

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

Sixth Meeting of the Conference of the Parties

Ottawa (Canada), 12 to 24 July 1987

Consideration of Proposals for Amendment of Appendices I and II

PROPOSALS CONCERNING EXPORT QUOTAS

Submitted Proposals

1. In accordance with the recommendation of Resolution Conf. 5.21 "Special Criteria for the Transfer of Taxa from Appendix I to Appendix II", 10 Parties - Botswana, Cameroon, the Congo, Kenya, Madagascar, Malawi, Mozambique, the Sudan, the United Republic of Tanzania and Zambia - each submitted one or several proposals for the maintenance of its population of a species in Appendix II subject to an annual export quota or for the transfer of its population of a species from Appendix I to Appendix II subject to such a quota. These proposals are as follows:

- Botswana

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 2,000 specimens.

- Cameroon

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 100 specimens.

- The Congo

- Transfer of its population of Crocodylus cataphractus from Appendix I to Appendix II subject to an annual export quota of 600 specimens;

- Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 1,000 specimens; and

- Transfer of its population of Osteolaemus tetraspis from Appendix I to Appendix II subject to an annual export quota of 1,000 specimens.

- Kenya

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 5,000 specimens.

- Madagascar

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 5,500 specimens.

- Malawi

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 800 specimens.

- Mozambique

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 1,000 specimens.

- The Sudan

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 5,000 specimens.

- The United Republic of Tanzania

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 1,000 specimens.

- Zambia

Maintenance of its population of Crocodylus niloticus in Appendix II subject to an annual export quota of 2,000 wild specimens and an unspecified quota to be set annually by the Zambian Management Authority for ranched specimens.*

2. At the fifth meeting of the Conference of the Parties (Buenos Aires, 1985), the population of Crocodylus porosus of Indonesia was transferred from Appendix I to Appendix II subject to an annual export quota of 2,000 specimens. Indonesia did not ask for a renewal of its quota, but submitted, however, a proposal for the maintenance of its population of Crocodylus porosus in Appendix II without being subject to an annual export quota. Such a proposal should thus be considered as a usual proposal (see, therefore, document Doc. 6.46).
3. Pursuant to Resolution Conf. 5.21, last paragraph, the Depositary Government, the Swiss Government, submitted a proposal for the transfer from Appendix II to Appendix I of all the populations of Crocodylus niloticus and Crocodylus porosus which were transferred from Appendix I to Appendix II subject to an annual export quota.

This action has been taken to prevent having to go through the postal vote procedures if the Standing Committee requests the Depositary Government to prepare such a proposal.

The proposal as a whole or the reference to specific populations will be withdrawn if the Standing Committee does not ask the Depositary Government to maintain it.

* This proposal was modified afterwards to request a global quota of 10,000 specimens. (Note from the Secretariat).

4. The amendment proposals and supporting statement received at that time were sent by the Secretariat to all Parties, in accordance with Resolution Conf. 5.21, through the Notification to contracting or signatory states of 3 March 1987 (see the document Doc. 6.46 Annex 1). These supporting statements or revised versions thereof are attached to this document*.

Recommendations from the Secretariat and Comments from the Parties

5. The recommendations from the Secretariat are included in Annex 1 to this document.
6. The comments received from Parties are included in Annex 2 to this document.

* As indicated in the "Foreword" these statements are not reproduced in these Proceedings. (Note from the Secrétariat).

Consideration of Proposals for Amendment of Appendices I and II

Proposals Concerning Export Quotas

RECOMMENDATIONS FROM THE SECRETARIAT

1. Although the implementation of the quota system for the export of crocodile specimens has not been perfect, the Secretariat considers that at least it has been satisfactory and that the exporting Parties concerned have largely respected the rules set out in Resolution Conf. 5.21 as far as the exports themselves were concerned (see document Doc. 6.29).

Therefore, the Secretariat recommends, as a general rule, that the system be maintained and, if appropriate, extended to other species. However, the Secretariat emphasizes that the system should be viewed very much as an interim measure to allow some commercial trade pending the long term resolution of the situation through the unconditional inclusion of the species in Appendix II on the basis of well-documented proposals and established management programmes.

In the meantime, it should be acknowledged that Resolution Conf. 5.21 was the first attempt at a new approach and that several points require clarification or further discussion. The Secretariat feels that the need for such "fine-tuning" should not be used as an argument against the principle.

2. Resolution Conf. 5.21 recommends that quotas be established or changed only by the Conference of the Parties. It does not make any reference to the procedure under which quotas would remain the same. However, since at the request of the interested Parties themselves [see document Doc. 5.45.4 (Rev.) and Doc. 5.45.5 in Proceedings of the Fifth Meeting of the Conference of the Parties, pp. 597-598] the quotas established in Buenos Aires were for 1985, 1986, and 1987, the latter being subject to review by the Conference of the Parties at the sixth meeting, the Parties for which a quota was agreed were reminded by the Secretariat that they should submit proposals for quotas, whether or not they wished to change them, within the deadline established by Resolution Conf. 5.21, i.e. 150 days before the sixth meeting. Since the requirements were not clear from the Resolution, the Secretariat advised the Parties that full supporting statements should be submitted to ensure the maximum possible chance of acceptance by the Conference of the Parties. Although all of them communicated their quota requests within the deadline, some did not submit any supporting statement, perhaps due to some misunderstanding of the situation.

It should also be clarified that the decisions relating to quotas made at this meeting cover the years 1987, 1988 and 1989. The Resolution recommended a comprehensive review of the system at the seventh meeting of the Conference of the Parties and, therefore, no quota should be agreed at this time to extend beyond 1989.

