

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

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Consideration of Proposals for Amendment of Appendices I and II

Proposals Submitted Pursuant to Resolution on Ranching

DEVELOPMENT OF CROCODILE REARING IN IRIAN JAYA

This document has been prepared by the delegation of Indonesia.

Introduction

Existing crocodile rearing activities in Irian Jaya consist of projects to raise young crocodiles which have been captured in the wild by local people. They are kept in pools and regularly provided with food. Crocodile species captured are the saltwater crocodile (Crocodylus porosus) and the freshwater crocodile (Crocodylus novaeguineae) both of which can live in fresh or brackish water. The period required to raise the young to harvestable size (+ 15 inch belly) is two to three years. There are now 12 crocodile rearing businesses which have permits and three others which do not yet have permits, scattered throughout Irian Jaya in towns and villages including Jaya-pura, Membramo, Merauke, Nabire, Pintuni and Sorong. Most of these enterprises began operation since 1978 as a response to the crocodiles hunting ban. They are in varying conditions of development. There are probably several more crocodile rearing businesses run by local people which have not yet been inventorized.

The main problems with crocodile rearing at this stage are the long distances from the source of the crocodiles to the site of rearing/marketing, limited knowledge of the administrative side of crocodile rearing, the unclear future of the crocodile rearing business, and the fact that there is still illegal hunting of crocodiles which reduces the desire for long term investment.

Because of this the development of crocodile rearing will require more assured prospects for the future of the business which entails totally stopping illegal hunting, raising the prices of crocodile products, and simplifying licensing procedures so that the goal of raising the income of the local people can be achieved.

General Condition of Crocodile Rearing Businesses

Based on the condition of facilities and the licenses held, crocodile rearing businesses can be divided into five groups as follows:

- a) Large private businesses

- b) Medium-sized private businesses
- c) Local people's businesses
- d) Business which needs to be reassessed
- e) Planned businesses

These are listed in the table on Annex 2.

- From this table it can be seen that the business can be carried out well by the local people. The technology for rearing crocodiles is fairly simple with the largest expenditures required for providing food, storing the skins in salt, and transport. A problem is that people still do not know how to go about obtaining the proper permits for rearing.
- The non-active operations are mainly the result of there not yet being a secure future in this business. The live crocodiles they are now raising are the remains of the stock captured between 1978 and 1980. There have never been licenses issued for the capture of young crocodiles from the wild for restocking so that the cost of maintaining each crocodile becomes ever higher.
- Marking of crocodile stock has until now never been done systematically. A marking/tagging method is badly needed and will start to be implemented by 1986. Further information on the programme can be seen in Annex 1.

Stock of Skins from Illegally Hunted Crocodiles

Until now there is still illegal hunting of crocodiles. This can be deduced from the stocks of crocodiles skins in Jaya-pura (11,922 inches), Merauke (46,496 inches), Manokwari (2,000 inches) and Sorong (+ 9,596 inches). These stocks have been recorded and the solution of the matter is being carried out in accordance with instruction from the Minister of Forestry.

Confirmation is now being sought of a report of stocks of crocodile skins in several other areas, including Kaimana.

The disposal of these skins presents a dilemma since the local government wants them to be utilized. On the other hand this would create a new incentive for illegal hunting with the hope that sooner or later any skins obtained would be released for sale. It would also decrease the motivation of people to start crocodile rearing business if harvesting directly from the wild is indirectly tolerated by the issuing of dispensations.

Inventory of Crocodile Potential

Until now the potential of crocodiles in Irian Jaya is not fully known and surveys which have so far been undertaken are not sufficiently extensive to define it. Several studies already undertaken in co-operation with foreign agencies are not enough to fully clarify the situation [a) FAO Indonesia study 1980 under John C. Lever and b) WWF WSAID Indonesia Study 1984 under R. Whitaker]. Several other countries have already done intensive inventories in connection with the exploitation aspect (e.g. PNG and Australia). The development of crocodile rearing should be done in conjunction with such inventories, particularly in connection with the collection of young crocodiles. The expertise for such activities should come from consultations with agencies having such experience.

