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

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Interpretation and implementation of the Convention

Species trade and conservation issues

BIOLOGICAL AND TRADE STATUS OF *HARPAGOPHYTUM*

1. This document has been prepared by the Plants Committee.

2. This report summarizes the information provided by range States and importing countries pursuant to Decision 11.63 and reviews all available data on the biological and trade status of *Harpagophytum* species (also known as the devil's claw or grapple plant), subject to international trade, as required by Decision 11.111. Reports were received from the principal range States [Botswana, Namibia and South Africa (see document PC12 Doc. 8.1.2), and Zimbabwe], as well as Germany (see document PC12 Doc. 8.1.2). The information contained in these reports is summarized in Annex 1.

3. The trade data show that the total trade for all southern African countries had increased to approximately 700 tonnes per annum in 2001, with 92 per cent of the trade originating in Namibia, five per cent in Botswana, and three per cent in South Africa. Germany is the main importing country. Discrepancies are evident from the trade data, which indicate that current monitoring systems could be strengthened.

4. The overall population status of *Harpagophytum* spp. is unknown, but research is either underway (Namibia) or planned (Botswana and South Africa) to provide better information on the resource. Available information suggests that the resource is heavily utilized in some areas but is not affected by trade throughout its range in southern Africa. The vast range of *Harpagophytum* spp. in southern Africa makes it very difficult to manage the resource and enforce policy, but the range States either have policies and management programmes in place, or are in the process of developing them.

5. The Plants Committee concludes that *Harpagophytum* is an excellent example of a plant resource that can be sustainably harvested for commercial purposes, if appropriate management practices are implemented. The use of *Harpagophytum* spp. also raises important issues related to property rights, fair trade, and the reliance of poor communities in the range States on a plant resource as well as the potential role of international agreements in conservation and trade. Sustainable use requires harmonized policies dealing with conservation and sustainable utilization of the species in all the range States, effective enforcement of harvesting and trade regulations, standardized monitoring of trade and harvesting, and research to develop sustainable harvesting methods. The reports submitted in response to Decision 11.63 show that good progress has already been made in this regard by the range States. There are still substantial gaps in the available information on biological status and trade, and many of the policies that have been developed are only starting to be implemented.

6. In the light of the information received, and the discussions held at the 12th meeting of the Plants Committee (Leiden, May 2002), the Committee has agreed upon the following recommendations.

   a) Range States are requested to provide an update on implementation of the policies and management programmes mentioned in the reports submitted in fulfilment of Decision 11.63 (PC12 Doc. 8.1) in time for the 14th meeting of the Plants Committee.

   b) The problems experienced with monitoring trade and preventing illegal trade, as well as the possible need to determine how much cultivated material is in trade, could be addressed through a listing in Appendix III. The usefulness of such a listing is not widely appreciated among stakeholders involved in the trade in the devil's claw. The Secretariat should provide information to the range States that would help them decide whether a listing in Appendix III is appropriate.

   c) Range States and importing States are encouraged to negotiate with the devil's claw industry to obtain support for management programmes that promote sustainable use and the development of communities who are managing the resource. Assistance in this regard could, if necessary, be requested from the Plants Committee and the Secretariat.

   d) The range States should explore how processes and mechanisms in other international treaties can be used to provide support for sustainable resource use and fair trade, and should request the CITES Secretariat for assistance if required.

Comments from the Secretariat

7. With reference to subparagraph 6 b) above and paragraphs 34 to 38 of Annex 1, the Secretariat notes the concerns expressed that the potential inclusion of *Harpagophytum* spp. in the Appendices of CITES may result in a decrease in market demand for these species. The Secretariat believes however, that these concerns may have been overstated and could have been addressed through better liaison with the pharmaceutical industry, possibly with the assistance of the Management Authority of the countries where industries using these species are based, as well as the Secretariat. The Secretariat is of the opinion that regulating trade in these species through CITES will improve the ability of the Parties to determine whether specimens in trade have been legally acquired (because all consignments would need to be accompanied by an export permit or certificate of origin) and the monitoring of trade in the species (because all Parties would have to report all exports, re-exports and imports in their annual reports). Additionally, the inclusion of these species in Appendix II would require that exporting countries determine that all exports are not detrimental to the survival of the species in the wild, a requirement that supports and provides a means of implementing the national biodiversity conservation objectives of the relevant countries.

8. The recommendations of the Plants Committee in subparagraphs 6 a), c) and d) are presented in Annex 2 as draft decisions of the Conference of the Parties. The remaining recommendation refers to advice obtainable from the Secretariat from any Party and concerning the inclusion of any species in the Appendices, and is as such not necessary to be included in a draft decision.

The trade, management and biological status of *Harpagophytum* spp. in southern African range States and importing States

Introduction

1. Species of *Harpagophytum* (devil's claw) grow in the savannah areas of southern Africa. The indigenous San and Khoi peoples of southern Africa have used devil's claw tubers medicinally for centuries. Europeans discovered the medicinal properties of the devil's claw from local people in 1907 and since 1962 dried tubers of *Harpagophytum* spp. have been exported to Europe and used in the production of herbal medicines to treat mainly arthritis and rheumatism.

