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Abstract: It was estimated by Norman Myers that in 1900 there were more than 100'000 cheetahs throughout Africa and Asia, found in at least 44 countries. Today the species is extirpated from about 20 countries, and the authors estimate that perhaps less than 12'000 animals remain, found mostly in small pocketed populations in 24 to 26 countries in Africa and 200 animals in Iran (resumed in a map). Namibia has the largest remaining population of free-ranging cheetah in the world (25'000 animals), and 95 percent of the population lives outside of protected game reserves. From 1980 to 1991, CITES reports 6782 free-ranging cheetahs have been removed from the Namibian cheetah population. In order to assess the cheetah's situation today, the authors looked back into the recent history to understand the ecological changes that have occurred in Namibia.

The history of cheetahs in Namibia

By Laurie Marker-Kraus and Daniel Kraus

NAPRIL 1991, WE MOVED TO NAMIBIA TO set up the first international conservation pro gramme for the free-ranging cheetah. After working with cheetahs for over 17 years and seeing that no large conservation organisation was focusing on the problems facing the cheetah, we decided that time was up and that someone needed to establish a full time effort for the species. In mid-1990, we developed the Cheetah Conservation Fund (CCF) within the US based international WILD Foundation. Few people understand that the cheetah, the most unique of all the 37 species of cats, does not fit into previously conceived conservation schemes. The many parks and reserves of Africa only offer a minimum of protection to a small number of cheetah. In these conservation areas lion and hyena numbers become very high and cheetahs are unable to compete with these larger predators that kill their young and steal their kills. Thus, a large percent of cheetahs find themselves outside of protected areas competing with an even more powerful and numerous adversary - man!

Cheetah population

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Facing page (left):

Chectahs recently

caught in a live trap

calving herd is one

successful method of

protecting calves, as

to intruders such as

dogs, jackals and

donkeys are aggressive

Right: Donkeys kept with

It was estimated by Norman Myers that in 1900 there were more than 100,000 cheetahs throughout Africa and Asia, found in at least 44 countries. Today the species is extirpated from about 20 countries, and we estimate that perhaps less than 12,000 animals remain, found mostly in small pocketed populations in 24 to 26 countries in Africa and 200 animals in Iran (see map). Viable populations may be found in possibly only one third of the countries where cheetahs still exist. All populations are listed in CITES Appendix I classified as Vulnerable or Endangered by IUCN.

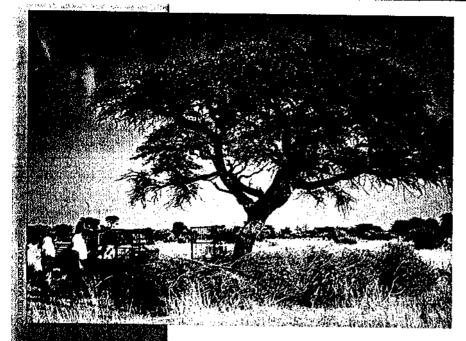
Cheetah populations continue to decline due to loss of habitat, decline of prey species and conflict with livestock farming. Complicating the situation is the cheetah's lack of genetic variation, making the species more susceptible to ecological and environmental changes. It is uncertain what influence this may have on conserving cheetah populations in the wild, as in-depth research has only been conducted on East African cheetah populations in protected reserves. Our collaborative research has shown that the southern African the East African cheetah.

The declining numbers of cheetah, throughout their range, means that those which do survive come from a smaller, less diverse gene pool. Also, the world's captive population of cheetah is not self-sustaining and is supported through imports of free-ranging cheetah, mainly from Namibia. Of the world's captive population of 1006 animals, at the end of December 1991, 30 percent were wildcaught from Namibia.

