PERC Case Studies

Cheetah Conservation:

How Dogs are Saving Cats in South Africa

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Of course, if, by the employment of dogs … the amount of damage can be reduced, these means will be adopted when their cost is less than the value of the crop which they prevent being lost.

Ronald Coase, *The Problem of Social Cost*

INTRODUCTION

Once a symbol of royalty, the cheetah walked side by side with kings and emperors for thousands of years. The feline was favored as a royal pet and hunting companion because it is easily tamed and a spectacular hunter. Both Charlemagne and Genghis Khan kept cheetahs, and Akbar the Great is said to have captured more than 1,000 during his reign. As recently as the 1930s, Haile Selassie, Emperor of Ethiopia, posed for photographs with his pet cheetahs.

In the last century, however, perception of the cheetah changed. Seemingly overnight, it went from cat-goddess to pest, and its numbers have declined by 90 percent. A population of nearly 100,000 in 1925 dwindled to fewer than 10,000 free-ranging cheetahs today. Once common in Asia, Africa, and the Middle East, they now live almost exclusively in sub-Saharan Africa. The cheetah was added to the IUCN list of endangered animals in 2008.

The cheetahs' demise is attributed to over-hunting, predator control, loss of habitat, and poor survival rate of cubs, all but the last boiling down to conflict with humans. Today, the cheetah's existence hinges on mankind's willingness to, once again, change the way people perceive it.

CHEETAH V. FARMER

Historically, cheetahs roamed large expanses of southern Africa's undeveloped land. In the mid-1900s, however, farmers accelerated the development of bush land—the cheetahs' final stronghold—and the wide-ranging cats found themselves living among livestock. Adaptation to reserves did not go well. According to Cheetah Conservation Fund (CCF), pressure from larger predators in protected areas is too great. Although the cheetah is agile and fast, it is an inept fighter; while good at catching, it is often relieved of its bounty by more aggressive predators such as lions.

Farmland, on the other hand, is virtually free of lions—farmers have removed them to protect their herds—and is well-populated with small wild game, which is a natural food source for the cheetah. This lack of competition for food, along with access to water, created a niche for the cheetah.

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Sharing scarce resources, however, led to conflict between cheetahs and farmers when, in the early 1980s, drought hit southern Africa. During the decade-long drought, most of the cheetahs' natural prey perished, either of environmental causes or at the hands of farmers attempting to reduce grazing and watering competition for their herds. With their natural food sources gone, cheetahs turned to livestock.

A FAMILIAR TALE

The cheetahs' story is similar to that of the wolf in the American West, where, as the bison population was wiped out and replaced with cattle, wolves found themselves with little to eat but cows. According to Hank Fischer, Author of *Wolf Wars* (1995, 17), during the late 1800s, "(h)atred for wolves grew in direct proportion to the expansion of the western livestock industry."

Similarly in Namibia, the cheetah population was cut in half in ten years by the use of lethal predator control methods. According to a 1996 population and habitat viability assessment, there were almost 7,000 cheetahs removed from farmland in Namibia between 1980 and 1991. Roughly 1,000 of those were live animal exports. The rest were poisoned, trapped, or shot (Hu et al 1996, 1).

BREAKDOWN OF LARGEST FREE-RANGING CHEETAH POPULATIONS

Namibia	2,000 – 3,000
Botswana	1,000 –1,500
South Africa	500 – 800
Kenya	1,200
Tanzania	1,000

Source:
www.cheetah.org/ama/orig/status.pdf

Anatolian Shepherds are placed as livestock guarding dogs in South Africa's cheetah range.

CHEETAH CONSERVATION

In response to predictions of cheetah extinctions, cheetah conservation programs emerged to help nurture cheetahs and raise public awareness. A few groups began looking at the way farmers think about predators. Cheetah conservation pioneer Dr. Laurie Marker of CCF surveyed farmers in Namibia and found that nearly 60 percent removed cheetahs as a preventative measure, whether they experienced actual livestock losses or not (Marker 2002,274).

