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

Sixteenth meeting of the Conference of the Parties
Bangkok (Thailand), 3-14 March 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

To transfer the population of *Crocodylus acutus* of the Bay of Cispata, municipality of San Antero Department of Córdoba, Republic of Colombia from Appendix I to II, in accordance with the criteria for amendment of appendices resolution Conf.9.24 (Rev.CoP15) and its annexes:

With regard to annex 1, and interpreting the Rev. Cop15, only the populations of Appendix I, that have data or information that demonstrate that they do not meet the criteria of Annex 1, may be amended to Appendix II. In this sense, the Cispata Bay crocodile´s population has been the subject of a conservation project, with community participation and technical information of nearly ten (10) years of uninterrupted monitoring, that they point out stability and recovery of the population.

(Annex 2a of criteria for the inclusion of species in Appendix II pursuant to paragraph 2 (a)) of article II of the Convention. It meets criterion B, and in the event of use it must be backed by a plan of specific management (PME), ensuring the perpetuity of the population.

Annex 3 of special cases, where according to the paragraph e) (Rev.) (Cop15), populations of a species can be included in different appendices at the same time, and in this case the request is for the crocodile's population of the Bay of Cispata, whose coordinates are defined in the document.

Annex 4 of the precautionary measures. Since the meaning of the crocodile´s project of Cispata Bay is the conservation of the specie, the possible of sustainable use by local communities and integration with national policies to combat misery and poverty, the State of Colombia will help communities and drive all actions require, so that the provisions of the Convention are applied correctly. In this respect, solely responsible for is the Colombian State. For this, the precautionary measures that apply are relate to the number A2 b) i) and ii), of this annex (4). Annex 6 of the model guide for the preparation of the proposal. Which it is followed in the present document.

Although the project is for conservation and is led by the Colombian government, and supported by a community group of ex-crocodile hunters (ASOCAIMAN), if there is a surplus of animals into the immediate future it could use for commercial issues, with international projections. Later, when the amendment of appendixes is achieved, a Ranching of eggs and a community farm breeding will be consolidated, and the management and request that corresponds will be done to the CITES secretariat (Cop.17).

For Colombia it is a need to pass this population of *Crocodylus acutus* to Appendix II, with the aim of consolidating a model of conservation of the specie, which is methodologically applicable to other natural populations and above which may issue precepts of nature, social, economic, scientific, environmental and with inclusion and participation of communities. All of these, to ensure and/or promote recovery, stability and conservation of natural populations as a preliminary requirement to enter into sustainable commercial use.

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1 *This document has been provided in these languages by the author(s).*

B. Proponent

Republic of Colombia[2].

C. Supporting statement

You can measure the justification from different perspectives, involving political, legal, social, cultural, economic, and biological aspects. With nearly 50 years of closure in the country, and according to some recent and timely research, certain wild populations have shown signs of recovery. However, the destruction of the natural habitat for some areas limited the possibilities for the conservation of certain stocks at the national territory.

Taking in account some Colombia constitutional precepts relating to sustainable development, which will take the country and bearing in mind that, the Bay of Cispata is one of the most suitable and viable natural scenarios to develop projects for the conservation of biodiversity, through the implementation of sustainable use, la conservation of the Crocrodiles (*Crocodylus acutus*) and their natural habitat, would be consistent with a community ecosystem management context which for now is unique for the country.

The strategy raised and addressed, was the launch a pilot project of conservation in the Bay of Cispata, in order to determine a proven methodological model that would be easy to implement for other wild populations of the national territory, as well as to determine the guidelines for a national program. These two goals have been fulfilled because you already have a national program that is currently in disclosure and socialization processes and the project has enclosure information of more than 10 years of research with standardized monitoring programs and *ex situ* and *in situ* actions management, with 505 nests collected in the past nine (9) years and nearly 8,000 animals to the release program, noting that, more than 3,000 individuals have already been released, so there could be a surplus of about 2,000 to 3,000 animals and a potential annual production from 1500 to 3000 animals or skins.

The involvement of community groups, is a fact that it deserves special consideration, longer to ensure that fishermen and farmers in the region who live with completely unsatisfied basic needs, desire to completely change the perception towards one specie and that somehow think that the legality, but above all the conservation through sustainable use of species is the salvation of the population of crocodiles and part of the economic stability for them.

The desired permission to enable them to leverage fully the species in the future, is one of the expectations of the community since in almost nine years of training and working together, they are defined as defenders of the crocodiles and the example to follow for other communities that also have expectations to mimic the same in their regions. Even for seven years the members of ASOCAIMAN, in an educational and informative work attends to tourists and students of all levels and from other regions including international visitors. They speak technically, about the crocodile breeding and what are the project´s goals.

1. Taxonomy

1.1	Class:	Reptilia
1.2	Order:	Crocodylia
1.3	Family:	*Crocodylidae*
	Subfamily:	*Crocodylinae*
1.4	Species:	*Crocodylus acutus*, Cuvier, 1807
1.5	Scientific synonyms:	*Crocodylus americanus*
1.6	Common names:	English: American crocodile, Central American alligator, South American alligator

[2] *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

French: Crocodileaméricain, Crocodile à museau pointu
Spanish: Caimán, caimán del Magdalena, caimán porro, caimán caretabla, caimán aguja, caimán de la costa, lagarto, lagarto de la costa, lagarto amarillo, cocodrilo americano, cocodrilo prieto, cocodrilo de río, lagarto real.

1.7 Code numbers: A-306.002.001.001

2. Overview

This proposal aims to show that within an environmental management and a management ecosystem of mangroves, the population of *Crocodylus acutus* in the Bay of Cispata recovered and can be managed sustainably by the Colombian State and communities groups conformed by fishermen, farmers and former poachers of the species, looking for ecological, social and economic benefits within the national policies to combat the misery and poverty in these communities.

3. Species characteristics

3.1 Distribution

Generalities: The Cayman needle or American crocodile (*Crocodylus acutus*) is the second most widely distributed crocodylidae in the new world. It occurs naturally from the Tumbes province in Peru until the southern tip of Florida in the United States, passing through Ecuador, Colombia and Venezuela, in South America; Panama, Costa Rica, Nicaragua, El Salvador, Honduras, Belize, Guatemala and Mexico, in Central America. Also is located in some of the islands of Caribbean, such as Jamaica, Haiti, Cuba and Dominican Republic. In this last island as exceptional case, it is found in hypersaline waters of the Lake Enriquillo. (**Alvarez del Toro 1974; Medem, 1981; Ulloa-Delgado G.A.1998; Rodríguez-Melo 2000 ed.;Thorbjarnarson *et al*., 1991; Ulloa-Delgado & Sierra-Díaz 2002**).

