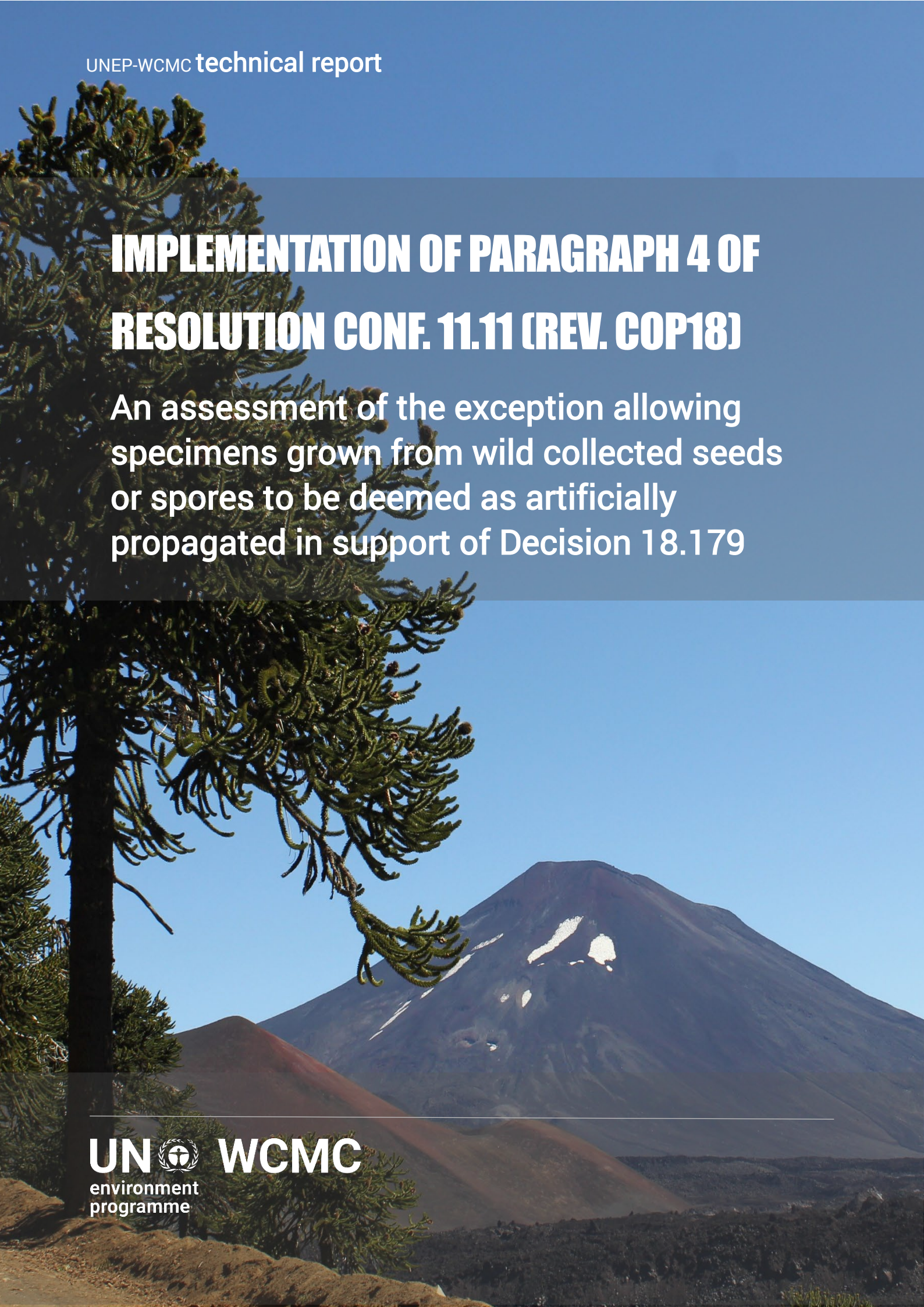
UNEP-WCMC technical report

IMPLEMENTATION OF PARAGRAPH 4 OF RESOLUTION CONF. 11.11 (REV. COP18)

An assessment of the exception allowing specimens grown from wild collected seeds or spores to be deemed as artificially propagated in support of Decision 18.179



UN environment programme

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Implementation of paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18)

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Cover Photo: Monkey puzzle tree in Chile (*Araucaria araucana)* / Paulo Carmo.

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Executive Summary

This report provides a review of the implementation of paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) in support of the Plants Committee fulfilling Decision 18.179. It provides the following: an assessment of the scale at which Parties are currently implementing the exception allowing plant specimens grown from wild seeds or spores to be deemed as artificially propagated; a global overview of legal, international trade in Appendix I artificially propagated plants under source codes A and D; a global overview of illegal, international trade in all Appendix-I listed plant taxa; a cost/benefit analysis of the exception; and recommendations for consideration by the CITES Plants Committee.

Key findings

Only two Parties to CITES are currently known to implement the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) on the *Regulation of trade in plants:* **Chile** is actively exporting plant material of the Appendix I tree *Araucaria araucana* (Monkey puzzle tree); and **South Africa** has reported implementing this provision for one species of cycad, *Encephalartos latifrons* (Albany cycad). For the latter, this involves active management of one population of the species, but South Africa has not yet reported any exports from this programme. Although the Democratic Republic of the Congo (DRC) has a registered nursery from which exports of the Appendix I-listed *Encephalartos laurentianus* could take place under the exception, no exports of artificially propagated specimens have been reported to date.

Overview of trade

According to the CITES Trade Database, international trade in artificially propagated Appendix I taxa consists primarily of exports of *A. araucana* and orchids. Between 2009 and 2018, 529 415 live specimens of *A. araucana* were exported globally, with the vast majority (approximately 525 500 specimens) being exported from registered nurseries in Chile under source code A, making *A. araucana* the most highly traded Appendix I artificially propagated plant species. In addition, Chile's exports comprised 90% of all trade in artificially propagated plants from Parties with registered nurseries exporting native species. An illegal trade analysis identified live specimens of *A. araucana* as the plant commodity seized in the largest quantities over the period 2016-2018 (15 067 total). However, approximately 15 000 specimens of *A. araucana* were attributed to one seizure alone that was legally exported from Chile. Although Appendix I artificially propagated plants exported for commercial purposes should be reported under source code D according to paragraph j) of Resolution Conf. 12.3 (Rev. CoP18), source code A was the source code used more regularly by Parties and its use was consistent over the period 2016-2018 (77% of total exports).

Beyond *A. araucana,* the analysis of the CITES trade data revealed a dominance of exports in artificially propagated Appendix I specimens from non-range States, for which the exception in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) would not apply.

Cost/benefit analysis

A substantive cost/benefit analysis of the exception provided for in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) proved difficult due to the limited real-world examples of the exception being put into use. That said, on the basis of the available evidence, the **key benefits** for the specific cases in Chile and South Africa were identified as follows:

- the conservation and sustainable management of Appendix I listed species is promoted, particularly through the provision of incentives for local communities and private landowners to protect and preserve species *in-situ.* In Chile, it supports indigenous people's roles, their

traditional use and practises by providing a source of income for indigenous communities; in South Africa, the production of seedlings for reintroduction and for sale provides economic revenue to landowners who demonstrate a desire to contribute to securing a future of the species concerned in the wild, as well as creating and maintaining an enabling environment to carry out all appropriate management actions in their properties;

- the *ex-situ* production of plant material, such as seedlings, enriches and augments *in-situ* natural populations via restoration and reintroduction conservation actions;

- the trade, enabled through the exception, provides a driver for artificial propagation of endangered CITES Appendix I species within the range States, which could potentially lead to a reduction in the local demand for illegal material harvested from the wild (see also costs).

The benefits highlighted above illustrate how CITES can be flexible and adapt to the traditions of indigenous communities, endorsing their values and their contribution to conservation and sustainable use, while also ensuring that international trade is not detrimental to the species in the wild. The exception has played a positive role in the implementation of CITES for *A. araucana,* and the review has found no evidence to support its removal or amendment at this time.

In relation to the **costs**, an illegal trade analysis indicated there were some seizures of *A. araucana* over the three years 2016-2018 which mainly comprised one large seizure that was legally exported from Chile. Illegal trade represented a small percentage of overall trade under the paragraph 4 exception. Whilst no legal exports from South Africa under the exception have yet taken place, there are concerns pertaining to the ongoing illegal trade in South African cycads more generally. *E. latifrons* continues to decline in the wild due to poaching for horticultural/ornamental purposes (affecting also the harvest of reproductive parts of the plant concerned). To gain a better understanding of whether the legal trade in these species stimulates illegal trade, additional data over a longer time frame would be needed from CITES annual Illegal Trade Reports.

The South African Authorities noted that the population of *E. latifrons* is currently managed to maximise seedlings production. The collection of all male cones (to obtain pollen used to artificially pollinate mature female cones in the wild) may have had a detrimental effect on the regeneration of the wild population and the presence of pollinators, but South Africa were addressing this issue by considering an alternative management strategy.

Overall, the benefits of the paragraph 4 exception for the two relevant species (providing incentives for conservation for either private individuals or local communities through controlled trade, the production of seedlings for restoration and expansion of existing wild populations, and the possibility of reducing illegal offtake) appear to outweigh the main documented cost of illegal trade.

Currently, the only way to establish whether a Party is implementing the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) on *Regulation of trade in plants* is to check the CITES register of Appendix I nurseries for countries that are propagating native species which are likely to "take a long time to reach reproductive age", and then to contact the relevant Party for confirmation. This process could be streamlined and made more transparent if the registration list were annotated to indicate those Parties that are utilising the exception based, *inter-alia*, on information supplied by a Party to the Secretariat when they register the nursery.

At the time of the adoption of the exception (in 2004), no monitoring or reporting process was established to assess its impact. As the exception is only currently used by one Party, a formal monitoring and reporting process may not be needed. However, should the exception become more widely used by additional Parties or for a number of different species (as determined by the

information in the CITES register as outlined above), further monitoring to assess its implementation could be needed in future.

Recommendations

Based on this report, the following recommendations relating to Dec. 18.179 have been formulated for the consideration of the Plants Committee.

The Plants Committee is invited to consider:

1. Maintaining the current exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) in the Resolution without amendment;

2. Requesting the CITES Secretariat, as appropriate, to annotate the Register of operations that artificially propagate specimens of Appendix-I species for commercial purposes based on *inter alia,* the findings of this report and data supplied to them by the Parties on registration of nurseries, to indicate if they are implementing the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18). This would help improve transparency around trade permitted under this exception in future.

3. At what point, in terms of any expanded use of the exception, would a monitoring and reporting mechanisms be required to review the implementation of the exception on a more regular basis (i.e. use of the exception across either a number of additional species or by additional Parties).

4. Whether the analysis highlighted in this report - where the benefits of the paragraph 4 exception appears to outweigh the costs - could provide an example of synergy between CITES and the Convention on Biological Diversity and provide lessons learned to help preserve the traditional practices of indigenous peoples, while at the same time not negatively impacting used species in the wild.

