 4, 5 and 6	full consideration of guidelines	partial consideration of guidelines	full consideration of guidelines	partial consideration of guidelines
C. population structure, status and trends (in the harvested area, nationally and internationally);	Steps 4, 5 and 6	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines
D. threats	Steps 4, 5, 6 and 7	full consideration of guidelines	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines
E. historical and current species-specific levels and patterns of harvest and mortality (e.g. age, sex) from all sources combined	Steps 3, 4, 5, 6 and 7	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
F. management measures currently in place and proposed, including adaptive management strategies and consideration of levels of compliance	Step 8	full consideration of guidelines	partial consideration of guidelines	full consideration of guidelines	no relevant indicator
G. population monitoring	Steps 6, 7 and 8	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
H. conservation status	Steps 4 and 6	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
Article IV, para. 2 (b)					
a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora [i.e. Legal Acquisition Findings – LAF]	Step 3	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines

Table 1. Matrix comparing the general guidelines for making NDFs and LAFs against four certification standards. Summary based on the full matrix presented at the stakeholders workshop, January 2019: “Making CITES work for wild medicinal and aromatic plants: the role of voluntary certification” (TRAFFIC, in prep.).

Beyond the independent third-party standards, there are numerous internal company standards, such as Unilever's Sustainable Agriculture Code¹, aimed at promoting sustainability and reducing the companies' impact on the environment. Although important, there is evidence that some companies have used codes like this to market their achievements and corporate responsibility, whilst only doing so superficially (Cherry and Sneirson, 2010).

METHODS

To evaluate the potential and suitability of VCSs to aid in CITES processes, a mix of approaches were used to identify how voluntary certification can assist with implementation of CITES and fulfilment of its requirements for Appendix II wild-sourced MAP species:

- a review of literature, including trade data analysis and species suitability analysis.
- a Certification Scheme matrix to provide a comparison of four VCSs against CITES requirements.
- a CITES Plants Committee side event aimed at receiving stakeholder feedback at the early stages of the project.
- online questionnaires for CITES Parties (Scientific and Management Authorities) and industry stakeholders were developed, and responses collected between September and December 2018. Several channels were used, requesting responses through the CITES Plants Committee regional representatives, from the participants of the CITES and Livelihood International Workshop, follow-up with existing industry contacts, and requesting industry associations to share the survey with members. In total 33 responses were received: 18 from CITES Parties and 15 from industry, which were consolidated and analysed.
- a two-day stakeholder workshop² was held in Cambridge, UK, in January 2019. The workshop was attended by participants from the CITES Authorities, CITES Secretariat, industry bodies (American Herbal Product Association and Natural Resources Stewardship Circle), companies, certification bodies, NGOs and IGOs.

RESULTS

Voluntary Certification Standards with specific potential to facilitate CITES implementation for MAP species

Participants of the stakeholder workshop confirmed the general potential of VCS to assist in CITES processes. CITES authorities noted that there have been challenges in the formulation of NDFs for some species where there is a lack of knowledge or up-to-date information. At the same time, industry representatives stated that a

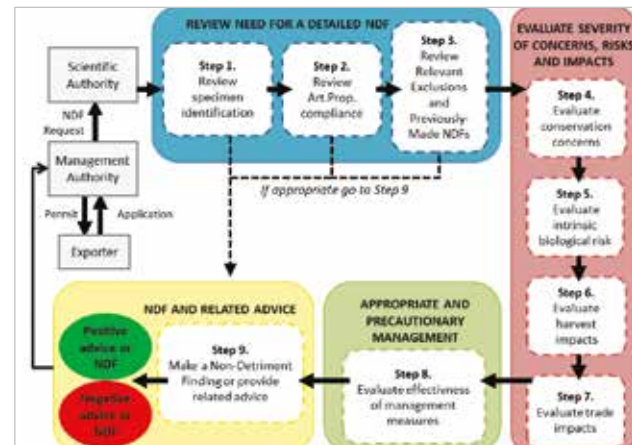


Fig. 3. A summary diagram of a 9-step process to support CITES Scientific Authorities making science-based non-detriment findings (NDFs) for CITES II-listed species. Source: Wolf et al., 2016).

CITES listing is often seen as creating additional barriers to trade. CITES Authorities and industry in general agreed that VCSs could help provide information to the NDF and LAF processes, improve efficiency of the permitting process and create scope for differentiating operators implementing best practices to enable trade when other trade restrictions are in place. There was also consensus that sustainable sourcing of MAPs among industry members may be facilitated if certification and data transfer to CITES Authorities visibly turns out to improve efficiency of permitting processes.

