

EL PARADIGMA DEL USO SUSTENTABLE Y EL MODELO DE
CRIADEROS DEL INTA

THE PARADIGM OF SUSTAINABLE USE AND INTA BREEDING RANCHES

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SUMMARY

The vicuña *Vicugna vicugna* is a wild South American camelid with a fiber so highly valued that the species was hunted almost to extinction. International treaties and strict conservation regulations carried out by Chile, Bolivia, Peru, Ecuador and Argentina were successful in causing vicuña populations to recover to a level where it is now possible to develop sustainable use. Andean countries developed management plans according to country-specific social organization, livelihoods, national and local laws pertaining to resource and land tenure. In Argentina, a programme for captive breeding was promoted. Since 1994, 25 vicuna breeding ranches were established in the Provinces of Salta and Jujuy by the National Institute of Agriculture and Cattle Technology (INTA) at their High Altitude Experimental Station (CEA) with the aims of improving the economic situation of local people while contributing towards vicuna conservation. An average of 24 (range 12-36) vicunas are given on loan from the CEA INTA herd to individual producers. Producers have 7-12 years to return the same amount of vicunas they were given in offspring to the CEA INTA station. In 80% of the cases, fencing material for the installation of corrals are financed by the principal local buyer of vicuña fiber. Once vicunas are shorn, producers sell the fiber obtained to the company to retire the debt on fencing materials and to get immediate payment. This research draws on interviews to principal and secondary stakeholders involved in vicuna use, reports and official documents on fibre production. The aim of this paper is to analyse to what extent the breeding ranch model is able to accomplish the aims of local economic development and conservation benefit for wild vicuna populations.

RESUMEN

La vicuña *Vicugna vicugna* es un camélido silvestre con una fibra de elevado valor comercial por lo que ha sido víctima de la caza furtiva hasta casi su extinción. Intensos esfuerzos de conservación llevados a cabo por Argentina, Chile, Bolivia, Perú y Ecuador, y la firma de tratados internacionales han permitido la recuperación de la especie. Tras una primera etapa de protección absoluta comenzó a promoverse el uso sustentable. Los países andinos desarrollaron distintas modalidades de manejo de acuerdo a sus características particulares como organización social, idiosincrasia, sistemas de producción, tenencia de la tierra y de los recursos naturales, y legislación. En Argentina, se ha promovido la utilización de vicuñas en criaderos. Desde 1994 se han establecido 25 criaderos de vicuñas en las provincias de Salta y Jujuy. Este emprendimiento, llevado adelante por el Campo Experimental de Altura del INTA (Instituto de Tecnología Agropecuaria) Abra Pampa, postula como objetivos contribuir a la conservación de las vicuñas y aumentar los ingresos de pequeños productores de la Puna. El INTA cede en calidad de préstamo entre 12 y 36 vicuñas y brinda apoyo logístico para su crianza y esquila. Los productores se comprometen a devolver en crías igual número de animales que los recibidos en un periodo de 7 a 12 años. En el 80% de los casos los materiales para el corral son financiados por una empresa exportadora de fibra. A cambio de este financiamiento los productores se comprometen a vender a dicha empresa por lo menos el 50% del vellón obtenido en cada esquila hasta cancelar la deuda. El objetivo de esta presentación es analizar, a partir de publicaciones oficiales, informes sobre producción de fibra y entrevistas a productores, el valor que tiene la crianza en cautiverio como herramienta para la conservación de las vicuñas y para el desarrollo económico de los pobladores locales.

Keywords: captive breeding, sustainable use, socio-economic impact, vicuna, conservation

INTRODUCTION

The recovery of vicunas from their near extinction is one of the few success stories of wildlife conservation. Vicuna populations increased from approximately 8,000 individuals at the end of the 70s' to 220,000 in 2003.

