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

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Colombo (Sri Lanka), 23 May – 3 June 2019

Interpretation and implementation matters

Regulation of trade

# CITES IMPLEMENTATION FOR TRADE IN MEDICINAL PLANT SPECIES

1. This document has been prepared by the Secretariat.

## Medicinal plant species: a global trade that warrants CITES attention

2. Medicinal plants are understood as taxa used for medicinal or health purposes. To assess the scope and nature of the trade in CITES-listed medicinal plant species, the Secretariat carried out research, with financial support from the Republic of Korea, on e-commerce in CITES-listed medicinal plant species (see information document PC23 Inf. 10). The research also contributed to the implementation of Decision 17.93 on combating wildlife cybercrime (see document SC70 Doc. 30.3.2). Financial support from Germany enabled additional analysis and in-depth contextualization. Findings were summarized in information documents PC24 Inf. 7, and SC70 Inf. 36, and presented at a side event at the 24th meeting of the Plants Committee (PC24, Geneva, July 2018). These analyses suggest that ensuring legal, sustainable and traceable trade in wild-sourced medicinal plants has proven to be challenging.

## Summary of findings

3. *High numbers of mostly wild-sourced species in trade*: Medicinal plants are a particularly prominent category of non-timber forest products (NTFP), with important overlaps with plant products used for nutrition, spices, cosmetics and decoration. It has been estimated that some 50,000 to 70,000 medicinal plants species are being used worldwide (Schippmann *et al.*, 2006). In 2018, the Medicinal Plant Names Service[1] listed 30,000 medicinal plant species compiled from 143 databases and publications. These species are registered under half a million name synonyms. Jenkins *et al.* 2018 report that 60-90% among 30,000 medicinal plant species are sourced from the wild, and some 3,000 are traded internationally. The conservation status of 93% of these species is unknown, but of the assessed 7%, one in five are threatened through overharvesting, habitat loss, climate change, and international trade. Sustainable and legal trade are therefore key to ensure the long-term conservation and sustainable use of medicinal plants. Particular challenges result from the high diversity of taxa that are used for medicinal purposes, the multitude of products and derivatives, and the extraordinary number of name synonyms in international trade.

4. *Economically substantial, growing trade volumes and values*: According to the World Health Organization (WHO), the global revenue from traditional Chinese medicine was USD 83 billion in 2012. Annual expenditures in traditional medicine in the Republic of Korea were USD 7.4 billion in 2009, and private spending for natural products in the United States of America was USD 14.8 billion in 2008 (WHO traditional medicine strategy 2014-2023). The European market for herbal supplements and herbal medicines is

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[1] *The Medicinal Plant Names Service provides a global nomenclatural indexing and reference resource to access information about plants and plant products relevant to pharmacological research, health regulation, traditional medicine and functional foods. Among other services, it offers an online portal providing access to medicinal plant data using any pharmaceutical, drug, common or scientific plant name; current taxonomy, full synonymy and links to Kew's plant data; and to map plant names to those of other organizations or publications.*

estimated to be worth USD 7.4 billion per year (Heinrich *et al*., 2018). The international trade in medicinal plant material in 2017 (customs code HS1211, as reported in the International Trade Statistics Database COMTRADE) amounted to 376,000 tons valued at USD 1.94 billion (exports), and 632,000 tones valued at USD 2.6 billion (imports). From 2001 to 2014, annual average growth rates of 2.4% in volume and 9.2% in export value of medicinal plant material were observed, amounting to a threefold increase in global trade in medicinal and aromatic plants since 1999 (Jenkins *et al.* 2018, Vasisht, 2016). It should be noted however that many available trade statistics do not distinguish between medicinal plant products and other medical products and services, and none of the available market studies distinguish between cultivated or wild origins. Chamberlain *et al.* (2018) report the lack of knowledge about the size and structure of the formal and informal NTFP markets as one of the greatest obstacles for creating effective regulations for NTFP use, and remark that no one classification scheme adequately summarizes production trends of the NTFP sector. Thus, the scale and dynamics of this market add urgency to the findings presented in paragraph 3.