Background

At its 14th meeting (Namibia, 2004), the Plants Committee was asked to review amendments to two Resolutions concerning plants and plant trade: Resolution Conf. 9.19 on the *Registration of nurseries that artificially propagate specimens of Appendix-I plant species for export purposes* and Resolution Conf. 11.11 on *Regulation of trade in Plants.* The need to amend Resolution Conf. 9.19 on the *Registration of nurseries* was identified by the CITES Secretariat in 2004, following a request by Chile to register nurseries propagating the Appendix I species *Araucaria araucana* from wild-collected seeds (PC14 Doc. 7.4 paragraph 14). Under the terms of the Resolution, this was not possible because Resolution Conf. 9.19 did not provide for the registration of such nurseries, but only referred to parental stock present in the nursery. Chile and the Secretariat brought this to the attention of the Plants Committee and, following extensive discussions, amendments to Resolution Conf. 9.19 on the *Registration of nurseries* and Resolution Conf. 11.11 on *Regulation of trade in Plants* were tabled at the 13th meeting of the Conference of the Parties (CoP13 Doc. 51, Bangkok, 2004).

A new section was added to Resolution Conf. 11.11 on *Regulation of trade in Plants* – what was to become paragraph 4 in the current Resolution (see full text in Box 1) - to allow plants grown from wild-collected seeds (later changed to propagules and restricted to Appendix I) to be considered as artificially propagated specimens, under certain conditions. While there were some concerns raised about this approach at the time, the prevailing view was that such an approach might reduce collection pressure on wild populations by providing a source of legitimate specimens for the horticultural market and the Resolution was amended (CoP13 Doc. 51).

Resolution Conf. 9.19 on *Registration of nurseries* was amended in parallel, allowing the registration of nurseries propagating Appendix I species from wild seed if the conditions in the amended Resolution Conf. 11.11 were fulfilled and if the Management Authority certified that conditions were met when they communicated the registration details to the CITES Secretariat. The exception in paragraph 4 in Resolution Conf. 11.11 (Rev. CoP18) was designed for species that take a long time to reach reproductive age (for example some tree species), and includes criteria that specify that the propagation must take place within the relevant range State and that the nurseries should be registered with the CITES Secretariat in accordance with Resolution Conf. 9.19 (Rev. CoP15).

In its report to the Standing Committee in 2018 (SC70 Doc. 31.2), the Plants Committee noted that Paragraph 4 b) iii) of Resolution Conf. 11.11 requires a portion of collected seeds to be replanted in the wild, but that there were situations where this may not be appropriate. The Plants Committee therefore recommended that this paragraph required further review.

BOX 1: Resolution Conf. 11.11 (Rev. CoP18): Regulation of trade in plants

Regarding the definition of 'artificially propagated'

Paragraph 4 *RECOMMENDS that, for populations of Appendix-I listed species, an exception to paragraphs 2 and 3 may be granted and specimens deemed to be artificially propagated if, for the taxon involved:*

a) *i) the establishment of a cultivated parental stock presents significant difficulties in practice because specimens take a long time to reach reproductive age, as for many tree species;*

ii) the propagules are collected from the wild and grown under controlled conditions within a range State, which must also be the country of origin of the propagules;

iii) the relevant Management Authority of that range State has determined that the collection of propagules was legal and consistent with relevant national laws for the protection and conservation of the species; and

iv) the relevant Scientific Authority of that range State has determined that:

A. collection of propagules was in a manner not detrimental to the survival of the species in the wild in accordance with Resolution Conf. 16.7(Rev. CoP17) on Non-detriment findings; and

B. allowing trade in such specimens has a positive effect on the conservation of wild populations;

b) *at a minimum, to comply with subparagraphs 4 a) iv) A. and B. above:*

i) collection of propagules for this purpose is limited in such a manner such as to allow regeneration of the wild population;

ii) a portion of the plants produced under such circumstances is used to establish plantations to serve as cultivated parental stock in the future and become an additional source of propagules and thus reduce or eliminate the need to collect propagules from the wild; and

iii) if appropriate, a portion of the plants produced under such circumstances is used for replanting in the wild, to enhance recovery of existing populations or to re-establish populations that have been extirpated; and

c) *in the case of operations propagating Appendix-I species for commercial purposes under such conditions they are registered with the CITES Secretariat in accordance with Resolution Conf.9.19 (Rev. CoP15) on Registration of nurseries that artificially propagate specimens of Appendix-I plant species for export purposes.*

Introduction

At its 18th meeting, the Conference of the Parties (Geneva, 2019) considered the recommendation of the Plants Committee to further review Paragraph 4 b) iii) of Resolution Conf. 11.11, and adopted an amendment to the relevant text on replanting a portion of the plants produced to the wild to include that this should take place only "*if appropriate*" [CoP18 Doc. 59.2, Resolution Conf. 11.11 (Rev. CoP18)].

CoP18 also adopted Decisions 18.179 to 18.181 on *Specimens grown from wild-collected seeds or spores that are deemed to be artificially propagated*. Decision 18.179 is directed to the Plants Committee, as follows:

> ***18.179 Directed to the Plants Committee***
>
> *The Plants Committee shall review the implementation of paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) on Regulation of trade in plants and the trade in specimens of artificially propagated Appendix-I species. The report shall include consideration of conservation benefits to wild populations and any adverse effects on the conservation of Appendix-I species that have been subject to the implementation of paragraph 4.*

The exception outlined in paragraph 4 of CITES Resolution Conf. 11. 11 (Rev. CoP18) allows plant specimens grown from wild seeds or spores to be deemed as artificially propagated under certain circumstances.

To fulfil the "exception", the following criteria should be met:

- the Appendix I taxa must be difficult to establish as a parental stock because specimens take a long time to reach maturity,
- the propagation must take place in controlled conditions in a range State, and
- the relevant nursery must be registered with the CITES Secretariat in accordance with Resolution Conf. 9. 19 (Rev. CoP15).

In support of Decision 18.179, this report provides an analysis of the exception outlined in paragraph 4 of CITES Resolution Conf. 11. 11 (Rev. CoP18), and compiles:

- an analysis of legal and illegal trade in Appendix I artificially propagated plants (source codes A and D), including a more detailed assessment of relevant trade from registered nurseries, from the CITES Trade Database and CITES illegal trade reports;
- an assessment of the scale to which Parties are currently implementing the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) identifying the relevant Parties and species involved; and
- an assessment of any conservation benefits to wild populations of the species concerned that may have accrued or possible adverse effects to the conservation of the species, as a result of implementation of paragraph 4 of Resolution Conf 11.11 (Rev CoP18), drawing heavily from the information provided by the two Parties either implementing, or intending to implement, the exception.

Based on the assessment above, recommendations for review by the Plants Committee are provided at the end of the Executive Summary of this report.

Methods

In support of Decision 18.179, a two-pronged approach was taken, focussing on trade and a cost/benefit conservation analysis of Appendix I taxa subject to the implementation of Paragraph 4.

1. Trade analysis

CITES trade data were analysed to determine which Appendix I artificially propagated plant species (source codes A and D) have been reported in trade that are of most relevance in the context of Paragraph 4 of Resolution 11.11 (Rev. CoP18) subparagraphs a) i) and ii), (i.e. they take a long-time to reach maturity and are grown in a range State).

Trade data were downloaded from the CITES Trade Database (trade.cites.org) on 11 January 2021; data was standardised across terms and units[1] to facilitate the analysis. Trade data covered the ten-year period 2009-2018 and included live plants and seeds reported by number and by weight (in kg) for commercial purposes (purpose code 'T'); only source codes A[2] and D[3] were included. Trade data were analysed to: 1) investigate the level of trade (exporter-reported data only[4]) in live plants and seeds of all Appendix I artificially propagated plant species across all CITES Parties; and 2) identify direct commercial trade in Appendix I artificially propagated species from range States that have been included in the register of nurseries on the CITES website.

Data from the CITES Illegal Trade reports, maintained by UNODC, for more than 170 Appendix I plant species[5] were requested via the CITES Secretariat in January 2021 and incorporated into the report for 2016-2018 (these are the only three years for which data are currently available).

2. Cost/benefit analysis of the implementation of the exception outlined in Para 4. of Resolution Conf. 11.11 (Rev. CoP18)

Identification of Parties with registered nurseries: The CITES register of operations that artificially propagate specimens of Appendix I species was consulted to identify range States that had registered facilities for native species which likely "*take a long time to reach reproductive age*" (these were considered to be trees and cycads, based on the terminology used in paragraph 4, a) i) *as for many tree species*), with range State also propagating 'in country' Appendix I taxa under controlled conditions. Three Parties were identified for consultation: Chile, Democratic Republic of Congo [hereafter DRC] and South Africa (see 2.2).

Consultation with Parties that may be implementing Para. 4 of Resolution Conf. 11.11 (Rev. CoP18): To identity conservation benefits or any adverse effects that may have impacted wild populations of the Appendix I species identified as being subject to the exception, consultations with the CITES Management and Scientific Authorities of Chile, DRC, and South Africa) were carried out by email in January 2021. Parties were consulted on, *inter alia*, whether they were implementing the exception. In

[1] For example, historical term and unit codes were converted to current codes, and metric units were combined (e.g. weights in grams were converted to kilograms).

[2] Plants that are artificially propagated in accordance with Resolution Conf. 11.11 (Rev. CoP18) and parts and derivatives thereof, exported under the provision of Article VII, paragraph 5 (specimens of species included in Appendix I that have been propagated artificially for non-commercial purposes […]

[3] Appendix I plants artificially propagated for commercial purposes, as well as parts and derivatives thereof, exported under the provision of Article VII, paragraph 4 of the Convention.

[4] The trade analysis focused on exporter-reported data as exporter quantities are closer to the source of harvesting, and to focus on the range States of concerned species).

[5] Illegal trade data was requested for Appendix I species within the following families: Araucariaceae, Cactaceae, Cupressaceae, Cycadaceae, Palmae, Pinaceae, Podocarpaceae, Stangeriaceae and Zamiaceae.

particular, CITES Authorities of the Parties identified were asked to provide information relevant to the implementation of Paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18), including background information on the process of seed/propagule collection from the wild, management and regulation of seed/propagule collection, use and benefits from trade in cultivated specimens and if any changes occurred in the conservation status of the species concerned in the wild. Responses were received from Chile and South Africa at the time of writing (early March 2021).

Literature review and expert input: To further inform the cost/benefit analysis of the exception, a literature review was also conducted to expand on the information received from the Parties. In addition, to seek views on what could be considered as a "*long time to reach reproductive age*", a number of experts[6] were identified with extensive knowledge of plant taxa in the CITES context who were consulted by email in January 2021. Experts were asked to provide inputs on any conservation benefits or risks to the conservation of wild populations arising from this exception and examples where wild collection of propagules/seed for propagation may be non-detrimental. Responses to the consultations were received from all four experts.

[6] Prof. Maurizio Sajeva (former European Regional Representative of the CITES Plants Committee), Dr Greg Leach (former Oceania Regional Representative of the CITES Plants Committee), Dr Detlev Metzing (Germany CITES Scientific Authority) and Dr Jonas Lüthy (former European Regional Alternate Representative of the CITES Plants Committee).