Over the years, many studies have been done on the cheetah in East and southern Africa. Most of these studies were conducted within National Parks or on small, private game fenced reserves and have looked primarily at the behavioural ecology of the cheetah in those particular study areas. These studies have shown that cheetahs are not doing well in protected areas and that viable cheetah populations may not be able to be maintained due to the increased competition from other large predators and the area restriction. Information collected on cheetahs in conservation areas does not always directly apply to free-ranging bushland cheetah found in Namibia, Botswana and Zimbabwe and other such areas where they are in conflict with humans.

Very little work has been done on free-ranging cheetahs outside of reserves where the larger populations are found but are in direct conflict with nomadic herders and commercial livestock farmers and are killed in high numbers. The CCF is addressing this conservation issue by working directly with those people who have the problem with this predator, and who, in the end, will determine if the cheetah is to have a future habitat on their lands. CCF's major objective is to secure habitats for free-ranging cheetahs throughout their range.

CCF chose Namibia as the permanent base of operations for the long-term conservation of freeranging cheetahs. This new country in southerm Africa was selected for two primary reasons, first and most importantly, Namibia has thelargest remaining population of free - rangingcheetahs in the world (2,500 animals) and due to the genetic problems of the species, stabilizing the largest



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viability of species.

Secondly, Namibia is the first country in the world to include sustainable utilization of wildlife and protection of its environment in its constitution, thus ensuring the availability of a large prey base that can sustain a healthy population of cheetahs.

In Namibia, 95 percent of the cheetah population lives outside of protected game reserves. Cheetahs are still found in a contiguous area of over 275,000 square kilometre of commercial livestock farmland (ranches) that produce cattle, sheep, goats and wildlife. Farmers have successfully removed most of the other larger predators and many would like to do so with the cheetah to reduce livestock losses (cheetahs are known to kill small stock and calves up to six months of age). From 1980 to 1991, CITES reports 6,782 free-ranging cheetahs have been removed from the Namibian cheetah population. This number is substantially lower than the actual removal, as many farmers do not report each cheetah killed. Farmers have eliminated the cheetah, whenever possible, whether there is a loss to their livestock or not, and in many cases, the cheetah is blamed for far more losses than actually occur.

In Namibia, the cheetah is classified as a protected animal by the 1975 Nature Conservation Ordinance, however, despite its protected status, the same ordinance further stipulates that one may shoot a cheetah, in order to protect one's own life or property. The problem is that most farmers practise preventative managements eliminating

the cheetah indiscriminately-either shooting whenever one is seen or after catching them in live traps. Because of this conflict, the Namibian cheetah population has been halved.

In order to assess the cheetah's situation today, we have looked back into the recent history to understand the ecological changes that have occurred here. The first phase, wit1hin the context of the larger long-term programme, under way since August 1991, has involved an in-depth survey through extensive personal interviews with commercial farmers in districts of the country where cheetahs still exist. The purpose of this survey has been to develop baseline data identifying general statistics, cheetah distribution patterns, the vegetation and overall conditions of the land, the availability of prey, farmers' interaction with cheetah and other wildlife, and numbers of livestock and current livestock and game management practices. So far, over 250 farms, covering over 22,000 square kilometres have been surveyed.

Namibia is an arid country, noted for its desert and the diversity of life that survives in such an environment. There are 6,000 commercial farms in Namibia, comprising 49 percent of the country, of which 51 percent are cattle farms. An estimated 70 percent of the country's wildlife, including 95 percent of the cheetah, occur on privately-held farms which average in size from 5,000 to 20,000 hectares and are primarily bushveld.

In order to understand the circumstances which have led to the cheetah's success on the Namibian farmlands, and its subsequent rapid decline due to indiscriminate removal from the wild, a historic understanding of the farming environment is necessary. Over the years, the biodiversity of these extensive farmlands has been drastically changed. There has been an over utilization of land for food and profit without understanding the limitations of the ecosystem. There was a premeditated elimination of species that were deemed competitors to the livestock industry, for example, the herbivores because of the competition for grazing and the predators because they killed livestock.