3. As Resolution Conf. 5.21 provides for a mechanism for the retransfer of "quota species" to Appendix I in the case of a Party becoming aware of problems in implementing the Resolution, the Depositary Government prepared a proposal for such a retransfer for the reasons explained in document Doc. 6.48.

The Secretariat is not aware of any serious problems in the implementation of the Resolution and, therefore, recommends that all populations be retained in Appendix II. If the absence of a supporting statement is considered to justify non-renewal of a quota, or if the Conference decides that the information warrants no exports from a particular Party, the Secretariat would favour a zero quota rather than retransfer to Appendix I. (The case of C. porosus in Indonesia is excluded from consideration in this document since Indonesia submitted a proposal to have its population included in Appendix II unconditionally.)

4. Recognizing that there was a need for the African countries concerned to take further action with regard to Nile crocodile conservation and management, particularly with respect to the CITES quota system, a workshop was organized to provide the opportunity for detailed discussion of strategies and options. It was hoped that this workshop would be able to agree on courses of action necessary to achieve the objective of simultaneously safeguarding the populations concerned and allowing maximum sustainable exploitation for trade. It was also hoped that the workshop could be held in time for its findings and recommendations to be taken into consideration at the Ottawa meeting. Although the workshop was unavoidably delayed, the Secretariat still hopes that a document will be available in Ottawa.

Furthermore, the Secretariat has developed a project proposal to provide high quality technical assistance for a period of at least one year to facilitate the establishment of the necessary national programmes and to prepare CITES ranching proposals where appropriate. This project was submitted to the workshop for review and comments and, since the Secretariat anticipates a firm commitment for the funds required (about US\$ 100,000), it is expected that this work will start in September 1987.

5. Throughout consideration of this subject, the discussion should avoid confusion between the three major forms of crocodile exploitation involved:
 - i) "cropping" - the direct and simple removal of specimens from the wild for commerce (normally either live specimens for sale as such or killed specimens for skins).
 - ii) "ranching" - the direct removal of eggs or hatchlings from the wild for a period of rearing in captivity for eventual commerce, following a period of rearing in captivity, accompanied by positive conservation action (normally the release of a proportion of the specimens at an age and in numbers that will increase natural recruitment rates). However, it should be noted that none of the operations under consideration in this document is yet a "ranching" operation as defined in Resolution Conf. 3.15.
 - iii) "farming" - closed-cycle breeding in captivity.

Specimens arising from i) and ii) are subject to the quotas, those from iii) are not - provided that the "farms" are registered in accordance with Resolution Conf. 4.15. If "ranching" operations meet the criteria of Resolution Conf. 3.15, the population can eventually be included in Appendix II without imposition of a quota.

6. Botswana: Botswana has only just started to implement the quota system, and the Secretariat has no reason to change its recommendation on the 1987 quota from that made when Botswana's quota was agreed. However, the Secretariat feels that the Conference of the Parties intended a quota to reflect a limitation on the exploitation of wild populations, but in Botswana this does not appear to be the case since wild specimens in excess of the quota are being taken for commercial purposes. In addition, the continuing lack of quantitative information on the Botswana population, together with the need for some further clarifications, lead the Secretariat to conclude that it is not yet in a position to make a definite recommendation as to the level of Botswana's quota for 1988 and 1989. As ranches are now established in Botswana, it might be appropriate for this country to submit a "ranching" proposal under Resolution Conf. 3.15.

7. Cameroon: Cameroon did not submit any supporting statement with its request for a quota of 100 specimens.

The Secretariat recommends that the quota of 20 specimens agreed in Buenos Aires be renewed.

8. Congo: The proposal from the Congo refers to Crocodylus cataphractus and Osteolaemus tetraspis but not to Crocodylus niloticus, although the species is mentioned several times in the text. The supporting statement is generally very weak, but refers to a study conducted by experts from France. The results of this study have not been made available to the Secretariat. The Secretariat does not feel that "there is sufficient basis to establish that the species should be included in Appendix II, rather than Appendix I, under the terms of Resolution Conf. 1.1" which is the requirement of Resolution Conf. 5.21. In such circumstances it is not possible for the Secretariat to recommend in favour of the transfer of Crocodylus cataphractus and Osteolaemus tetraspis to Appendix II subject to an export quota. Regarding the Nile crocodile, the quota requested is 1,000 specimens while the supporting statement for the other two species states under 5. that the quota acceptable for the Nile crocodile to avoid over-exploitation should be 400 specimens.

The Secretariat recommends that the proposal from the Congo on C. cataphractus and O. tetraspis be rejected and that the quota for the Nile crocodile be not higher than 400 specimens.

9. Kenya: The Kenyan proposal does not give any indication of the number of crocodiles within the quota which will be "culled" from the wild and the number which will derive from "ranching". This should be clarified. The Secretariat feels that it might be appropriate for Kenya to submit a "ranching" proposal under Resolution Conf. 3.15.

In strict terms, Kenya has not met criterion d) of Resolution Conf. 5.21 since it has submitted only one annual report (for 1985). However, the deadline for 1986 reports is 31 October 1987, and it must be assumed that in agreeing Kenya's quota in 1985 the Conference of the Parties decided to waive the requirement for previous years' reports.

The Secretariat recommends that the proposal be accepted after satisfactory specification of the proportion of the quota which refers to "culled" specimens, and after receipt of an assurance from Kenya that annual report requirements will be met.

10. Madagascar: Madagascar's supporting statement contains much information. However, the population estimates are based on extrapolations which are not at all convincing, seem over-optimistic, and are at variance with other reports [Blanc, 1984. The Reptiles. In: Jolly, A., P. Oberlé and R. Alagnac (eds). "Madagascar". Pergamon Press, Oxford, pp. 105-114]. The ranching operation has not yet started and export cannot be expected before about 3 years. There is, therefore, no reason to grant a quota for ranched specimens now. The Secretariat does not feel that sufficient evidence is available to support an increase in the quota, and a quota in the region of 4,000 cannot be justified.