Overview of CITES trade in artificially propagated plants

Global trade in artificially propagated plants (source codes A and D) of Appendix I-listed taxa

According to the CITES Trade Database, direct commercial trade in Appendix I artificially propagated live plants over the period 2009-2018 consisted of approximately 1.2 million live specimens (77% reported with source A, 23% source D; Table 1; Figure 1).

Trade generally declined 2009-2016 (174 289 live plants traded in 2009), and then increased substantially to a peak in 2018 (283 277 live plants), which represented a more than nine-fold increase compared to the lowest level of trade over this period (in 2014 with 42 431 plants; Figure 2). This trade consisted of species belonging to 13 plant families, with Araucariaceae (45%), Orchidaceae (25%) and Nepenthaceae (11%) comprising the majority of exports (Figure 1). The increase in 2018 appears to be largely due to an increase in Araucariaceae, Cactaceae and Liliaceae (Table 1 and Figure 2). Only one Appendix I taxon reported in trade, *A. araucana*[7], was identified as meeting the criteria of most relevance in the context of paragraph 4 of Resolution 11.11 (Rev. CoP18); this species was predominantly reported as source code A (Table 1)[8]. Taxa belonging to the families Orchidaceae and Nepenthaceae were not considered to take a long time to reach reproductive age and therefore do not appear to meet the criteria for the exception.

In terms of the use of A or D source codes, the use of source A by Parties was consistent over this period (77% of total exports- Figure 1 and Figure 2) and seemed to be the preferred source code used to record exports of 8 (out of 13) family taxa, such as Araucariaceae, Liliaceae and Nepenthaceae. The level of trade in live plants reported with source D (23% of total exports), mainly used to record exports of Cactaceae, Euphorbiaceae and Zamiaceae specimens, slightly increased after 2016 (Figure 2).

Data showed that, beyond A. araucana and cycads, no trade from range States took place for live specimens of artificially propagated plants (source codes A and D) of the following families: Agavaceae, Apocynaceae, Cactaceae, Composite, Cupressaceae, Euphorbiaceae, Fouquieriaceae, Nepenthaceae, Palmaceae, Pinaceae, Podocarpaceae, Rubiaceceae and Sarraceniaceae. Over the period 2009-2018, approximately 290 000 artificially propagated live specimens (both source codes A and D) of Orchidaceae were exported by Parties; only a quarter of orchid exports (approx. 76 000 specimens) were from range States, with Malaysia and Thailand being the primary range States exporting source A and source D orchids, respectively.

Over the same period, seeds from artificially propagated (sources A and D) Appendix-I listed plants were also reported in direct trade for commercial purposes across nine families and totalled approximately 1 million seeds traded by number (96% Cactaceae spp.) and an additional 102 kg of seeds traded by weight (84% Araucariaceae spp.). Cactaceae seeds by number were almost entirely reported as source D (96% of Cactaceae seeds), which were exported predominantly by the United

[7] The only species of the family Araucariaceae included in the CITES Appendices.

[8] Source code D would be anticipated for commercial trade in Appendix I-listed plant taxa from CITES registered nurseries.

States of America (66%) and Malta (31%); Araucariaceae seeds by weight were exclusively exported by New Zealand as source A.

Table 1. Direct commercial trade in artificially propagated live plants (sources A and D) for taxa listed in CITES Appendix I, by family, as reported by exporters 2009-2018. Source: CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 11/01/2021.

Family	Source	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Agavaceae	A	5		14								19
	D	9							1			10
Apocynaceae	A				50						321	371
	D	3	7	2	2	3		4	7	187	272	487
Araucariaceae	A	120561	112220	434	80058	60012	44	58524	72	21	95026	526538
	D	208	48	737	135	591	78	127	163	591	199	2877
Cactaceae	A	12	7	64	48	250	22	23	11		700	1137
	D	2503	718	6341	470	991	1650	2583	2112	12500	15942	45810
Compositae	A		208									208
	D			192								192
Euphorbiaceae	A	1	180	2	790		150	737	524		40	2424
	D	890	276	571	90	277	432	2287	1249	1368	6611	14051
Fouquieriaceae	A											
	D					16	10					26
Liliaceae	A	3	354		33	100	1711	137	1396	7321	78459	89514
	D	166	81	282	2571	558	4	223	150	77	134	4246
Nepenthaceae	A	6331	3990	3230	4560	4050	4650	3200	1070	49660	19330	100071
	D	3	3	1			2	7	6989	7	24827	31839
Orchidaceae	A	12005	14006	13375	13405	11102	19757	12096	18875	23376	14680	152677
	D	16166	5532	16452	10564	5239	5112	19099	18487	19071	21443	137165
Sarraceniaceae	A	17	16	9	28	15						85
	D	1	11		13							25
Stangeriaceae	A	4	50				17	36	13	5		125
	D	12	5		5	3	12	18		5	32	92
Zamiaceae	A	10614	7635	4038	399	806	2908	2497	2329	713		31939
	D	4775	2027	4369	5856	3537	5882	1899	2996	4143	5261	40745
Subtotal (no. of live plants reported with source A)		***149553***	***138666***	***20732***	***99371***	***76335***	***29259***	***77250***	***24290***	***81096***	***208556***	***905108***
Subtotal (no. of live plants reported with source D)		***24736***	***8708***	***28947***	***19722***	***11209***	***13172***	***26247***	***32154***	***37949***	***74721***	***277565***
Grand Total		**174289**	**147374**	**49679**	**119093**	**87544**	**42431**	**103497**	**56444**	**119045**	**283277**	**1182673**

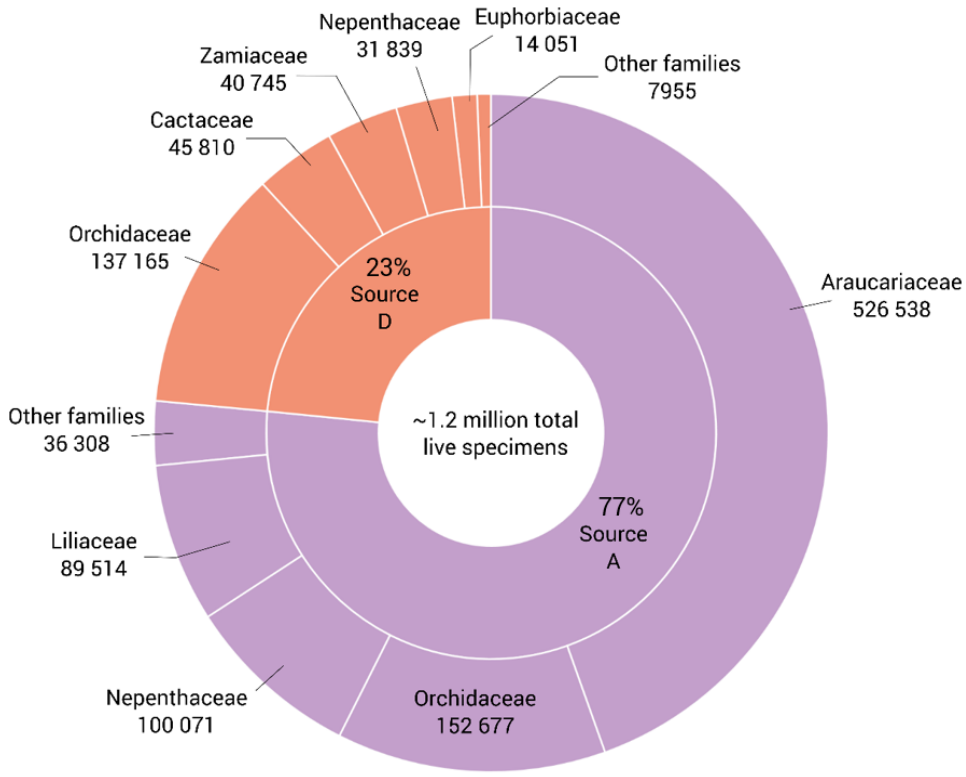

Figure 1. Top families with CITES Appendix I species in trade as artificially propagated live plants (sources A, purple and D, red) for commercial purposes, 2009-2018, as reported by exporters. Families that comprised more than 5% of trade under each source code are visualised; the remaining families are grouped as 'other families'.
Source: *CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 11/01/2021.*

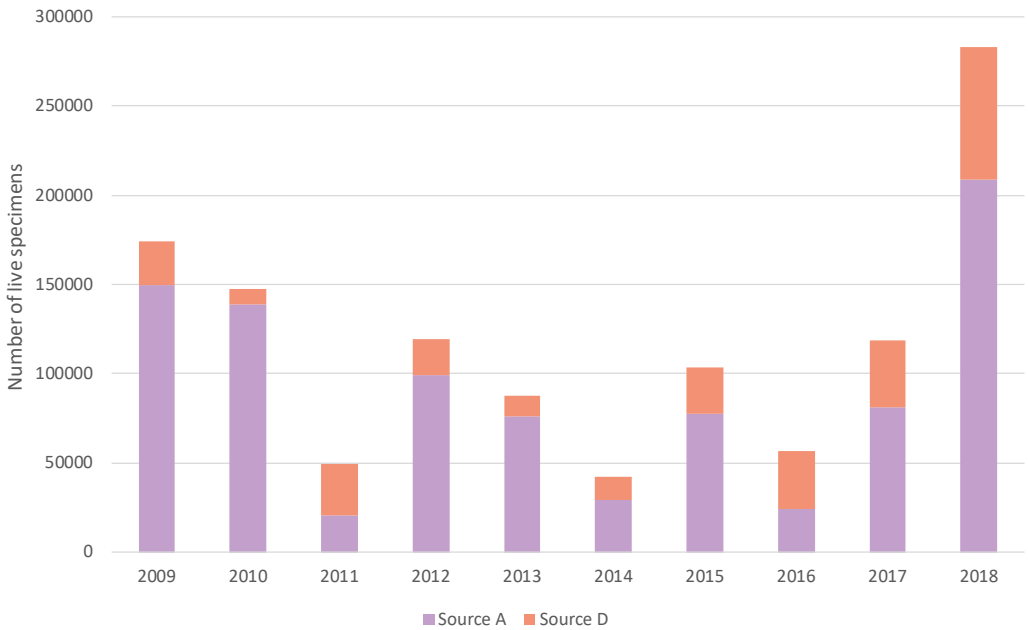

Figure 2. Direct exports of CITES Appendix I artificially propagated (sources A and D) live plants for commercial purposes, 2009-2018, as reported by exporters.
Source: *CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 11/01/2021.*

Global illegal trade in artificially propagated plants (source codes A and D) of Appendix I-listed taxa

CITES Illegal Trade Reports relating to Appendix-I listed plant taxa (Araucariaceae, Cactaceae, Cupressaceae, Cycadaceae, Palmae, Pinaceae, Podocarpaceae, Stangeriaceae and Zamiaceae) were consulted to assess the scale of reported illegal trade and any potential adverse effects on species that are in trade through the implementation of the exception in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18). Over the period 2016-2018[9] the Illegal Trade Reports contained 168 records of plant seizures, of which 99 (59%) involved live plants, 27 (16%) records were seizures of seeds, and 29 (17%) seizures were recorded without a term specified. A small number of records were reported to involve other plant terms (dried plants, flowers, and stems totalling nine records) and animal-related terms (claws and skins) totalling four records.