2. An increase in trade has led to concerns about the sustainability of harvesting plants from the wild. In an attempt to promote sustainable utilization of *Harpagophytum* spp. Germany submitted a proposal to include *Harpagophytum* spp. in Appendix II at the 11th meeting of the Conference of the Parties (Gigiri, April 2000). Objections to the proposed listing of *Harpagophytum* spp. by the range States, Botswana, Namibia and South Africa, led to the adoption of Decisions 11.63 and 11.111.

   Decision 11.63

   In the light of increasing international trade in the roots of Harpagophytum spp. (Devil's Claw), the range and importing States should submit to the Secretariat all available information concerning the trade, management and biological status of Harpagophytum species and regulatory measures applying to them.

   Decision 11.111

   The Plants Committee shall:

   a) review information submitted to the Secretariat in accordance with Decision 11.63;

   b) summarize the biological and trade status of Harpagophytum species subject to international trade; and

   c) prepare a report on the biological and trade status of Harpagophytum species, at least six months before the 12th meeting of the Conference of the Parties, for consideration at that meeting.

3. This report summarizes the information provided in terms of decision 11.63 and reviews all available data on the biological, management and trade status of *Harpagophytum* species subject to international trade, as required in Decision 11.111. Information used in this report was obtained from the range States Namibia, Botswana, South Africa (cf. document PC12 Doc. 8.1) and Zimbabwe, and one importing state, Germany (cf. document PC12 Doc. 8.1.2). This report is the compilation of official reports submitted to the Plants Committee, stakeholder interviews, observations on harvested populations, and a literature search. Most of the report deals with *H. procumbens,* which is the species currently used in the medicinal trade, and which is restricted to Botswana, Namibia and South Africa.

Biological status

Description

4. The genus *Harpagophytum* DC. ex MEISSN. (Pedaliaceae) comprises perennial herbs with creeping stems that sprout every year from a tuberous primary tuber (Hachfeld 1999). Secondary root tubers, which can reach a length of 5–25 cm, form from the main root (parent tuber) and it is these tubers that are harvested for medicinal purposes and contain active ingredients that have analgesic and anti-inflammatory properties. The plants produce characteristic fruits that give the plant its common name, the devil's claw. They comprise a flattened woody capsule with spiny appendages on each carpel.

Distribution

5. The genus *Harpagophytum* occurs in Angola, Botswana, Mozambique, Namibia, South Africa, Zambia and Zimbabwe (Ihlenfeldt & Hartmann, 1970). There are two species, *H. procumbens* (BURCH.) DC. ex MEISSN. and *H. zeyheri* DECNE., with two and three subspecies respectively. *Harpagophytum procumbens* occurs in southern Namibia, southern Botswana, the northern part of South Africa (Northern Cape Province, North West Province and the Limpopo Province) and southern Zimbabwe. *Harpagophytum zeyheri* grows in the more humid areas of southern Africa in the Limpopo Province of South Africa, northern Namibia, southern Angola, south-western Zambia, south-western Zimbabwe and north-western Botswana.

6. Currently, only *H. procumbens* is registered for medicinal use in Europe and it is the only species that is actively harvested for international trade. Specimens of *H. zeyheri* may sometimes be mixed in with harvests of *H. procumbens* in areas where the two species occur together, such as Namibia. For this reason, many aspects of the report refer to *Harpagophytum* spp. and not only to *H. procumbens*.

Population status

7. Scattered populations of *Harpagophytum* spp. occur throughout the arid savannah areas of Botswana, Namibia and South Africa (Ihlenfeldt and Hartmann, 1970). The patchy distribution pattern makes it extremely difficult to quantify total population size and none of the range States has been able to estimate the overall population status of *Harpagophytum* spp. Trends in growth of populations utilized for trade could provide information on whether or not harvesting is currently sustainable. There have been few population surveys in the past, resulting in a situation where it is impossible to determine whether population numbers have decreased as a result of harvesting. Furthermore, population numbers fluctuate in relation with rainfall so decreases in population numbers are not necessarily the result of overexploitation.

Botswana

a) A comprehensive survey covering the entire range of *Harpagophytum procumbens* has never been conducted in Botswana. Two localized studies have been conducted by Taylor and Moss (1982) and Sekhwela (1994). The results of the Sekhwela study suggest that harvesting is having a negative impact on devil's claw populations in Botswana. No follow-up surveys have been conducted so there is no evidence to indicate that this trend is being reversed. Despite this, government officials, the two NGOs that buy the devil's claw, and many harvesters, all consulted during 2002, state that the resource is not being depleted. During a brief visit in April 2002 healthy populations of plants were encountered around many of the villages where harvesting takes place. Only a small number of villages harvest the devil's claw as the small amount of income generated by this activity is only of value to the most marginalized, poor rural communities. Given this situation, it is unlikely that the devil's claw is threatened in Botswana.

