TCHAD REPUBLIC

Union Work Progress

MINISTRY OF ENVIRONMENT AND FISHERIES

PLAN D'ACTION NATIONAL POUR LA CONSERVATION DU GUEPARD ET DU LYCAON IN THE REPUBLIC OF CHAD

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June 2016

Citation :

DFAP 2016 National Action Plan for the Conservation of the Cheetah and Wild Dog in the Republic of Chad. ME P

Published in 2016 in N'Djamena, Republic of Chad, by MEP/SG/DGE/DFAP, with the support of: Zoological Society of London (ZSL), Wildlife Conservation Society (WCS), Howard G Foundation.
Buffet, African Parks Network, IUCN Chad Project, IUCN Cat Specialist Group, University of Sahr, GIRAFE (Integrated Management of Natural Resources, Action Research for local development, Wildlife and the Environment).

The geographical terminology used in this work, as well as its representation, is in no way the expression of any opinion on the part of the organizations concerned on the legal status or authority of any country, territory or region. whatever, or on the delimitation of its borders.

Résumé

The cheetah *(Acinonyx jubatus)* is classified as a Vulnerable (VU) species on the IUCN Red List. The wild dog *(Lycaon pictus)* is classified as an endangered species (EN). Cheetah and wild dog conservation present major challenges for conservationists. All large carnivores need large spaces to survive; cheetahs and wild dogs require even larger ones. These species are often the first to disappear under the pressure of anthropogenic activities aggravated by significant population growth.

In Chad, the Bahr Salamat region is the main area where wild dogs and cheetahs survive. The main threats weighing on them are mainly linked to:
* loss and fragmentation of their habitat;
* conflicts with livestock breeders, but at low frequency; * poaching of populations of prey species.

This National Action Plan for the conservation of the cheetah and wild dog is the first step in a program for the management and conservation of these two species of large carni-vores in Chad and recognizes the need to: (i) strengthen capacities in all areas relating to the conservation of the cheetah and the wild dog, (ii) improve knowledge of the biology of these two species, (iii) raise awareness among managers and communities about the value of the cheetah, the wild dog and their habitat, (iv) encourage good coexistence between humans, the cheetah and the wild dog, (v) reduce poaching of prey species of the cheetah and the wild dog, (vi) improve the chance of survival of the cheetah and wild dog populations, and (vii) guarantee the implementation of the action plan for the conservation of the cheetah and wild dog in Chad.

Abstract

Cheetah *(Acinonyx jubatus)* is classified as Vulnerable (VU) on the IUCN Red List. African wild dog *(Lycaon pictus)* is classified as Endangered (EN). Cheetah and African wild dog conservation represents a major challenge for conservationists. While all large carnivores need large areas to survive, cheetah and African wild dogs need even more extensive areas. They are usually the first to disappear as a consequence of anthropogenic activities worsened by human demographic pressure.

In Chad, the Bahr Salamat region is the major area where cheetah and wild dogs survive. Main threats they have to face are mainly linked to:
* habitat loss and fragmentation;
* conflict with cattle herders, despite low frequency of occurrence; * poaching on their prey populations.

This action plan is the first step in a wide conservation process for these two species in Chad and identified those goals: : (i) increase capacity building for any actors involve large carni-vore conservation, (ii) improve knowledge on biology of cheetah and African wild dogs, (iii) sensitise stakeholders and communities on values of those two carnivores and of their habi-tat, (iv) improve coexistence between human, cheetah and wild dogs, (v) diminish poaching on their preys, (vi) increase survival rate of cheetah and wild dog populations, and (vii) en-sure implementation of this National action Plan.

List of acronyms

CITES	Convention on International Trade in Endangered Species
DFAP	Department of Wildlife and Protected Areas
IUCN/SSC	International Union for the Conservation of Nature/Species Survival Commission
IUCN	International Union for Conservation of Nature
WCS	Wildlife Conservation Society
ZSL	Zoological Society of London

Chapter 1. Introduction

1.1 Context

Chad is a country rich in biological diversity and its network of protected areas, which covers nearly 10.2% of the country's surface area, is generally representative of all the diversity of the region's ecosystems. On the other hand, this network is not made up of intact ecosystems because numerous alterations have been made to them (IUCN, 2008).

The conservation of the wild dog *(Lycaon pictus)* and cheetah *(Acinonyx jubatus)* represents an enormous challenge for 21st century conservationists. The distribution area of these species was previously very extensive in Africa; however, in recent decades, numbers and distribution areas have declined significantly (IUCN/SSC 2007a; IUCN/SSC 2007b). All large carnivores need very large areas to survive. Wild dogs and cheetahs travel very large distances and occupy a larger living space compared to other terrestrial carnivores. As humans encroach on Africa's last wilderness areas, wild dogs and cheetahs — particularly sensitive to the destruction and fragmentation of their habitats — are often the first species to disappear.

Despite their status as threatened species (the wild dog belongs to the list of “Endangered Species” [Woodroffe & Sillero-Zubiri, 2012] and the cheetah to that of “Vulnerable Species”, [Durant et al. , 2008]), their ecological importance as large carnivores (Woodroffe & Ginsberg, 2005) and their value to the African tourism sector (Lindsey et al., 2007), very few measures for the conservation of these two species have been implemented. been put in place. Most African protected areas are too small for populations to be viable, and conservation efforts on unprotected lands have, so far, been limited to just a few projects.