Whilst Cactaceae comprised the majority (80%) of seizure records for Appendix I plants over these three years, there were 10 reported seizures of *A. araucana* (or approx. 10% of all Appendix I seizures) (Table 2). However, when considering the volumes of specimens seized, *A. araucana* comprised the majority (90%) with a total of 15 067 live plants seized of a total of 16 469 (Figure 3). This was mostly attributed to one seizure of 15 000 live *Araucaria araucana* specimens reported by the Netherlands in 2017 that allegedly originated from Chile. The CITES Administrative Law Enforcement of the Netherlands confirmed that the shipment was exported from Chile with a CITES export permit, with the plants having been produced at a CITES registered nursery, but the shipment had been seized due to lack of the required CITES import permit and not due to aspects outlined in paragraph 4 of Res. Conf. 11.11 (Rev. CoP18) (CITES Administrative Law Enforcement of the Netherlands, *in litt.* to UNEP-WCMC, 2021).

No seizures of the species *Encephalatos latifrons* (South Africa's focus for implementation of paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18)) were reported in the CITES Illegal Trade Reports 2016-2018.

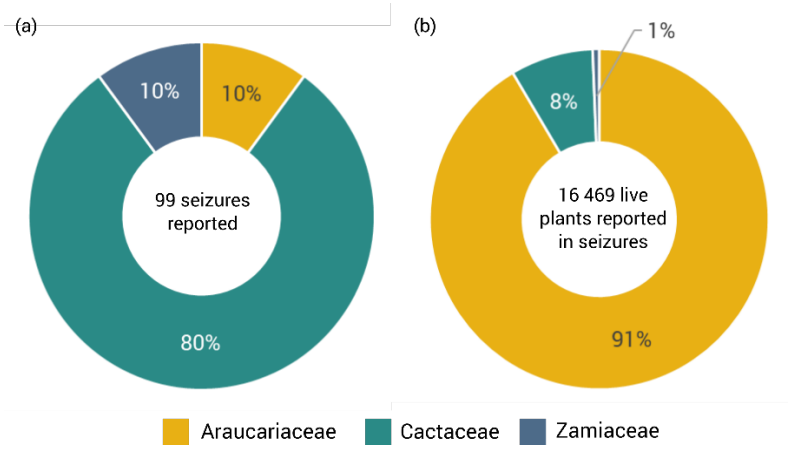

Figure 3. Reported seizures of Appendix I live plants during the years 2016-2018 based on (a) the number of seizure events reported, and (b) the quantity of live plants reported in these seizures. Source: *CITES Illegal Trade Reports.*

[9] Sourced with permission from the United Nations Office on Drugs and Crime (UNODC) and the CITES Secretariat.

Table 2. Summary of seizures of Appendix I listed plant species as live plants and seeds 2016-2018, based on CITES Illegal Trade Reports.

Family	Commodity	No. of seizures	Total quantity	Top taxa (% of total quantity seized for the family-commodity pair)	Reporting Party (no. of seizures)	Alleged country of origin (no. of seizures)	Total reported value
Araucariaceae	Live	10	15067	*Araucaria araucana* (100%)	Switzerland (7), Japan (1), Netherlands (1), Spain (1)	Chile (2), France (1), Italy (1), Unknown (1), Unspecified (5)	EUR 20 250
	Seeds	1	10	*Araucaria araucana* (100%)	Japan (1)	Unknown (1)	
Cactaceae	Live	79	1300	*Ariocarpus kotschoubeyanus* (22%), *Ariocarpus fissuratus* (13%), *Obregonia denegrii* (11%), *Astrophytum asterias* (9%), *Ariocarpus retusus* (8%)	Spain (55), United States of America (11), Germany (4), France (3), Malta (2), Switzerland (2), Japan (1), Slovenia (1)	Thailand (3), China (2), Mexico (2), Ukraine (2), Unknown (1), Unspecified (69)	EUR 190; USD 150; 23 (no currency provided)
	Seeds	19	2599	*Obregonia denegrii* (55%), *Turbinicarpus saueri* (19%), *Aztekium ritteri* (13%)	Japan (18), Netherlands (1)	Unknown (18), Islamic Republic of Iran (1)	
Zamiaceae	Live	10	102	*Encephalartos horridus* (37%), *E. lehmannii* (20%), *E. lanatus* (17%)	South Africa (10)	South Africa (9), Saudi Arabia (1)	ZAR 10 000; 750 000 (no currency provided)
	Seeds	6	529	*Encephalartos ferox* (29%), *E. aplanatus* (20%), *E. arenarius* (20%), *E. lehmannii* (19%)	New Zealand (6)	South Africa (4), Australia (2)	

Sourced with permission from UNODC and the CITES Secretariat.

Current implementation of the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18)

Identification of Parties with registered nurseries

The CITES Register of operations that artificially propagate specimens of Appendix-I species includes details of nurseries registered in 12 CITES Parties, of which eight for species which were likely to take a long time to reach reproductive age. While there is no agreed definition on what is considered as a "*long time to reach reproductive age*" and to where this age boundary applies in the wide range of plant groups covered by CITES,[10] there are some taxa (such as *A. araucana*) for which it is straightforward.

Three Parties had registered nursery operations for Appendix I plant species considered to take a long time to reach reproductive age: Chile (with two nurseries registered for *A. araucana*), the Democratic Republic of the Congo (DRC) (with one nursery registered for one Cycad species, *Encephalartos laurentianus)* and South Africa (four registered nurseries for a range of Cycad species) (Table 3). Taxa identified in Table 3 can all be considered to take a long time to reach reproductive age [11]and therefore it was considered that Chile, DRC and South Africa could be implementing the exception.

Four additional Parties (Colombia, Malaysia, Myanmar and Peru) are range States with registered operations for orchids only, and one country (India) registered only *Saussurea costus;* these taxa were not considered to take a long time to reach reproductive age and thus were excluded from the analysis. The final four Parties with registered nurseries are not range States of the species propagated (Czech Republic, Germany, Italy and Spain), and were therefore excluded from the analysis.

[10] Expert opinion varies on the range of time it takes some plant groups to reach reproductive age: e.g., select species of Cactaceae could reach reproductive age after 6 -10 years of life or at 10-25 years range (Sajeva and Metzing, respectively – *pers. comm.* to UNEP-WCMC, 2021). However, despite the 'age' criteria, there was an overarching common view that there is sufficient "propagated source material" currently available for cacti to not require the collection of seeds/propagule from the wild and, therefore, the application of the exception.

[11] Other Appendix I taxa that are considered to '*take a long time to reach reproductive* age' and could potentially benefit from the use of the exception: *Podocarpus* species and all cycads (other than *Encephalartos*) (Dr G. Leach, *pers. comm.,* 2021).

Table 3. CITES Parties with registered nurseries that artificially propagate specimens of Appendix I species that could take a long time to reach reproductive age; Parties listed are range States of these species.

CITES Party with registered nursery	No. of registered nurseries	Species artificially propagated
Chile	2	*Araucaria araucana*
DRC	1	*Encephalartos laurentianus*
South Africa	4**	*Encephalartos arenarius, E. brevifoliolatus, E. caffer, E. cerinus, E. cupidus, E. cycadifolius, E. dolomiticus, E. dyerianus, E. eugene-maraisii, E. ferox, E. ghellinckii, *E. gratus, E. heenanii, E. hirsutus, E. horridus, E. humilis, E. inopinus, E. laevifolius, E. lanatus, E. latifrons, E. lebomboensis, E. lehmannii, E. longifolius, *E. manikensis, E. middelburgensis, *E. munchii, E. natalensis, E. ngoyanus, E. nubimontanus, E. paucidentatus, E. princeps, *E. schmitzii, E. transvenosus, E. trispinous, E. umbeluziensis, E. villosus, E. woodii, Stangeria eriopus.*

* Species that are listed in the register of South Africa nurseries, but South Africa is not a range State; these species were excluded from the trade analysis for Parties with registered nurseries.
** Note that not all nurseries are propagating all species listed.
Source: CITES Register of operations that artificially propagate specimens of Appendix I- species, www.cites.org, accessed on 10/01/2021.

Consultation with Parties currently implementing the exception outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18)

The three CITES Parties that were identified as potentially operating the exception–Chile, DRC and South Africa—were consulted by email in January 2021. The Management Authorities of Chile and South Africa provided detailed responses to the consultation (full responses to the consultation, in original language, is provided in the Annex to this document). No response had been received from the DRC at the time of writing (early March 2021), but it should be noted that the DRC has registered only one nursery (in 2006) for one species (*Encephalartos laurentianus*) and no exports of that species have been reported. It is therefore assumed that DRC is not currently implementing the exception in Paragraph 4 of the Resolution.

Chile confirmed that the exception is used for *Araucaria araucana,* and South Africa noted that currently the exception is implemented only for *Encephalartos latifrons,* but no exports have yet taken place for any material from propagation. Therefore, Chile is the only Party currently implementing the exception and exporting the resultant propagated material.

Trade in artificially propagated plants (source codes A and D) of Appendix I-listed taxa from range States with registered nurseries

An analysis of direct commercial trade (purpose T) over the period 2009-2018 of artificially propagated (sources A and D) live plants listed in CITES Appendix I and identified in Table 3

(excluding species where the Party is not a range State) was carried out for three range States/CITES Parties with registered nurseries: Chile, DRC and South Africa.

Chile: Direct commercial exports of 525 443 live specimens of *A. araucana* (Araucariaceae), reported as source A (Table 4). Trade peaked in 2009 with 120 000 live specimens traded; no trade in the species was reported in 2011 and 2017. Two nurseries are registered on the CITES website for *A. araucana*: Jardín Pehuén and Las Palmas de Botalcura, both in Santiago. Chile did not report direct trade in D sourced *A. araucana*.

DRC: No direct trade in *Encephalartos laurentianus* was reported 2009-2018 under source codes A or D. The nursery for this species, Bruno Labium Ifwa, based in Kinshasa, was registered in 2006 and to date, no international trade in the species from DRC has been recorded in the CITES Trade Database.

South Africa: Compared to Chile, lower levels of direct commercial exports of live cycads (*Zamiaceae* and *Stangeriaceae*) were reported by South Africa over 2009-2018 and totalled 58 774 live plants (48% reported as source A and 52% reported as source D; Table 4). When considering the top species in trade over the 10-year period, *Encephalartos horridus*, *E. lehmannii*, *E. trispinosus*, *E. ferox*, and *E. natalensis* were the most traded species reported as both source A and D, while *E. lebomboensis* was a top species in trade when considering source A only (Figure 4). No trade in Stangeriaceae was reported in 2011. Trade in cycads from South Africa peaked in 2009; live specimens reported with source A declined over this period, though the level of trade in live plants reported with source D was fairly consistent over time (Figure 5).

