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# Deontology or consequentialism? Ethical approach on the use and management of wildlife, illustrated by the use of caimans in Latin America

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## PROBLEM

Government decision-makers are frequently faced with the choice of enabling or maintaining conservation programs based on the sustainable use of wild species – usually beneficial to both human populations and the ecosystem - or adhering to the ethical or moral requirements of those who oppose the commercial use of animals. The purpose of this document is to discuss this conflicting situation.

The continuing decline in the populations of wild species, as well as the high commercial interest in them, promoted the establishment of Sustainable Use strategies in the mid-$20^{th}$ century, which resulted in significant population recovery of several species. However, a growing number of Non-Governmental Organizations (NGOs) deepened the combat against the exploitation of animals for human consumption in all forms, beginning in the early $21^{st}$ century and intensifying in the second decade, based on alleged ethical principles, and claiming for compassion towards wild animals. In this context, it is currently very common to observe government officials tending to ban extractive activities, more often out of fear of condemnation in social networks than based on professional conviction. In the case of management of wild species, this approach is characterized by a lack of scientific basis, empathy with indigenous and rural communities, and of concrete alternative ideas to the modes of exploitation that have been developed so far.

## GENERAL FRAMEWORK

Every living being makes use of and changes the environment where it lives. Ecosystems are shaped by the dynamics of ecological connections among species, which drive changes, adaptations, extinctions, and the emergence of new species. Our ancestors did not escape this process, but when we began to organize ourselves as hunters and later structured the foundations of agriculture, we started taking the central position in shaping the environment compared to the remaining species on the planet.

Beyond our original needs for food and shelter, other activities have been culturally added in our society related to territoriality, the domination of others, and the demonstration and use of power. While most species have the same need to build dominance within and between species, our increasing population and technological developments are producing a growing stress in this relationship that is putting our own society and other species at risk.

## CONSEQUENTIALIST OR DEONTOLOGICAL ETHICS? WHO WE ARE AND WHAT WE DO

In terms of ethics, consequentialism, often known as teleological ethics, refers to all normative ethics theories that assume that the rightness or wrongness of our actions is determined more by the outcome than by the grounds. According to consequentialist theories, an action is correct if it produces as much good as possible, or a greater amount of good than evil. As

a result, from a consequentialist perspective, the correct action is the one that maximizes values (Cejudo et al. 2010).

Deontology is the branch of ethics concerned with duties. It is also an element of moral philosophy, which studies moral obligations. Deontologists view a correct circumstance to be one in which more people are true to their principles. Therefore, situations may happen in which it is judged to be correct to do an action that will eventually lead to more people acting incorrectly, because the former action must be taken due to it being essentially good action and true to the principles of the actor (Tanner et al. 2008).

In simple and compelling terms, the ethics of consequentialism can be related to the understanding of what we are, and how we act, because of all our past actions as a species, and that we would not be as we are without these actions, or we would not be at all. On the contrary, deontological ethics affirms in a simple way that what we know to be wrong today has always been wrong. As a result, the common good cannot be attained if actions that we consider "wrong" are involved.

## WILDLIFE USE, CONSERVATION AND CROCODILES

Harvesting furs, meat, timber and other natural products, as well as mining, were our primary extractive activities as a species. This extractive model has worked relatively well until our numbers on the planet started to grow exponentially. Hundreds of commonly used species were in decline by the mid-twentieth century. This led to a period of prohibition, control, and regulation of wildlife use that produced positive results in a few cases and places but failed terribly in the majority.

The 1960s and 1970s prohibitions demonstrated that the decline of populations in some countries could only be halted or mitigated with the ability and decision to control and manage their species sustainably. In 1980, the World Conservation Strategy proposed by IUCN, UNEP and WWF recognized and supported the need to use resources in a sustainable manner to ensure that future generations can do so (IUCN 1980), a perspective that up to then has not existed in conventional prohibition and punishment strategies. In the case of crocodilians, the adoption of this approach in some countries, and the efforts of the Crocodile Specialist Group, started to lead to a gradual and sustained recovery of most species, particularly those of commercial value.