5. *Hundreds of medicinal plant species included in the CITES Appendices:* The estimated number of plant species with medicinal uses in the CITES Appendices depends on the medical information sources being used. The listing proposals of 112 plant species in the CITES Appendices referred to their medicinal use (see information document PC24 Inf. 16). By contrast, 1,280 CITES-listed plant species are referenced in the Medicinal Plant Names Service (Allkin et al. 2017). The CITES trade database registers 54 million kg of exports of medicinal plant products between 2006 and 2015, mainly derived from 43 species (see information document PC24 Inf. 12). Forty-seven percent of these exports were sourced from the wild. The relative importance of the trade in CITES-listed medicinal plants is also demonstrated in enforcement data: of the 220 seizures of CITES-listed plant species by the UK Border Force Heathrow Team in 2016, 121 related to health supplements or traditional medicines (Smyth et al. 2017).

6. *Large numbers of products traded on e-commerce platforms*: In information document PC23 Inf. 10, the Secretariat analysed medicinal plant products on offer on Amazon and eBay that contain (or claimed to contain) at least one of a selection of 365 CITES-listed medicinal plant species. This showed several hundred thousand of offers, of which ca. 15,000 were for live specimens. Most of the identified offers related to about 40% of the searched taxa, and over half of the species were not found to be on offer. Particularly high numbers of offers were found for 26 CITES-listed taxa. As noted in information document PC24 Inf. 12, and similar to the trade chains for orchids (see document PC24 Doc. 28) and rosewood (see document PC24 Doc. 29), this trade comprises multiple retail products that contain mixtures of CITES-regulated ingredients in highly processed stages, which are hard to identify, come from different sources and, theoretically, might require compliance with CITES trade provisions at one or more points along the processing and trading chain. Yet, hardly any of the offers mentioned applicable CITES regulations for cross-border trade. While the analysis did not look at the sources of these products, nor at potential exemptions through annotations, information document PC23 Inf. 10 suggested that an unknown, but possibly important, portion of the international e-commerce in CITES-listed medicinal plant products may occur outside the Convention's purview, and/or that some actors might not be aware of applicable CITES regulations. These general findings are supported in similar e-commerce research on trade in CITES-listed orchids [many offers openly advertised specimens sourced from the wild (Hinsley *et al.*, 2016)], and cacti [suggesting that only 10% of the observed trade was even potentially legal (Sajeva *et al.*, 2013)]. In order to better understand the seemingly complex supply and value chains of products containing medicinal plant specimens, a tailored approach is desirable.

7. *Relevance to health and livelihoods, exceeding utilitarian values:* According to the WHO (2011) traditional medicines, including herbal medicines, have been, and continue to be used in every country around the world; and particularly in much of the developing countries, where around 70-95% of the population rely on these traditional medicines for primary care. Medicinal plants form the basis for these health care systems (Barata *et al.,* 2016). Most active mechanisms in modern pharmaceutical drugs were either directly or indirectly derived from natural products, which include plants and other life forms. That observation still holds despite the advent of synthetic and combinatorial chemistry (Newman and Cragg, 2012). Likewise, medicinal plants play a crucial role for rural livelihoods. Their wild collection or cultivation secures valuable income for many rural households; can play a vital role in the course of livelihood diversification for marginalized populations living in remote areas; and is an important factor in the source countries' local economies (Schippmann *et al.*, 2006). To allow a fair and reliable income, and not to endanger rare plant species, the integration of local and regional producers and trading networks is required (Pauls and Franz, 2013). For these reasons, medicinal plants are salient species, the conservation of which is closely linked to local livelihoods. Thus, medicinal plants were the focus of several livelihood case studies that were presented at the *CITES and livelihoods workshop* in Guangzhou, China, in November 2018 (e.g. *Dendrobium officinale* in China, *Saussurea costus* in India, *Aloe ferox* in South Africa, *Prunus africana* in Uganda, and *Nardostachys grandiflora* in Nepal).

8. *Relevance of local and traditional knowledge bases and networks:* Centuries or millennia of experience and experimentation have provided healers, elders and collectors with traditional knowledge of ecological requirements, population dynamics and sustainable harvesting techniques. For NTFPs, this is frequently the only available source of knowledge of such characteristics (Berkes, 2012; Chamberlain *et al*., 2018). Many species have high cultural and religious significance to local populations and are frequently a crucial element of social networks and exchanges that link communities with healers and elders as respected local leaders. Thus, local and traditional knowledge and networks determine the value attached to the species. They also provide potential pathways for identifying cultivation strategies or alternative ingredients, for reaching out to local populations, and for encouraging behavioural change. Long-term participatory collaboration allows to fully integrate traditional knowledge and networks into comprehensive monitoring and management strategies (Chamberlain *et al.*, 2018; ISSC-MAP 2008), for which there exist extensive experience and well-tested procedures (Bergmann *et al.* 2012; Hitziger *et al*. 2017, 2018; UNCTAD 2017a, b). Such methods facilitate the implementation of CITES mandates, integrating local and traditional knowledge and networks into assessment, monitoring and management processes.