Table 4. Direct commercial trade in artificially propagated live plants (sources A and D) for taxa listed in Appendix I, as reported by Chile and South Africa 2009-2018.

Exporter	Family	Source	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Chile	Araucariaceae	A	120000	111800		80007	60000	44	58524	68		95000	525443
		D											
		Subtotal	*120000*	*111800*		*80007*	*60000*	*44*	*58524*	*68*		*95000*	*525443*
South Africa	Stangeriaceae	A	4	50				17	36	13	5		125
		D	7	5		5	3	12	18		5	32	87
		Subtotal	*11*	*55*		*5*	*3*	*29*	*54*	*13*	*10*	*32*	*212*
South Africa	Zamiaceae	A	9807	6303	3591	352	765	2522	2274	2091	471		28176
		D	3079	1496	292 1	3637	3137	3721	1591	2411	3870	4523	30386
		Subtotal	*12886*	*7799*	*6512*	*3989*	*3902*	*6243*	*3865*	*4502*	*4341*	*4523*	*58562*
Total no. of live plants reported with source A			**129811**	**118153**	**3591**	**80359**	**60765**	**2583**	**60834**	**2172**	**476**	**95000**	**553744**
Total no. of live plants reported with source D			**3086**	**1501**	**2921**	**3642**	**3140**	**3733**	**1609**	**2411**	**3875**	**4555**	**30473**
Grand Total			**132897**	**119654**	**6512**	**84001**	**63905**	**6316**	**62443**	**4583**	**4351**	**99555**	**584217**

Source: *CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 11/01/2021*.

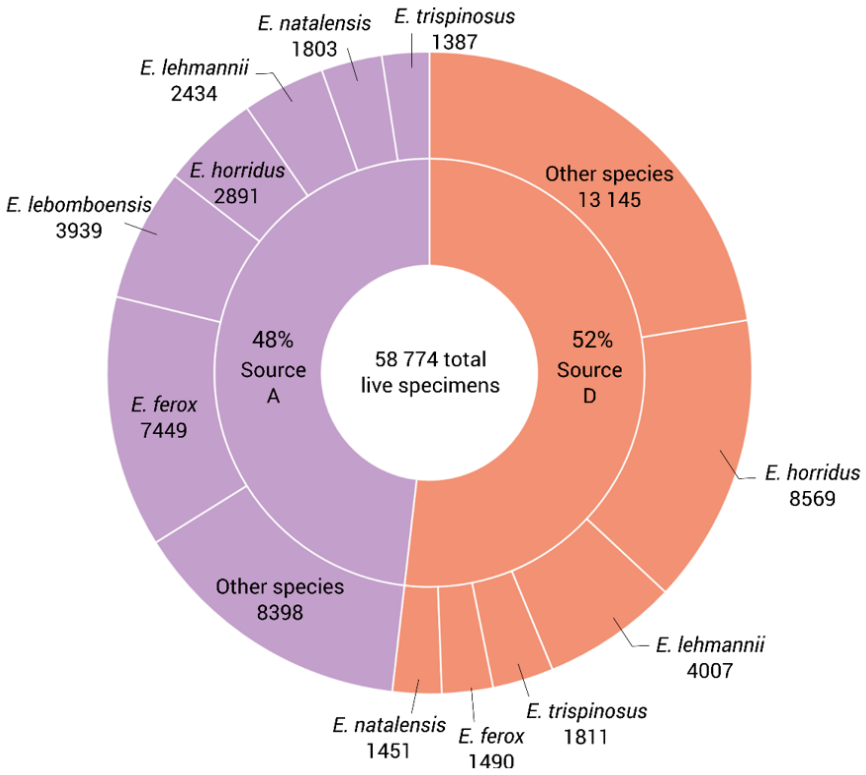

Figure 4. Top CITES Appendix I cycad species (Zamiaceae and Stangeriaceae) in trade as artificially propagated live plants (sources A, purple and D, red) from South Africa for commercial purposes 2009-2018, as reported by South Africa. Species that comprised at least 5% of trade under each source code are visualised; the remaining species are grouped as 'other species'.
Source: *CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 11/01/2021.*

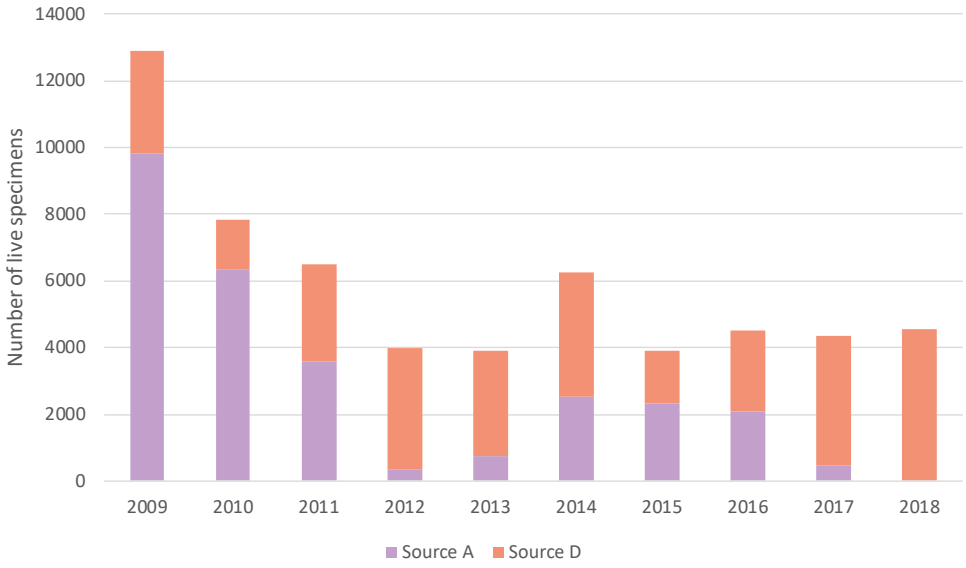

Figure 5. Direct trade in CITES Appendix I artificially propagated (sources A and D) live cycads (Stangeriaceae and Zamiaceae) from South Africa for commercial purposes 2009-2018, as reported by South Africa.
Source: *CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 11/01/2021.*

Cost-benefit analysis

Analysis of benefits and costs on the wild populations of the species identified

The following provides an assessment of benefits and costs of the exception to wild populations of *Araucaria araucana*/Chile and *Encephalartos latifrons*/South Africa, which are the two species/country combinations of most relevance in the context of the exception. The assessment is predominantly based on the responses by Chile and South Africa and is supplemented with information from a literature review.

Benefits

The CITES Management Authorities of both Chile and South Africa see paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) as a **mechanism to provide incentives for conservation** of populations of the relevant Appendix I species in the wild, whether that is through a single private landowner (as is the case in South Africa), or through the benefits that accrue to local communities within Chile.

In South Africa, clear incentives are needed to encourage conservation efforts by private landowners since less than 100 mature individuals' plants of *E. latifrons* are surviving in natural habitats and most of the plants are found on private lands (CITES MA of South Africa, *in litt.* to UNEP-WCMC, 2021). The collection of *A. araucana* seeds in Chile is considered as an "ancestral practice" that is respected and protected under law; e.g., the Chilean State Law No. 19.253 recognises the Mapuche indigenous communities to be the only indigenous group with the right to collect seeds (CITES MA of Chile, *in litt.* to UNEP-WCMC, 2021). Positive conservation benefits have been reported based on such traditional use practises; Rais *et al.* (2014) reported that the use of traditional harvesting methods of seeds did not affect the regeneration of the species. According to Herrmann (2006), the Mapuche practices of digging up seeds into the soil for germination, selective harvesting of seeds from parental trees and tree cultivation and planting in logged areas are recognised practises that have encouraged the sustainable *A. araucana* forest management, favouring the maintenance of the species; this was reported to have also led to a direct increase of the *A. araucana* population density (Herrmann, 2006; Reis *et al.*, 2014). Evidence also suggested that human displacement and migration had contributed in the past to the establishment of new *A. araucana* populations in the wild due to long distance dispersion of seeds (Reis *et al.*, 2014).

Similarly in Argentina, a study conducted by Dezzotti *et al.*(2012) on monospecific forests of *A.araucana* showed that the conservative management of the Mapuche community had contributed to the long-term preservation of *A. araucana;* the forests exhibited adequate regeneration, and seedlings and saplings did not show sign of cattle browsing.

Both the Chilean and South African Management Authorities (*in litt.* to UNEP-WCMC, 2021) also highlighted that paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18) provides a positive conservation effect through the **production of seedlings that can be used for restoration purposes.** The MA of Chile (*in litt.* to UNEP-WCMC, 2021) noted that the establishment of the parental stock from wild collected seeds ensures seeds sprouting and seedling production for reintroduction purposes[12]. In natural conditions, *A. aracauna* regeneration may be affected by seed production and seed predation by rodents (Drake *et al.*, 2012). The incentive for trade in artificially propagated specimens from wild collected seeds has contributed to the introduction into the wild of more than 32 000 seedlings of

[12] In Chile, each registered nursery is requested to return to the wild the 2% of plants produced for export in the previous calendar year.

A.araucana in Chile from 2006 to date[13,14]; this is considered by the Chilean MA as a having a positive effect on the conservation of wild populations. However, given that the species takes a long time to reach maturity, the overall conservation benefit of these planted seedlings may take some time to become apparent.

Similarly, in South Africa, seedlings produced are intended to be used by conservation agencies and Authorities to re-establish wild populations, undertake habitat restoration and other related conservation actions aimed to increase the wild population at a number of critical sites, as well as to improve the conservation status of the species in the wild[15]. Habitat niche models have been used to identify the most suitable sites for translocation of *E. latifrons* specimens that could be used in the process of re-establishing wild populations in habitat areas with a high likelihood of survival (Swart *et al.*, 2018; CITEA MA of South Africa, *in litt.* to UNEP-WCMC, 2021). In South Africa, the management of *Encephalartos latifrons* and of other Critically Endangered and Endangered *Encephalartos* species is regulated by Biodiversity Management Plans with clear standards in place for seeds collection, propagation and monitoring of species (CITES MA of South Africa. *in litt*. to UNEP-WCMC, 2021). According to the plan, 15% of seedlings produced must be set aside for restoration purposes (CITES MA of South Africa. *in litt*. to UNEP-WCMC, 2021).

In early 2003, the IUCN/SSC Cycad Action Plan identified interventions aimed to augment species with small wild populations, including *E. latifrons*; activities included the re-introduction of artificially pollinated wild plants, introduction of seedlings from parent stocks in botanical gardens, and translocation of male and female plants to balance the sex ratio in the wild and improve genetic diversity (Donaldson, 2003). The sex ratio of *E. latifrons* was identified to have become increasingly male dominated with males outnumbering females 4:1 and reintroduction was suggested as the solution to this ecological issue and to improve the conservation status of the species (Daly *et al.*, 2006). In further support of augmenting critically small wild populations of *E. latiforns* with wild sourced specimens, a report studying the genetic diversity in the species found comparable diversity in the *ex -situ* collections as *in-situ* populations, including a genotype that is extinct in the wild (Da Silva *et al.*, 2012). This finding suggests that reintroduction of individuals could not only maintain but potentially even enhance the genetic diversity of wild populations of *E. latifrons* and improve the conservation status of the species.