The Secretariat also has some concerns that the quota might have been exceeded by an undetermined amount in 1986 through the sale and export of manufactured items in addition to the 1,000 skins. It seems possible that this could continue and the problem should, therefore, be discussed.

The Secretariat recommends that the quota is maintained at 1,000 specimens.

11. Malawi: The proposal received by telex was for a quota of 800 specimens while the supporting statement (mailed in Malawi well before the 150 days deadline but not received until a long time after) refers to a quota of 900.

The quota requested for "culled" specimens (700) is based on the minimum population estimate, but is, nonetheless, slightly over the estimated minimum annual recruitment of 640. The Secretariat feels that it would be safer to maintain the quota below the estimated annual recruitment rate, particularly since culling will occur only in selected areas and not throughout the population. Furthermore, the proposed "cull" quota does not take into account the reduction (albeit small) in recruitment caused by the taking of eggs for the ranching programme.

Also, clarification is needed as to why the proposed "ranching" quota is only 200 when the internal quota for egg collection has been between 1,500 and 2,000 per year. It might be appropriate for Malawi to submit a ranching proposal under Resolution Conf. 3.15.

The Secretariat recommends that a quota of 500 be agreed for "culled" specimens, plus a quota of at least 200 for "ranched" specimens.

12. Mozambique: For reasons unconnected with the biological status of the Nile crocodile, Mozambique has not been in a position to use its quota in past years. The Secretariat sees no reason to object to the request submitted.

The Secretariat recommends that the proposal from Mozambique be accepted.

13. Sudan: The Sudan did not submit any supporting statement for the proposed quota of 5,000 specimens. In the absence of any information from the Sudan, in particular on measures taken to eliminate the illegal trade which was important in this country (Tello, document Doc. 5.45, 1985), it is impossible for the Secretariat to judge whether maintenance of the existing quota can be justified.

In addition, regarding annual reports, the comments made with respect to Kenya are equally applicable to the Sudan since only the 1985 report has been submitted.

The Secretariat recommends that a quota of between zero and 5,000 be agreed, the level to be decided on the basis of information presented by the Sudan at or prior to the meeting of the Conference of the Parties.

14. United Republic of Tanzania: The United Republic of Tanzania is requesting the renewal of its quota of 1,000 specimens. The Secretariat has not received any information which would lead it to change its recommendation prior to the adoption of the Tanzanian quota in Buenos Aires.

The Secretariat recommends that the Tanzanian proposal be accepted.

15. Zambia: Zambia has developed six ranching operations, some of which have also started captive breeding (Zambian Management Authority, in litt.) and, therefore, it might have been more appropriate for Zambia to have presented a proposal under Resolution Conf. 3.15 on Ranching. As this was not done, appropriate quotas should be agreed as an interim measure, taking into account the anticipated development of its ranched production.

In April 1987, the Zambian Management Authority requested the registration of its six "farms" as captive breeding operations under Resolution Conf. 4.15. In fact, most of them cannot be registered because they are still ranches and not captive breeding operations. However, the information provided indicates that the output expected for 1987 will be 1,350 specimens, for 1988 3,500 specimens and for 1989 6,200 specimens. Therefore, the Secretariat feels that the quotas should include these figures.

To this production, it seems possible to add a quota for "culled" specimens, and there does not seem to be any reason to change the figure of 2,000 agreed in Buenos Aires and as now requested by Zambia.

Zambia has not yet submitted an annual report for 1985 (nor for 1986), and thus has not satisfied the criterion of Resolution Conf. 5.21 in this respect. Strict interpretation of this rule would disqualify Zambia's proposal, but the Secretariat feels that, in view of the obvious progress made in the field of crocodile management in Zambia, it would be unjustifiably harsh to take such a line. Nonetheless, the problem needs to be addressed.

The Secretariat recommends that the proposal from Zambia be accepted with total quota of 3,500 specimens for 1987, 5,500 for 1988 and 8,200 for 1989.

16. The above recommendations from the Secretariat are provisional and subject to revision on the basis of further information which is expected, in particular from the workshop on crocodile utilization held in Zimbabwe in June 1987.

As it appears that the IUCN-SSC Crocodile Specialist Group has some concerns with the quota system and/or its implementation, the Secretariat also recommends that the Conference of the Parties asks that Group to analyse the information on the trade in Nile crocodile specimens under the quota system (including data on skin sizes held by the Secretariat and available from the trade) and to provide this analysis and other expertise for improved crocodile management in the countries concerned.

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COMMENTS FROM THE PARTIES

I Comments from Ghana

Ghana has no objections to any of the proposals submitted.

II Comments from Liechtenstein and Switzerland

CONGO

There are some doubts that, based on a one-month survey, "clear ideas of the abundance and densities of the populations of the three crocodile species" could be gained. Our Scientific Authority also pointed out that they were not aware of any field work done previously on crocodiles by the researchers of the Muséum national d'histoire naturelle of Paris.

OTHERS

With regard to the proposals submitted by Kenya and the United Republic of Tanzania, additional information on age structure, size classes and census methods used would be appreciated. The proposal submitted by Madagascar is not consistent with other information available which gives a much less optimistic impression of the crocodile situation in this country. All references quoted by the Madagascar proposal are older than 1980. Some of the other proposals do not provide sufficient information or are not accompanied by a supporting statement at all. It is expected that all range states applying for a renewal of their quota or for an increased quota will meet the provisions of Resolution Conf. 5.21 prior to the Ottawa meeting.