Given that few examples of certification schemes supporting the CITES process exist, and in order to evaluate how relevant and compliant certification schemes are against the relevant CITES requirements, a matrix was drawn up to compare certification standard requirements against the NDF requirements recommended in *Resolution Conf. 16.7 (Rev. CoP17) Non-detriment findings*, LAF requirements found in Article IV, para. 2 (b) and also against guidelines produced for NDFs for perennial plants; a summary diagram of the steps is presented in Fig. 3 (Wolf et al., 2016).

Four standards were included in the initial review to assess whether the certification schemes can provide sources of data and technical assistance to CITES Scientific Authorities (SAs) in their efforts to make accurate, up-to-date NDFs:

- FairWild: FairWild Standard Version 2.0 Performance Indicators³
- UEBT/UTZ: Field Checklist for UEBT/UTZ Certified Herbal Tea⁴
- FSC: International Generic Indicators⁵
- EU Organic Regulation⁶

Available: ¹https://www.unilever.com/Images/ul-sac-v1-march-2010-spread_tcm244-423998_en.pdf; ²Overview of workshop: <https://www.traffic.org/news/making-cites-work-for-wild-medicinal-and-aromatic-plants/>; ³<http://www.fairwild.org/certification-documents/>; ⁴<http://ethicalbiotrade.org/dl/Field-Checklist-for-UEBT-UTZ-Herbal-Tea-version-1.3-Nov-2016.pdf>; ⁵<https://ca.fsc.org/preview/fsc-std-60-004-international-generic-indicators.a-1011.pdf>; ⁶(EC) 834/2007 and (EC) 889/2008

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

Table 2. The benefits and costs of certification in the implementation of CITES for Appendix II-listed MAP species.

Table 1 presents a “traffic light” summary of the full matrix (TRAFFIC, in prep.) and highlights how some certification schemes may be more suited to certifying CITES-listed MAP species than others, and which could potentially add relevant information to NDF and LAF making. The FairWild Standard has all of the relevant indicators, which is to be expected as it was created to certify MAP species such as those listed in the CITES Appendices. UEBT/UTZ and FSC both have indicators that produce documents that could be helpful to CITES Authorities when making NDFs and LAFs, but some of the indicators are more site-specific than species-specific.

Costs and Benefits of Certification

In order for a certification approach to work, the scheme needs to comprise greater benefits than costs. These can be tangible and intangible, for example the costs of certification, or the potential savings in time and effort spent in preparing the documents for making NDFs when VCS data are made available. The project workshop discussions and responses to questionnaires showed that both industry and CITES Authorities consider certification as potentially useful in playing a role in the implementation of CITES for Appendix II-listed MAPs. The main benefit that both groups saw was that the sharing of verified information would lead to greater knowledge, which in turn could speed up the permitting process. Benefits and costs discussed are summarised in Table 2.

Suitability of CITES Appendix II species for certification

A range of factors were considered to assess the suitability of species for certification in relation to CITES implementation in discussions with CITES government agencies and industry. Species that were considered more suitable for, or likely to benefit from, application of VCS would have the following characteristics:

- Species traded in high volumes
- Species that are mainly wild collected and traded for commercial purposes
- Species with complicated annotations or Appendix II split listings (only some populations are listed)
- Species for which limited information is available (in particular, concerning range, population, sustainability of harvests and trade) and there is conservation concern, including species recently listed in CITES
- Species that have been subject to the Review of Significant Trade (RST) process
- Species that have been subject to trade suspensions
- Species that have destination markets interested in certified products
- High-value species where the cost of certification can be easily absorbed
- Species where livelihoods would be strongly affected if trade is suspended
- Species where there are additional concerns over livelihood and social issues and voluntary certification could add an element of fair trade

Examples of CITES Appendix II-listed MAP species considered suitable for certification.



Goldenseal *Hydrastis canadensis*

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Snowdrops *Galanthus* sp.

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African Cherry *Prunus africana*

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Candelilla *Euphorbia antisiphilitica*

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Documentation to help with NDFs

- Harvesting plan
- Description of species
- Population estimates
- Monitoring areas and methods
- Methods of collection

Documentation to help with LAFs

- Proof of origin
- Information on traceability systems
- Unique identifiers
- Reports on quantities of species used
- Documents relating to local level regulation

Table 3. Top five responses from CITES authorities (from an online questionnaire) as to what documents could help them in making NDFs and LAFs.