9. *Relevance of multilateral institutions and agreements*: Medicinal and aromatic plants are a topic under several other international policies and programmes, including the Convention on Biological Diversity (CBD)'s sustainable use objective. Intellectual property rights over medicinal plant resources and related traditional knowledge were a driving impetus for the CBD's Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS). The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is developing processes to integrate local, indigenous and traditional knowledge and values into global biodiversity policies (Decision IPBES-2/4, IPBES/5/15, IPBES/3/INF/7). Recommendations for further strengthening such integration in CITES and other international agreements and processes were analysed in a recent report by the United Nations Environment Programme (see information document SC69 Inf. 26). The UN Food and Agriculture Organization (FAO) runs a major and longstanding NTFP program that includes medicinal plants. The links between sustainable use of biodiversity and health are reflected in the WHO-IUCN-WWF Guidelines on the Conservation of Medicinal Plants (1986), and the state of knowledge report on biodiversity and human health (WHO and CBD, 2015). The Forum for the Harmonization of Herbal Medicines (FHH) in the western Pacific region exemplifies one of multiple medical regulatory fora. Thus, the complementarities and gaps between the CBD provisions and CITES regulations, and potential synergies and conflicts between conservation, sustainable medicinal use, and impact on livelihoods warrant collaborative efforts between CITES and other national and international agencies.

Existing CITES provisions and a potential future CITES work plan on medicinal plants in international trade

10. CITES is currently addressing medicinal plants in species-specific agenda items. Recent examples include *Prunus africana* (Decision 17.250; PC24 Doc. 20), agarwood (Decisions 17.194 to 17.197; Resolution Conf. 16.10; PC24 17.2), *Osyris lanceolata* [Decisions 16.153 (Rev. CoP17) and 16.154 (Rev. CoP17)] and Orchids (Decision 17.318; PC24 Doc. 28). Several tree species with medicinal properties are subject of projects funded under the CITES-EU project on *"Supporting sustainable management of endangered tree species and conservation of the African Elephant".* On a generic level, several CITES resolutions stand out for their relevance to medicinal plants, including Resolution Conf. 10.19 (Rev. CoP14) on *Traditional medicines*, Resolution Conf. 13.2 (Rev. CoP14) on *Sustainable use of biodiversity: Addis Ababa Principles and Guidelines*, Resolution. Conf. 10.4 (Rev. CoP14), 16.4 and 16.5 on *Cooperation and Synergies with the Convention on Biological Diversity*, *Cooperation of CITES with other Biodiversity-related Conventions*, and *Cooperation with the Global Strategy for Plant Conservation of the Convention on Biological Diversity*, Resolution Conf. Res. 16.6 (Rev. CoP17) on *CITES and livelihoods*, as well as Resolution. Conf. 16.7 (Rev. CoP17) on *Non-detriment findings*. An overview of documents and guidance on CITES with relevance to medicinal plants can be found in information document PC23 Inf. 10.

11. However, as illustrated in the summary findings, assuring legal, sustainable and traceable trade of wild NTFP and medicinal plants has challenges that transcend individual species. Addressing these challenges can thus facilitate CITES implementation for trade in medicinal plants in general. In particular, CITES implementation could be improved by better collaboration with stakeholders along the medicinal plant trade supply and value chains, from local populations to international institutions. CITES procedures for ensuring legal and sustainable trade in medicinal plants could be rendered more efficient and effective, for example by collaboration with certification bodies, enhanced transparency of trade supply and value chains, and by focusing regulations on the first point of export. *In situ* conservation would benefit from the integration of traditional knowledge and networks, which facilitates participatory conservation efforts and supports livelihood opportunities of rural populations.

12. In order to improve the implementation of CITES for trade in medicinal plant species, a series of actions in the form of a work plan was formulated in information document PC24 Inf. 7. Discussions with participants at PC24, including Plants Committee members, Parties, non-governmental organizations and industry associations, provided important inputs, and a revised version was made available as information document SC70 Inf. 36. Further discussions took place in the margins of SC70 and the CITES and livelihoods workshop 2018 in Guangzhou (CoP18 Doc. 18.1). Potential elements of such a work plan are made available in an associated information document to initiate the consideration of a need for such an approach by Parties.