b) A countrywide resource survey is needed in Botswana to determine what percentage of the available resource is currently utilized and what the overall biological status of the species is. A

comprehensive survey is also needed for use as a benchmark in future resource monitoring. The government body responsible for veld product management, the Agricultural Resources Board (ARB) is in the process of developing a proposal to carry out a country-wide inventory for all utilized veld products. Should Government approve this proposal, these inventories will be used to determine utilization and jurisdiction areas for communities. *Harpagophytum* spp. will be included in this inventory and resulting data will be used to determine the biological status of these species in Botswana (ARB, 2002a). The University of Botswana, in collaboration with an NGO (Tusano Lefatsheng), has prepared a research proposal to assess the biological status of *Harpagophytum* spp. and to determine the impacts of harvesting on populations. The study's objectives are to survey and quantify a large number of populations throughout the country and to closely monitor a subset of harvested populations over five years. No funding has yet been found for this proposal (Setshogo et al., 2002).

Namibia

c) Namibia has a National Devil's Claw Working Group (NDCWG) composed of a wide range of stakeholders. This group is currently coordinating a resource survey as part of a greater devil's claw situation analysis which also includes a socio-economic survey and a marketing survey. The main objective of the resource survey is to provide detailed data on the status of the devil's claw resource in selected areas throughout Namibia where the devil's claw occurs. The survey is concentrating on areas where harvesting is known to take place (Strohbach, 2001). This survey will span a large enough area to provide information on where the devil's claw is concentrated, the habitat types in which the plants occur, and the proportion of the population currently being harvested. The survey is being conducted by officials of the Ministry of Environment and Tourism (MET) and will be completed by July 2002 (CRIAA, 2001). Survey results will contribute significantly to determining the biological status of *Harpagophytum* spp. Despite the present lack of data on the biological status of *Harpagophytum* spp., Namibian officials report that it is unlikely that the resource is being over-utilized as harvesting takes place in less than 50 per cent of the species' range (Hamunyela, pers. comm.).

d) M. Strohbach working with the Sustainably Harvested Devil's Claw Project, run by an NGO (Centre for Research and Information and Action in Africa, CRIAA), has been monitoring populations that are harvested by project participants. In the year 2000, 36 harvested sites were surveyed, and plant population numbers estimated for a total of 423 hectares. The sum of the 36 populations was 592,234 plants. Strohbach (2000) also reported that 25 per cent of the populations surveyed showed signs of unsustainable harvesting practices. Of the 19 areas surveyed in 1999, four showed a decrease in plant density per 100 m^2 transect.

South Africa

e) Little is known about the biological status of *Harpagophytum* spp. in South Africa. No surveys were conducted in the past so no trends in population growth can currently be determined. B. Hachfeld has recently conducted a survey for seven sites in the North West Province and 15 sites in Northern Cape. A number of biological parameters were investigated including the number of plants, the number of old and young plants, the reproductive status of the plants and the degree of harvesting taking place. Results of this study will be available by September 2002. The National Botanical Institute is in the process of seeking funding to conduct a resource and socio-economic survey in South Africa. The proposed resource survey will use Hachfeld's study as a starting point and gaps in the devil's claw distribution will be surveyed. Together the two surveys will provide information on how large the total population of *Harpagophytum* spp. is in South Africa and what percentage of the population is at present being harvested (Donaldson 2002). If this research initiative receives funding, the biological status of *Harpagophytum* spp. in South Africa should be known by March 2003.

Conclusion

8. Even though none of the three range States has carried out comprehensive surveys to assess the biological status of *Harpagophytum* spp., the available information suggests that *Harpagophytum procumbens* would not be classified as threatened using IUCN criteria for overall population size, extent of occurrence (range) and area of occupancy (version 3.1, 2000). Populations of *Harpagophytum* spp. are widespread and one survey of *H. procumbens* from a small part of Namibia provided population estimates of over 500,000 plants. The only meaningful criterion for assessing the threat to *Harpagophytum* spp. is an estimation of decline in populations as a result of harvesting. There are insufficient data to make this assessment, but many stakeholders argue that decline is unlikely to have had a substantial effect on total population size of *Harpagophytum* spp. because populations occur in protected areas and on commercial farms where harvesting does not occur. Furthermore, the species thrives in disturbed systems and is considered a pioneer or even 'weedy' species (Taylor and Moss, 1982; Sekhwela, 1994). The main threat to plant populations in all three countries is restricted to poverty-stricken communal areas where a combination of unsustainable harvesting and heavy grazing pressure threatens local populations (Cole and du Plessis, 2001). Should such populations disappear it would be an economic blow to these communities but is unlikely to be a threat to the species except potentially as a form of genetic erosion.

Trade information

Botswana

9. A total of 41,550 kg of devil's claw were reportedly exported from Botswana between 1997 and 2001 (Table 1). Trade within Botswana also occurs, but it is relatively small and has not been monitored. However, the data from Botswana highlight some potential problems with existing records. Annual harvesting data provided by the Agricultural Resource Board (ARB) of Botswana (Table 2) differs year by year from export data and also suggests that the quantity of plants harvested between 1997 and 2001 (21,710 kg) is slightly more than half the quantity that was exported from Botswana during that period. In addition, the export figures mentioned in the CITES proposal (ca. 50,000 kg in 1997 and 1998, Dipholo pers. comm. in Hachfeld 1999) differ substantially from those provided by the ARB.