Three main factors are hampering cheetah and wild dog conservation activities:

- the home range of these species is so large that their conservation must be planned on an immense geographic scale, rarely previously required for the conservation of terrestrial animals;
- information is lacking on the distribution and status of species, as well as on the best tools to use for effective conservation;
- most African countries do not have the means to protect these species; Due to diverse environmental threats and challenges, expertise in caring for more iconic species, such as elephants and rhinos, may not be transferable to wild dogs and cheetahs.

1.2 Regional conservation strategy for the cheetah and wild dog in North, West and Central Africa

Recognizing these difficulties, the Cat and Canid Specialist Groups of the International Union for Conservation of Nature's Species Survival Commission (UCN/SSC Cat and Canid Specialist Groups), in collaboration with the Wildlife Conservation Society - WCS, and Zoological Society of London - ZSL, established, in 2006, a conservation planning system at the range level of wild dogs and cheetahs (see: http://www.cheetahandwilddog.org) , two species presenting taxonomic differences, but similar from an ecological point of view and facing the same threats.

The first two regional workshops devoted to Eastern Africa and Southern Africa were organized in 2007 (IUCN/CSE, 2007a, IUCN/CSE, 2007b). The third and final workshop dedicated to northern, western and central Africa took place from January 30 to February 3, 2012, at the Hôtel de La Tapoa, in the Nigerian part of the W Regional Park. There were 33 participants , including government representatives and NGO representatives from Algeria, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Egypt, Libya, Mali, Niger, Nigeria, Senegal and Togo. International specialists from Belgium, Gabon, India, Namibia, the Netherlands, Switzerland, the United Kingdom, the United States and Zimbabwe were also present.

Participants in the regional workshop for the conservation of cheetahs and wild dogs in Africa Northern, Western and Central; W National Park, Niger, 2012

The conservation policy for these two species thus formulated and adopted at the regional level must then be adapted to national contexts. The development of National Action Plans, through national workshops, therefore constitutes a very important element of the conservation planning system at the range level of cheetahs and wild dogs.
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1.3 Development of the National Action Plan for the conservation of the cheetah and wild dog in the Republic of Chad

The forms of use of biodiversity resources do not consist of a dis-sociation of good uses and bad uses. The current trend increasingly involves inflationary forms of unsustainable use of resources. Good individual dispositions and attempts at restoration by the forestry administration are made insignificant by the excess of direct threats to resources. If no immediate action is taken, cheetahs and wild dogs will disappear from Chad within a short time.

Indeed, the survival of these species depends on the measures and interventions that will be put in place urgently. At least three major elements militate in favor of urgent and targeted intervention to save these species:

ÿ The populations of cheetahs and wild dogs are in sharp decline and have even disappeared from certain ecosystems, mainly due to poaching which is not controlled due to lack of means, capacity and coordination between the institutions in charge of application of the law. ÿ Nowadays,
agropastoral and mining fronts have led to the reduction of wildlife species densities in parts of Chad which could disrupt the functionality of the ecological complex endangering the conservation of cheetahs and wild dogs.
ÿ The distribution area of cheetahs and wild dogs with its endemic vegetation plays an important role in carbon fixation, soil stabilization in a regional context of rapid agricultural progress, and preservation of watersheds.

The conservation policy for these two species formulated and adopted at the regional level must then be adapted to national contexts. The development of national plans, through national workshops, is therefore a very important part of the range-level conservation planning system for cheetahs and wild dogs.

This national action plan for the conservation of cheetahs and wild dogs in the Republic of Chad is supported by the Ministers responsible for the conservation of the fauna and flora of Chad, and constitutes a response to the concerns raised by the Range Wide Conser -vation Program for Cheetah and African Wild Dogs (RWCP). This action plan will also contribute to the conservation of the fragile ecosystems of Central Africa in general, and to the strengthening of the National Strategy and Action Plan on Biological Diversity (SNPA/DB) in Chad in particular. The direct beneficiaries of the action plan are the administrations responsible for protecting Chad's wildlife, which will see their monitoring resources strengthened. Populations living on the outskirts of these protected areas will also see their security strengthened and will have more opportunities to benefit from the benefits of conservation and the maintenance of the ecological balance attributed to cheetahs and wild dogs in their natural environment.

It includes a synthesis of knowledge on the biology, conservation needs, status and historical and current distribution of these two species in northern, western and central Africa and the importance of Chad for their conservation. It then presents the logical framework of the National Action Plan, adapted from the Regional Conservation Strategy for northern, western and central Africa and resulting from the work of the development workshop.

Participants in the National Action Plan Development Workshop,
Zakouma National Park, March 2015

Chapter 2. Conservation of the cheetah and wild dog in North, West and Central Africa

2.1 Biology and conservation needs of the cheetah

The cheetah, from the feline family, can reach a running speed of 103 km/h (Sharp, 1997), making it the fastest land animal. He is generalist in his choice of habitat; living in the desert as well as in thick bushes or in grassy savannahs (Myers, 1975).

The social system of cheetahs is very different from that of other felines. Female cheetahs tolerate other females; they do not really have a territory, but rather large overlapping living spaces (Caro, 1994). They live promiscuously: multiple paternity within litters have been reported, and no sign of fidelity to males has been observed (Gottelli *et al.,* 2007). Males are often social: they form coalitions of two or three individuals, generally brothers, who stay together until their death (Caro & Durant, 1991). Unlike solitary males, males in groups are better able to take and hold territories that they defend against other males (Caro & Collins, 1987). In the Serengeti ecosystem in northern Tanzania, the average area of male territories is 50 km², while females and males without territories cover an area of 800 km² each year (Caro, 1994). No other mammal is known to have such a social system, where males are social and occupy small territories, and where females are solitary and cross several male territories annually (Gottelli et al., 2007) .