In Colombia: The species was recorded in large quantities, along the Valley of the Magdalena, at the Sinú, San Jorge and Cauca rivers, and some of its tributaries and wetlands complex of the Caribbean coast, especially in mangroves at the deltas of large rivers. Its distribution is discontinuous in the Pacific coast but it also commits to the mangrove swamps and rivers deltas. In the census conducted between 1994 and 1997, there were 5 small populations as the most important and 70 Sites were also identified with isolated individuals or small and fractional groups. All these records occurred in the 235.006 k^2 of the range estimated in these studies for the three hydrographic areas where the species in Colombia is distributed **(Medem 1981; Rodríguez-Melo (ed.). 2000; Ulloa-Delgado & Sierra-Díaz 2002).**

Bay of Cispata: the population of Crocodiles (*Crocodylus acutus*) object of the present amendment of appendices is located at this Bay and has been the subject of conservation activities with the participation of a community group of former poachers of species and has counted with the support of national and local environmental authorities. Community and Government believe, that it is possible to make sustainable us of the species, under the structure and scientific guidelines of a management plan, which have been carried out several activities during the last twelve years (2000-2012), and refer to the following reports and documents; **Ulloa-Delgado G. A. 1998; Sánchez-Páez et al., 2000; Gil-Torres & Ulloa-Delgado 2001; Ulloa-Delgado & Sierra-Díaz 2002; Ulloa-Delgado & Sierra-Díaz 2004; Ulloa-Delgado et al.,2004; Ulloa-Delgado &Cavanzo-Ulloa 2004; Ulloa-Delgado & Sierra Díaz 2005; Sánchez-Páez *et al*., 2005; Ulloa-Delgado & Sierra-Díaz 2006-11.**

3.2 Habitat

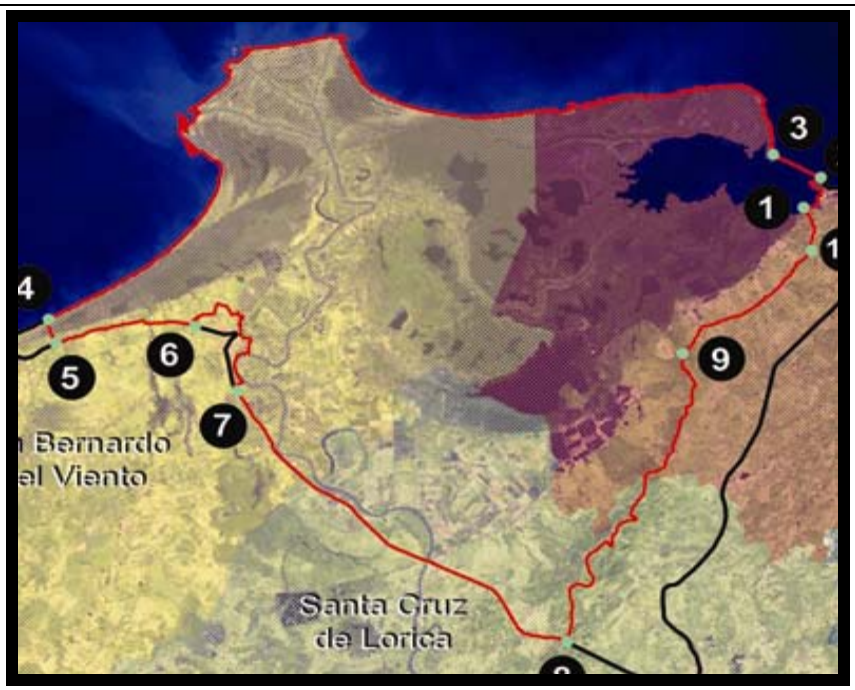
The Bay of Cispata, is the mangrove area more extensive and representative of the State of Cordoba and considered one of the most important natural areas in the national context; by both high diversity and its ecological importance, and the processes of management of which has been the subject and in which have participated different national and international institutions and communities. It is one of the best-studied mangroves areas at the country.The extension of mangroves is approximately 11.513 ha, of which 1.436 has (12.5%) were identified as swamps or water bodies which serve as crocodile´s habitat.

Since 2005, previous scientific studies of characterization and diagnosis of mangrove forests, It began the implementation of a integral management plan that takes in account community participation of mangrove cutters, fishermen and crocodiles hunters. The commercial and artisanal use of woods of mangroves, along with fishing and the extraction of crustaceans and mollusks, is the basis for the livelihood of more than 600 families. In 2006, the area of mangrove forests along with the surrounding areas, were declared by the environmental authority (CVS), as a protected area in the category of IMD (integrated management district of natural resources), which gives a greater degree of protection to the natural habitat of crocodiles, because this category is regulated by the Colombian law. (**Gil-Torres & Ulloa-Delgado 2001; Sánchez-Páez *et a*l., 2004; Sánchez-Páez *et al*., 2005; Ulloa Delgado *et al*., 2005; Ulloa-Delgado & Sierra-Díaz 2005 y Ulloa-Delgado & Sierra-Díaz 2006).**

In the Table 1 it is recorded points limits of the DMI, which in this case would correspond to the limits and the area of distribution of the population of crocodiles (*Crocodylus acutus*).