Table 1: Amount of devil's claw (dry weight kg) exported from Botswana between 1997 and 2001. Data supplied by the Agricultural Resource Board of Botswana.

Importing Country	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2001**
Germany	0	0	0	0	-	0	0	0	15000
South Africa	10719	3278	24437	45633	-	2451	501	1550	500
Republic of Korea	0	0	0	0	-	3002	0	500	0
Namibia	0	0	0	0	-	0	0	0	1800
Others	0	0	0	0	-	40	0	0	6
Total	**10719**	**3278**	**24437**	**45633**	**-**	**5493**	**501**	**2050**	**33506**

Table 2: Data on harvesting of devil's claw in Botswana from 1978 to 2001.
No harvesting was permitted in 1993 in order to allow the plants to regenerate.
Data supplied by the Agricultural Resources Board of Botswana.

Year	Dry weight (kg)	Year	Dry weight (kg)	Year	Dry weight (kg)
1978	13459	**1986**	6846	**1994**	22533.7
1979	5175	**1987**	9786.4	**1995**	40062
1980	550	**1988**	16745	**1996**	26344.8
1981	7564.8	**1989**	9115.5	**1997**	5549
1982	16974	**1990**	56	**1998**	3016
1983	7712.5	**1991**	3832.5	**1999**	4257
1984	13140.55	**1992**	6896.4	**2000**	4317
1985	2807.5	**1993**		**2001**	4571.5

10. The reasons for these discrepancies are not known but figures could be influenced by unrecorded harvests as well as unrecorded exports. An exporter at the Regional devil's claw Conference held in Windhoek in 2002 reported importing 4 tonnes of material from Botswana, which is not represented in the records (Davis, pers. comm.). This too indicates that not all exports are being recorded. There were no recorded exports of the devil's claw in 2000 because there was a lack of demand. Exporters attribute this to buyers stockpiling from the previous year, but the NGO sector argues that the proposal to list *Harpagophytum* in CITES Appendix II in 2000 affected consumer demand.

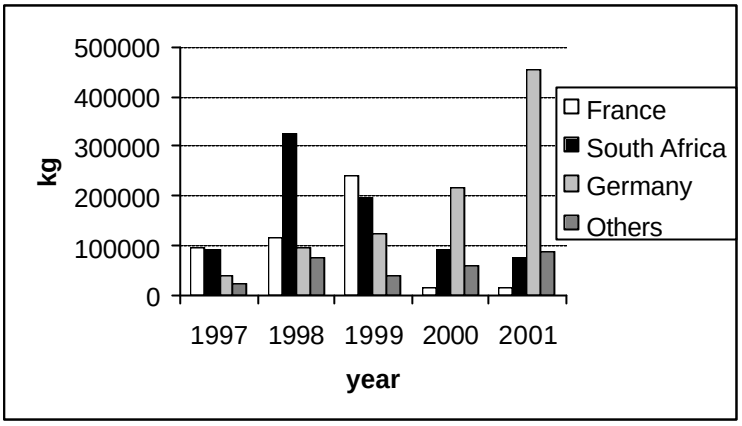
Namibia

11. The first large-scale exports took place from Namibia to Germany in 1962. By 1975 exports had risen to 180 tonnes per annum, exports continued to increase resulting in exports of ca. 300 tonnes in 1997 and 600 tonnes in 1998. There was a drop in exports from ca. 600 tonnes in 2000 to ca. 400 tonnes (Table 3) (also seen in Botswana), attributed to the proposal to list *Harpagophytum* spp. in CITES Appendix II, but trade returned to previous levels in 2001 with exports of 600 tonnes.

Table 3: Total quantities (kg) of devil's claw exported from Namibia between 1991 and 2001.
Data derived from export permits issued by Ministry of Environment and Tourism, Windhoek.

Year	Dry weight (kg)	Year	Dry weight (kg)
1991	20880	1997	251091
1992	96174	1998	613336
1993	65767	1999	604355
1994	157938	2000	379740
1995	284409	2001	637032
1996	313652		

Figure 1: Quantities of *Harpagophytum* (dry weight) imported from Namibia



between 1997 and 2001 by the main importing countries. Data source as table 3

12. The current management system for the devil's claw in Namibia requires exporters to obtain a phytosanitary certificate from the Ministry of Agriculture, Water and Rural Development (MAWRD) in addition to the export permit required by the Ministry of Environment and Tourism (MET). The figures from these sources often do not tally (Cole, 2002). In addition, there are claims of a substantial illicit trade, for which figures are obviously not available (Cole, 2002).