From the age of two, females can give birth after a gestation of three months (Caro, 1994). During the first two months of their life, the young remain in a burrow while their mother goes hunting every morning, only returning at nightfall (Laurenson, 1993). Mortality among cheetah cubs is sometimes high. In the Serengeti National Park, for example, the mortality rate between birth and the moment of independence is 95% (Laurenson, 1994). The cubs are often killed by lions or hyenas; in fact, mothers cannot defend their young against these predators that are much larger than themselves. Young can also die due to exposure to fire or abandonment if their mother cannot find food. When they survive, the young stay with their mother until they are 18 months old. Then, they wander for another 6 months with the other members of their litter. The longevity record for a male cheetah is 11 years and 14 years for a female in the wild. Once the age of 12 is reached, females no longer reproduce (Durant *et* al., 2004; Chauvenet *et* al., 2011). Demographic parameters are only available for a limited number of populations. The mean and variance of births and survival have been published from a long-term study carried out in the Serengeti National Park in Tanzania (Durant *et* al., 2004), while the mean percentages of births and survival available come from large livestock farms in Namibia (Marker *et al.,* 2003b).

Cheetahs are primarily diurnal animals, although they sometimes hunt at night, particularly during the full moon (Caro, 1994; Cozzi *et al.,* 2012). Their hunting technique is as follows: they begin with a furtive stalk and then pursue their prey. It is because their speed and ability to accelerate are incomparable that they are so successful in hunting, even if they pursue at much greater distances than larger felines such as the lion *(Panthera leo)* or leopard *(Panthera pardus).* Their prey is very varied and depends on the habitat and geographical location, but animals of 15-30 kg are preferred.

Like wild dogs, and unlike most other large carnivores, cheetahs seem to avoid areas with a high prey density, probably due to the presence of other large carnivores in these areas (Durant, 1998, 2000). . Lions are proven to be largely responsible for the high mortality rate among cheetah cubs

in the Serengeti National Park (Laurenson, 1994), and that they can also kill adults, while hyenas kill young and steal their prey from adults.

Historically, the cheetah was very widespread in Africa and Asia, as far as India. However, today, except for a small population in Iran, it has disappeared from Asia. It is well represented in East and South Africa and only a few populations remain in North and West Africa. The first assessment of the status of cheetahs was carried out in the early 1970s (Myers, 1975). Later, during the 1980s, further studies were carried out in specific countries (Gros, 1996, 1998, 2002; Gros & Rejmanek, 1999), and a summary of the overall status of the species was carried out in 1998 (Marker, 1998). However, precise data on the status and density of this species are very difficult to collect. In fact, it is a shy animal that rarely shows itself. Additionally, cheetah distribution patterns show that they congregate in areas that temporarily become favorable habitats due to the absence of competitors and prey availability, making estimation of their cheetahs even more problematic. number (Durant *et al.,* 2007; Durant *et* al., 2010).

Probably due to their tendency to avoid larger predators, cheetahs live in low density groups that range from 0.3 to 3 adult individuals/100 km² (Burney, 1980; Morsbach, 1986; Mills & Biggs, 1993; Gros , 1996; Purchase, 1998; Marker, 2002; Belbachir *et al.,* unpublished). Although higher estimates have been recorded in some areas, it is likely that they do not reflect true density: either populations live in fenced or intensively managed areas or individuals may wander outside the area being assessed. . This highlights the difficulty in estimating the size of cheetah populations (see Bashir *et al.,* 2004).

The cheetah's home range extends from 50 km² for territorial males in the Serengeti National Park (Caro, 1994) to more than 1000 km² in Namibia (Marker *et al.,* 2008). As with the wild dog, the cheetah's home range is much larger than its energetic needs would suggest (Figure 2.1). Given that its range covers very large areas, the cheetah can live very dispersed. According to Durant (pers. comm.), the cheetah can travel well over 100 km. It is therefore difficult to know whether a cheetah observed in an area is a member of a resident population or a passing individual. However, this ability to disperse allows it to recolonize new areas relatively easily if they are available.

The size of the global cheetah population has been conjecturally estimated at 14,000 individuals (Myers, 1975) and has been stated to be "less than 15,000" (Marker, 2002). The species is listed as "vulnerable" on the IUCN Red List (IUCN, 2011). Even if the estimates do not seem to indicate a decline in the population, according to a consensus of cheetah experts worldwide, we are indeed witnessing a decrease in the population, either because the 1970 estimate was lower than reality, or because the last assessment is an overestimate. The cheetah's range has visibly reduced compared to its historical range (IUCN/SSC, 2007a; IUCN/SSC, 2007b).

2.2 Historical and current distribution of the cheetah

The geographic distribution of cheetahs in western, central and northern Africa has contracted drastically over the past 100-200 years.
Historically, their range covered 12 million km2 , extending across this region except the maritime coasts of North Africa and the lowland forests of the west and center of the region.

The current distribution area (Figures 1 and 2) only covers 9% of the historical distribution area (the definition of the distribution areas is presented in Appendix 4). Only 5 populations are known, and they are distributed across seven of the twenty-five countries in this region. Two of these countries, Algeria and Chad, bear the largest majority of

pards of this region, comprising more than 88% of the species' resident range. In addition, almost 80% of the cheetahs' residence range is outside protected areas. All populations are likely to be cross-border, and therefore depend on international cooperation for their survival. Although the species still exists or could potentially be rehabilitated in some places, it is today considered extinct in 57% of its historic range.