The prohibitions in the 60s and the 70s only worked effectively in developed countries with high enforcement capacity of regulations. In USA for example, even before the introduction of sustainable use initiatives, the Mississippi alligator began its recovery. Also due to strict government control measures, the saltwater crocodile in Australia began a process of recolonization and population increase, long before its commercial utilization. In other countries of its distribution range, however, this species has continued to decline and eventually became extinct in some places.

In the past, commercial exploitation of various crocodile species in developing countries has been restricted (banned or strictly controlled), but this has not prevented population declines. Crocodile leather was still being trafficked illegally, and the conservation status of most species was deteriorating (except for those mentioned above).

The establishment of the International Convention on the Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1975, as well as the IUCN's acknowledgment of the need of sustainable development as a conservation strategy, were crucial to change this scenario and to guide political decisions in many countries, particularly those with limited funds for law enforcement of restrictive regulations and application of surveillance. With the enactment of CITES, countries began to implement conservation strategies for commercial use and to obtain recovery of populations like those achieved through original prohibitions in USA and Australia.

Ranching programs for *Crocodylus porosus* and *C. novaguinae* (Papua New Guinea), *Crocodylus niloticus* (Zimbabwe), and *Caiman crocodilus* (Venezuela) revealed that commercial exploitation had little impact on the species populations and that their numbers in the wild have gradually increased due to the incentives to local people. Scientific data also show that some exploited crocodile populations are in better condition and have greater genetic variation than unexploited populations (Velasco et al. 2003). The strategies used for crocodile management differ from country to country, even for the same species. Adult alligators are currently hunted in the wild in the United States, while various species of caimans are harvested in Nicaragua, Bolivia, and Brazil with different methodologies.

CITES Resolution 3.15 established ranching as a viable conservation management option, which was then subject to various changes and updates until the current Resolution 11.16 came into effect. This strategy has already proven to be successful in the United States, Australia, New Guinea, and a few African countries. The ranching of *Caiman yacare* in the Brazilian Pantanal and *Caiman crocodilus* in Venezuela have begun as incipient cases in Latin America, but it did not fulfill the commercial interest or conservation benefits expected. On the other hand, the "Yacaré Project", a ranching program of *Caiman*

*latirostris* that started in the Argentine province of Santa Fe and was later expanded to the provinces of Chaco, Corrientes and Formosa, showed the opposite effect, obtaining a remarkable success (Amavet et al. 2017; Larriera 2011).

## MANAGEMENT OF *Caiman latirostris* IN SOUTH AMERICA

The *yacaré overo* (broad-snouted caiman, *Caiman latirostris*) is one of two species of Argentine caimans and occupy a large range in South America, encompassing Bolivia, Brazil, Paraguay, and Uruguay. According to historical data, this species suffered from equivalent unrestrained exploitation in the five range countries during the first half of the twentieth century. In the 1960s, regulations were developed in Argentina prohibiting the hunting of these animals, but in practice these have not been followed (Verdade et al. 2010). As a result, the species declined to the point where it was in imminent danger of extinction in the country, with some provinces even mistakenly declaring it extinct.

In 1990 the "self-repopulation and monitoring program for *Caiman latirostris* in Argentina for management purposes" was launched and it is now internationally recognized as the "Yacaré Project". The original goal of the program is to recover populations through technical ranching management or harvest of wild eggs, in addition to promote commercial conservation efforts that provide sustainable economic incentives to local human populations in contact with wild populations of the species (Larriera 2011).

In seven years, the Argentine population of *Caiman latirostris* was moved from Appendix I to Appendix II of CITES, and three years later, in 2000, a conservationist exploitation program to produce the species' leather and meat was launched. Population recovery was very important in the early years, but it has increased even more since the commercial program began, as caimans were no longer hunted for illegal profit or out of fear. Locals are currently the promoters of conservation, based on the economic benefits brought about by the harvest of the species' eggs (Larriera op. cit.).

The broad-snouted caiman was reintroduced into much of its territory in Santa Fe, and its population grew and began to recolonize regions where it had supposedly become extinct. Establishing itself as an example of correct technique application and operation for the conservation of this species (Prado et al. 2012), other provinces, such as Corrientes and Formosa, started to adopt the same management protocol, making substantial investments in commercial production and conservation of this species.