Tabla 1. Puntos geográficos de los límites del DMI

No. Point	Descriptión	Coordenadas	
		Norte	Oriente
1	Estación Amaya (San Antero)	414.178	1.038.570
2	Punta Rebujina (San Antero)	414.758	1.039.601
3	Punta Terraplén (San Antero)	413.179	1.040.392
4	Caño el Bajo (San Bernardo del Viento)	389.359	1.034.688
5	Carretera principal (San Bernardo del Viento)	389.586	1.033.850
6	Limite área de expansión cabecera municipal de San Bernardo del Viento	394.194	1.034.426
7	Limite área de expansión cabecera municipal de San Bernardo del Viento	395.565	1.032.200
8	Intersección de la divisoria de agua de la cuchilla de Cispatá y la carretera principal (Santa Cruz de Lorica)	406.403	1.023.513
9	Intersección de la divisoria de agua de la cuchilla de Cispatá y la línea del buffer del área de manglar (San Antero)	410.221	1.033.503
10	Intersección del buffer del área de manglar con el carreteable que conduce a caño Lobo (San Antero)	414.451	1.037.069



Delimitation of the DMI and points limit. Bay Cispata and surrounding areas

3.3 Biological characteristics

The crocodilians are aquatic and within the Crocodylidae, *C. acutus* is specie relatively large, with males reaching total lengths of 6 meters and females slightly smaller (4 meters), although those that grow in brackish or salt water island environments tend to be smaller. The food is varied, and par excellence the crocodilians are considered as one of the major predators in their habitat, because small sizes crocodiles eat insects, small fish, mollusks and crustaceans, and as they grow up, the crocodilians tend to consume larger vertebrates, and can have amphibian or terrains habits. Turtles, iguanas, birds, and mammals supplement the diet of adults, but for the Bay of Cispata, the molluscs (*Melogena melogena*) and crabs (*Callinectes spp*) are species craved by crocodiles (**Schmidt, 1924; Medem 1981; Ulloa-Delgado & Sierra Díaz, 2002; Ulloa-Delgado &Cavanzo-Ulloa 2004)**

The crocodiles are oviparous and reproduction starts with an "underwater" copulation, terminating after several days of gestation, with a ova-position of 10 to 60 eggs, which is carried out within an excavation made by the female with the hind limbs. Of this activity, the female deposited the eggs, which are covered with surrounding material, being thus prepared the nest **(Ulloa-Delgado & Sierra-Diaz, 2002), (Ulloa-Delgado & Cavanzo-Ulloa 2004).**

3.4 Morphological characteristics

The most revealing feature of the *Crocodylus acutus*, is the shape of a needle of the beak or head of acutus, even in newborn individuals, versus the flattening out of the "babillas" or caimans; in Figure 1 is represented by these differences, in two skulls and two animals.

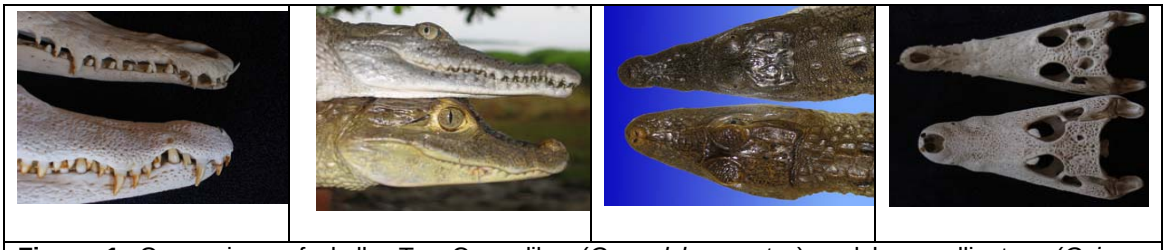


Figure 1. Comparison of skulls. Top Crocodiles (*Crocodylus acutus*) and lower alligators (*Caiman crocodilus fuscus*). Bay of Cispata. Department of Cordoba-colombia.

The ventral osteoderms mark another difference, but it is not discernible to the naked eye, therefore the most conspicuous is that of the more developed mandibular tooth, that in crocodiles are the fifth and notes even with mouth closed, as opposed to the alligators, which is the fourth, but that is not observed when the animal has the mouth closed; This allows to differentiate even in sub-adultos animals. Within the entire crocodylidae group, the skin of *C. acutus* is characterized by having small and irregular dorsal osteoderms, which gives it advantages over the skin of other species of crocodylidae in the leather industry. **(Ross & Mayer, 1983;) (Ulloa-Delgado & Sierra-Diaz, 2002); (Ulloa - Delgado & Cavanzo-Ulloa 2004).**

3.5 Role of the species in its ecosystem

In general the crocodiles are predator of aquatic habits that feed on insects, molluscs, crustaceans, fish, amphibians, reptiles, birds and mammals. To act in the trophic chain as consumer of last order are co helpers of the natural functionality of ecosystems for several reasons, among them we have:

1. Predation on organisms that are: abundant, sick, weak, defective or dead bodies should be considered as a function of protection, control and stabilization that contributes to the health of the ecosystem.

2. They are directly involved in the processes of natural selection of species which serve as a food. Above all, because help to eliminate genetically defective individuals or individuals with diseases contagious that they could cause epidemics intra and interspecific.

3. The crocodylidae droppings contain amino acid that contributes to the crediting of the waters, to the growth and maintenance of the plankton and trophic chains.

4. The mere presence of the crocodylidae limits the activity of other natural predators and protects larvae of other animals that are required for the full functionality of ecosystems.

5. The crocodylides favor fishinng, which represents a service and cost that the fishermen find it free. Fishing depends on the quality of the wetland and the quality of crocodylidae populations, since these reptiles kept fish in good health by eliminating inappropriate fish.

4. Status and trends

4.1 Habitat trends

Colombian has set standards so that the mangroves ecosystem has to be subject to conservation and management by local authorities, according to national policies and guidelines. However, globally, there are two threats that could significantly affect the stability and viability of the mangroves and the population of crocodiles: (1) The rise of the sea level would limit the nest areas for crocodiles and would affect the stability and permanence of the habitat, since the coastal mangroves edges could be easily eroded and (2) An increase in environment temperature and therefore a increase of incubation temperature, could tip the balance in a higher proportion of males, which leads to a process of extinction or local disappearance.

As adaptive to prevent the flooding of the nests, the project has developed the methodology of the habitat management, which consists of adapting areas for laying eggs. On the edge of streams or swamps are built mounds of substrate from 60 to 80 cm tall, to promote the ovipositors on these sites. In case of an increase in the environmental temperature, the artificial incubation *ex situ* and controlled it could be part of the solution. Anyway, these are just ideas that require further analysis and ecological context, since changes may be very complex and affect in an integral manner.

4.2 Population size

There was an increase in relation to the average number of sighting of the last 10 years (2002-2011 107/animals/sampling/year), for 2011 reach up 115%, because it reach 231 crocodiles established and registered. This population increase is directly related to the release program of liberation started from about 7 years ago but in the last three years has had its largest amount, reaching a cumulative figure close of 3,000 individuals and which commits to eggs, infants and youth between 70 to 110 cm total lengths.