The history of vicuna conservation comprises two stages: a first one of strict protection, and a second one of sustainable use. Strict protection came into force in 1969, after Bolivia, Chile, Peru and Argentina signed the Vicuna Convention where they committed themselves to create rules and regulations in order to stop vicuña commerce and hunting activities and create protected areas. The conservation efforts were reinforced by international policies. The vicuña was listed as endangered under the U.S. Endangered Species Act in June 1970. All populations of vicuña were also included in the Appendix I of the Convention on International Trade on Endangered Species of Plants and Animals (CITES)² on July 1975 which thereby prohibited all primarily commercial international trade in vicuña products.

Since the recovery of the species, Andean countries with viable vicuna populations began developing management plans with the aim of promoting conservation while creating an alternative source of income for local people. In 1979, Ecuador, Argentina, Chile, Peru and Bolivia signed the Convention for the Conservation and Management of the Vicuña, and Andean communities, who had been paying the cost for vicuña conservation, were named as the main

beneficiaries of vicuña use. The first article of this document states that *"The Signatory Governments agree that conservation of the vicuña provides an economic production alternative for the benefit of the Andean population and commit them to its gradual use under strict State control, applying such technical methods for the management of wildlife as the competent official authorities may determine"*.

Government authorities had realised by then that the armed park-guard model was inadequate for providing extensive protection from poaching in an area of 20,500,000 ha (FWS, 1999) such as the Puna, and that the communities on whose land the vicuña live had to receive benefits if they were to have an interest in vicuña conservation. Considering that vicunas inhabit a resource poor area with very few economic alternatives for local people, the possibility of generating income from the proceeds of the sale of their fibre created great economic expectations among local people and National Governments. As in similar projects, the social development component was now expected to compensate for all the former failings of the pure preservation approach and offer pathways to community development.

The rationale behind vicuna use programmes is that allowing proceeds from the sale of live-shorn vicunas to be used to enhance economic well being of local people, and by encouraging participation, local people would develop a positive attitude towards vicuna conservation. This would result in a decrease in poaching (or a decrease in logistic support to poachers), a replacement of domestic livestock (e.g. sheep and cows) by vicunas, an increase in tolerance for vicunas in community lands, and support of conservation measures.

² CITES is an international agreement between Governments of 164 member nations. Its aim is to ensure that

Andean countries developed different management plans for vicunas: Bolivia, Peru and Chile developed initially management in the wild by territorial communities and incorporated later semi-captive management by whole communities (Peru, in Lichtenstein *et. al* 2002) or groups of families (Chile). In the case of Argentina, the system implemented was captive management by individual producers. This system fits easily with socio-economic conditions of the Argentina Puna, where in contrast with Bolivia or Peru, lands are owned (legally or *de facto*) by individual ranchers, economic production is done by family units (instead of communities), and human populations are very sparse (Direccion de Flora y Fauna Silvestre 1997).

Since 1994, 25 vicuña breeding ranches were established in the Provinces of Salta and Jujuy, by the National Institute of Agriculture and Cattle Technology (INTA) at their High Altitude Experimental Station (CEA) with the stated aims of improving the economic situation of low income local people and contributing towards vicuña conservation (INTA 1999).

The aim of this paper is to analyze the impact of breeding ranches in terms of local economic development and conservation benefit for wild vicuna populations.

METHODS:

The methodology consisted of (1) semi-structured interviews to 67% (N= 10) of breeding owners distributed in Salta and Jujuy provinces; (2) semi-structured interviews to key informants in

government and non-government institutions directly involved with vicuna management, (3) review of official and technical reports and documents at national and international level.