Conclusions

13. There is evidence that trade in medicinal plant species is significant and increasing, but its implications towards the conservation of wild plants listed in CITES Appendices remain to be formally documented. The implementation of CITES for trade in medicinal plants poses specific challenges, particularly from the traceability perspective. In this regard, there is a need to improve access to information on CITES-listed specimens of medicinal plants throughout their supply and value chains; noting that this information should be available from as close to the point of harvest, and throughout key links of the supply and value chains. Although CITES adopted several provisions that contribute to ensuring that trade in medicinal plant species is sustainable, legal and traceable, they remain scattered over several Resolutions and Decisions, and in this sense, a more consolidated approach to review and improve the implementation of CITES for trade in medicinal plants is proposed.

14. This approach would complement work that CITES has engaged in for other major flora groups in trade, i.e. timbers and live ornamental plants. These efforts enhanced the implementation and understanding of the Convention for trade in these commodities, both by Parties and the wider stakeholder community. It is with this longer-term view in mind that the Secretariat proposes draft decisions in Annex 1 relating to trade in medicinal plants.

15. The draft decisions aim to obtain an overview of the trade in CITES-listed medicinal plant species and develop recommendations to address challenges in implementing the Convention for trade in these species. The estimated costs for implementing the proposed draft decisions are shown in Annex 3.

Recommendations

16. The Conference of the Parties in invited to adopt the draft decisions on medicinal plant species in Annex 1 to the present document.

**Draft decisions on CITES implementation for trade in medicinal plant species**

***Directed to the Secretariat***

**18.AA** The Secretariat shall:

a) liaise with key players of medicinal plant trade supply and value chains to raise awareness and understanding of CITES regulations for medicinal plant species and of the impact of the trade in medicinal plants on the conservation of CITES-listed medicinal plant species in the wild;

b) subject to available resources, analyse CITES priorities, challenges and opportunities in matters related to trade in medicinal plants, including by:

i) providing an updated overview of the international trade in CITES-listed plant species traded as medicinal products, and assessing whether existing databases with trade names of CITES-listed medicinal plant species can be linked to the CITES Checklist database;

ii) reviewing ongoing work on sustainable and traceable supply and value chains for medicinal plant products, focusing on certification schemes, standards and guidelines;

iii) examining case studies involving local and traditional knowledge, and participatory assessments, monitoring and management of CITES-listed medicinal plant species; and

iv) Based on the findings of i) to iii), developing recommendations to *inter alia* complement existing tools relating to the implementation of the Convention for CITES-listed medicinal plants, and create synergies, as appropriate, with relevant intergovernmental organizations and stakeholders;

c) report to the Plants Committee on the outcomes of the work outlined in paragraphs a) and b).

***Directed to Parties***

**18.BB** Parties are invited to take actions to raise awareness and understanding of CITES regulations for medicinal plant species amongst those trading in species used for this purpose.

***Directed to the Plants Committee***

**18.CC** The Plants Committee shall review the Secretariat's report as per Decision 18.AA, and make recommendations to the Standing Committee or the Conference of the Parties, as appropriate.

***Directed to the Standing Committee***

**18.DD** The Standing Committee shall review any report from the Plants Committee as per Decision 18.CC and make recommendations to Parties, as appropriate, and to the Conference of the Parties.

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TENTATIVE BUDGET AND SOURCE OF FUNDING
FOR THE IMPLEMENTATION OF DRAFT RESOLUTIONS OR DECISIONS

According to Resolution Conf. 4.6 (Rev. CoP16) on *Submission of draft resolutions, draft decisions and other documents for meetings of the Conference of the Parties*, the Conference of the Parties decided that any draft resolutions or decisions submitted for consideration at a meeting of the Conference of the Parties that have budgetary and workload implications for the Secretariat or permanent committees must contain or be accompanied by a budget for the work involved and an indication of the source of funding. The Secretariat proposes the following tentative budget and source of funding.

Regarding draft decisions 18.AA in Annex 1:

The activities referred to in draft decision 18.AA might entail both desk and field work. In view of the range of species to research and its overall scope, the Secretariat estimates that the analysis should be budgeted at around USD 75,000 to 100,000.

Regarding draft decisions 18.CC and 18.DD in Annex 1:

There may be workload implications for the Plants and Standing Committee in the implementation of draft decisions 18.CC and18.DD, but it is expected that these can be covered within existing resources.