From 1999 to 2011, have conducted 10 population monitoring activities and since 2003 they have been standardized, and uninterrupted registered of crocodiles and nest in 3 areas of the Bay of Cispata and with this covering about 80% of the natural habitat. Multi-year monitoring results are recorded in **Figure 2**, noting that, the methodology of sighting has been the same, but by homogeneity in the intensity and the standardized routes they are comparable to the past eight years (2004-2011). Each route was monitored once in the year on a way. **(Ulloa-Delgado & Sierra-Díaz 2004); Ulloa-Delgado & Cavanzo-Ulloa (2004); Ulloa-Delgado & et al., 2005; Ulloa-Delgado & Sierra Díaz 2005; Sánchez-Páez et al., 2004; (Ulloa - Delgado & Sierra Díaz 2006).**

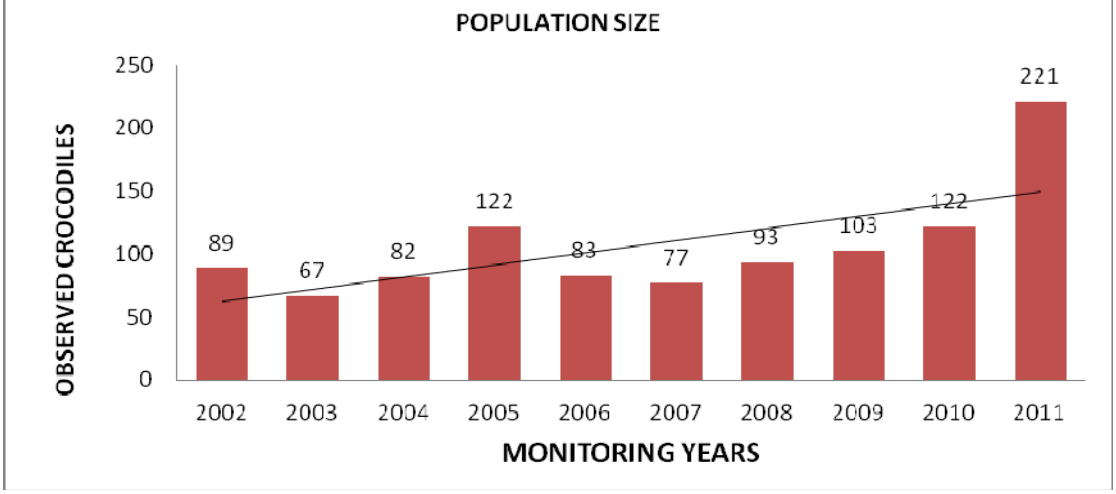


Figure2. Total number of individuals of *Crocodylus acutus* observed in the Bay Cispata, ten years of monitoring. Department of Cordoba - Colombia. 2012.

According to the criterion of several authors and in accordance with them, females nesting is a very low percentage of the established population (5% to 10%), without being able to determine the efficiency for the detection of nests. However, in the case of the Cispata Bay, where management positions or artificial nests and knowledge areas and expertise of former hunters, the efficiency in the detection of nests could be nearly 80% of harvested clutches since about 20% are locally used by members of the community.

4.3 Population structure

In the **Table 2**, it is register the size classes of the population of crocodiles observed in mangroves in the Bay of Cispata on different monitors for ten years of assessment are recorded. Based on the results found by Ulloa-Delgado & Sierra-Díaz (2002), it was determined that this structure and dispersal corresponded to a fractional population and imbalance, characterized by a shortage of relative youth and infants size classes. Since 2007 the population structure shows a better representation of the different kinds of sizes, which reinforces the idea that the population was recovering and that monitoring and research have been key to highlight it.

Table 2. *Synthesis of the results obtained in the evaluation of the populations of* Crocodylus acutus *and their natural habitat, during 10 years of sampling (2002-2011). Cispata Bay, Department of Cordoba. Colombia. 2012.*

Size Class cm	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	X
(20-60)	3	0	0	0	0	0	3	3	5	59	7,3
(61-120)	24	3	12	12	6	7	12	21	13	19	12,9
(121-180)	14	7	10	13	8	4	15	18	18	33	14

Size Class cm	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	X
(181-240)	23	19	34	49	36	27	26	27	41	36	31,8
(>241)	25	38	26	48	33	39	37	34	45	74	39,9
Total	**89**	**67**	**82**	**122**	**83**	**77**	**93**	**103**	**122**	**221**	**105,9**

4.3.1 Population Parameters

In order to maintain points of reference for monitoring, in the Table 3 it is register general characteristics of the water bodies. The perimeter that is the journey of survey and the area, in hectares (ha), that is the total extent of the monitored bodies of waters.

Table 3. General characteristics of the habitat and population parameters of the *Crocodylus acutus* for 10 years of monitoring. 2002-2011 Cispata Bay, Department of Córdoba. Colombia. 2012.

Population Parameters	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	X
Water Body Perimeter (km*)	71	71	112	112	112	112	112	112	112	112	112
Total Area (km^2)	8,6	9,3	14,4	14,4	14,4	14,4	14,4	14,4	14,4	14,4	14
Distribution 1 K/individual	0,798	1,060	1,366	0,918	1,349	1,455	1,204	1,087	0,918	0,523	1,103
Individuals/km2	10,301	7,212	5,710	8,496	5,780	5,362	6,476	7,173	8,496	14,903	7,799
Total Animals	**89**	**67**	**82**	**122**	**83**	**77**	**93**	**103**	**122**	**214**	**112**

The distribution in kilometers inspected to find a crocodile, in terms of effort and efficiency has improved. For the monitoring of 2011, almost every 500 meters was observed an individual, which suggests a growing abundance of more than 100% over the average multi-year (1.1 k/animal). In **Figure 3**, at bodies of water, the annual trends of the previous population parameter as the density expressed in number of crocodiles observed per hectare are represented.