It is difficult to make any link to improved species conservation status as a direct result of the implementation of para. 4 of Resolution 11.10 (Rev. CoP18) which has been in place since 2004 as only Chile has been implementing the exception for some time. The national populations of *A. araucana* distributed in the Chilean Coastal Range were categorised as Endangered in 2018[16] (previously listed as Vulnerable by the IUCN in 2008), while the rest of the population of the species in Chile, has been categorised as Vulnerable since 2008 (CITES MA of Chile, *in litt.* to UNEP-WCMC, 2021). In Chile, only about 3% of Araucaria forests are restricted to the Chilean Coastal Range, where the species is affected by fragmentation due to wildlife and livestock pressure affecting regeneration, high rate of deforestation and conversion of native forests to commercial plantations (Molina *et al.*, 2015). At the global level (covering populations in both Chile and Argentina), *A. araucana* was categorised as Endangered on the IUCN Red List in 2013 due to severely fragmented

[13] From 2006 to date, the Jardín Pehuén nursery has returned approximately 30,936 seedlings; those have been used to enrich an already established adult Araucaria forest in the Parque Santuario el Cañi. After 2018, the Jardín Pehuén nursery has returned seedlings in a private property.

[14] The Palmas de Botalcura nursery has returned to the natural environment, from 2015 to date, around 2,210 seedlings, in a free forest open sector chosen to establish a new *A. araucana* forest.

[15] The 10% of produced seedlings is used in restoration and related conservation actions of *E. latifrons* populations; the 5% is retained by landowners to re-establish wild populations; restoration sites are identified through habitat niche models.

[16] According to the Classification of the conservation status of the species in Chile; 14 Proceso de Clasificacion de Especies (2017-2018), RCE, D.S. N°79 de MMA.

populations and area of distribution continuing declining due to fire, logging and grazing (Premoli *et al.*, 2013).

For the South African cycad, the IUCN assessed *Encephalartos latifrons* in both 2003 and 2009 as Critically Endangered, based on its critical state with no natural seed production and continuing population decline (Donaldson, 2010). Whitelock (2002) reported that the plants in the wild are randomly distributed, highlighting also the lack of seedlings in the wild population. Based on the exception in para. 4 of Resolution Conf. 11.11 (Rev. CoP18), the MA of South Africa considered that with the legal *ex-situ* production and availability of seedlings for restoration and reintroduction purposes, the status of the species could improve in the near future.

South Africa also considered that the sale of the plants, which provide economic revenue to producers and landowners, could **lead to a reduction of wild harvesting of the species** by satisfying trade demand and by creating and maintaining an enabling environment (including protective fences) for the landowners to carry out all appropriate management actions in their properties (CITES MA of South Africa. *in litt*. to UNEP-WCMC, 2021). The South African Authorities also noted that *Encephalartos latifrons* is still subject to poaching for horticultural/ornamental purposes, with illegal harvest of suckers, pollen, seeds and cones from the remaining wild plants (CITES MA of South Africa. *in litt*. to UNEP-WCMC, 2021).

Beyond the possible conservation gains for the species, **additional co-benefits** were highlighted by the MA of Chile (*in litt.* to UNEP-WCMC, 2021). The management of *A. araucana* and the collection of its seeds (and its many products and uses) was reported to be intimately connected with that of its indigenous custodians (Ladio and Lozada, 2000; Estomba *et al.*, 2005). The Chilean MA Authorities (*in litt.* to UNEP-WCMC, 2021) have reported no evidence that the long-term traditional collection of the seeds has caused any conservation problems; harvesting is long practiced, family based and often associated with physical hardship in the collection process. Findings from Herrmann (2005) suggested that engagement with the indigenous communities in Southern Chile and the utilisation of their balanced approach to cultivating *A. araucana* would lead to more sustainable forest management and only offer benefits to the conservation of the species (Herrmann, 2005).

The paragraph 4 exception could help to preserve the traditional practices of indigenous peoples and is an example of synergy between CITES and the Convention on Biological Diversity. The incentive for local communities to protect and conserve the species and its habitat also helps with providing incentives for sustainable tourism in areas populated by *A. araucana* and increasing ecosystem services of the indigenous communities. This is considered to be of particular importance given the increase in tourism seen in the range of *A. araucana* in Chile in recent decades (Moreno-Gonzalez, 2020).

Costs

Illegal trade in *A. araucana* was documented as part of the trade analysis. Whilst the level of seizures was not high (10 seizures reported in three years for live plants commodity), the volume of plants seized was high (>15,000 live plants) mainly due to one large seizure. This was confirmed to have been legally exported from Chile but was seized due to a lack of an import permit. The relationship between legal trade and illegal trade is complex and nuanced (Tittensor *et al.*, 2020), but from the data available, there is insufficient evidence to suggest that the illegal trade represents a significant and persistent concern for the species. Only three years of illegal trade data were available, and the literature review did not identify any additional records of illegal trade for *Araucaria araucana* in Chile. To gain a better understanding of whether the legal trade in these species stimulates illegal trade, additional data from CITES annual Illegal Trade Reports would be needed.

Whilst the illegal trade analysis did not reveal any illegal trade in *E. latifrons*, the South African MA (*in litt.* to UNEP-WCMC, 2021) mentioned that illegal collection for horticultural/ornamental purposes of mature plants (and their reproductive parts such as suckers, pollen, seeds and cones) still continues

to affect remaining wild plants; whilst male cones are harvested for their pollen, wild female plants are affected by selecting harvesting by cycad collectors (Cousins and Witkowski, 2017). *E. latifrons* has also been illegally harvested in South Africa for trade in traditional medicines (Cousins *et al.*, 2012). It should be noted that the decimation of *E. latifrons* populations is not a recent event, but it started decades prior to the large-scale collection of cycads for horticultural purposes. Populations were already reported to be scarce a hundred years ago (Pearson, 1916). Subsequently, populations were also affected by bush clearing for agriculture purposes making cycads more visible and accessible to collectors (Donaldson, 2003). DNA barcoding has been used to identify illegal trade in five *Encephalartos* species in trade markets in South Africa, although *E. latifrons* was not identified as present (Williamson *et al.*, 2016). Nevertheless, illegal harvesting of *E. latifrons* remains a significant threat in South Africa (Swart *et al.*, 2019). Donaldson (2004) reported that the intensive collection of *E. latifrons* had caused losses and extinction of associated pollinators, to such an extent that seed production is very low.

The South African MA (*in litt.* to UNEP-WCMC, 2021) highlighted one negative effect relating to the previous approach used to manage the wild population. The only population of *E. latifrons* has been managed to maximise seedling production, with harvest of all male cones of wild plants (CITES MA of South Africa, *in litt.* to UNEP-WCMC, 2021). This may have had a **detrimental effect on the regeneration of the wild population** and could potentially reduce the presence of pollinators, therefore an alternative management strategy to limit the harvest of male cones was being considered by South Africa (CITES MA of South Africa, *in litt.* to UNEP-WCMC, 2021).

Revisions to the Biodiversity Management Plans for the other *Encephalartos* species are likely to include incentivising *in-situ* protection of wild species by increasing the economic value of wild *Encephalartos*, educating and informing the landowners and custodians of the conservation of the species, actions to reduce the loss of populations of the species, and to promote the maintenance and restoration of important pollinators and habitat for the species. In actioning these objectives, South Africa is looking at ways to develop a protocol for the implementation of the CITES exception, which currently represents the only conservation tool available for Appendix I *Encephalartos* species in the country and is thought to provide a pathway for aiding in the recovery of wild *Encephalartos* populations.

In broader terms, the harvest of seeds from wild Appendix I taxa (beyond Araucaria and cycads) in most cases is considered detrimental to wild populations and can be a very difficult process; e.g., the collection of single seeds from cacti is not feasible in nature, as the collectors must harvest the whole plant fruits to obtain the seeds, lowering the fitness of wild populations (Sajeva, *pers. comm*. to UNEP-WCMC, 2021). The harvest of ripe *Pachypodium* seeds *in-situ* represents many challenges; the seeds are wind dispersed, specimens are present in remote habitats, density of mature specimens is rather low, implicating risks and costly travels to wild sites for collectors without certainty to collect seeds (Lüthy, *pers. comm*. to UNEP-WCMC, 2021).

Finally, Ensslin and Godefroid (2019) noted how *ex-situ* cultivation of wild plants may modify certain characteristics of the taxa concerned that could potentially affect reintroduction success: e.g., genetic erosion that impoverishes genetic representation of wild population and loss of stress adaptations to natural habitat conditions. However, as noted above, genetic diversity may actually be enhanced by reintroduction of *Encephalatos latifrons*.

Conclusions

Overall, the benefits of the paragraph 4 exception for the two relevant species (providing incentives for conservation for either private individuals or local communities through controlled trade, the production of seedlings for restoration and expansion of existing wild populations, and the possibility of reducing illegal offtake) appear to outweigh the main documented cost of illegal trade.

However, to further evaluate the impact of the exception in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18), the establishment of monitoring or reporting processes to the Secretariat could be considered in the future, if the use of the exception is widened to additional taxa/Parties. Parties already utilising the exception or those that indicate they will do so could be annotated in the CITES register of Appendix I nurseries to better track the use of the exception.

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Annex

Chile

Respuestas requerimiento UNEP-WCMC

Información sobre la aplicación del párrafo 4 de la CITES
Res. Conf. 11.11. (Rev. CoP18)
sobre *Reglamentación del comercio de plantas*

a. ¿Podrían por favor proporcionarnos información sobre el proceso de recolección en el medio silvestre? (por ejemplo: número de centros de recolección/exportación, número de poblaciones sujetas a recolección, frecuencia de la recolección).

Sobre el proceso de recolección en el medio silvestre, a nivel nacional este es desarrollado por el Pueblo Mapuche, originario de la zona centro-sur de Chile (reconocido por el Estado Chileno mediante la Ley N° 19.253). Este pueblo indígena habita en los sectores de distribución de la especie *Araucaria araucana* (Mol. K. Koch) (Araucaria), la cual comprende las regiones del Biobío, La Araucanía y Los Ríos.

El proceso de recolección, uso y comercialización a granel o de productos elaborados (en el último tiempo posicionado en el mercado como miel, galleton, mermeladas, licores, cerveza, entre otros) del piñon (semilla de la *A. araucana*) son actividades propias de una forma de vida y de la vinculación con el territorio que emerge de la cotidianidad.