South Africa

13. Export permits are not required to export *Harpagophytum* specimens from South Africa. This situation makes it extremely difficult to monitor trade but the consensus is that harvesting of *Harpagophytum* spp. in significant quantities has only recently taken place. Provincial nature conservation organizations are monitoring trade. Permits issued by nature conservation departments to collect and transport plants (Table 4) indicate that quantities of harvested material have increased substantially from 1999 to 2001 and that trade requires closer monitoring. A number of pharmaceutical companies based in South Africa are involved in the processing of the raw *Harpagophytum* material so that not all harvested material is exported. Given this situation, monitoring of actual harvesting in each province should continue even in the event of a national export permit being enforced.

14. South African exporters and pharmaceutical companies buy large amounts of devil's claw from Namibia and Botswana. These trade deals are not monitored in South Africa and South Africa's role in the trade is currently not quantified.

Table 4: Quantities of *Harpagophytum* tubers harvested in Northern Cape (N. Cape) and the North West Province (N.W. Province) in South Africa.

Year	N. Cape Wet material (kg)	N. Cape Dry material (kg)	N.W. Province Wet material (kg)	N.W. Province Dry material (kg)	Total Wet material (kg)	Total Dry material (kg)
1999	0	6900	-	-	0	6900
2000	402	1258	-	-	402	1258
2001	500	6248	10904	14780	11404	21029

Germany

15. Germany is a major importer of *Harpagophytum* specimens (raw material) but has no trade monitoring system in place for the species. Therefore, no official trade data are available. To implement Decision 11.63, an interview survey among German importers was carried out. Currently eight to 10 German companies are importing *Harpagophytum* specimens. Trade is predominantly reported as being direct from Namibia to Germany (cf. document PC12 Doc. 8.1.2). Apart from Germany no other importing country has provided information to the CITES Secretariat.

16. Table 5 compares the imports as stated by German importers with the Namibian export provided by MET. Imports reported are significantly higher than the Namibian export figures for the same year, except in 2001.

Table 5. *Harpagophytum* trade from Namibia to Germany 1999-2001 (dry weight in kg)

	German imports (trader interviews)	Namibian exports (MET data)
1999	265 000	125 000
2000	492 000	216 000
2001	459 000	453 000

17. As seen in Table 5 trade figures from different sources, i.e. range States and importing countries, do not tally. In all exporting and importing States, trade is not being monitored closely enough to allow a determination of the actual quantities of plants being traded internationally.

Resource management

Botswana

18. The devil's claw is protected by the Agricultural Conservation Act (1974) and accompanying regulations of 1977. Permits issued by the ARB are used to control extraction and trade in *Harpagophytum*. There are three types of permits, an extraction permit, a transfer permit and an export permit. The extraction permit states conditions that the extractor has to follow to ensure that harvesting is sustainable. Each permit is issued to one individual for three months, for a specific locality, and stipulates a specific quota. Quotas are decided upon by ARB extension officials, in collaboration with community members, after visual assessments of *Harpagophytum* populations (Ben, pers. comm.). Transfer permits are required to transfer ownership of the devil's claw or its parts from one owner to the next. An export permit is required to export *Harpagophytum* spp. plants or their parts. The Botswanan legislation includes penalties for committing illegal or unlawful activities regarding the devil's claw (ARB, 2002b).

19. In a further effort to promote resource conservation for *Harpagophytum,* Botswana only issues extraction permits during the dry season when the above ground shoots have died back and the seeds have dispersed. Harvesting in the dry season means that harvesters only find ca. 30 per cent of plants and therefore cannot deplete any single population (De Wolf, pers. comm.).

20. Government officials report that communities appear to be capable of managing their own resource in Botswana. Self-policing among community members takes place, and any harvesting without permits or out of season is reported to ARB officials. Some villages voluntarily implement rotational harvesting by harvesting in different directions away from the village each year. There have been cases where communities have turned down permits for a particular year reporting that the resource needed time to recover (Ben pers. comm.). This is in contrast to the findings of Sekhwela (1994) that harvesters at four of the eight study villages expressed negative attitudes towards resource conservation and were pursuing non-sustainable harvesting techniques. A brief field visit in April 2002 found no signs of unsustainable harvesting in three villages including Mahotshwane, where Sekhwela (1994) reported

unsustainable harvesting practises. This could indicate that resource conservation practices have improved since 1994 but further investigation of harvesting practises in Botswana is recommended.

21. The department of Agriculture is in the process of developing a new policy for Community Based Natural Resource Management (CBNRM). The CBNRM policy will empower communities to manage their own resource through demarcation of utilization areas and the development of management plans. This policy will be implemented in phases, with specific areas being used as pilot studies. Inventories of all natural resources used by communities, including the devil's claw, are needed for this policy to be implemented. The inventory of devil's claw will contribute to establishing the biological status of this species. The CBNRM policy will not replace the existing Agricultural Conservation Act of 1974 but will provide additional legislation that promotes sustainable use of natural resources including *Harpagophytum* spp. (Ben, pers. comm.).