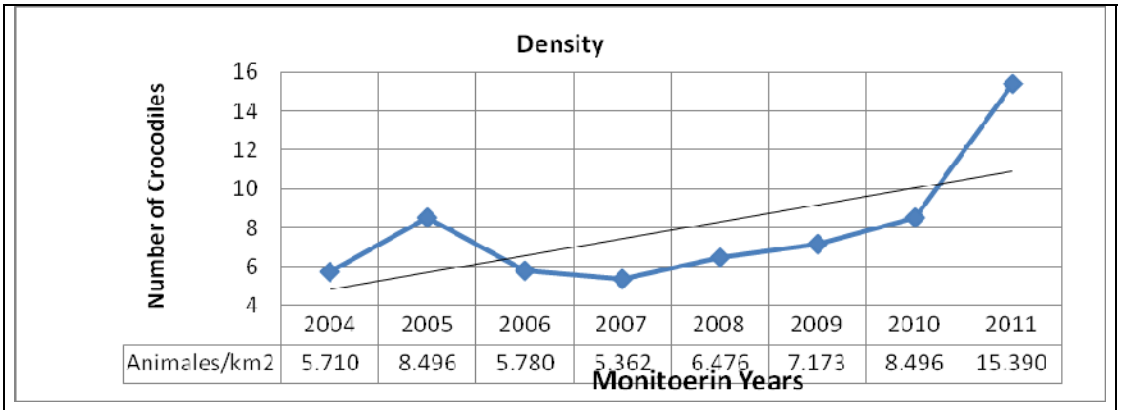


Figure 3. Population parameters of the Crocodiles (*Crocodylus acutus*) observed during 8 years of monitoring in the Bay of Cispata (2004-2011). Department of Córdoba. Colombia. 2012.

For now, the information displayed certain homogeneous population trends, with a population imbalance that is evident at the beginning of the project and an improvement since 2007. That is why the population structure shows in 2011, as well as also the different population parameters of distribution and density. That is expected for the future, that the tendency of the population to deal with a greater number of crocodiles by kilometer or hectare inspected and with a greater amount of animals of size classes 2 and 3, which have fallen to the sizes of the released animals.

4.4 Population trends

4.4.1 Adequacy of nesting areas

Adapt areas for nesting, is emerging as one of the most relevant activities in the assessment of population trends. This management habitat practice is positive by two aspects: (A) in many mangrove areas, the flood level reaches the eggs and therefore die embryos; and (B) practice management of wild populations, these areas of nesting could be more attractive than the natural ones areas, if it is located strategically and under certain conditions of size and also they are all exposure to the direct heating by the Sun.

From the 505 total nest collected in 10 years, 65% were collected on platforms with a multi-year maximum range of 3 to 7 nests by platform. This maximum value is recorded in the reproductive period of 2006. Between 30 and 40 per cent of the platforms are used annually and in the cumulative multi-year were used nearly 70% of these. In **Table 4**, it is present a summary of the effectiveness of platforms or artificial nests, with data updated until this year (2012).

Tabla 4. Multi-year effectiveness of artificial nests or areas of oviposition for crocodiles (*Crocodylus acutus*).Cispata Bay, Department of Córdoba. Colombia. 2012

NESTING PARAMETERS	NESTING YEARS										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Total artificial areas	0	10	70	100	100	100	100	100	100	100	100
Total Nest	0	15	47	35	37	40	37	36	40	34	321
Used Plataform	0	6	29	19	22	25	27	21	26	23	70%
Rank Nest by platform	0	0-4	0-5	0-7	0-5	0-6	0-6	0-4	0-4	0-3	0-7
Natural nest	15	33	20	15	15	18	19	14	18	16	183
TOTAL NEST BY YEAR	15	47	67	50	52	58	56	50	60	50	505

4.4.2 Reproductive Parameters

In **Table 5** It is s register the summary of the reproductive seasons 2003-2012, which potentially can extend up to 70 days and can start from late January and culminate at the end of march, when rains in the region is increasing; following a similar pattern as in other latitudes. More or less these dates can move between 15 to 30 days and these depend on global climatic conditions. Although individually per year, 2004 was the shortest with 35 days season, while the longest have been 2006, 2008 and 2010 with 60 days.

However, in **Figure 4** are recorded annual averages of the number of eggs per nest and trend line, which shows that the number of eggs per nest has significantly increased by 17%, in relation to the value recorded in 2004. This is apparently linked with the stability of the

population and the fact that increasingly ovigerous females are old and big and produce more eggs. On average it has hatched about 73% of the eggs and the complementary 27% has been represented in infertility, early embryonic death and later embryonic death or before birth, when the embryo is fully developed. The nests production in the past 9 years trend of balance, what could be indicating a stability of the population.

Table 5. Synthesis of general reproductive parameters of *Crocodylus acutus*, during 10 years of research (2003-2012). Cispata Bay, Department of Córdoba. Colombia. 2012.

Year	Nest Period	Number of Nest	Total eggs	Egg/nest	Hatchlings	Crocodiles release
2003	24 February - 21 March	15	427	28,47	172	151
2004	10 February - 9 March	47	1.176	25,02	907	405
2005	29 January- 10 March	67	1.715	25,60	1.350	498
2006	3 January- 2 March	50	1.245	24,90	946	541
2007	3 February - 11 March	52	1.261	24,25	908	156
2008	23 January - 12 March	58	1.596	27,52	1.092	142
2009	10 February - 31 March	56	1.559	27,84	1.220	29
2010	5 February - 4 April	50	1.319	26,38	755	161
2011	3 February - 8 March	60	1.839	30,65	783	---
2012	27 January – 7 March	50	1.523	30,46		----
Total	23 January - 4 April	505	13.683	27,10	8.131	2.866