Archival information shows that the first settlers moved into Namibia, South West Africa, at the turn of the century to develop the livestock farms which are in production today. Due to the arid climate, the availability of water for livestock was the single most important development for the early farmers and boreholes were sunk everywhere water could be found. Prior to the development of livestock farming and the increased water availability, wildlife migrated throughout the country following water and good grazing, thus lessening the over utilization of the 1960 's. The going price for cheetahs internationally at that time was \$5,000.

In the 1960's, the vegetation of the land began to change due to over grazing and the previous reduction of large herds of migratory game. As the wildlife numbers continued to decline on the farms, the '1968 Ordinance' provided economic benefit for the landowners to maintain wildlife. Wildlife numbers began to increase through the 1970's, primarily due to this ordinance. However, since game migrates, ownership of the game continually changes and one of the resulting problems, which is of utmost significance today, is the over utilization of this communal resource by individual irresponsible farmers.

Through the 1970's, a wet cycle continued which produced good grasses and farmers stocked heavily, two to three times the number of cattle than was recommended. Then, in the late 1970's, when the first signs of the worst drought of the century to hit the country appeared, the degenerative effects of a single species, cattle, on the land began to show. Grasses were disappearing and bush was taking over, in many areas as much as 60 percent to 90 percent of the open grass land became heavy bush.

Due to the effects of the drought on the grazing land, many farmers resorted to game catching to protect their pastures, for the benefit of domestic stock. Much of this capture took place in areas where game was migrating freely and farmers took advantage of the situation, claiming more than their fair share. During 1981 and 1982 the wildlife populations declined by 50 percent in the country, from the effects of the drought and game cropping.

The cheetah populations had also increased during the wet years of the 1970's when there was abundant prey. But, when the drought hit and the wildlife numbers were reduced so dramatically over such a short time, another problem occurred. The kudu population, one of the cheetahs main prey, declined by nearly 80 percent from a rabies virus. In the 1980's with grass cover low from the drought, the wildlife numbers drastically reduced, the farmers began a war on the cheetahs. During the 1980's as many as 700 to 800 cheetahs per year were reported to be removed from the wild, and over a 10 year period their numbers declined by half.

In 1984, the then SWA Department of Nature Conservation began a 3 year research programme to better understand the problems between the

farmers and the cheetahs. Mr Dieter Morsbach, the problem animal researcher, discovered many important facts about the cheetah during this period of time. He became convinced that an international programme needed to be developed in Namibia to work closely with the farmers to prevent further extermination of cheetahs.

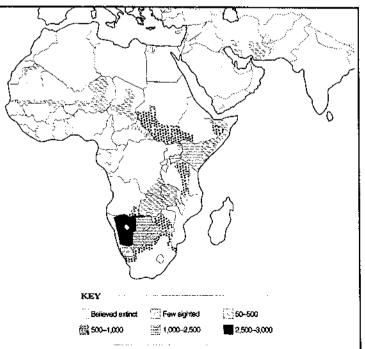
The CCF has continued the important work of Morsbach and the present Namibian Ministry of Wildlife, Conservation and Tourism. The multi-faceted approach undertaken by CCF is ground-breaking work in cheetah conservation efforts. The project includes: an extensive public education programme; conservation research; and livestock and wildlife management programmes. Namibia's wildlife is in the hands of the landowners; therefore, strategies to sustain populations of wildlife for the future must be developed in conjunction with livestock management. Development of these strategies is dependent on the ability and the willingness of the local communities, and their full understanding of all aspects of the ecosystems. The fate of Namibia's cheetahs is in the hands of approximately 1,000 farmers.

Our survey has identified farmers here that have found solutions to their cheetah problems. For two years now, one farmer has reduced his losses to almost nil by keeping three female donkeys with his calving herd. Donkeys are aggressive and chase away jackals and cheetahs. Other solutions are to bring the calves closer to the homestead for the first few months, or keep them in corrals for six to eight weeks, and farms with more wildlife prey species also reduces livestock losses. To protect small stock, such as sheep and goats, we are looking into the use of large breeds of livestock guard dogs, used around the world, to protect stock from predators. It is these success stories that we spread to encourage other farmers to try to reduce stock loss to cheetahs.