RESULTS AND DISCUSSION

In this system, the CEA INTA gives a small number of adult vicuñas (12-36) on loan to individual producers. Vicuñas come from a semi-captive herd, of approximately 1,500 individuals, run by the INTA that originated from 16 individuals in 1965³. Mean herd composition allocated to a single producer consists on average of 12 castrated males, 2 reproductive males and 10 females. Producers have 7-12 years to return the same amount of adult vicuñas they were given in offspring to the CEA INTA station (INTA 1999). Vicuñas are kept in small (average 10 hectares) fully fenced enclosures that are more solid and costly than the fences used in the area to keep lamas, and that should follow specifications given by the INTA. Some costs to producers to keep vicuñas include: vicuña transportation from the INTA station to their ranches, labour for the installation of corrals, vicuña yearly vaccinations, veterinary care, food supplementation and water provision (when these are naturally scarce) and a salary for a tender of livestock to take care of vicuñas and keep predators away (for producers don't live by the breeding ranch)(McNeill & Lichtenstein, in press).

If producers need financial assistance for buying materials for the fence, they can get a loan from a company that is the main local buyer of vicuña fiber, and the principal fibre exporter. The loan has to be payed back with at least 50% of the fibre production of every shearing and the producer

³ As such, there is concern over the genetic consequences of inbreeding of animals from this population

has the option to sell or keep the rest of the production. However, producers can decide to pay back the loan with 100% of the production and take less time to pay back the debt. The price paid for the fibre is fixed at the time of signing the contract, and originates from a public bidding organised yearly by the INTA. Given the lack of loans available in the area, 80% of producers opted to get the loan.

Vicuñas are sheared at two year intervals. At the time of the shearing, representatives from INTA, the Provincial and National Department of Renewable Natural Resources should be present to supervise the operation (FWS, 1999). The wool at the time of shearing, is weighed, bagged, marked, sealed and recorded and stored in a special warehouse at the INTA Abrapampa, until commercial authorization by the Department of Fauna has been completed. Producers that did not get a loan or that payed back the loan, can choose to make crafts (i.e. ponchos) or to sell the fibre to other companies⁴.

Vicuña fibre from all breeding operations is auctioned yearly by the INTA. The company that finances the fences has been involved in buying vicuña fibre since the first auctions. The price of USD\$ 250 for the rump (vellón) paid until 2001 was raised to USD \$ 316, in 2003 (INTA Informa, enero 2003). In Chile vicuna fibre was sold at USD \$ 523 (Licitación Pública 2002).

The people involved in vicuña management are local inhabitants, but very few of the ranch owners could be described as "low income" or "indigenous people". In most cases, they are influential people in their communities, either public servants, policemen, former military or even

professionals. They frequently employ hired labour to tend the vicuña and their domestic livestock. It would be hard for low-income producers to participate in the corral scheme, since they need to own land and to be affluent enough to afford the risk of becoming involved in a long-term, and uncertain, investment.

Although the INTA considers that production of vicuña fiber under captive conditions benefits the individual ranchers and is growing in popularity (Rebuffi *et al.*, 2003), interviews to 70% of ranch owners revealed contradictory data. Economic returns were far less than anticipated and inadequate to maintain local enthusiasm. Producers estimated that they needed at least 120 vicunas for the enterprise to be profitable (Lichtenstein 2004).

An economic assessment of the viability of the captive management model revealed that the annual costs exceed revenues except in the most favourable scenario where there is no need for additional water supply or food supplement; ignoring the costs of capital, and of labour for tending the vicuña (McNeill & Lichtenstein, in press).

Given that each vicuna renders only 0.200 kg of fibre every two years, producers with 24 vicuñas need from 6 to 12 years to pay back the debt of the fencing material depending the proportion of the fibre they allocate to do so (Lichtenstein 2004). Considering that producers have to give back the same number of vicuñas they were given to the INTA in a period of 7-12 years, the possibility of getting returns diminishes (Puló 1998). Vicuña populations in breeding ranches are showing a very small and even negative growth rate due to low reproduction and high predation

⁴ In practice, producers do not want to risk their reliable client although they believe that they could get more money

by foxes, pumas and feral dogs (Dirección de Flora y Fauna Silvestre 2002). If vicuña populations keep growing so slowly, and the conditions of return are not changed, producers might end working for 7 years just to pay back the fence and then they will have to return the vicuñas to the INTA.