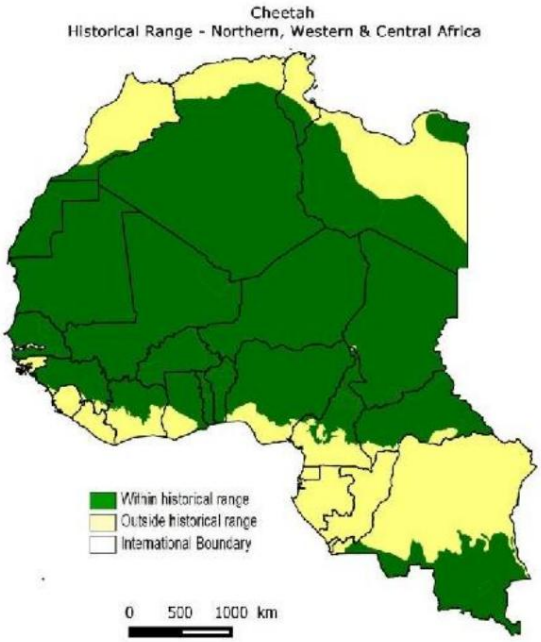

Figure 1. *Historical distribution of cheetahs in West, Central and Northern Africa defined in 2012.*

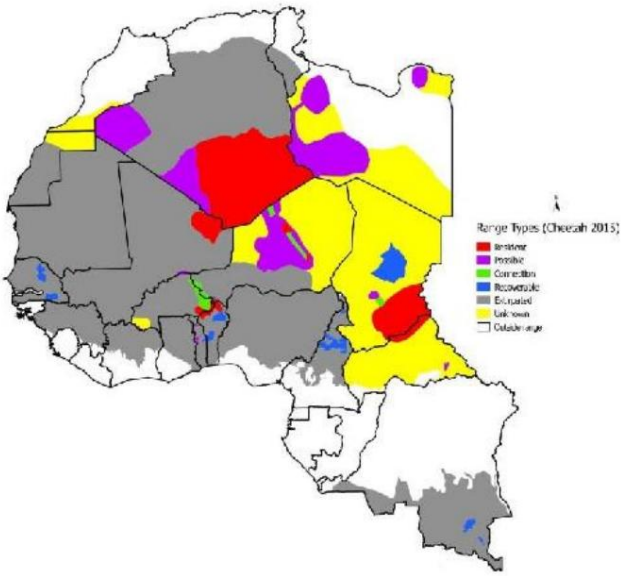

Figure 2. *Distribution of cheetahs in West, Central and Northern Africa defined in 2012.*

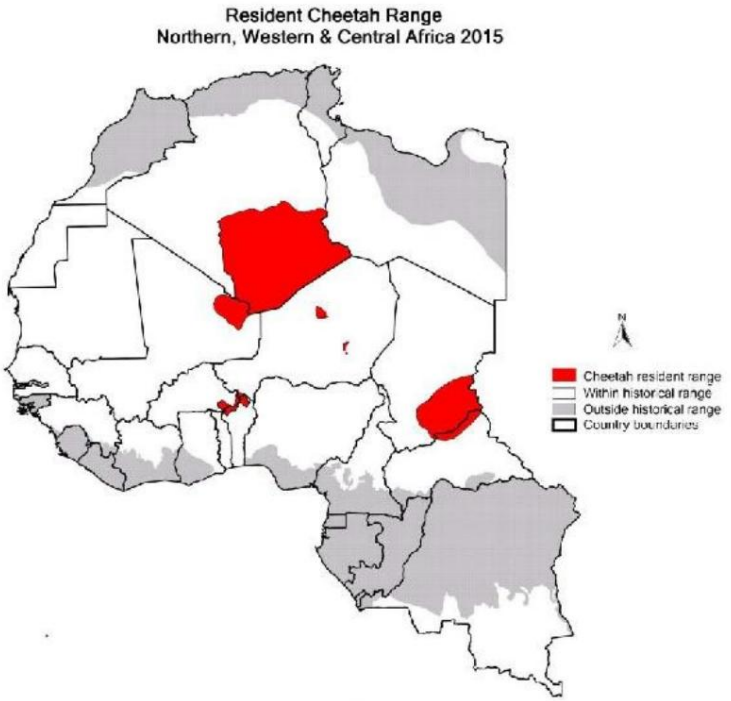

Figure 3. *Cheetah residence areas in West, Central and Northern Africa defined in 2012.*

The total cheetah population, which is declining, is estimated at less than 250 adult individuals with no subpopulation larger than 50 adult individuals. Cheetahs occupied the Sahelian region and the moderately wooded savannahs of Central Africa, including Chad (Malbrant, 1936). The species was observed in very limited Sahelian areas. Desert nomads reported frequent sightings at Wadis, around Kharma, Ha-wach and Achim (Myers, 1975). In the 1970s, cheetahs were still present in the Ouadi Rime-Ouadi Achim Wildlife Reserve in the 1970s (J. Newby pers. comm.

2008). Wildlife monitoring organized in the western and central part of Chad, including this Reserve, conducted by the Sahelo-Saharan Interest Group in 2001, did not make it possible to detect cheetahs (Monfort et al . , 2003). In the central Sahara (northern part of the country), cheetahs occupied the Ennedi Massif and its surrounding areas at very low density (J. Newby pers. comm. 2008 based on Rava's pers. comm.). There are no reported sightings in the Tibesti Mountains. In the South-East, cheetahs survive in Zakouma National Park: several individuals were present in 2012 and one of them was tracked by radio telemetry (photo below, ©African Parks).