According to Marker, "there is a widespread perception amongst farmers that predators are responsible for significant stock losses and should be removed from property in order to protect their livelihoods." Because tolerance will come only when the cheetah stops being a threat—actual and perceived—conservation organizations began exploring non-lethal methods of predator control.

BRING IN THE DOGS

Reminiscent of Defenders of Wildlife's policy of compensating ranchers for livestock loss to wolves (see Fischer), there is a trend in cheetah conservation that recognizes the futility of demanding that livestock farmers incur the cost of saving the cheetah. Although their long-term goal is to change the way farmers think about predators, people committed to saving cheetahs are willing to foot the bill for now.

In 2005, Cheetah Outreach (CO), in partnership with De Wildt's Wild Cheetah Management Project, launched a trial livestock guarding dog program modeled on the Cheetah Conservation Fund's program in Namibia (Marker et al 2005). The concept is simple: Anatolian Shepherd puppies are placed as livestock guarding dogs (LGDs) in South Africa's cheetah range. The dogs, once bonded with their herds, scare predators away. By protecting livestock, Cheetah Outreach is forcing cheetahs to go

back to their natural prey, which is abundant enough on placement farms to sustain the cheetah population. In exchange, farmers agree to stop lethal predator control.

Cheetah Outreach incurs the financial costs of the dogs for the first year—shifting the onus of cheetah conservation to people who value cheetahs. As is the case with all of their conservation initiatives, CO does not receive any public funding for the guarding dog program.

Livestock farmers in Africa used guard dogs long before CO began supplying them with Anatolian Shepherds, but the dogs were small and not particularly protective of the herds. Anatolians, on the other hand, are bred to protect livestock from predators. They stand between 26 and 31 inches tall, weigh up to 165 pounds, and are well suited for southern Africa's climatic extremes.

In addition to their physical attributes, Anatolians are attentive, protective, and trustworthy. Because they are highly protective and have a low prey drive, Anatolians instinctively bark and posture to scare predators away. Only when intimidation fails do they chase or attack. According to CCF, this makes the Anatolian the perfect tool for guarding livestock. The rest is up to the farmer.

Rearing a successful cheetah dog hinges on it being well-managed and healthy. Thus, Cheetah Outreach specifies that the donation of the dog is contingent on the farmer following management protocols. To ensure good health, CO pays for dog food and veterinary care for one year. After a year, the dog is signed over to the farmer, who then assumes the cost of care.

COSTS

The budget for Cheetah Outreach's livestock guarding dog program for 2012–2013 is US$71,000. This includes the acquisition and husbandry of the Anatolian Shepherds, salaries, and expenses.

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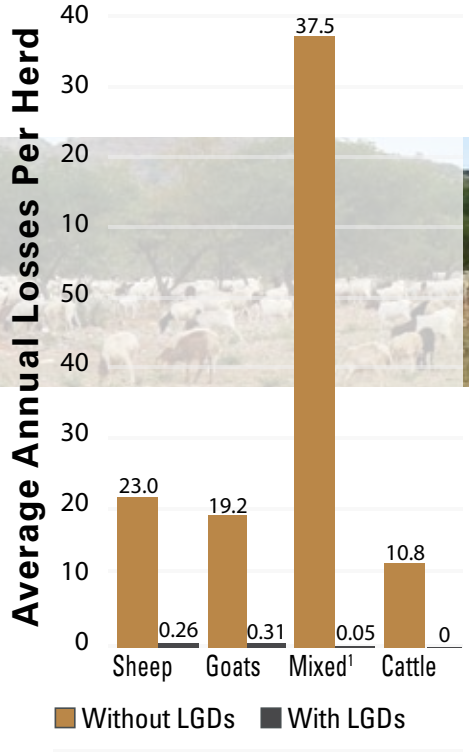

[1] Mixed herds with both sheep and goat.
Source: Cheetah Outreach.

Impact of guard dogs on livestock loss to predation.

Cheetah Outreach acquires Anatolian puppies through breeding or purchase (at a cost of approximately US$350 each). Additional costs for the first year, including food and veterinary expenses, are approximately $1,300.