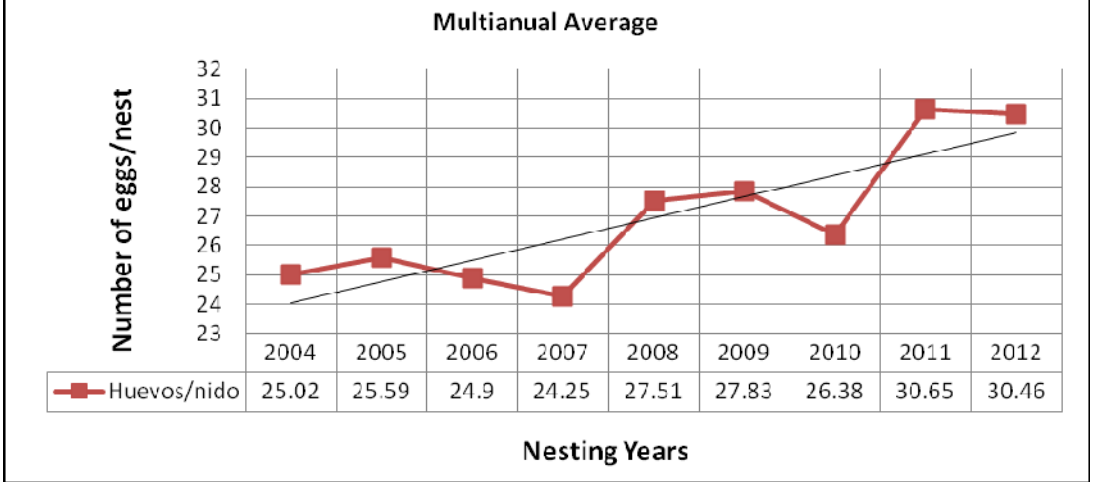


Figura 4. Comparison and trends of the multi-year average size of number of eggs by nest of *Crocodylus acutus* collected nine years (2004-2012). Cispata Bay, Department of Córdoba. Colombia. 2012

4.4.3 Liberate Program

A release program is maintained in those bodies of water where there were previously detected population imbalances or absence of individuals, according to the studies of characterization of wild populations and their natural habitat (**Ulloa-Delgado & Sierra-Diaz, 2002**). This activity aims at structuring of viable populations reproductively. All released individuals have previously been marked for amputation of the caudal peduncle scales and in some of these a microchip has been placed.. So far freed about 3438 individuals, including some clutches that were taking up to the collected sites, a few days before the hatching, because the project has no capability to store animals. In years 2011 and 2012, the eggs were collected to weigh them and measure them, but they returned to the environment. In the Table 6, there is a summary of the total releases.

Table 6. Records of production and release of crocodiles for 8 years 2004-2011. Bay of Cispatá, Department of Córdoba. Colombia. 2012

Breeding season and hatching		**CRODCODILES RELEASE PER YEAR**									
		2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**TOTAL**
2003	**151**		36		60	5	6	15	24		**146**
2004	**907**			30	157	193	11	3	10	1	**405**
2005	**1.350**				1	230	108	131	10	18	**498**
2006	**946**				250	77	86	100	27	1	**541**
2007	**908**					181	5	92	26	33	**337**
2008	**1.092**							53	38	51	**142**
2009	**1.220**							397	10	19	**426**
2010	**745**									161	**161**
2011	**783**									782	**782**
TOTAL	**8102**	**0**	**36**	**30**	**468**	**686**	**216**	**791**	**145**	**1066**	**3438**
			Huevos eclosionados en el medio natural								

4.5 Geographic trends

Since the Cispata Bay is relatively small and that apparently could occur local movements of crocodiles between some of the swamps, It is maintain a annual records of sightings that are specific for each swamp or bodies of water, as well as a description of each of them and management guidelines are kept. Several documents has the extensive information and can be review (**Ulloa-Delgado & Sierra-Díaz, 2002); Ulloa-Delgado & Sierra-Díaz, 2004; Ulloa-Delgado & Cavanzo-Ulloa (2004); Ulloa-Delgado & et al., 2005; Ulloa-Delgado & Sierra Díaz, 2005; Sánchez-Páez *et al*., 2004; (Ulloa - Delgado & Sierra Díaz, 2006).**

5. Threats

The main threat would be of natural origin. The rise of the level sea and global warming are two threats that would have influence on the population of crocodiles and its viability. However the management of habitat that is currently deployed and the artificial incubation would be strategies to deal with this situation.

On the other hand, are not ruled out threats from anthropic origin by hunting and gathering of broods or indirect by poor implementation of the integral management plan, not to avoid degradhative human causes processes. However, the management plan is participatory, allowing to act on this issue swiftly and validate strategies for the management of associated resources, as it is the case of the sustainable use of the *Crocodylus acutus*, since public and private institutions, enforcement authorities and community organizations participate in that process. **(Gil-Torres & Ulloa-Delgado, 2001;) Sanchez-Paez et al., 2004; Sanchez-Paez et al., 2005).**

Other direct threats that may be considered of low magnitude, have been in recent years (2004-2010), isolated cases of poaching and gathering eggs for local consumption, as well as the accidental capture of Crocodiles (*Crocodylus acutus*) in fishing gear. Being perhaps the last one cause, which could cause greater impact over crocodiles wild populations **(Ulloa-Delgado & Sierra-Díaz_2005;) Sánchez-Páez et al., 2004; Ulloa-Delgado & Sierra Diaz 2006-2010).**

6. Utilization and trade

6.1 National utilization

Commercial of *C. acutus* lasted for 37 years, selling about two million skins to international market, and it is from year 1965 when prohibit indefinitely his capture. This restriction is applied to date. Given the scarcity of the specie, there aren´t broad and extended uses and these could be considered timely and as artisanal craft, which commits to farmers, indigenous and afro-descendant populations, mainly. Food is one of the most widespread uses, where muscles and eggs are consumed and the remains are thrown away, including the skin. Mesenteric fat is used as palliative, diseases of the respiratory tract and allergic events such as asthma, which also commits to this system. Teeth and bones for ceremonies or other ritualized practices are used in witchcraft and shamanism.

6.2 Legal trade

Breeding in captivity or captive breeding activities of *C. acutus* in closed cycle, occupies a prominent place in terms of their potential and the efforts carried out to date. Since 1985 Colombian government, gave free rein to the *Crocodylia* order were object of hunting and development. By the year 1994, there were 43 programs in experimental phase; there are currently 8 programs and 6 farms are registered at the Secretariat of CITES and authorized to produce and export skins and, in total have been exported about 647 skins from this activity (Table 7).

Table 7. Colombia Ranch registered by the CITES Secretariat as breeding of *Crocodylus acutus* for commercial purposes**.**

CITES SECRETARY REGISTER NUMBER					
A-CO-501	**A-CO-502**	**A-CO-503**	**A-CO-504**	**A-CO-505**	**A-CO-506**
Krokodeilos S.A.	Tropical Fauna Ltda.	C.I. Caicsa S.A.	Zoocriadero Babilonia	Zoocriadero Zoofarma LTDA	Zoocriadero C.I. Exotica Leather S.A.