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MANAGEMENT AND UTILIZATION OF CROCODILES IN THE SADCC REGION

1. The attached document was prepared by the SADCC Workshop on Management and Utilization of Crocodiles (Kariba, 2-6 July 1987) (see paragraph 4 of document Doc. 6.48 Annex 1). It is submitted in support of some of the proposals relating to Nile crocodile quotas contained in document Doc. 6.48.
2. It should be noted that the document presents revised quota requests as follows:

<u>Country</u>	<u>Annual Quota proposed in Doc. 6.48</u>	<u>Revised Quota</u>		
		<u>1987</u>	<u>1988</u>	<u>1989</u>
Malawi	800	900	1,000	1,300
Mozambique	1,000	1,000	1,000	4,000
United Republic of Tanzania	1,000	2,000	2,000	2,000
Zambia	2,000+	3,350	5,600	8,200

The justification for these proposals is contained within this document*.

* As indicated in the "Foreword" these statements are not reproduced in these Proceedings. (Note from the Secrétariat).

MANAGEMENT AND UTILIZATION OF CROCODILES IN THE SADCC REGION

A presentation to Parties to the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) of a common crocodile management policy, as adopted by the delegates of SADCC Member States at Kariba, Zimbabwe, on 2-6 June, 1987.

Annex to the Proceedings of the SADCC Workshop on Management and Utilization of Crocodiles held at Kariba, Zimbabwe, on 2-6 July 1987, distributed by the SADCC Coordinator for Forestry, Fisheries and Wildlife, Private Bag 350, Lilongwe, Malaŵi

1. Introduction:

The Southern African Development Coordination Conference (SADCC) was founded in 1980 as a regional grouping of Southern African States, including Angola, Botswana, Lesotho, Malaŵi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. The aim of SADCC is to promote economically independent development of these Southern African States. To this end a Council of Ministers of Member States was constituted as SADCC Governing body, responsible directly to the Summit of Heads of State. This Council of Ministers has distributed the responsibility for the promotion and coordination of regional development of the different economic sectors to individual member states.

The responsibility for the coordination of the Forestry, Fisheries and Wildlife Sectors was vested in Malaŵi in 1983. Since this year the Ministry of Forestry and Natural Resources of Malaŵi exercises the function of SADCC Coordinator for Forestry, Fisheries, and Wildlife. Recognizing the importance of these sectors the international cooperating partners, including France, Canada and the EEC, are assisting the Ministry of Forestry and Natural Resources in Malaŵi since 1985 in establishing and operating a professionally qualified and efficient Administrative Unit for the promotion, coordination and monitoring of regional programmes in forestry, fisheries and wildlife.

The conservation of natural resources with a view to sustainable utilization for the optimum benefit of the people form an important part of SADCC's Natural Resources Policy and Development Strategy. Wildlife is regarded by SADCC as one of the natural resources of the Region which deserves particular attention in the framework of overall economic development. In this context crocodiles are recognized as an integral part of the wildlife resource which should be subjected to planned management and controlled utilization for sustainable economic returns. Therefore the management and utilization of crocodiles has been included in the SADCC Wildlife Sector Development Programme.

SADCC is fully aware of the importance of the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) for the conservation and utilization of wildlife resources and is thus encouraging those member states which are not yet signatories to CITES to consider acceding the Convention. In their recent meeting at Maseru in Lesotho SADCC Ministers of Agriculture and Natural Resources have recognized the need to formulate and present a common policy on the use of Wildlife species in SADCC member states who are already signatories to CITES, i.e. Botswana, Malaŵi, Mozambique, Tanzania, Zambia and Zimbabwe, to the Secretariat and the Parties to CITES.

In particular the SADCC Ministers of Agriculture and Natural Resources have requested and authorized the Coordinator for Forestry, Fisheries and Wildlife to develop and adopt an overall plan for the management and the utilization of crocodiles through a special SADCC Workshop to be convened inter alia for this purpose. Therefore the deliberation and adoption of such plan by all SADCC Member States, for presentation to the forthcoming Conference of the Parties to Cites, to be held at Ottawa in Canada in July 1987, has become an important task of the SADCC Workshop on Crocodile Management and Utilization held at Kariba from 2nd to 6th June 1987 with the financial assistance from CIDA and WWF-USA.

2. Overview of crocodile resources and their management in the SADCC Region

2.1 Methods of assessment

Despite decades of interest and a great deal of research in recent years, estimating the abundance of wild animals remains the most difficult task faced by wildlife managers. Detailed estimates reflecting the population of the Nile crocodile are required by CITES for countries wishing to move the species from Appendix I to Appendix II. In reality expense and practical difficulties preclude country-wide surveys and it is almost always the case that only localized, selective estimates are made which are then extrapolated to give a national total. CITES cannot reasonably expect more than these descriptions of populations from SADCC members and in view of their practical value the requirements of country-wide detailed crocodile census work should be reviewed.

SADCC countries wish to exchange experience and technology to establish detailed monitoring (usually of the production base) and adaptive management schemes. These are all that is necessary for successful sustained-yield harvesting. SADCC believes that information on habitat extent and quality is more important than total number estimates and will work together to produce this information on a national and regional basis.

2.2 Crocodile resources and their management

The crocodile resources of each SADCC country (with the exception of Angola which was not present at the Workshop) and their management are described in greater detail in the annexed country reports. Considering the general difficulties of crocodile inventory surveys, described under 2.1, these descriptions must necessarily be of a very general nature, determining mainly available crocodile habitat in different parts of the countries, applying to these crocodile density figures from local investigations and stating management policies.

The situation in the different countries may be summarized as follows:

2.2.1 Botswana: There are large areas of very suitable crocodile habitat of which a considerable portion is protected. These areas contain viable wild populations of the Nile Crocodile which under suitable schemes can certainly withstand utilization in the region of 2,000 animals per annum. The crocodile population is in no danger of extinction.