In 2012, during the Regional Workshop on the conservation of cheetahs and wild dogs in West, North and Central Africa, participants considered southern Chad and northern CAR as one of the largest areas of residence for this species (IUCN/SSC, 2012). However, with a maximum density estimated at 1 individual/1,000 km2 in this environment, this area would only support a small population of cheetahs.

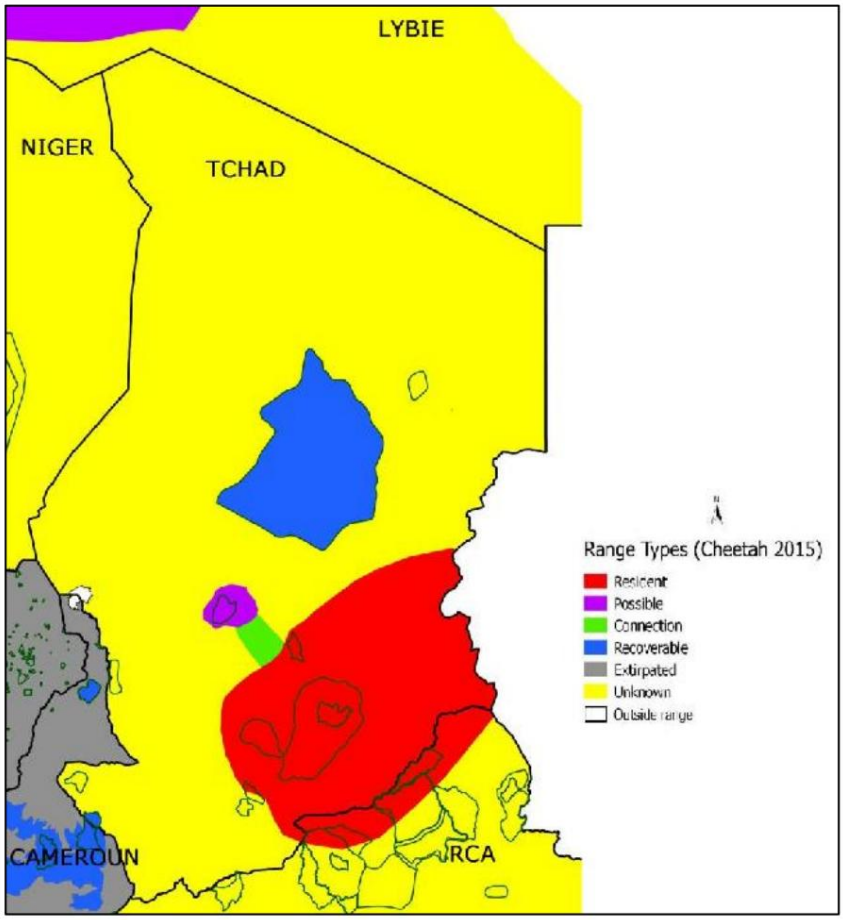

Figure 4. *Distribution of cheetahs in Chad.*

The map of the cheetah's distribution areas in Chad remains unchanged and remains that established during the 2012 regional workshop. The area of residence remains vast and includes the Bahr Salamat region and extends to the border with the CAR .

The area including Lake Fitri, in connection with the residence area, is defined as a possible area.

The Ouadi Rime-Ouadi Achim Wildlife Reserve, formerly occupied by cheetahs, remains the only identified rehabilitable area.

2.3 Biology and conservation needs of the wild dog

Wild dogs are very social carnivores from the Canidae family. Packs cooperate to hunt their prey (Creel & Creel, 1995), which are mainly medium-sized ungulates. These are in particular impalas *(Aepyceros melampus)* in southern and eastern Africa, and Buffon's waterbuck, *Kobus Kob,* in central and western Africa. However, prey can vary in size from hare *(Lepus* spp) and dik-dik *(Madoqua* spp) (Woo-droffe *et al.,* 2007b) to kudu *(Tragelaphus strepsiceros)* and even, sometimes, common eland. *(Taurotragus oryx,* Van Dyk & Slotow, 2003). The entire pack cooperates in the reproduction of the species. Typically, only one female and one male are the parents of the pups, but all members of the pack care for the young (Malcolm & Marten, 1982). Females have never been observed raising young to adulthood without the assistance of other members of the family.

the pack ; It is therefore the pack and not the individual that is used as the unit of measurement to evaluate the size of populations.

Unlike most other carnivores, except cheetahs, wild dogs tend to avoid areas with high prey densities (Mills & Gorman, 1997) probably because larger carnivores prefer these areas (Creel & Creel, 1996; Mills *et al.,* 1997). Lions and spotted hyenas *(Crocuta crocuta)* are responsible for the high mortality rate among adult and juvenile wild dogs (Woodroffe *et al.,* 2007a).

Wild dogs have a low population density and their range is very large.
Population densities average 2 adults and young of the year per 100 km² (Fuller *et al.,* 1992a). The home range per pack in southern and eastern Africa averages 450–800 km² (Woodroffe & Ginsberg, 1998), but some packs can have a home range of more than 2,000 km² (Fuller et al., 1992a) . The home range of African lilies, like that of cheetahs, is much larger than would be expected given their energetic requirements.