To date 37% of breeding ranches have been closed down either by the INTA or by the same producers who decided to return the vicuñas to the INTA due to lack of water and good pastures, high predation, high vicuña mortality and low fibre production. The ones that remained open seem to be those that 1) had low operating costs (no need to supplement with food or water or wages to tender of livestock); 2) were able to subsidize vicuña use by other economic activities; 3) were getting returns for activities other than selling vicuña fiber to the processing company (e.g. sold ponchos, ecotourism). The goal of getting producer to replace domestic livestock for vicunas has not been achieved.

Conservation of wild vicuna populations:

In terms of attitudes towards vicuna conservation interviews to breeding ranch owners suggest that having a breeding ranch is not enough to change local people's attitude towards wild vicuna populations (Renaudeau d'Arc & Lichtenstein 2003). People with or without vicuña ranches expressed the same discontent with regards wild vicunas. Breeding ranch owners had a utilitarian mentality and seemed indifferent about the conservation of vicunas outside their corrals. This result is not surprising considering that ranchers do not obtain any benefits derived from having

from other companies (G. Lichtenstein, per. obs.). Only two breeders makes crafts and the rest sell raw fibre.

free-ranging vicuñas in their properties (if anything, they share the same "costs" as local producers without a ranch). The lack of sufficient earnings combined with the characteristics of the exploitation system (vicuña breeding by few producers) doesn't seem to generate positive attitudes towards the conservation of vicuña populations in the wild, neither in the "beneficiaries" of the system (local people with breeding ranch), nor to the rest of local people. One might suggest that the lack of incentives for conservation of wild populations might even allow poaching and unregulated trade to continue (Lichtenstein & Renaudeau d'Arc in press). The scope of 15 breeding ranches to promote vicuna conservation in an area of the dimensions of the Puna is probably very limited. Their conservation impact might be enhanced if a portion of the proceeds of the sale of vicuna fibre were re-invested in conservation activities.

CONCLUSION

The main results from this study are: 1) Most of the beneficiaries of the system are not low income producers, 2) Breeding ranches do not seem to be profitable at least in the short or medium term, 3) Breeding ranches provide limited incentives to their owners for the conservation of free-ranging populations and their habitats, 4) The program is doing herding of a wild species, that is not a synonym of sustainable use.

International policy bodies (e.g. TRAFFIC 2002, FWS 2001) and academics (e.g. Vilá 2002), have frequently questioned the conservation benefit of breeding ranches on wild vicuna populations. In 1999 the US Fish and Wildlife Service proposed to reclassify vicuna populations of Argentina, Bolivia, Peru and Chile with the exception of Argentine semi-captive populations

which were specifically excluded “...until such time as their conservation benefit for wild vicuna were demonstrated adequately “ (FWS, 1999).

Vicuna populations are likely to be threatened while a National Plan to manage 98% of the vicuna population that exist outside breeding ranches in not implemented, and while the large majority of local people have forbidden the access to the resource. It could be hypothesized that while a system is not designed in order to create economic incentives for vicuna conservation (as was the original aim of this endeavor), local people’s only mean of access to the resource will continue being poaching, and their attitudes towards vicunas will continue being negative.

The term “sustainable use” is so little specific that it has been used to describe any economic activity based in the exploitation of a renewable resource. However, the use of a species can not be seen as a conservation tool in itself (Millner Gulland & Mace 1998). We could conclude that in order to protect wild populations of vicunas it is not enough to organize a small number of local inhabitants to benefit (if they do) from captive management. It is necessary that a large number of local inhabitants obtain incentives derived of the conservation of wild populations.

ACKNOWLEDGEMENTS:

This work was undertaken as a part of the MAC Project for the European Union INCO-DEV program (ICA4-2000-10229). Yanina Arzamendia, Alejandro Gonzalez, Hugo Llamas and Nadine Renaudeau D’Arc contributed with valuable disussion, logistic support and data.

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