Apart from sustainable cropping of the wild populations Botswana also promotes crocodile ranching and/or farming activities.

2.2.2 Lesotho: There is no definite record of crocodiles in the wild, though historically they have most probably occurred in the river system of the lowlands. There is interest in engaging in the farming of captive bred crocodiles. Consideration of re-introduction into the wild is pending further investigations.

2.2.3 Malawi: There is a wide range of crocodile habitat of which some is protected. The total crocodile population sustained by this habitat is estimated at a minimum of 4,600 animals. It is presently utilized by cropping of up to 500 animals a year in accordance with the CITES quota granted in 1985. However, the population can certainly withstand a higher rate of utilization. Crocodile ranching is being experimented on in order to supplement the harvest from the wild.

2.2.4 Mozambique: There is a great abundance of large rivers and lakes all of which offer suitable habitat for crocodiles. High densities have been found in the areas in which local surveys have been carried out. Therefore it can be assumed that the total population of crocodiles is very high and capable of withstanding high levels of utilization. However, administrative problems in the country has made it impossible to realize the full potential of utilization. Even the quota of 1,000 animals approved by CITES in 1985 was not utilized. Establishment of crocodile ranches has commenced.

2.2.5 Swaziland: Crocodiles occur in all of the countries' main rivers, although the population is estimated at only a few hundred animals from casual observations. Nevertheless, conflicts between crocodiles and man are experienced. Crocodiles have no legal protective status and are not utilized in any way.

- 2.2.6 Tanzania: There is abundant crocodile habitat throughout the country in lakes and rivers which supports a roughly estimated population of over 74,000 crocodiles. This population is capable of sustaining a much higher level of utilization than the present quota of 1,000 crocodiles per annum authorized by CITES. Ranching of crocodiles has been seriously considered as an option to controlled cropping. Suitable sites to the effect have already been identified.
- 2.2.7 Zambia: There is an estimated total of 12,400 km of shoreline and river courses with suitable crocodile habitat. The population sustained thereby is roughly estimated at a minimum of 150,000 animals with an annual rate of recruitment of about 33,200. This population can therefore sustain a higher level of utilization than the 2,000 animals allowed by the CITES quota. It is the intention of the Government to increase this level of utilization by ranching which is already well established.
- 2.2.8 Zimbabwe: There is much suitable crocodile habitat in Lake Kariba and the larger rivers which sustains a large crocodile population of the order of more than 30,000 animals. This resource is mainly used for ranching of crocodiles and only to a limited extent for trophy hunting.

2.3 Regional summary

Apart from Lesotho and perhaps also Swaziland all other SADCC countries¹ have sufficiently large and abundant crocodile populations for implementing programmes of sustained economic utilization. In fact in all of these countries the Nile crocodile is enjoying a legal protective status, and viable populations of this species are totally protected in many special conservation areas. However, also outside of these protected areas crocodiles are thriving in many parts of these countries, where in accordance with intended development regulatory measures will have to be adopted. Therefore most of the SADCC member states have already, or are considering the implementation of controlled cropping as well as ranching schemes with a view to utilizing the crocodile resource to an optimum economic benefit.

1

Angola is not considered in this document

3. Crocodile skin trade and trade treaty (CITES) restrictions in the SADCC Region

3.1 International trade

International trade in classic crocodile skins has decreased substantially in the last 15 years and is now estimated to be about 150,000 skins per annum. This is less than one third of the estimated peak of 500 000 skins traded annually in the 1950's and 60's. The decline is largely due to the over-exploitation of crocodile species resulting in the reduction of their populations to "threatened" or "endangered" levels, together with subsequent trade-treaty restrictions and consumer advocacy.

Since the peak of exploitation many wild crocodilian populations have increased again to levels at which they can sustain utilization. In developing countries the future of many of these populations now depends on their value as a marketable resource. Government managed wild harvest, ranching and farming operations currently account for half of the total trade in classic skins. Unfortunately, the fact that more than 40% of the trade is still unregulated or illegal is fostering consumer resistance and leading to trade restrictions at the expense of the legal trade.

In the years 1980 - 1983, the net world trade in the two African species of "classic" crocodile was about 35 000 skins, of which the Nile crocodile contributed some 70%. Thus, more than 20% of all classic skins in trade originated from Africa. The estimated value of these raw skins is US \$4 million.

3.2 CITES status of SADCC Member States

3.2.1 General background: SADCC is presently in the process of adopting a Regional Natural Resources Policy and Development Strategy which recognizes the importance of conservation as a basis for sustainable economic development. In this framework SADCC refers specifically also to international treaties and conventions concerned with the protection of the environment and urges member states to accede to these thus cooperating intra- and inter-regionally in efforts to maintain the natural resource base and to enhance the quality of life.

The Convention on International Trade in Endangered Species of Fauna and Flora (CITES) signed in Washington 1973, is seen in this context as of particular importance to the Region. The object of the treaty is the "protection of certain species of wild fauna and flora against

over-exploitation through international trade". At the same time the treaty recognises that "peoples and States are and should be the best protectors of their own wild fauna and flora". A number of wildlife species of considerable economic importance to the SADCC Member States are scheduled under this Convention and therefore international trade in products of these species, including crocodiles by SADCC States is governed by it.

Botswana, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe have already been signatories to the Convention for some time and each on their own have adopted policy towards endangered species. Lesotho has accepted the Convention without having ratified it yet. Swaziland and Angola are not yet signatories, but will no doubt consider acceding to it in the future.

3.2.2 CITES quota system and crocodile quotas of SADCC Member States

CITES has three Appendices only the first two are of concern here. Article II, paragraph one of the Convention states: "Appendix I shall include all species threatened with extinction which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances".