Once farmers take on the cost of maintaining their dogs, feeding expenses range from $450 to $1,600 per year. To cover the bottom end of this range, a dog must save four lambs, three goat kids, or one calf in a year. The cost of top end feeding is 12 lambs, 10 goat kids, or 3 calves. Annual injections cost farmers another $35.

RESULTS

By 2005, Cheetah Outreach had placed 125 shepherds. Over that period, livestock loss due to predation on participating farms was reduced by 95 to 100 percent (Rust 2011). In the 86 established sheep, goat, and cattle herds in cheetah range, total annual losses to predation went from 1,815 without guard dogs to 14 after dog placement.[1] According to a recent study, the annual net savings of the average farmer in CO's guarding dog program is $2,500 (Rust 2011,13).

Cheetah Outreach continues to focus on free-range cheetah areas, and by placing dogs on new farms every year, they are expanding total coverage. After a guarding dog culture is established in a specific area, CO targets adjacent areas with the goal of forming corridors where cheetahs can move freely.

PROBLEMS

While the livestock guarding dog program shows great promise, it is not a quick fix. The successful placement of dogs takes money, proven working lines, education,

and commitment. Even then, LGDs sometimes don't work out. Cheetah Outreach has a comprehensive corrective process to assist dogs that display inappropriate behavior, such as biting or roaming, but dogs are occasionally removed from farms when that process has been exhausted.

Farmers have begun buying their own Anatolians as well as breeding and selling to other farmers. While this trend is encouraged and suggests an increased willingness to embrace non-lethal methods of predator control, independent purchasing has led to some negative perceptions of the dogs. Unproven lines and breeders who fail to provide guidance often result in dogs that display undesirable behaviors.

Dog attrition is another challenge. Of the 125 dogs placed by Cheetah Outreach since 2005, only 83 are still working. Fourteen have been retired due to behavioral problems, and 29 have died—14 from snake bite, 4 from predation, 1 from ill health, and the rest by accident.

While Cheetah Outreach's numbers are an improvement over earlier programs, there is still a substantial chance that a puppy will fail to become a productive guard dog. By covering the initial cost of establishing a dog in a herd, CO absorbs much of this risk, but it hopes to improve the odds by trying tactics such as snake aversion training for its dogs.

Marker notes that Anatolian Shepherds must deter predators *and* live long enough to pay for themselves. For the program to work, it is important that "the dogs placed are not only efficient but also cost-effective. Farmers will only use a technique that has economic benefits." (Marker 2002, 286).

CONCLUSION

Although it is difficult to know how many free-ranging cheetahs there are in South Africa today, early results suggest that Cheetah Outreach's dog program is working. Livestock loss from predation on CO placement farms has nearly been eliminated. Farmers are starting to see LGDs as an effective predator conflict management principle and a long-term solution to livestock loss. And CO now has a waiting list for dog placements.

Cheetahs continue to live on farmland with guarding dogs, yet records show a decrease in predator complaints since CO began placing dogs. This indicates a change in tolerance toward predators on and around CO placement farms. Instead of removing cheetahs, farmers are managing them.

Valli Moosa,[2] one of Cheetah Outreach's initial livestock farmers, owns a 1,500 hectare farm in the Western Cape. About his experience with Cheetah Outreach's guarding dog program, Moosa says:

> The sheep flock on the farm had always suffered huge losses as a result of predation…. In 2005, on the advice of Cheetah Outreach, Uthaya … was introduced to

guard the sheep flock, which at the time numbered about 200 breeding ewes. The losses to predators dropped to zero as soon as Uthaya was trained and old enough to work with the sheep. It has been sheer pleasure to witness the efficiency of this hard working dog.

By the employment of dogs, farmers and conservationists are reducing both livestock lost to predation and cheetahs lost to predator control. Once again, humans are coexisting with the cheetah.

NOTES

1. Cheetah Outreach. www.cheetah.co.za. (Data come from 86 LGDs placed in cheetah range and are available from the authors).
2. Mr. Moosa was also a past Minister of Environment and Tourism in South Africa and former President of the World Conservation Union.

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