Source: Ministry of environment, housing and Territorial Development - ecosystems management – MADS 2008- 2012

6.3 Parts and derivatives in trade

In the international market the skin is grouped as classic ones, but with better quality are the ones for *Crocodylus porosus*, *Alligator mississippiensis* and *Crocodylus rhombifer*. However, the *C. acutus* skins reach good prices and overcome other species of crocodiles. In general the achievement is represented by the international market of skins, which refers to raw or salted products mostly for Colombia. *Also C. acutus*, as all the crocodylidae, is considered among the species sold for medicinal purposes; the parts used for this purpose are scaly bone, bile, gallbladder and teeth (CITES 2002). For now only skins that occur in private farms, have been exported to France, Italy, Japan, Singapore as major destinations, and the records of the Secretariat of CITES that it identifies each of these are A-CO-501 to the 504 (Table 8).

6.4 Illegal trade

There are not wild populations that support an illicit trade. However the exploitations are in general very punctual and of low magnitude, the illegal trade is represented by the exchange or sale of eggs and meat for local consumption of fishermen or for medicinal uses or shamanism; without being able to establish quantities and those responsible, but warning that poor subsistence hunting is legal in Colombia. Until 8 years ago former hunters of crocodiles (*Crocodylus acutus*) at Cispata Bay earned some dividends by the sale of eggs, meat, fat, skin and live animals.

6.5 Actual or potential trade impacts

Given that the crocodile´s population of the Bay of Cispata could be considered small, the skin production and its subsequent export volume would correspond to a nearly negligible fraction within the context of the classic skin trade. Although it must be monitored and further research, it is projected for the future, when the wild populations show signs of recovery and increase, the use by communities would be between 50 to 150 nests per year, which could mean to obtain 1,500 to 4,500 skins, if the reproductive parameters are similar to those obtained to date.

7. Legal instruments

7.1 National

With the entry into force of the law 99 of 1993, it was reorganized the scheme of administration and management of the environment, which is exercised around a comprehensive policy framework, mainly comprising the code of natural resources established in Decree-Law 2811 of 1974: in articles 250 to 252, it is allow the use of wildlife through hunting activities, which are classified in hunt for subsistence, commercial, sports, scientific, control and promotion. This Decree-Law is ruled by Decree No. 1608 of 1978; Title IV, chapter l, articles 142 to 155 of the national code of natural resources, which continues in its essence, though they have added other provisions to its complement, which deserve to be laid down, as well as some predecessor standards.

7.2 International

CITES

A global trade in endangered species of wild fauna and flora is regulated by the Convention on international trade in endangered species of wild fauna and flora - CITES adopted by Colombia by Act 17 of 1981 and which constitutes an instrument of multilateral cooperation for the protection of endangered biodiversity because of trade. Colombia has a legal framework for implementing the CITES Convention. The Decree 1401 of 27 May 1997, appointed the Ministry of environment and sustainable development as the management authority. Several research institutes that serve as support for the decisions and technical interpretation were appointed by Decree 1420 of 29th May 1997.

Convention on Biological Diversity

The article 6 of this convenes calls for member countries to comply with the commitments made and develop the political and administrative framework for its implementation. Becoming, as the most important global commitment to date. Colombia as a signatory country of the International Convention, ratified by law 165 of 1994 and in this sense acquired supra constitutionals commitments that require to boost the actions required compliance with the committed; It is as well as in 1996 the Ministry of environment, housing and Territorial Development (MAVDT) adopts the national biodiversity policy and adopted the guidelines of the national environmental Council and the thematic basis of which focuses on three fundamental axes that are: learn, retain and use, where each of them has guidelines for its implementation, and which by the way will require the participation of all public and private entities, including grass-roots communities (Ulloa-Delgado & *et al.,* 2008).

8. Species management

8.1 Management measures

In addition to the points dealt with in the amendment, the conservation of the population of the crocodiles at Bay of Cispata is governed by a management plan specific, but articulated from the point of view ecosystem with integral management of mangroves plans, that it is implement by the local environmental authority (CVS) **(Sanchez-Páez *& et al*., 2005;) (Ulloa - Delgado et al., 2005).**

Derived from the experience of the project, for the conservation of the population of the Bay of Cispatá, at year 2006 a preliminarily program was drawn up for the conservation of the Magdalena Cayman (*Crocodylus acutus*) which general objective is to achieve the recovery, conservation and sustainable management of wild populations and their natural habitat in the national territory. It Includes 8 subprograms that cover scientific, technical, ecological, social, economic, legal, educational and financial aspects. In the elaboration of these subprograms were taken into account the criteria set out by the IUCN for the order *Crocodylia*, and committed to run census, recovery, monitoring, research with wild populations and to implemented actions that generate, economic and local benefits agreements, traffic control and use strategies (Ulloa-Delgado & et.; 2006).

8.2 Population monitoring

In numeral 4th of this document, on the state and the trends were widely presents the results obtained to date, noting that methodologically, it has to do with the standardization of five (5) programs that from about 8 years ago, are been repeating to conform a comparable database to serve as a monitoring of the population.

8.3 Control measures

8.3.1 International

Applies all regulation CITES including specific rules for handling and trade of the crocodylidae. In the event of unlawful it has the support of INTERPOL.

8.3.2 Domestic

In addition to the regulations governing the use of crocodiles among other components of biodiversity and which it registered at numeral 7th of this document and which deals with the national legal framework; Colombia has a new policy for the Integral management of biodiversity and its ecosystem services (PNGIBSE - 2012), which was recently enacted by the Ministry of the environment and sustainable development and the Research Institute of biological resources Alexander von Humboldt.

The PNGIBSE will ensure the conservation and the fair and equitable sharing of the benefits derived from the conservation of biodiversity in a manner that will allow contributing to the improvement of the quality of life of the Colombian people. Its objective is to promote the management for the conservation of biodiversity and ecosystem services to maintain and improve national, regional and local scales drive systems. The main axis of the policy are the conservation and care of nature, governance and creation of public value, economic development, competitiveness and quality of life, management of knowledge, technology and information, management of risk and provision of ecosystem services and the stewardship and global commitments.