The examples of CITES Appendix-II listed MAPs considered as particularly suitable for certification include:

- Candelilla *Euphorbia antisyphilitica*
- Jatamansi *Nardostachys jatamansi*
- African Cherry *Prunus africana*
- Goldenseal *Hydrastis canadensis*
- Snowdrops *Galanthus* spp.
- Brazilian Rosewood *Aniba rosaeodora*
- Grandidier’s Baobab *Adansonia grandidieri* and
- American Ginseng *Panax quinquefolius*

It was also noted that certification could be considered for species that are at risk, but which are not yet listed in CITES, as a preventative method to avoid the need for a CITES listing. A specific example of using certification as a preventative method was the genus *Boswellia* (the source of frankincense) where participants agreed that certification could prevent the necessity for a CITES listing.

Additionally, discussions leaned towards using certification as a means of promoting deregulation of trade and that certification could promote the delisting of species from the CITES Appendices.

How to put into operation certification standards to assist CITES Parties

Putting certification outputs into operation within the CITES framework focused on which particular elements of the VCSs would be helpful to CITES government agencies with regard to sustainability aspects (linked to making CITES NDFs), and the other focusing on traceability aspects (linked to making CITES LAFs).

Responses from the online survey showed that half of the CITES authorities thought that documentation provided by certifiers/companies/exporters could aid in the making of NDFs. Three quarters of respondents from CITES authorities also thought that documentation provided by certifiers/companies/exporters aid in the

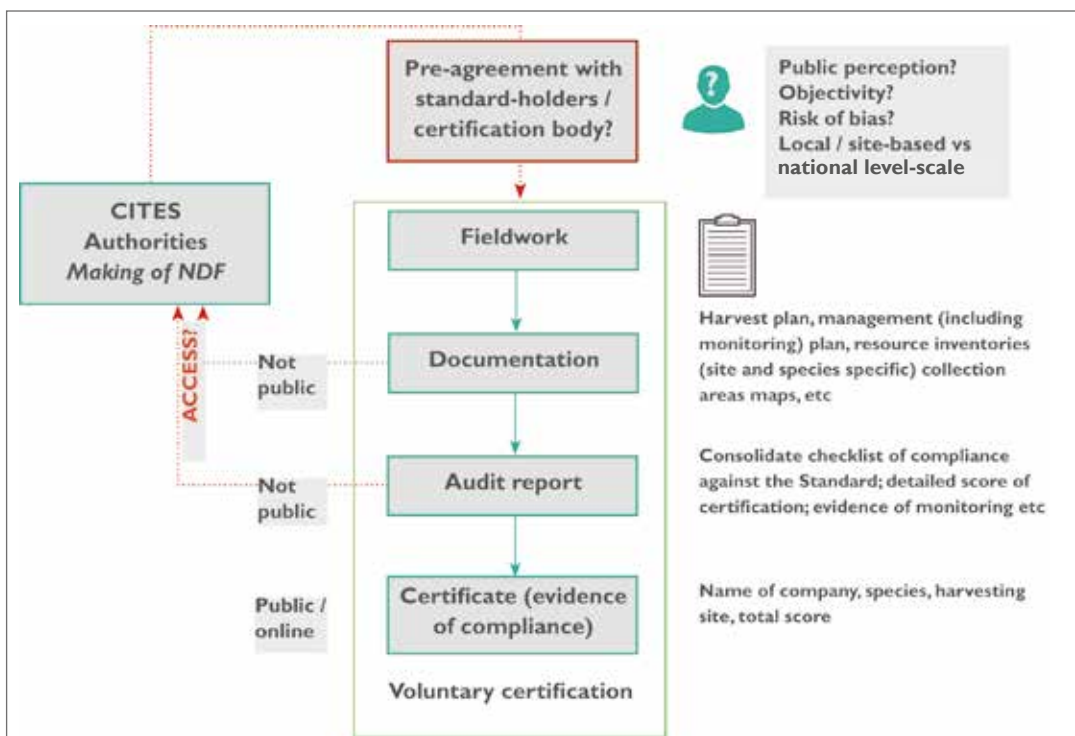


Fig. 4. Example of how a pre-agreement between CITES authorities and standard holders/ certification bodies could work.

making of LAFs. The top five documents that respondents listed both for making NDFs and LAFs are listed in Table 3. Businesses were also asked if there were any restrictions on the documents that they could share with CITES Authorities; 10 out of 15 industry respondents stated that there were no restrictions on the documents that they could share.