Several Considerations in the Development of Crocodile Rearing

- The local government is desirous that local people directly benefit from the development of crocodile rearing. In addition they want to be directly involved in the programme, for example by means of businesses run by the local government such as P.T. Irian Bhakti or Jodefo...
- In accordance with the central government's desire to give increased value to exports, the development of crocodile rearing needs to be an integrated processing industry. Several operations already are able to process crocodile skins into finished or half-finished goods.

Steps for Development of Crocodile Rearing

Both short term and long term steps are needed to enhance the development of this business.

1. Short term steps

These actions must be immediately taken to overcome the most pressing current problems:

- a) immediately stop illegal hunting by strengthening enforcement of existing laws;
- b) tag crocodiles at all rearing sites;
- c) dispose of all inventoried stocks of crocodile skins;
- d) co-ordinate rearing of crocodiles by local people either by means of co-operatives under the co-ordination of existing businesses;
- e) restock the rearing businesses by giving permission to capture enough young crocodiles to fill the capacities of the operations;
- f) revitalize non-active rearing businesses with an influx of capital;
- g) process the stock of existing skins at a competent tannery;
- h) encourage the plans of existing crocodile rearing businesses.

2. Long term steps

- a) group the crocodile rearing industry into sectors as follows:
 - upper sector beginning with inventorying crocodile potential and organizing local businesses to capture young crocodiles;
 - middle sector made up of crocodile rearing businesses owned by local people and small private operations working as co-operatives;
 - lower sector made up of large private crocodile rearing businesses and the tanning industry;
- b) by stages, guide the crocodile rearing businesses into full breeding;
- c) create a pilot rearing operation run by PHPA along with some other organization having research capacities, e.g. the University Cendrawasi at Jaya-pura which would later develop into a centre for studies and breeding.

The objectives of these long terms steps are:

- to determine the optimal potential exploitation of crocodiles while at the same time guaranteeing the conservation of the crocodile population in its natural habitat;
- to develop a rearing industry the benefits of which reach the people of the area and the public in general;
- to increase the added value from the crocodile exploitation industry.

It is envisioned that these steps will need a period of from five to ten years.

ADDITIONAL INFORMATION ON ESTUARINE CROCODILES
RANCHING PROGRAMMES IN INDONESIA

1. Monitoring short survey (3 months in 4 habitats) in Irian Jaya conducted by a joint-team of IVGH: WWF-WALHI (NGO) and PHPA (Management Authority) in the end of 1984 estimated the existence of 5-10,000 estuarine crocodile population in the surveyed areas. It also reported that there are sufficient trash fish resources (the by-catch of shrimp trawlers) to feed 20,000 crocodiles or more in the towns of Sorong, Jaya-pura and Merauke.

2. Existing farms

There are 12 crocodile rearing enterprises which are licensed in Irian Jaya and several more crocodile rearing businesses run by local people which have not yet been inventoried or reviewed. The capacity of the existing enclosures are for 10,000 animals (1,500 of them are estuarine). This stock is the only remains of the licensed capture between 1978 and 1980. Since 1980 there were no licenses issued for the capture of young crocodiles from the wild until 1984. During 1983 and 1984, 572 heads of reared products were skinned for commercial use and 63 others were released to the wild as an obligation of the farmer. Another 2,500 heads are expected to reach commercial size in 1985. The mortality rate during the rearing process was reported very low (below 5%).

3. Development

A pilot project of crocodile farming facilitating 2,000 crocodiles has already obtained financial approval and will be under construction in the financial year of 1985-86 in Jaya-pura. The project will be conducted by Management Authority's regional office with full co-operation of the local government. Two private integrated farms and skin industry are under construction in Sorong and Merauke. Both will be able to rear another 20,000 crocodiles and their full operation are expected to begin in 1986.

4. Restocking

In order to revive the existing forms and to supply new once a restocking programme will be executed in 1985. It will include the issuance of capture permits for 10,000 young crocodiles (max. size 7 inches) throughout Irian Jaya (including 2,000 estuarines). During the next two subsequent years subsequent permits for capturing annually 20,000 baby animals will be issued to supply new farms which are ready to operate in the meantime.

The overall rearing capacity by the end of 1988 will be developed to 30,000 animals. The expected output will be 8,000 - 10,000 animals per year of which 800 - 1000 animals per year will be released to the wild.