8.3.3 Local

In the specific Management Plan for the crocodile´s population of the Bay of Cispata, also of the national provisions, will be control measures reflected in the requirements or rules of use, which shall be built with the participation of the communities and concluded with these: determining rights, duties, obligations and commitments. All this prior acceptance of the amendment of the appendices that is requested in this document.

8.4 Captive breeding and artificial propagation

The basis of the conservation project has been the ranching of eggs and the incubation and artificial breeding where merged *in situ and ex situ* activities through six (6) standardized programs which were already widely exposed in numeral 4 of the status and trends of the population.

8.5 Habitat conservation

At the local level for the Cispata Bay, the numerals 3.2 which refers to the habitat and at numeral 4.1 that refer to trend of habitat, recorded some aspects related to the conservation of the habitat of this population.

8.6 Safeguards

Taking into account that this request for change of appendices is exclusively for the population of crocodiles from Cispata Bay in the Department of Córdoba in the Caribbean of Colombia, in the event that other natural populations of the species are recovered and count with at least 5 years tracking information, they may also be objects of a request for change of appendices to the CITES Secretariat, but technically supported by the scientific authority of the country that support a methodological scheme similar to the Cispatá, since the idea is that this will become a model for the recovery and management of the specie.

Also, if It will be evaluate all natural populations at the country and it will be implement a national program for the conservation and management of the specie, the asking process to call the chance of appendices will be a future request, could be for the entire national territory and under the scheme conforming to the demands and requirements of the CITES Convention.

For the immediate future and to the extent that local communities are kept organized and training processes continue, it may request the next Cop-17, the adoption of a quota of exploitation through the modality of ranching of eggs and breeding farm. Is therefore requested to the CITES Secretariat that this amendment is approved, be covered by the resolution these points of view under four conditions or recommendations to know:

1. That only, from the commercial use of this crocodile´s population (*Crocodylus acutus*) can be beneficiaries community groups and only if the management process is led by the local environmental authorities and scientific authorities CITES Colombia.

2. For now and the results presented to the given date, commercial management can be determined by la mode of ranching or harvesting of eggs and breeding farms. This, if the state and current trends are maintained.

3. For the management issue, including the commercial trade, The development of the project will be based on a specific management plan for the specie and the place, where the regulations and the prescriptions concerted and discussed with the community will guided the use of the population of crocodiles (*Crocodylus acutus*), noting that these will be complementary and that in no case may be violating or change regulations.

4. It has to be develop a system of criteria of viability of the project that use and incorporates the accumulated information from the monitoring and follow-up of the natural population and its habitat and reproductive events. And that also evaluated the social, economic and ecological benefits.

9. Information on similar species

The only species existing in Colombia related to *Crocodylus acutus* is its congener *C. intermedius*, longer than the others *Crocodylia*n existing in the country belong to the family Alligatoridae, what makes significant differences between the two families. *C. intermedius* or caiman del Orinoco was listed in Appendix I by CITES in 1975 and in 1984 the IUCN declared critically endangered and as one of twelve species of vertebrates more vulnerable worldwide (**Thorbjarnarson** and **Arteaga**, **1995)**.

By 1970, Federico Medem established a group *C. intermedius* at Tropical Biology station “Roberto Franco” at Villavicencio, Colombia, which belongs to the Sciences Faculty of the National University. At this place,

the species has been reproduce for the first time in 1991 and from there began studies on breeding, management and growth of the species in captivity and recently genetic characterization.

In the years 1974 - 1975 too place the first count of the specie and 280 individuals occurred in an area of 252.530 Km2 of the Orinoquia Colombian (**Ramirez-Perilla** 1991); (**Ramirez-Perilla** & **Burbano** 2002, **Rodriguez** 2002). **Rodriguez (2002)** concluded that this species is critically endangered because it has been observed a reduction of more than 80% in the last 10 years and the adult population that has no more than 250 individuals, is severely fragmented according to censuses carried out between 1994 and 1995.

From 2010, several environmental authorities from the Orinoco region of Colombia (Corporinoquia) and some international organizations (Quelonia and Lacoste) and national organizations (Foundation Palmarito) have initiated a project of conservation in the Department of Casanare. In this regard it is worth noting that part of the members of the technical team visited the Cispata Bay project in order to analyze the components of management of this project could be implemented in this region. Also happened with the team of researchers from the National University (Institute Frank Roberto), who in several days of field in the Bay of Cispata, received training in the practice of monitoring of wildlife populations and the processes of incubation and handling *ex situ* youth and infants.

10. Consultations

The application was sent to the countries of the region that also have natural populations with the aim of knowing the views and comments thereon, in accordance with the Conf. 8.21, which deals with the consultation with the States of the area of distribution on proposals for amendment of Appendices I and II.

11. Additional remarks

One of the most important aspects of the crocodile´s conservation project at Bay of Cispata, is the social and educational component to the point of being considered as one of the strategies most important in the country, with some international transcendences. San Antero community is faced with the exhaustion of natural resources that provides the mangrove ecosystem, because of the over exploitation of them. Condition, which has impacted the quality of life of the community and put at risk the welfare of the society and endangered the most conspicuous species in the ecosystem like the crocodiles´s populations.

The project has advanced harmoniously by strengthening, synchronously, the various sectors and actors of society: City Hall, community partnerships, educational institutions and private enterprise; decision makers in the various components that it involves the intervention and through implementation, for a period that today completes 10 years of continuous work, as a guarantor of the preparation of actors in the process of sustainability of the intervention, of the following strategies:

- Creation and strengthening of the Community Association for the conservation of the *Crocodylus acutus* formed by ancient hunters of crocodiles "ASOCAIMAN¨.

- Implementation of the strategies outlined in the public policies of: biodiversity and ecosystems, environmental education, conservation of ecosystems of mangroves, community participation, ecotourism, gender and economy of solidarity.

- Control and monitoring: with participation of the national police, port captain, Prosecutor's Office, Procuraduría Agraria and environment in their levels, local, regional and national.

- Community participation: fifteen (15) community associations involved in the implementation of the Integral management plan of mangroves.

- Communication and dissemination: local, national and regional communicators.

- Implementation plans of research with universities and institutes of research, and in this particular case, the Andes University, through the Faculty of Economics, dynamisms the consolidation of knowledge about assets for community use after installation of economic experiments for the evaluation of natural resources.

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