Discussion relating to NDFs

Discussions relating to NDFs considered whether information-sharing is possible, and between which organisations. There were diverging opinions if pre-agreements on information-sharing between CITES Authorities and standard-holding organisations, or certification bodies to this effect may be useful (risk included the outward appearance of a bias towards particular stakeholders) and possible (consider which stakeholders own and are able to share information).

It was acknowledged that a certified company is required to bring together a lot of information about its operations, including that pertaining to the sustainability of harvests and trade, and consolidating it into a range of documents. Additionally, there is a benefit of field and documents checks independently conducted by a third party as well as the frequent requirement for such field audits to take place annually. These could be of particular relevance and usefulness when conducting NDFs.

It was concluded that there may be different mechanisms for how this process could be established, including through a more formal “pre-agreement” between government agencies and certification bodies and/or standard-holding organisations (see Fig. 4). This process throws up a range of questions that need to be resolved, including the public perception of the process, the objectivity and risk of bias, information ownership and sharing between companies and certification bodies, and how the roles of ecosystems are dealt with in VCSs.

Discussions related to LAFs

Discussions relating to LAFs observed that CITES authorities look at the legality of the trade for the first time when they are issuing the LAF. They look at the national legislation (e.g. harvest permits, harvester registration information). The certification also checks legality, and the standard criteria would need to be communicated to the authorities. Some issues relating to LAFs that are still to be resolved include traceability being complex and there being differences between different products/species and different levels of traceability (specific producer location, separation of certified products).

The key elements that need to be followed up in relation to the use of VCSs in the CITES context are:

- Enabling a clear mechanism for CITES Authorities to have access to the relevant elements of the certification reports;
- Providing impartial and reliable “benchmarking” of the relevant certification schemes;



Jatamansi *Nardostachys jatamansi* (CITES Appendix II) is one of Nepal’s most commercially valuable and heavily exploited species. An ongoing project pilots the use of FairWild Standard certification to aid implementation of CITES requirements for this species.

- Facilitating a clear understanding of the certification process and what “resource inventory/monitoring” mechanisms it involves.

CONCLUSIONS

Results show that, in general, there is a positive response from stakeholders when considering whether voluntary certification of CITES-listed species can assist with implementation of CITES for Appendix II wild-sourced MAP species. The standard evaluation has shown that some voluntary certification standards can already complement the general guidance on making NDFs (Resolution Conf. 16.7 (Rev.CoP17)), whilst others would need adjusting to fit the CITES framework.

Suitability analysis revealed that some Appendix II-listed MAPs may benefit more from certification than others and that there is no general blanket rule concerning the applicability of this approach. Species that are more widely traded as wild specimens, which have had a somewhat chequered past when in trade (e.g. trade suspensions or inclusion in the Review of Significant Trade process), and which are mainly traded to countries where there is a market for certified products, may be more likely to benefit from certification.

A set of recommendations directed at CITES Authorities, industry stakeholders and NGOs was

developed at the stakeholder workshop on how to make progress with the concept of VCSs aiding with the implementation of CITES for Appendix II-listed MAP species. These include recommendations to:

- encourage piloting the application of VCS to CITES Appendix II-listed MAPs, and consolidate lessons learnt from these experiences as case studies, to be shared with both CITES government agencies and businesses.
- raise awareness of standard-holding organisations, CITES Authorities and industries for which certification schemes are appropriate and helpful to CITES implementation.
- finalise and develop short summaries and recommendations from the analysis of VCS against CITES criteria.
- develop the recommendations in the VCSs analysed regarding the gaps identified to the relevant standard-holding organisations, based on the analysis.
- raise attention of the topic discussed in the CITES context to emphasise the opportunities (as well as risks) that the use of voluntary market mechanisms brings to the implementation of CITES. The appropriate CITES fora could include the Plants Committee, CITES CoP, and specific intersessional working groups (e.g. on CITES and livelihoods). Once more experiences around the use of VCS for CITES-listed species are available, relevant “NDF guidance” and “LAF guidance” can be developed and submitted to CITES.
- support the development of communication/fact sheets on how CITES is used as a tool to support sustainable and legal trade; and how in certain circumstances voluntary certification can assist CITES implementation.

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Frankincense *Boswellia* species are not listed in CITES but there are concerns over the sustainability of trade in the resin (inset) from some species in this genus. Certification could assist in demonstrating the sustainability of harvesting and trade.