Appendix II includes two categories of species : those which are not necessarily threatened with extinction now, but which may become so if trade is not regulated, and those which are not threatened at all but which are included because of their similarity to species which could be (or, by inference, already are) endangered by trade.

Largely on an anecdotal basis, the Nile crocodile was placed in Appendix I at the 1973 CITES meeting in Washington. Although 27 African countries attended the meeting, most were represented at ambassadorial level only. On joining the Convention in the early 1980's, Botswana, Sudan, Zambia and Zimbabwe each held a reservation against the Nile crocodile. This, despite an Appendix I status, allowed them to trade in the species, but only with the few consumer Parties which held a similar reservation. These African countries were indicating that they did not consider the crocodile to be endangered within their borders. The reservation held by Zimbabwe was particularly important as that country had a well-developed crocodile ranching industry to protect. Although Zimbabwe's skins continued to enter trade, many of the principal markets were barred to them.

There are different perceptions as to the function of Appendix I, but SADCC believes that a species should not be on Appendix I unless, as implied in the requirement of Article II, paragraph I of the Convention, it is CURRENTLY THREATENED WITH EXTINCTION otherwise the Appendix is devalued. As with leopard, the fact that the Nile crocodile (with a captive population in Zimbabwe alone of over 30,000 animals) has the same status as the black rhino (total population less than 3 000) highlights the ludicrous state to which Appendix I has been reduced.

SADCC believes that since the Nile crocodile is not currently threatened with extinction it should be moved off Appendix I.

In 1976 the "Berne criteria" were drawn-up for the transfer of species between appendices and require "positive scientific evidence that the plant or animal can withstand the exploitation resulting from the removal of protection. This evidence must transcend informal or lay evidence of changing biological status and any evidence of commercial trade which may have been sufficient to require the animal or plant to be placed on an appendix initially. Such evidence should include at least a well documented population survey, an indication of the population trend of the species, showing recovery sufficient to justify deletion, and an analysis of the potential for commercial trade in the species or population". (Resolution Conf 1.2).

Resolution Conf. 3.15, adopted at the third meeting of the Conference of the Parties (1981) established criteria by which a population maybe transferred from Appendix I to Appendix II under a ranching proposal. Ranching is required to be beneficial to the wild population.

In 1983 at the fourth meeting of the Parties the Zimbabwe Nile Crocodile population was transferred to Appendix II under a ranching proposal pursuant to Resolution Conf. 3.15. The data for this proposal took over three years to collect at a total estimated cost of US\$ 30 000. As a result of secure utilization, the wild crocodile in Zimbabwe immediately becomes an asset, annually earning USD \$ 600 000 by 1985. Without the resources to follow Zimbabwe's lead, neighbouring SADCC States continued to regard the Nile Crocodile as a nuisance animal because of its conflict with legitimate human interests, including extensive deprivations on humans and livestock. Thus, despite CITES, the conservation status of the species was poor.

in 1984, at the workshop on CITES implementation in Africa, 25 African countries agreed that the Nile crocodile was not endangered and did not merit being on Appendix I.

In Resolution Conf 5.21 (1985) the Parties to the Convention acknowledged that the Berne Criteria are difficult to fulfil because amongst other things, they require positive evidence of recovery from a level which was not determined when they were included in the appendix. Special criteria were then adopted for the transfer of taxa from Appendix I to Appendix II, to allow species "INCORRECTLY listed in Appendix I to be transferred to Appendix II". This mechanism requires that the Scientific Authority of involved Parties monitor permits and exports (Article IV, paragraphs 2 (b) and 3 of the Convention), and that the Parties continue to meet their annual reporting requirements (under Article VIII, paragraph 7)", in a timely fashion, and that this include complete data on trade in the species in question.

On 23 November 1984, 150 days before the opening of the fifth meeting of the Conference of the Parties. Malaŵi communicated to the CITES Secretariat a proposal that the populations of nine African countries, including four SADC countries (Malaŵi, Mozambique, the United Republic of Tanzania and Zambia), be transferred to Appendix II to allow legal trade under set quotas outlined in Resolutions Conf. 5.21.

After the submission of additional information (Doc 5.45.1) annual quotas for 1985, 1986 and 1987 were agreed as follows:

Cameroon - 20, Congo - 1 000, Kenya - 150, Madagascar - 1 000, Malaŵi - 500, Mozambique - 1 000, Sudan - 5 000, Tanzania - 1 000, Zambia - 2 000.

Quotas for 1987 will be revised in Ottawa, Canada, in 1987 and quotas for 1988 and 1989 will also be considered on the basis of the criteria described in Resolution Conf. 5.21. In addition, the CITES Secretariat will report to the Conference of the Parties on the data on trade in specimens of the quota species, which it was required to compile.

Each quota country submitted, 150 days before the sixth meeting, a proposal to maintain their populations of the Nile crocodile on Appendix II subject to specified export quotas. Two of the SADC countries proposed that quotas be maintained while Malaŵi proposed an increase of only 400, Tanzania of 1,000 and Zambia of 1,350 specimens to absorb the production of a developing ranch.

3.2.3 Review of CITES crocodile quotas of SADCC Member States

Considering the crocodile resources of the SADCC Region as described under 2.2, SADCC member states being signatories to CITES request a review of their trade quotas for the Nile crocodile as follows:-

Botswana: Pending further research and inventory survey it is intended to maintain the present quota of 2,000 animals/skins, including those produced by crocodile ranching.

MalaWi : Considering the development of ranching activities it is requested to increase the present quota of 500 to 900 animals/skins, comprising 700 from the wild and 200 from ranching. In 1988 it is intended to increase the quota further to 1,000 comprising 300 from ranching, and in 1989 to 1,300 comprising 600 from ranching. A proposal for ranching will be submitted to CITES in due course.