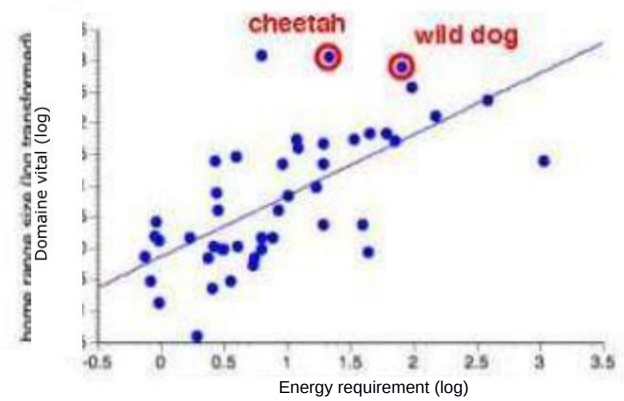

Figure 5. *Relationship between energy requirements of several carnivores and home range size, demonstrating that cheetahs and wild dogs require more space than their energy requirements might suggest. The reason why the wild dog appears to have a wider range than the cheetah is that the unit of measurement is the pack and not the individual. Data are reproduced from Gittleman & Harvey (1982).*

Most new packs are created when young wild dogs, often around the age of two (McNutt, 1996), leave their natal pack to form single-sex dispersal groups in search of new territories and individuals of the opposite sex. These dispersal groups can travel hundreds of kilometers (Fuller *et al.,* 1992b) far from resident populations (Fanshawe *et al.,* 1997). The dispersal behavior of wild dogs can complicate the interpretation of distribution data. Indeed, the observation of small groups of wild dogs does not necessarily mean that a resident population is present there. However, their behavior allows them, just like the cheetah, to recolonize unoccupied spaces when the opportunity presents itself.

Although there are morphologically and genetically different wild dog populations in various regions of Africa, no subspecies is recognized (Girman *et al.,* 1993; Gir-man & Wayne, 1997). Wild dogs, generalists, are observed in habitats as varied as seasonally flooded savannahs (McNutt & Boggs, 1996), grasslands

(Kuhme, 1965), mountain forests (Dutson & Sillero-Zubiri, 2005), montane heaths (Thesiger, 1970) and mangroves.

The first assessment of the wild dog population status was conducted from 1985 to 1988 (Frame & Fanshawe, 1990) and was updated in 1997 (Fanshawe *et al.,* 1997) and 2004 (Woodroffe *et* al., 2004). These assessments revealed a reduction and fragmentation of wild dog populations. Indeed, the species has been eliminated from a large part of central and western Africa and has declined sharply in southern and eastern Africa. However, data on the distribution of the species, which were mainly collected by mail, somewhat favored protected areas while there was little information regarding unprotected areas. By 1997, wild dogs had disappeared from most African protected areas, surviving only in the largest reserves (Woodroffe *et al.* 1998). In 2008, the species was estimated to number fewer than 800 packs. It is classified among the “endangered species” by the IUCN (IUCN, 2012).

2.4 Historique et actuelle du lycaon distribution

Wild dogs are now considered resident in only 4% of their historic range and are considered irrevocably extirpated from 69% of their historical range. Population size estimates indicate that the entire region of West, North and Central Africa may contain fewer than 25 packs of African wild dogs. In 2012, during the Regional Workshop on the conservation of cheetahs and wild dogs in West, North and Central Africa, participants reported several sightings of wild dogs in the Bahr Salamat region. It should be noted that very recent sightings of wild dogs have been recorded in the Chinko River region in the North-East of the CAR. The connectivity of the southern region of Chad and the northern region of the CAR remains to be demonstrated.

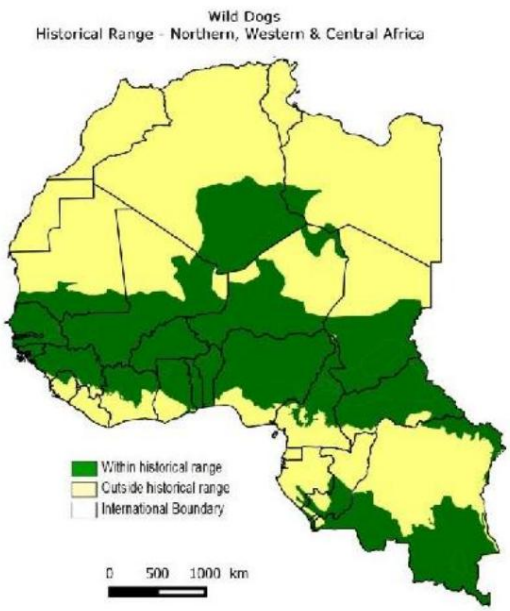

Figure 6. *Historical distribution of wolves in West, Central and Northern Africa defined in 2012.*

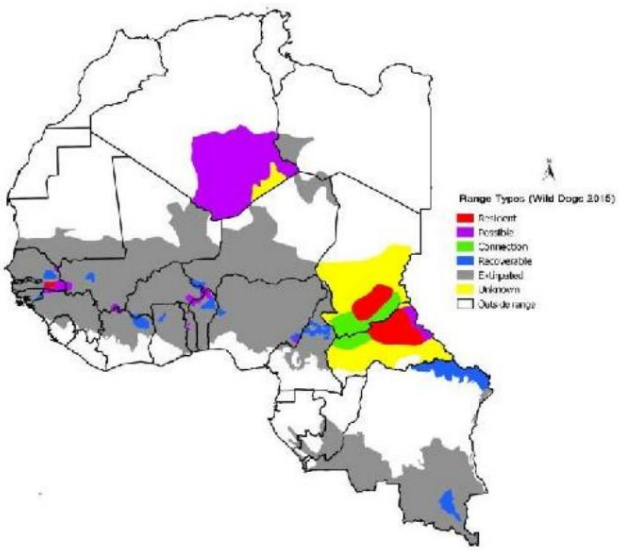

Figure 7. *Distribution of wild dogs in west, central and northern Africa defined in 2012.*