Leather products are sold in the country's and abroad most exclusive shops. The meat is now available in the top restaurants of popular tourist destinations. Contrary to expectations, growing commercial supply of caiman products was accompanied by an increasing recovery of the wild population (Prado et al. op. cit.). A couple decades ago, society was concerned about the supposed extinction of caimans. Currently, fear dominates the public debate as the number of broad-nosed caimans and their occurrence near populated areas increase. Press notes and audiovisual recordings show proliferation of crocodiles in spas, waterfronts, and urban areas.

None of the other countries in the species' range experienced this phenomenon of population increase and commercial exploitation observed in Argentina. In Bolivia, Brazil, Paraguay, and Uruguay, the population decline continued and even worsened (Verdade et al. 2010). Nevertheless, the recent grow of influence from anti-wildlife use groups that refer to the Yacaré Project like "the slaughterhouse" or the "meat shop" on the media started to impact public opinions and the actions of decision makers. (e.g., https://www.facebook.com/SinZooArgentina/videos/1287567111346431)

## COMPASSIONATE CONSERVATION, DEONTOLOGY AND EXTINCTION

In the last decade, new trends in animal rights movements have focused on the exploitation of wildlife species, which in some cases do not meet minimum animal welfare requirements, and on the conditions under which many domestic animals are raised. This has spurred the development of a "gray zone" between animal welfare and the so-called animal rights. Animal rights activists have added to the debate valid questions about animal welfare issues in some programs, but the generalization of these arguments and the overlap with less valid animal rights issues go against the experiences of and evidence produced by well-established and respectful wildlife sustainable use programs, such as the Yacaré Project and many others around the globe. Sustainable use conservation programs that have a scientific, legitimate, and controlled basis are now frequently blocked by decision makers, and incentives to local people's conservation and management strategies have been dwindling through government decisions guided by these arguments (Webb 2014).

This new wave of anti-wildlife use is linked with the recent philosophy of "compassionate conservation", which is particularly widespread and appreciated in urban environments of Northern Hemisphere

countries, places with historical low empathy for Indigenous, poor, or rural inhabitants of developing countries. This philosophy has two core rules: “Do no damage" and "The individual matters". This conservation approach is against species and ecosystem conservation through population harvest, but offers no feasible alternatives apart from prohibition, which has been already proved inefficient (Griffin et al. 2020).

There have been long-standing debates about these conflicting conservation views, as well as scientific evidence about the detrimental consequences of using the compassionate conservation strategy. The argument to “stop the sustainable use programs" used by compassionate conservationists is in fact an instigation for people to do nothing towards animals, including conserving them; this argument is usually taken into consideration by decision-makers, who in several cases decide doing nothing as a feasible way to protect the species from human harms.

Looking back to the discussion of deontology and consequentialism as ethical approaches to conservation, it is clear that the textual structure of regulations that govern access to natural resources in local and national governments, as well as in international conventions such as CITES, is strongly consequentialist, while deontology have been in the basis of the decisions taken at the political sphere at the time of giving the permits for the sustainable use programs, under the media scrutiny of some NGO’s.

As humans, we naturally feel compassion and sympathy for animals. However, allowing and promoting deontologist concepts such as “no pain" or "full respect for non-human persons" as inherently right may backfire and cause more harm than good to the conservation of species. In the end, wildlife specimens may not suffer any more in the future through these decisions, because they may completely disappear along with most of their ecosystem due to researchers being prevented from creating sustainable and effective management strategies (some of them which may involve the harvest of some animals of the population to protect the whole species).

The degree of access to natural resources is determined by government officials. For an efficient and well-established sustainable use wildlife management program, officials should not merely evaluate the emotional and media reactions of individuals from urban societies, who oppose those who "use animals" sustainably for survival. Rather, they must consider the scientific evidence to base their decisions about the management program and consider the views and demands of local people who live and depend on the wildlife as a livelihood, as well as the past, present and future benefits of the activity to the ecosystems in general, and the crocodiles in particular.

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