Namibia

22. Concerns about over-utilization of *Harpagophytum* spp. led to the plants being listed as a protected species under the Nature Conservation Ordinance 4 of 1975 (CRIAA SA-DC, 1999). This resulted in a permit system started in 1977 that required permits for harvesting, transport and export (MET, 2000). The permit system was found to be ineffective owing to difficulties in implementation and was suspended from 1987, except for export permits required for commercial trade. Recent increases in exports, and concerns from the international community, led to the reinstatement of this permitting system in 1999. Since then the Ministry of Environment and Tourism (MET) has been developing a new policy for the protection of the devil's claw involving modification of the old permit system. This policy has not yet been approved but is provisionally implemented by MET Nature Conservation Officials managing the *Harpagophytum* trade. The new policy is based on the old permitting system of 1977, but includes additional detailed stipulations on each permit to ensure sustainable use of *Harpagophytum.*

23. Conditions of the new policy include a harvesting season from March to October. Harvesting in winter, while plants are dormant, is being implemented for the same reasons as in Botswana, i.e. to increase the chance of plants being missed during harvesting. Data for Namibia indicate that ca. 60 per cent of plants in a population are found when harvesting takes place in winter (Hamunyela, pers. comm.).

24. Harvesting of *Harpagophytum* spp. takes place throughout vast areas of eastern Namibia and management of the resource requires additional extension officers and training in resource management. The MET is currently responsible for monitoring harvesting and population recovery, but the current lack of capacity means that no short-term or long-term monitoring is taking place (Hamunyela, pers. comm.).

25. In November 1999, Namibia held its first National Devil's Claw Stakeholders' Workshop to address the many national concerns regarding the status of the devil's claw resource (Cole, 2002). Workshop participants recommended the establishment of a Namibian Devil's Claw Working Group (NDCWG). This group consists of a wide range of stakeholders from Government, the NGO/CBO sector, harvesters, and exporters, under the chairmanship of an official of the Division of Specialist Support Services (DSSS) in the Ministry of Environment and Tourism. The mandate of this group is to continue the consultative process that was started at the first workshop and to address pressing needs relating to trade in the devil's claw. One of the first needs addressed was the development of a National Devil's Claw Situation Analysis (NDCSA) (Cole, 2002).

26. The NDCSA will focus on the following three main areas:

    a) The status of the resource;

    b) The socio-economic aspects related to resource management, benefits, and social implications with respect to the harvesting and trade in the devil's claw; and

    c) The nature of the local and export market.

27. The results of this research will provide the first comprehensive analyses of the devil's claw in Namibia and will enable important strategic policy decisions to be made with respect to resource management and utilization, trade and market related factors, and further research needs. The International Development Research Centre (IDRC), based in Canada, has funded the NDCSA. It began in January 2002 and is expected to be completed by September 2002 (Cole, 2002).

28. CRIAA plays an important role in promoting the sustainable utilisation of the devil's claw in Namibia. They currently run the Sustainably Harvested Devil's Claw Project (SHDCP), which works with 328 registered harvesters living on communal farms in the Omaheke region of Namibia. Harvesters working with the SHDCP practise sustainable harvesting. CRIAA is hoping to expand this project into other areas in Namibia.

South Africa

29. In South Africa, species in need of protection are listed on provincial ordinances and managed by provincial nature conservation bodies. *Harpagophytum* occurs in three of the nine South African provinces: the Northern Cape, the North West Province and the Limpopo Province. Harvesting for commercial purposes only takes place in the Northern Cape and the North West Province. *Harpagophytum procumbens* has a limited range in the Limpopo Province and is only harvested by traditional healers (Rodgers, pers. comm.).

30. Currently Northern Cape Nature Conservation requires permits for collecting, exporting or importing, moving plant parts across provincial boundaries, growing, and trading in *Harpagophytum*. Permits are issued once a year (Powell, pers. comm.) in accordance with Proclamation 240 of 1975 relating to the Ordinance of Cape Nature Conservation 26/1965. A new proclamation with detailed stipulations for trade management has been drafted and is under review (Powell, pers. comm.).

31. Policy and regulations for *Harpagophytum* in the N.W. Province are confusing because different ordinances apply in different areas owing to changes in provincial boundaries after 1994. Most of the harvesting takes place in the communal areas of the N.W. Province where there is no legislation regulating harvesting. At present, the N.W. Province issues permits only to buyers who may only buy from recognized and registered harvesters in possession of an identification card. Harvesters attend training courses where they receive an identification card that is valid for one year. Harvesters are taught to harvest sustainably by practising quadrat rotational harvesting (Van der Vyver, 2001). And harvesting takes place during the growing season between November and July. So far, 1,250 harvesters from ca. 35 villages have been trained. A collecting form is also placed at each harvesting sight and harvesters fill in how much is collected and sold each day. Both these monitoring procedures have only been in place for one year. Nature conservation officers conduct monitoring on an ad hoc basis (van der Vyver, 2001). N.W. Province Nature Conservation have trained harvesters but they do not have the capacity to monitor all harvesting effectively (van der Vyver, pers. comm.). A visit by the author to the N.W. Province harvesting areas found a number of populations that had been unsustainably harvested. The degree to which unsustainable harvesting is taking place in the N.W. Province requires further investigation.