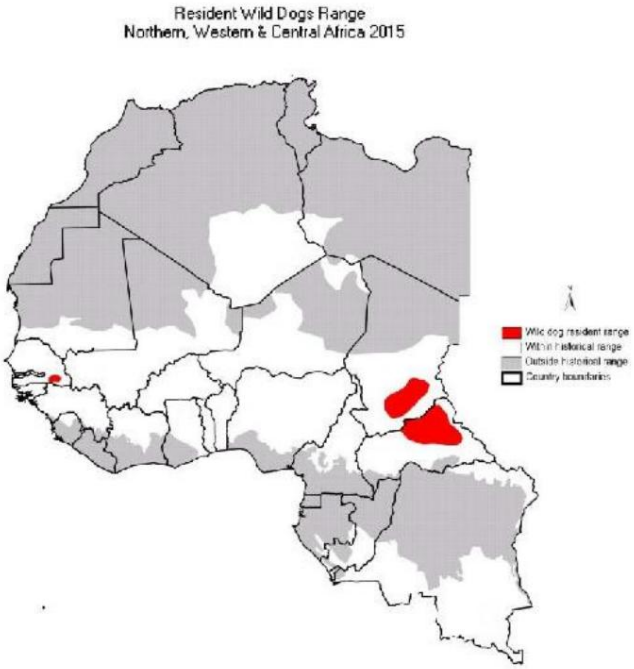

Figure 6. *Residence areas of wild dogs in west, central and northern Africa defined in 2012.*

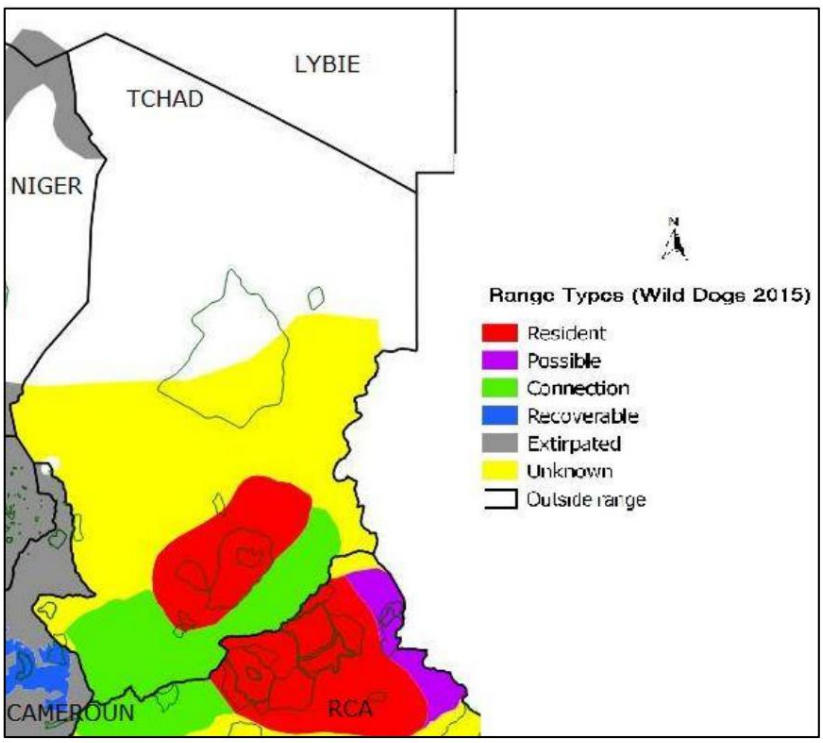

Figure 7. *Distribution of wild dogs in Chad.*

The map of wild dog distribution areas in Chad remains unchanged and remains that established during the 2012 regional workshop. However, sightings of wild dogs in the Binder Léré area have been reported and require verification.

The residence area includes the Zakouma National Park, in the Bahr Salamat region, in probable connection with the residence area in the north of the CAR. However, a large area remains unknown.

2.5 Main threats to the conservation of the cheetah and wild dog in Chad

Several factors threaten the survival of the cheetah and the wild dog in Africa and Chad.

(a) Habitat loss and fragmentation

Habitat loss and fragmentation represent one of the most significant threats to the conservation of the cheetah and wild dog in Chad as in the sub-region and on a continental scale. Requiring large home ranges, these two species are even more vulnerable than other carnivores to habitat loss and fragmentation.

In Chad, participants noted the following deterioration factors:

- Logging/deforestation,
- Transhumance breeding,
- Agriculture extensive,
- Mining,
- Inappropriate gum arabic harvesting techniques.

(b) Human-carnivore conflicts

The temporary or permanent occupation by humans of cheetah and wild dog habitats promotes contact between these species and humans and increases conflicts. These two species, although preferring wild prey, can attack livestock which can lead to revenge killings by breeders. However, killings by poisoning are very limited by the fact that neither the cheetah nor the wild dog are scavengers.

(c) Reduction of prey populations

The cheetah and the wild dog are found in areas with low prey density; reducing prey populations will then likely negatively affect the survival of these species. The factors reducing prey populations identified in Chad are hunting, poaching, intensive breeding and conversion of habitat to agricultural land.

Workshop participants noted that the reduction in prey populations was very accentuated in the south of Chad due to rapid population growth.
Reducing prey populations can encourage other threats such as conflict. Indeed, insufficient prey can lead the cheetah and the wild dog to attack livestock more (Woodroffe *et* al., 2005).