En virtud de lo anterior, no está catalogado la información solicitada, ya que dicha recolección, corresponde a una práctica ancestral de las comunidades y el respeto por la actividad cultural se encuentra establecido en el Convenio N° 169 sobre Pueblos Indígenas y Tribales en Países Independientes de la Organización Internacional del Trabajo (OIT), ratificado por el país a partir del año 2008 mediante el Decreto 236 del Ministerio de Relaciones Exteriores. En específico, en su artículo 6°, se establece el deber de consultar cada vez que se prevean medidas legislativas o administrativas susceptibles a afectarles directamente. A su vez, es muy difícil hacer un catastro en todas las comunidades del Pueblo Mapuche que recolectan, dado un tema de acceso geográfico y en algunas de ellas, la relación con el Estado no está regulada (debe existir prudencia por parte del Estado para monitorear las actividades de las comunidades).

Asimismo, si bien existe un Registro de Comunidades y Asociaciones Indígenas del Ministerio de Desarrollo Social y Familia (CONADI), el cual corresponde a un conocimiento oficial por parte del Estado, al ser una acción voluntaria, se desconoce si todas las comunidades mapuches se encuentran registradas.

Por otra parte, la recolección es un proceso artesanal que requiere gran sacrificio físico y está condicionado al ciclo de producción de semillas de Araucaria, la cual involucra familias completas (niños, abuelos, padres y madres). El piñon se recolecta con motivo de consumo alimenticio y de intercambio comercial. Se tiene conocimiento que la extracción varía entre las comunidades, debido a las posibilidades de acceso a los bosques y al mercado; sin embargo, se puede comentar un dato aproximado por parte de investigadores, el cual establece que una familia conformada por tres adultos puede llegar a recolectar un saco de 65 a 85 Kg en un día y,

en un año de buena producción, hasta 32 sacos, 2.500 kg aproximadamente por temporada. La recolección se realiza en épocas estivales, en general del 15 de febrero hasta fines de marzo.

Respecto a los compromisos que deben realizar los viveros inscritos en el registro CITES, conforme la Conf. 9.19 (Rev. CoP15) Registro de viveros que reproducen artificialmente especímenes de especies de flora incluidas en el Apéndice I con fines de exportación. El país cuenta con dos viveros registrados, para exportar plantas reproducidas artificialmente de *A. araucana*, especie incluida en el Apéndice I de la Convención. Los viveros son "Jardín Pehuén" (código P-CL-1001) y "Las Palmas de Botalcura" (código P-CL-1003), ambos, deben replantar en el medio silvestre una parte de las plantas reproducidas artificialmente, conforme lo establecido en la Conf. 11.11 (Rev. CoP 18) Reglamentación del comercio de plantas.

El vivero Jardín Pehuén, tiene registro de compra de semillas a agricultores de los sectores de Cautín, comuna Padre Las Casas y Pichipehuenco, comuna de Lonquimay, ambos en la Región de la Araucanía; la compra es de alrededor de 400 kilos al año. A su vez, el vivero Palmas de Botalcura, compra las semillas a la etnia Pehuenche en la Comunidad indígena de Quinquen, (Kmkeñ), ubicada en una zona montañosa en las cercanías de los lagos Galletué e Icalma, en la comuna de Lonquimay, también en la Región de la Araucanía. En específico, se compran todos los años, alrededor de 300 kilos a finales de abril, a la familia del Lonco o jefe de la Comunidad de Quinquen.

b. ¿Cómo se gestiona y regula la recolección en cada centro para asegurar que no sea perjudicial para la supervivencia de las poblaciones silvestres de *Araucaria araucana*? ¿Cómo se limita la recolección para permitir la regeneración de la población silvestre?

Como se indicó en la respuesta anterior, la recolección de piñones tiene un componente económico en los sentidos comerciales y de subsistencia, pero a su vez, un componente biocultural, en sentido espiritual, social, ecológico y alimentario, por lo tanto, es una práctica autorregulada ancestral, diversa entre las distintas comunidades mapuches.

En el contexto de estas prácticas, no siempre es posible regularlas; el Estado no puede imponer a los pueblos indígenas, conforme al Convenio N°169 de la OIT, ya citado, por ejemplo, en su artículo 15, se establece que *"Los derechos de los pueblos interesados a los recursos naturales* [flora y fauna] *existentes en sus tierras deberán protegerse especialmente. Estos derechos comprenden el derecho de esos pueblos a participar en la utilización, administración y conservación de dichos recursos"*. A su vez, el Decreto Supremo N° 66, de 2013, del Ministerio de desarrollo Social y Familia, aprobó el Reglamento de Consulta Indígena, que se debe aplicar cada vez que se prevea una adopción de alguna medida susceptible de afectar a los pueblos indígenas, lo cual, significaría un proceso largo y complejo de establecer.

No obstante, la Corporación Nacional Forestal (CONAF), en cuanto Autoridad Administrativa en el ámbito de flora terrestre, de acuerdo con las disposiciones de la Ley N°20.962 (que aplica la Convención CITES en Chile), y a las facultades que dicha Convención nos confiere se encuentra realizando una recopilación preliminar de antecedentes respecto de comunidades y la relación que tienen con las especies CITES, donde los pueblos indígenas son clave en la entrega de

información, lo cual servirá de base para generar proyectos específicos sobre la participación, contribuyendo a la toma de decisiones futuras.

Por otra parte, en lo que respecta al patrimonio ambiental de Chile, es protegido por el Sistema Nacional de Áreas Silvestres Protegidas del Estado (SNASPE), creado y administrado por esta Corporación, conforme a lo establecido en la Convención para la Protección de la Flora, Fauna y las Bellezas Escénicas Naturales de América "Convención de Washington", ratificado por el Estado de Chile a través del Decreto Supremo N°531, del Ministerio de Relaciones Exteriores, del año 1967.

La regulación de los parques, reservas o monumentos naturales, está establecido mediante los Planes de Manejo, herramienta que planifica la gestión, que, según lo indicado en dichos documentos o convenios asociados, se puede o no realizar la recolección de piñones. Cabe destacar, que donde no esté indicado, se debe consultar a CONAF.

En el ámbito de las medidas administrativas, a esta Corporación le corresponde fiscalizar que, la adquisición de los piñones para realizar la reproducción artificial de plántulas de Araucaria, sea legal, exigiendo comprobante de la compra de piñones, pero no la extracción.

c. Por favor, describa las "condiciones controladas" en las que se cultivan las semillas después de la recolección.

En específico, el método de producción realizado en el vivero Jardín Pehuén, es en base a siembra directa, en contenedores de tipo Speedling y también producción a raíz a desnuda. En cuanto al manejo de las plantas, se aplica de manera combinada riego manual con manguera y en algunos sectores con aspersores, regulando la frecuencia e intensidad del riego (humedad); además se utiliza sombreadero (malla raschel de 80% de paso luz, lo que permite manualmente regular temperatura y luminosidad). Asimismo, el vivero cuenta con un área de barbecho (tipo almacigo), resguardado con malla raschel y cuyo destino de estas plantas es abastecer la devolución al medio natural y al plantel parental.

Por su parte, el vivero Palmas de Botalcura, siembra al inicio de la primavera en tubetes de 15 cm colocados en bandejas, rellenos de material de origen vegetal inerte, las bandejas se mantienen en invernadero hasta que germinan los piñones en un par de meses, las plantas ya germinadas se dejan crecer en sombreaderos, donde se mantienen hasta su exportación, con un par de aplicaciones de abono foliar de origen orgánico, regándose en función de las temperaturas diarias para mantener una humedad constante.

d. Por favor, describa los mecanismos de control establecidos para garantizar que la recolección del medio silvestre es lícita y compatible con las leyes nacionales pertinentes de protección y conservación" de *Araucaria*.

Se debe aclarar que la protección y conservación de *A*. *araucana*, está dada por su condición de Monumento Natural (D.S. N° 43, de 1990, del Ministerio de Agricultura), en la cual se prohíbe la corta de cada uno de los individuos vivos de la especie, cualquier sea su estado o edad que

habitan dentro del territorio nacional; salvo en las exenciones establecidas en dicho decreto, las cuales son revisados atentamente para ser autorizadas excepcionalmente por esta Corporación.

Respecto a la recolección de las semillas en el medio silvestre, siempre es lícita, ya que no está prohibida, su recolección. En el ámbito privado no se puede controlar, solo no sería lícito si hubiese delito contra la propiedad, lo cual existe normativa propia para esos casos.

La recolección corresponde a una práctica de sobrevivencia desarrollada por el Pueblo Mapuche hace cientos de años. En este ámbito, se destaca el Convenio sobre la Diversidad Biológica, ratificado por el país mediante el Decreto N°1963 del Ministerio de Relaciones exteriores, cuyo tratado establece la conservación junto a los derechos aplicables a los pueblos indígenas.

Por otra parte, el Estado conserva a la especie y semillas mediante el SNASPE (comentado en el punto b) y su respectivo Plan de Manejo, por lo tanto, cualquier extracción que se realice, sin estar estipulado en dicho documento o en convenios asociados, se considera ilícito y corresponde a un proceso penal por daño ambiental de un área silvestre. A su vez, existe el uso o extracción de especímenes, condicionado al ámbito científico, lo cual necesita una autorización de CONAF para su desarrollo (no se puede extraer nada sin la autorización de la Corporación).

Cabe señalar que, en la Región de la Araucanía, se concentran grandes poblaciones de Araucaria, por lo cual, existen diez Parques Nacionales y un Monumento Natural, con Araucarias en su interior, siendo uno de los principales objetos de conservación de dichas áreas silvestres.

e. ¿Se considera que la autorización del comercio de *Araucaria araucana* tiene un efecto positivo en la conservación de las poblaciones silvestres de la especie? En caso afirmativo, por favor describa cómo.

Para esta Autoridad Administrativa, la autorización del comercio de *A*. *araucana*, si tiene un efecto positivo en la conservación de las poblaciones silvestres de la especie, dado que la obligación por parte de los viveros registrados en la Secretaría CITES, de devolver plántulas al medio natural, como también la creación de un plantel parental, constituye una forma de asegurar que las semillas tengan la posibilidad de producir plantas y éstas se establezcan exitosamente, lo cual es positivo para el resguardo de la especie.

Asimismo, el Instituto Forestal (INFOR), Autoridad Científica CITES con anterioridad a la promulgación de la Ley N°20.962, el cual corresponde al Instituto Tecnológico de Investigación del Estado de Chile; en su informe técnico sobre exportación de plantas de *A*. *araucana* del año 2018, indica que dicha exportación no perjudica en ninguna medida la supervivencia de la especie.

f. ¿Se han utilizado los especímenes producidos a partir del cultivo para replantar poblaciones silvestres, o para recuperar o restablecer poblaciones? En caso afirmativo, por favor proporcione detalles.

Ambos viveros registrados en la Secretaría CITES, realizan devolución de las plántulas reproducidas al medio silvestre. Por lo anterior, la Corporación vela por el cumplimiento de los

requisitos, para ello verifica, que los viveros hayan hecho la devolución al medio natural del 2% de la exportación realizada el año anterior y que las plantaciones realizadas con anterioridad se encuentren en buen estado.