Mozambique: In conjunction with increased inventory surveys it is intended to fully realise the present quota of 1,000 animals/skins. A proposal for ranching will be submitted allowing to increase the quota as of 1989 to a total of 4,000 including 1,000 animals/skins from the wild.

Tanzania: With a view to the existing abundant crocodile resource it is requested to increase the present quota of 1,000 to 2,000 animals/skins, including ranching production. A proposal for ranching will be presented to CITES soonest.

Zambia: It is intended to maintain the present quota of 2 000 animals/skins from the wild. However, it is requested to increase this quota as of 1987 by 1,350 animals/skins from ranching to a total of 3,350. For 1988 a further increase of the ranching quota component to 3,600 is requested, bringing the total quota to 5,600. In 1989 the quota is to be 8,200 including 6,200 skins from ranching. A proposal for ranching will be submitted to CITES shortly.

Zimbabwe: The crocodile population is on Appendix II under a ranching proposal. No quota for wild specimens is requested.

4. SADCC Management Policy for Crocodiles

4.1 SADCC Wildlife Management Policy

A regional policy for wildlife management has recently been formulated and adopted by delegates to the SADCC Workshop on Natural Resources Policy and Development Strategy at Blantyre, MalaWi, on 19-21 January, 1987.

This policy, which is presently awaiting formal approval by the Council of Ministers, states as follows:

"Wildlife resources are acknowledged

- to provide utilitarian benefits such as food, hides and other wildlife products;
- to produce local employment opportunities and cash revenue in areas where there are no other resources;
- to contribute to the productivity of other forms of land use, such as ranching, forestry and watershed management;
- to enhance environmental equality and act as an indicator of its quality;
- to constitute a reservoir of genetic resources;
- to provide aesthetic, scientific, cultural, and recreational values".

"Management of wildlife shall encompass conservation, utilization and control activities. The aim of conservation is to maintain the potential of the resources, that of utilization to derive utilitarian and economic benefits, and that of control to reduce detrimental effects of wildlife".

4.2 Management of crocodile populations in the SADCC Region

SADCC Member States regard the Nile crocodile as an important integral part of the Region's wildlife resource. They acknowledge the value of the species and its potential to contribute to the economies of Member States. In order to realize this potential more fully they recognize the need for policies for the management of crocodile populations in the SADCC Region.

4.2.1 Aims of Management: The aims and objectives of the management of crocodiles in SADCC member countries are the following:-

- a) To promote the conservation of wild populations of the crocodile;
- b) to increase rational and sustainable utilization of the Nile crocodile; and
- c) to harmonize conflicts existing between crocodile conservation and human fishing and recreational activities.

4.2.2 Management Action: In order to achieve the objectives of management the SADCC Member States are agreed to implement the following action:-

4.2.2.1 Legal protection: SADCC Member States recognize a legal protective status of the Nile crocodile to be essential for any management of this species. If they have not yet done so, they will consider enacting laws to accord legal protection to crocodiles and will place the killing, taking, possession, conveyance, transfer or trade of this species and its products under strict legal procedures.

4.2.2.2. Zonation: SADCC Member States recognize the need to clearly zone their territory in accordance with different management aims for crocodiles, as follows:-

- a) Crocodile free zones - areas where human habitation is so dense and the forms of land use so intense that crocodiles cannot be tolerated; for example intensive agricultural development, intensive recreational or tourist use, etc.
- b) Mixed zones - areas where human and crocodile habitation cannot be separated and may co-exist due to the prevailing extensive forms of land use; crocodile populations are however kept under strict control and are reduced through cropping wherever necessary; these zones may also include fishing areas.
- c) Crocodile zones - areas with very low or no human habitation which are mainly used for wildlife management purposes inclusive of controlled fishing; crocodile populations may build up to levels which allow sustained cropping and egg collection.
- d) Protected areas - such as National Parks, Wildlife Reserves, Sanctuaries etc. which are set aside for conservation purposes and remain uninhabited; crocodiles are strictly protected like other wildlife and neither the taking of crocodiles nor their eggs are permitted; such areas may also be considered for crocodile re-stocking programmes (see below).

4.2.2.3 Controlled cropping of crocodiles: The aims of wild crocodile management vary between SADCC countries and often within zones within individual states, but it has been identified that controlled cropping (removal of post-hatchlings and sub - adults) and 'ranching' (involving the removal of eggs or young hatchlings with subsequent rearing of these in captivity and return a certain percentage to the wild) are the most flexible management options for the Region's crocodile resources.

Cropping is less capital intensive than 'ranching' and may be the only option where an inexpensive supply of animal protein for crocodile food is unavailable. Where a population has to be reduced quickly, cropping is indicated. As a disadvantage, the sustainable yield is low and depends on the size of the animal taken in a way that is complex and as yet poorly understood. The system is not robust and has a narrow margin for error. Reliable monitoring, not total counts, are the key to successful cropping. Unspecific (for size) hunting led to the decimation of the Nile crocodile in the 1950's and 60's, but

there were no set quotas. Unspecific hunting may still be appropriate where heavy reduction or eradication is planned or where cropping is rotated between areas over a long period. This option is easiest, would be the easiest to police and monitor and changing size structures of skins may give a good indication of how utilization is affecting a population over a period of time.

Unspecific hunting can be refined if large animals are cropped during the breeding season, but away from breeding sites because nesting females show a high degree of nest fidelity.

Specific or target hunting usually involves the avoidance of breeding females, thus protecting the production base. There is strong circumstantial evidence that cropping of adults quickly depletes a population. In avoiding animals over 2.5m total length, the largest hides from cropping would be about 45cm commercial belly width.