Regional collaboration

32. Stakeholders from all three range States have recognized the need for regional collaboration. Namibia initiated collaboration through the hosting of the Regional Devil's Claw Conference in February 2002 in Windhoek, which brought together stakeholders from all sectors of the trade in the devil's claw. An action plan for the devil's claw has subsequently been formulated based on issues and suggested solutions voiced at the conference. These include the agreement to establish national and regional devil's claw Working groups. These groups will meet periodically to discuss and address needs associated with the *Harpagophytum* trade.

Conclusion

33. All three range States are addressing the sustainability of the *Harpagophytum* trade through changes in policy. These policies are at different stages of development. Even where legislation is not in existence government authorities in all three States are actively managing resource utilization. In addition, the NGO sector in Namibia and Botswana is contributing substantially to the development of a sustainable trade. The biggest hindrance to achieving sustainable utilization is the lack of capacity among government institutions in Namibia and South Africa to monitor harvesting practices. Furthermore, all three range States are not monitoring the actual population numbers. Without such data it is impossible to determine whether trade is negatively impacting on the biological status of *Harpagophytum.* Research on appropriate harvesting practices, including the season of harvesting and the method of tuber removal is vital for informing management. Existing and future research initiatives in all three range States need to be supported.

Sentiments toward a CITES listing

Botswana

34. A comprehensive resource survey has never been conducted in Botswana and there is no scientific evidence to indicate whether or not trade threatens this species. Despite this lack of data, all Botswanan stakeholders consulted, including representatives from the Government, NGOs, and communities, report that the devil's claw in Botswana is not threatened by trade. There is a widely held perception that utilization could be substantially increased without the devil's claw becoming threatened. The existing legislation is considered more than adequate to protect devil's claw populations in Botswana and stakeholders feel that a CITES Appendix-II listing will not provide any additional protection.

35. The majority of Botswanan stakeholders oppose a CITES Appendix-II listing based on the anticipated effect on devil's claw end-product consumers. They believe that an Appendix-II listing would send out a message that the plant is endangered and this is expected to affect sales of the finished product and the demand for devil's claw dried tubers. The result would be reduced income for thousands of poor rural harvesters.

36. Botswana does, however, suffer from lack of information pertaining to trade. Trade figures are not consistent. Furthermore, Botswanan exporters struggle to find buyers for their material and exports are erratic. The ability to track movement of devil's claw material originating in Botswana would allow Botswanan stakeholders to improve their understanding of the devil's claw market. The Botswana Government opposes the inclusion of *H. procumbens* in Appendix II, but may consider Appendix III which would provide a mechanism for tracking trade without providing any negative publicity on the biological status of the species. However, the CITES Management Authority for Botswana is likely to act in accordance with stakeholder interests.

Namibia

37. The majority of Namibian stakeholders, like those in Botswana, are against a CITES listing on account of the expected drop in demand that will affect the livelihoods of poor rural harvesters. The NGO CRIAA is most strongly opposed to a CITES listing, stating that at present no evidence exists to show that trade may endanger this species. In addition, their opinion is that a CITES listing will not provide any extra capacity to manage the trade because measures are needed at local levels to monitor populations and enforce compliance with permits. Monitoring at the international level will not provide a tool that promotes sustainable utilization. Despite the negative sentiment towards including the devil's claw in CITES, the CITES Management Authority for Namibia believes that the inclusion in Appendix II or III would provide much needed information on trade. In addition, it is argued that extra resources to manage the trade at local levels could be requested from sources other than Government should this species have the international recognition of being included in the CITES Appendices. However, the

CITES Management Authority in Namibia is likely to act in accordance with stakeholder interests and will not currently support a proposal to include *Harpagophytum* spp. in Appendix II, but might consider an Appendix-III listing.

South Africa

38. The CITES Management Authority, based in the Department of Environmental Affairs and Tourism (DEAT), has not been involved in the management of the devil's claw trade in South Africa. South Africa is not opposed to an inclusion in Appendix II or III, but will take the views of Botswana and Namibia into account regarding a potential listing.

References

ARB.(2002a). Forest, Fisheries and Veld Products Inventory Study: Draft Terms of Reference. Ministry of Agriculture. Botswana

ARB.(2002b). Botswana National Report on Grapple Plant (*Harpagophytum procumbens*): A Report Submitted to the Africa Regional CITES Plants Committee. Gaborone. Botswana

Cole, D. (2002). The Namibian National Devil's Claw Situation Analysis. Paper presented at the Regional Devil's Claw Conference. CRIAA SA-DC. Windhoek. Namibia

Cole, D. and du Plessis, P. (2001) Namibian Devil's Claw (Harpagophytum spp.) A case Study on Benefit-Sharing Arrangements. Prepared by CRIAA SA-DC for the Ministry of Environment and Tourism. Namibian National Biodiversity Programme. Windhoek. Namibia

Cole, D., Lombard, C. (2000) The Sustainably Harvested Devil's Claw Project in Namibia: Some Primary Producer Issues. Paper presented at the Medicinal Plant Forum for Commonwealth Africa. Cape Town. South Africa.