En específico el vivero Jardín Pehuén, desde el año 2006 a la fecha, ha realizado una devolución de aproximadamente de 30.936 plántulas, enriqueciendo principalmente a un bosque adulto de Araucaria. Esta devolución se ejecutó hasta el año 2018 en el Parque Santuario el Cañi, posterior al año indicado, se ha realizado en un predio particular Sector Candelaria, ambos sitios ubicados dentro de la distribución natural de la especie, en la comuna de Pucón, Región de la Araucanía.

A su vez, el vivero Palmas de Botalcura, ha devuelto al medio natural, desde el año 2015 a la fecha, alrededor de 2.210 plántulas, en un sector abierto, libre de bosque, por lo cual, se ha realizado acciones para el cuidado de estas plantas, con el objetivo de resguardarlas del ramoneo (protección de malla y alambre). Este sitio corresponde a un sector de la reserva bajo dominio de la familia del Lonco de la Comunidad Quinquen, el cual fue elegido en conjunto con los pobladores, con el objeto de generar en un futuro un bosque de Araucaria, para potenciar el área que tienen destinada al turismo sustentable e incrementar los servicios ecosistémicos de la comunidad indígena.

g. ¿Se ha utilizado una parte de las plantas producidas a partir del cultivo de las semillas silvestres para establecer plantaciones que sirvan como plantel parental – por lo tanto, reduciendo o eliminando la recolección en el medio silvestre?

Ambos viveros registrados tienen su propio plantel parental, no obstante, *A*. *araucaria*, al ser una especie muy longeva, alrededor de los 15 -25 años se inicia la producción de flores y frutos, siempre y cuando se encuentren en sectores despejados sin competencia por luz. En virtud de lo anterior, los viveros en cuestión no utilizan semillas provenientes de sus planteles parentales.

El plantel parental del vivero Jardín Pehuén, se encontraba en el Parque Santuario El Cañi (comuna de Pucón, Región de La Araucanía), el cual contaba con 533 especímenes plantados con distanciamiento de 4mx4m y 4mx5m, en donde se aplicó replante en algunas ocasiones para mantener el número acordado, conforme a las indicaciones de la Autoridad Científica de la época (INFOR). El año 2018 el exportador realiza un cambio de ubicación del plantel parental, específicamente a un predio particular Sector Candelaria (misma comuna y región anterior), el cual cuenta con 536 individuos, a un distanciamiento de 5mx4m.

En virtud de lo anterior, esta Autoridad Administrativa, informó que aquella situación no correspondía, dado que no se cumplía el objetivo intrínseco de tener un plantel parental, que es la obtención de semillas en un futuro, dado que el movimiento de las plantas produce un gran estrés, el cual puede producir la muerte de los ejemplares. Al día de hoy nos encontramos a la espera de antecedentes, donde el exportador se comprometa a no mover dicho plantel parental, por lo cual mientras no se obtenga la información, está condicionada a la entrega de nuevos permisos de exportación.

Respecto del vivero Las Palmas de Botalcura, el plantel parental se encuentra ubicado en la comuna de Pencahue, Región del Maule, en una zona protegida del predio de propiedad de los

socios de la exportadora, cercada y con riego por goteo. El plantel se ha formado con plantas producidas en el vivero de exportación y plantadas en lotes de 50 cada año (salvo 25 plantas, de 10 años cultivadas en macetas, que se plantaron el 2015 con al inicio del plantel).
Las araucarias se plantan después de un año mantenidas en bolsa y se abonan por medio del agua de riego. El plantel se mantiene en la actualidad con 200 plantas de 2 a 7 años (adicional al lote inicial).

h. ¿Han habido efectos negativos en las poblaciones silvestres de la especie debido a este comercio? Si ha habido algún ejemplo de efectos negativos, por favor proporcione un resumen de estos.

No se tiene conocimiento de efectos negativos en las poblaciones de Araucaria debido al comercio internacional.

i. ¿Ha cambiado el estado de conservación de *Araucaria araucana* en el medio silvestre en Chile desde la aplicación, en 2004, de la exención descrita en el párrafo 4 de la Res. Conf. 11.11 (Rev. CoP18) mediante la propagación artificial de especímenes de semillas de origen silvestre en viveros registrados?

La conservación de la citada especie, se mantiene *per se*, dada la protección de la especie como Monumento Natural, asimismo, la Corporación mantiene una fiscalización constante para dar cumplimiento a dicha circunstancia.

La especie *A*. *araucana*, desde el año 2008, se mantiene en Categoría Vulnerable, conforme a los criterios de la UICN (tercer proceso del Reglamento de Clasificación de Especies (RCE), D.S. N° 51, del Ministerio Secretaría General de la Presidencia de Chile (MINSEGPRES) y 14 proceso RCE, D.S. N°79 del Ministerio de Medio Ambiente (MMA)). Asimismo, anterior al año 2008, se mantenía en la misma categoría de conservación, conforme el Libro Rojo de la Flora Terrestre de Chile (1989).

Cabe destacar que la población correspondiente a la Cordillera de Nahuelbuta (Cordillera de la Costa), el año 2018 paso a categoría En Peligro (14 proceso RCE, D.S. N°79 de MMA). No obstante, según los antecedentes aportados en los párrafos anteriores, las semillas utilizadas para la reproducción artificial corresponden a poblaciones de la Cordillera de Los Andes.

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- Ministerio de Desarrollo Social y Familia (CONADI) <www.conadi.gob.cl>.

South Africa

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Dear Ms Vaglica

RE: REQUEST FOR INFORMATION ON IMPLEMENTATION OF PARAGRAPH 4 OF CITES RES. CONF. 11.11 (REV. COP18) ON REGULATION OF TRADE IN PLANTS

I refer to your letter dated 15 January 2021 in which you request information on South Africa's use of the exemption provided for in paragraph 4 of CITES Res. Conf. 11.11 (Rev. CoP18), particularly as it pertains to trade in South Africa's cycad species, all of which are included in Appendix I to CITES.

In reference to the four nurseries currently registered by South Africa for artificial propagation of Appendix I cycad species, please be advised that none of these nurseries trade in specimens grown from wild harvested propagules in accordance with the exemption outlined in paragraph 4 of Resolution Conf. 11.11 (Rev. CoP18). South Africa is at present implementing this provision for only one species of cycad, *Encephalartos latifrons*, which involves the active management of only one population of the species. And the seedlings produced have not yet been exported. Our responses to the questions posed in your letter pertain only to this one case study.

a) **Describe the process of collection from the wild.**
Pollen is harvested by breaking off male cones and wrapping them in newspaper until mature enough for all the pollen to be shed. The pollen is stored at low temperatures until it is used to artificially pollinate mature female cones in the wild population. The fertile seed are collected when matured and processed for germination. Once germinated, the propagules are planted in separate bags and kept under nursery conditions.

b) **How is collection managed and regulated to ensure that it is non-detrimental to the survival of wild populations? How is collection limited to allow regeneration of the wild population?**
The nursery is in possession of a permit issued in terms of the Threatened or Protected Regulations (promulgated in terms of the National Environmental Management: Biodiversity Act), a nursery registration certificate, and a standing permit. The standing permit includes

conditions under which the nursery owner must operate, some of which (as listed below) aim to ensure non-detriment to the *E. latifrons* source population:

1. 15% of seedlings must be set aside for restoration purposes as stipulated in the Biodiversity Management Plan for *Encephalartos latifrons*.
2. The adult plants in the wild may not be damaged or removed by any actions of the landowner, and any artificial manipulation of plants in the wild must be approved by the Scientific Authority and Implementing Authority. Collection of seed and/or pollen must be conducted in the presence of an environmental officer appointed by the Implementing Authority. *(Implementation of the latter has since been found to be impractical.)*
3. The pollination of mature plants in the wild as well as male and female source plants must be documented in a studbook. *(The landowner has yet to comply satisfactorily with this condition.)*
4. The landowner must allow regular monitoring of plants in the wild as well as all plants propagated from the wild harvested seed.

Inspections to ensure compliance with these conditions are conducted, although these are infrequent.

Collection has not been limited to allow for regeneration of the source population since all male cones are harvested. As this may have a detrimental effect on the regeneration of the wild population and the presence of pollinators, an alternative management strategy to limit the harvest of male cones is currently being considered.

c) Describe the "controlled conditions" that the propagules are grown under.

The propagules are grown in a nursery under shade-cloth and watered/sprayed for pests regularly.

d) Checks in place to ensure that collection from the wild is legal and consistent with relevant national laws for the protection and conservation of cycads.

As for b) above.

e) Does allowing the trade in such species have a positive effect on the conservation of wild populations of the species? If so, describe how.

Yes, there is a potential that trade will have a positive effect on the conservation of wild populations as it provides an incentive to private landowners to conserve the few remaining plants in the wild. There are now seedlings available for restoration purposes at new sites that have been identified through habitat niche models. The legal sale of seedlings may also satisfy the demand for wild collected plants. (The species continues to decline in the wild due to poaching for horticultural/ornamental purposes, and illegal harvesting of suckers, pollen, seed and cones from the remaining wild plants is also occurring.)

f) Have any specimens produced from cultivation been used for replanting wild populations or recovery or re-establishment of populations? If so, provide details.

The landowner has augmented the population on his property through planting a portion of the seedlings produced in the nursery, but the plants made available for reintroduction into new sites have not yet been collected by the responsible conservation agency. A recent PhD study has identified areas of critical habitat for the species (using a modelling approach), which will inform future restoration efforts.

g) Has a portion of the plants produced from cultivation of the seed been used to establish plantations to serve as future parental stock – thus reduce or eliminate the need for collection from the wild.

No. This may not be financially or practically feasible for this species as plants only reach reproductive maturity at around 30-50 years.

h) Have there been any negative effects of such trade on wild populations of the species?

The only negative effect is how the population is currently managed to maximise seedling production. An alternative management strategy is currently being considered.

i) Has there been a change in the conservation status of *Encephalartos latifrons* since 2004?

There has been no change in the conservation status of *Encephalartos latifrons* since 2004. The species is currently Critically Endangered. However, as there are now seedlings available for restoration and reintroduction purposes, the conservation status of the species is anticipated to improve in the near future.

Your letter also requests additional information that may be of relevance. In 2017, South Africa published a Biodiversity Management Plan for the country's 11 Critically Endangered and 4 Endangered *Encephalartos* species. This plan aims to ensure the long-term survival in nature of these 15 species, long-term survival being interpreted as halting the decline of the *in situ* populations and thereafter attaining a population growth. In order to increase protection of the wild populations from poaching, an objective in the plan states as follows: "To incentivize the *in situ* protection of wild *Encephalartos* populations through increasing the economic value of wild *Encephalartos* species." In actioning this objective we plan to develop a protocol for the implementation of paragraph 4 of CITES Res. Conf. 11.11 (Rev. CoP18). Due to the Appendix I listing of *Encephalartos* species, there is no other mechanism to provide for this potential conservation tool, other than through paragraph 4 of CITES Res. Conf. 11.11 (Rev. CoP18).

I trust you will find our response of use.

Yours sincerely

Ms Nomfundo Tshabalala
Director-General
Department of Environmental, Forestry and Fisheries
Letter signed by: Ms Olga Kumalo
Designation: Director: TOPS and CITES
Date: 01/02/2021