5. Control

Bottom-up control is implemented in every stage of the utilization of the animals. The permits are required for ranching, capture, slaughter and transport. Licencing of farms is subject to applicants satisfying the Management Authority that they possess suitable facilities and relevant

experience (pen design, food sources, husbandry, etc.). Permit for capture, keeping and transporting crocodiles are only issued to parties which are conducting approved farming practices.

Permit holders are required to submit periodic reports on stock status and the Management Authority conducts unscheduled inspection and audits of records and stock held. Starting 1986 all farmed crocodiles and their products will be individually marked/tagged. Spot checks of stock will be made to ensure that all animals are marked, and that previously marked animals are present.

Since products other than skin are not yet considered to be exported (for local market only) the marking of skin products only for export is considered to be appropriate.

6. Additional remarks

There are 4 other crocodile farms outside Irian Jaya which facilitate approximately 3,000 estuarines.

Two farms are located in Medan-North Sumatra, one in South Sumatra and one in Jakarta (Java). Two farms (one in Medan and one in Jakarta) are reported to have success in breeding the animals.

7. Conservation areas

In Irian Jaya approximately 1,500,000 ha. of conservation area cover the habitats of crocodiles and another 500,000 ha. are proposed to be conservation areas for general purposes. In such areas no capture is permitted.

Condition of Crocodile Rearing Businesses in Irian Jaya, 1984

No.	Type and Name of Business	Location	No. Live crocodiles stock	Cap. of facilities	Year begun	Year Lic.	Remarks
1	2	3	4	5	6	7	8
1. <u>Large Private Bus.</u>							
1.1	C.V. Skyline Ray	Jaya-pura	3,400	4,000	1978	1981	Good condition; 1000 of harvestable size; want to expand if conditions improve and want permission to capture young crocs for re-stocking.
2. <u>Med. size private businesses</u>							
2.1	C.V. Sinar Asahan	Jaya-pura (Sentani)	260	500	1978	1981	Good condition; wants to expand when conditions permit
2.2	C.V. Bintang	Dabra (Membramo)	43 (after harvest)	500	1978	1981	Good condition; wants permission to capture young for re-stocking
2.3	C.V. Nikmat	Merauke	187	500	1978	being proc.	Good condition; facilities can be expanded up to 3000 crocs.
3. <u>Local people's business</u>							
	Penangkaran Rakyat Sikari	Sikari Membramo	400	1,000	1978	not yet	Good condition; facilities could be expanded; desire permission to harvest about 200 which have reached harvestable size.

No.	Type and Name of Business	Location	No. Live crocodiles stock	Cap. of facilities begun	Year	Year Lic.	Remarks
1	2	3	4	5	6	7	8
<u>4. Bus. which need to be reassessed</u>							
4.1	C.V. Kimam Raya	Merauke	--	--	1987	1980	Facilities no longer used and no activity since 1983. If possible should be reactivated with a change of management.
4.2	P.T. Hana Nusantara	Merauke	--	--	--	1981	No longer any facilities
4.3	P.T. Buma Kumawa	Sarni	60	500	1978	1981	Crocodiles and ponds abandoned, never cared for, management was turned over to a person who knows nothing about crocodiles
4.4	Fa. Giat Maju	Borate Nabire	19	600	1982	1984	Permission to capture young not yet acted upon, nor was a proposal of development. Probably lacks capital
4.5	C.V. Doom	Sorong	--	--	1978	1981	No longer any facilities
4.6	C.V. Sinar Moy	Sorong	7	10	1978	1981	Development plans never carried out
5.7	C.V. Manturi	Bintuni	<u>+ 400</u>	<u>+ 1000</u>	1978	1982	Never revisited since 1982. Intensity of management declined since 1983
4.8	C.J. Jaya Abadi	Okaba Merauke	<u>+ 400</u>	<u>+ 600</u>	1978	1982	Never revisited since 1982. Are plans to expand near Merauke with a capacity of 10,000 crocs
4.9	C.V. Jaya Agung	Kaimana Merauke	<u>+ 600</u>	<u>+ 600</u>	1978	1981	Never visited since 1981. Expansion awaits improved prospects.
<u>5. Planned business</u>							
5.1	Modan Baru	Sorong	--	--	--	being prepared	Preparation of a 3.5 ha site and construction of facilities underway. Planned capacity of 10,000 crocs.