CRIAA SA-DC (1999) Proceedings of the Namibia National Devil's Claw Stakeholders Workshop. Organized by: Ministry of Environment and Tourism, Ministry of Agriculture and Rural Development and CRIAA SA-DC. Windhoek. Namibia.

CRIAA SA-DC (2001) Namibian National Devil's Claw Situation Analysis: Research Funding Proposal. Windhoek. Namibia

CRIAA SA-DC (2002) Regional Action Plan for Devil's Claw. Document produced by CRIAA following the Regional Devil's Claw Conference. Windhoek. Namibia

Hachfeld, B. (1999). Analysis of the trade potential and possible over-exploitation of a southern African medicinal plant: *Harpagophytum procumbens*. Report for Bundesamt für Naturschutz. Cologne. Germany

Ihlenfeldt, H.D. and Hartmann, H. (1970). Die Gattung *Harpagophytum* (Burch.) DC. Ex Meissn. Mitt. Staatsinst. Allg. Bot. Hamburg, Bd. 13: 15-69

Kgathi, D.L. (1988). The grapple trade in Botswana. Botswanan Notes and Records 20: 119-124.

Matlhare, T. (2002). Harvester and Trade Issues in Botswana. Paper presented at the Regional Devil's Claw Conference Windhoek February 2002.

Ministry of Environmental and Tourism, 2000, Proposed Policy on Devil's Claw, Government of Namibia

Sekhwela, M.B.M. (1994). Grapple plant (*Harpagophytum procumbens* DC): resource potential and management studies. Final Report. National Intitute of Research and Documentation, University of Botswana.

Setshogo, M.P., Sekhwela, M.B.M., Thusano Lefatsheng. (2002). Project proposal on: The Ecology and Distribution of the Devil's Claw in Botswana. Paper presented at the Regional Devil's Claw Conference Windhoek February 2002.

Strohbach, M. (2001) National Devil's Claw Situation Analysis Republic of Namibia: National Resource Inventory Project Design. Prepared for the Namibian Devil's Claw Working Group. Namibia.

Strohbach, M. (2000). The Sustainably Harvested Devil's Claw Project Ecological Survey February 2000. Report for CRIAA SA-DC. Windhoek. Namibia

Taylor, F.W., Moss, H. (1982). Final Report on the Potential for Commercial Utilisation of Veld Products. Volumes I and II. Government Printer. Gaborone.

Van der Vyver, C. (2001). Guidelines on Sustainable harvesting of Wild-craft Devil's Claw (*Harpagophytum procumbens*). Department of Agriculture Conservation and Environment. Vryburg. South Africa.

Personal communications

Ben, G. CITES Management Authority for Plants. Agriculture Resource Board, Ministry of Agriculture. Gaborone, Botswana.

Cole, D. CRIAA. Southern Africa Development and Consulting.

De Wolf, C. Ecologist for Veld Products Research and Development

Davis, G. South African Exporter: East Natural Products. Cape Town

Hamunyela, E. Division of Specialist Support Services (DSSS) Ministry of Environment and Tourism. Namibia

Matlhare, T. Thusano Lefatsheng Director. Gaborone. Botswana

Mothlaping, M. Community Liaison Officer. Sustainably Harvested Devil's Claw Project- Omaheke. Namibia

Powell, E. Nature Conservation Official. Directorate Conservation and Environment. Kimberly. South Africa

Rodgers, S. Nature Conservation Official Limpopo Province. South Africa

Setshogo, M.P. Researcher University of Botswana

Van der Vyver, C. Nature Conservation Official. Department of Agriculture Conservation and Environment N.W. Province. Vryburg. South Africa.

DRAFT DECISIONS OF THE CONFERENCE OF THE PARTIES

12.xx Range States of *Harpagophytum* spp. that authorize the export of specimens of these species should provide an update on implementation of the policies and management programmes mentioned in the reports submitted in fulfilment of Decision 11.63 (PC12 Doc. 8.1) for consideration by the Plants Committee at its 14th meeting. Reports on progress with the implementation of this decision should be provided to the Secretariat 90 days before the 14th meeting of the Plants Committee for inclusion by the Secretariat in a report to that meeting.

12.xx Range States and importing States should negotiate with the devil's claw industry to obtain support for management programmes that promote sustainable use and the development of communities that are managing the resource. Assistance in this regard could, if necessary, be requested from the Plants Committee and the Secretariat. Reports on progress with the implementation of this decision should be provided to the Secretariat 90 days before the 14th meeting of the Plants Committee for inclusion by the Secretariat in a report to that meeting.

12.xx Range States should explore how processes and mechanisms in other international treaties can be used to provide support for sustainable resource use and fair trade, and should request the CITES Secretariat to provide assistance if required. Reports on progress with the implementation of this decision should be provided to the Secretariat 90 days before the 14th meeting of the Plants Committee for inclusion by the Secretariat in a report to that meeting.