4.2.2.4 'Ranching' of crocodiles (Rearing eggs or hatching from the wild):

It is recognized that ranching offers a number of advantages over cropping. Ranching gives a higher total production from a given production base, is robust, allows easy and strict Government control, gives a conspicuous economic incentive for the protection of wild crocodile stocks and has an educational and tourist value. In terms of CITES Resolution Conf. 3.15, ranching must be beneficial to the wild population.

4.2.2.5 'Farming' of crocodiles (Captive breeding) It is clear that unless a population is seriously depleted, and re-stocking or re-introduction is planned, farming (where there is no input from the wild) does not achieve any management aim with respect to wild crocodile populations. In most situations captive breeding will tie-up a (usually scarce) food resource which could be used for ranching which is a strong management tool that can directly benefit wild stock.

Schemes involving captive breeding will be carefully reviewed with respect to ranching before implementation.

4.2.2.6 Stocking and re-introduction of crocodiles: Member States will, where appropriate, undertake re-introduction or restocking of areas where crocodiles have existed, but have been depleted.

The minimum size of translocated animals will usually be 1.2m total length. The CITES guidelines for transportation and preparation for shipment of live wild animals and plants have been noted and will be applied as appropriate.

4.2.2.7 Processing and marketing of crocodile skins: SADCC countries will institute tagging for all hides including those from registered farms. The sizes of skins taken from the wild will be measured and reported to CITES and historical trade data will be requested from tanneries.

The skills and technology of skinning and primary skin processing require disseminating throughout the SADCC Region. Assistance and advice will be sought on the possibilities of undertaking more of the tanning processes in the countries of origin.

SADCC countries will cooperate in the dissemination of marketing information. They will support the international alligator and crocodile trade study and the concept of the tagging of all crocodile skins in the legal and regulated trade and recommend that this should be monitored by CITES.

4.2.3 Research: SADCC Member States regard research as an important basis for management and utilization of crocodiles. Accordingly this should be strongly oriented towards management and designed to back up commercial use of crocodiles by supplying supporting population data. These may be easiest obtained in conjunction with programmes of crocodile utilization and thus both research and utilization may supplement each other. Research in this sense comprises the following:

- comparison of different survey and census methods with a view to developing standardized methods of known efficiency for specific purposes, such as habitat assessments, nest counts, local population density estimates, etc.
- quantitative analysis of survey results with a view to establishing relative, though well comparable data on local habitat or population parameters for application to other areas.
- long term monitoring of habitat and population data by repeated simple sampling of crocodile distribution areas.
- establishment of breeding parameters of crocodile populations.

Research should also be directed into the conflicts between crocodile management, fishery and livestock husbandry with a view to fully understanding and quantifying these conflicts.

A further important area of research concerns the economics of crocodile utilization and the assessment of the actual and potential contribution of crocodile utilization to the national economies.

Research is costly in terms of man power, time and money and must therefore be carefully reviewed to assess its value to management, care must be taken to avoid duplication and results must quickly be disseminated throughout the SADCC Region and elsewhere. Largely as a result of the difficulty of foreign travel from Africa, but also because of a shortage of funds for library services, SADCC crocodile workers are not in good contact with scientists and crocodile managers elsewhere. In this respect, and others, SADCC notes that the Crocodile Specialist Group of the IUCN/SSC has consistently failed to assist crocodile management in the Region.

4.2.4 Conservation education: The future of the Nile crocodile in a region with a rapidly expanding human population will only be ensured through sustained-yield harvesting where wild populations are given a real value, and conservation education. Those sections of the population which live side by side with crocodiles must be educated as to their value and in ways of reducing conflicts. The general public requires educating through positive, responsible journalism. The press, policy makers and administrators must be assisted with the information required for a positive approach to crocodiles.

4.2.5 National priorities for the development of crocodile management and utilization: In order to promote crocodile management and utilization in the SADCC Region the Council of Ministers has approved a regional project for assistance to Member State in this specific field.

This project comprises the following elements:

- a) Pre-feasibility studies (harvesting potential of wild populations, production options);
- b) Policy and legislation (adaptation of legislative and institutional frameworks to allow efficient and controlled utilization);
- c) Feasibility studies (identification of potential production sites, evaluation and qualification of the factors inherent in utilization, production plans and a working document);
- d) International requirements for trade (the research and drafting of CITES submissions, documentation and tagging);
- e) Census and monitoring (technical advice for the derivation of simple and appropriate schemes, training of local manpower);
- f) Technical aspects of crocodile propagation in captivity (planning,

extension, management training);

g) Marketing.

The project will be executed in two distinct phases:-

- pre-feasibility and feasibility studies,
- implementation assistance.

With this project SADC is attempting to meet some of the priority requirements for the development of crocodile management and utilization of its Member States. Delegates identified the following priority requirements:

Botswana: assistance with the establishment of population data for the support of already existing crocodile ranching and/or farming activities.

Lesotho: assistance with further surveys on occurrence of crocodiles as a basis for consideration of re-introduction; feasibility study for the establishment and operation of crocodiles farms.

Malawi: Improvement of monitoring methods and management practices; feasibility study for small scale ranching operations.

Mozambique: assistance with crocodile inventory surveys in selected areas and with planning of crocodile management, in the form of a pre-feasibility study for crocodile utilization.

Swaziland: advice on particular protective measures and management possibilities; pre-feasibility study for crocodile utilization.

Tanzania: assistance with crocodile surveys in selected areas as part of a feasibility study for crocodile ranching operations; development of extension services in the field of crocodile management.

Zambia: assistance with crocodile surveys and appropriate habitat zonation. Development of extension services for the promotion of further crocodile ranches.

Zimbabwe: assistance with the monitoring of crocodile utilization and with the promotion of community participation in crocodile utilization.