In Namibia the free-ranging cheetahs, which have adapted to the farmlands, exhibit behaviour unlike cheetahs of other parts of Africa. Morsbach identified that cheetahs move through very large ranges in Namibia; males up to 800 square kilometres and females up to 1,200 square kilometres. They live at higher densities than found in other areas of Africa, and, therefore, their ranges over-lap extensively.

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focal points in the life of cheetahs here. The significance of the playtrees has been discussed by the Namibian farmers for over 30 years and is talked about as the 'newspaper' tree. Three types of trees have been identified for use as playtrees, but the cheetahs primarily use camel thorn trees, which tend to have sloping trunks and large horizontal limbs. The cheetah can easily run up the sloping trunks and observe their surroundings from the horizontal limbs. They leave their scat on the limbs and urine on the trunk as markers,

The use of the playtree by cheetahs has only been noted in Namibia. Not all farms have playtrees, and these farms are now termed as pass through farms, as the cheetahs move quickly on their way to the next playtree. Some farms have several playtrees others just one. Cheetahs are primarily live-caught at the playtrees. Once caught their fate is not very rosy - some are exported to zoos, but the majority are killed. The live traps, set at these trees, are two metres long wire cages with drop doors at either end and a trigger in the middle. The trap is placed near the playtree and a thorn bush boma makes the trap the only passage to the tree. The cheetahs drive to get to the tree is so strong that it will readily use the trap as a passage and walk in, thus triggering the doors. Once the cheetah is caught, it is held in a holding cage within the borna. Its vocalizations will attract other cheetahs which in turn will then be caught.

The majority of this catching is indiscriminate; the livestock killing, 'problem animals' are not singled out. In each region, there are certain farmers who catch continuously by leaving their cages open all the time. The survey information gathered suggests that this type of continuous, indiscriminate catching opens up territories, creating a vacuum which draws in more cheetahs than would normally be in the area, and thereby increases the farmers' potential problems.

Ongoing research will shed further light on the full significance of the playtree. For example, does the playtree alert cheetahs of their proximity to each other through scent marking; does this marking facilitate/assist/enable avoidance and/ or attraction?

The farmland survey has helped to identify the movements of the cheetahs and areas in which to intensify research. In October, 1992, in cooperation with the local farming community, CCF began a programme to tag and release cheetahs caught on farms. This programme will give much needed information on cheetah densities, distribution, movements, and territories. Through this type of monitoring a better understanding of cheetah movement patterns unique to Namibian farmlands is gained, and on co-existence between the farmers and cheetahs on these farmlands. Along with this, 15 animals will be radio-collared for radio-telemetry monitoring in the selected farmland research site surrounding the Waterberg Plateau. At present, 9 cheetahs are ear-tagged and 2 have been fitted with radio collars. CCF also collects biological samples (blood and tissues) from all captured cheetahs in an effort to learn more about their overall health and genetic make-up.

With more first hand knowledge of the movements and dispersal of cheetahs, farmers will be able to utilize or develop livestock management and protection practices, which will reduce conflict and offer an atmosphere where old attitudes can change toward conservation rather then elimination of a species. This research will be significant to the conservation of cheetah populations elsewhere within their native range and contribute to the maintenance of cheetah in captivity.

The cheetah deserves a place on this earth. With its special adaptations for high speed such as long limbs, flexible spine, enlarged ear, large nasal passages, small head, and blunt claws that remain out to increase traction, there is no animal to compare. In fact, it is the only species in its genus *Acinonyx*. The cheetah has been revered by humans for almost 5,000 years, for good reasons. If it were allowed to become extinct it would not only leave a large hole in nature, but, also, in the very psyche of the human mind that so naturally feels and knows the uniqueness of this creature.





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