(d) Small population sizes

The geographically isolated populations of cheetah and wild dog in North, West and Central Africa are small. They are therefore vulnerable to diseases and disasters which can cause extinctions at the local level. It is therefore urgent to work to increase the size of the population in the region and Chad in particular to improve its resilience and therefore its survival.

(e) Trade in live animals and by-products

Cheetahs have long been hunted for their fur and for the live animal trade. In Chad, the trade in live animals was reported in 1997 with an attempted trafficking of 2 young animals. We can also find by-products on the markets which are used for the manufacture of art and prestige objects (cheetah skin) or for medico-magical purposes (certain parts of wild dogs).

(f) Accidental entrapment and road accidents

It can happen that the cheetah or wild dog is accidentally caught in traps intended for other animals. This risk, which represents a significant threat in other regions of Africa, appears to be very limited in Chad. Road accidents are reduced if not absent in Chad.

(g) Infectious diseases

Infectious diseases such as rabies and distemper have been one of the causes of the decline in wild dog numbers in Africa (Gascoyne *et al.,* 1993; Alexander *et al.,* 1995; Kat *et al.,* 1995; Goller *et al.,* 2010). But this threat to wild dog and even cheetah populations is very little documented in Northern, Western and Central Africa. However, the presence of unvaccinated shepherd dogs near protected areas can represent a risk for populations of wild carnivores, particularly those of wild dogs.

Chapter 3. General state of wildlife conservation in Chad

3.1 General characteristics of the country

Chad's wildlife potential is abundant and varied. This abundance and variety are the consequence of the immense extent and geographical diversity of the country with Saharan, Sahelian, Sudanese and Guinean landscapes.

Year after year, we have witnessed a degradation of natural resources and an erosion of the biological diversity on which local communities depend. At the same time, we noted an impoverishment of the lives of the latter. The main causes and threats identified are mainly: the existence of a global context unfavorable to conservation, pastoral pressure, poaching, illegal fishing, demographic pressure, unsustainable use of woody natural resources and/or or non-woody, bush fires, agriculture, etc.

3.2 Wildlife conservation in Chad

3.2.1 Legal framework

Several texts govern the environment sector in Chad. In June 2008, the latter adopted a law governing forests, wildlife and fisheries resources which introduces numerous notions of management of natural resources by communities and provides in particular for the reclassification of certain categories of areas. protected areas (particularly those which are currently not performing well) into “concerted wildlife management zones”, managed by local communities in partnership with State services and the private sector. This is significant progress.

Chad is a signatory to conventions on environmental protection and conservation of the following biodiversity:

ÿ The convention relating to the development of Lake Chad signed on May 22, 1964;
ÿ The national convention relating to wetlands of international importance (RAM-SAR) ratified on August 2, 1971;

The Convention on Trade in Endangered Species of Animals and Plants (CITES) ÿ ratified on May 3, 1989;

ÿ The Convention on Biological Diversity ratified on April 3, 1993;
ÿ The United Nations convention on climate change ratified on August 30 1993;
ÿ The convention on the conservation of migratory species of wild fauna ratified on November 12, 1996;

ÿ The United Nations Convention to Combat Desertification ratified on August 14 1996.
ÿ The cooperation agreement between the government of the Republic of Cameroon and the government of the Republic of Chad, relating to the creation and concerted management of the cross-border complex of protected areas Bouba Ndjidda and Sena Oura, of August 2, 2011.

In addition, Chad is a member of international organizations such as the Organization for the Conservation of African Wildlife (OCFSA), the Conference on Dense Humid Forest Ecosystems of Central Africa (CEFDHAC), the Protected Areas Network of Central Africa (RAPAC), the International Union for Conservation of Nature (IUCN), the World Tourism Organization (WTO) and the Central African Forestry Commission (COMIFAC).

The ratification of several international conventions and agreements by Chad strengthens its determination to conserve biological diversity on its territory.

3.2.2 Institutional framework

Biodiversity is part of humanity's natural heritage that must be managed for sustainable use. It becomes poorer each time an animal or plant species disappears following an accident or because of deliberate anthropic action. The reduction or loss of biodiversity contributes to the destruction of the environment and the worsening of the greenhouse effect with harmful consequences on the biosphere.

The protection and conservation of the biosphere and biodiversity involve the establishment of national and international structures and institutions that enable conservation, coordination, the development of policies and strategies, and the mobilization of financial, material and human.

In Chad, the Directorate of National Parks, Wildlife Reserves and Hunting (DPNRFC) is in charge of the management of protected areas and wildlife in general.

3.2.3 Wildlife conservation areas in Chad

In Chad, the very first protected area dates from 1963, with the creation of the Zakouma National Park. Generally speaking, protected areas are the “cornerstones” of national and international conservation strategies. It is for this reason that, since 2004, they have been the subject of a special program within the convention on biological diversity, tools for *in-situ* maintenance of ecosystems, natural and semi-natural habitats. -natural, viable populations of species in their natural environments. Man is not excluded from protected areas and their management; on the contrary, there is a rightful place without becoming a factor of impoverishment, pollution, disturbance or trampling.

The network of areas is made up of (Figure 6):

1) National Parks: Zakouma National Park, Manda National Park, Manda National Park Sena Oura
2) Réserves de Faune : Ouadi Rimé-Ouadi Achim, Fada Archei, Aboutelfane, Siniaka-Minia, Barh Salamat, Binder-Léré, Mandelia
3) Lake Fitri Biosphere Reserve
4) Some classification proposals in progress: Beinamar, Larmanaye, Ngam (Mayo-Kebbi), Ndam (Tandjilé), Goz-Beida

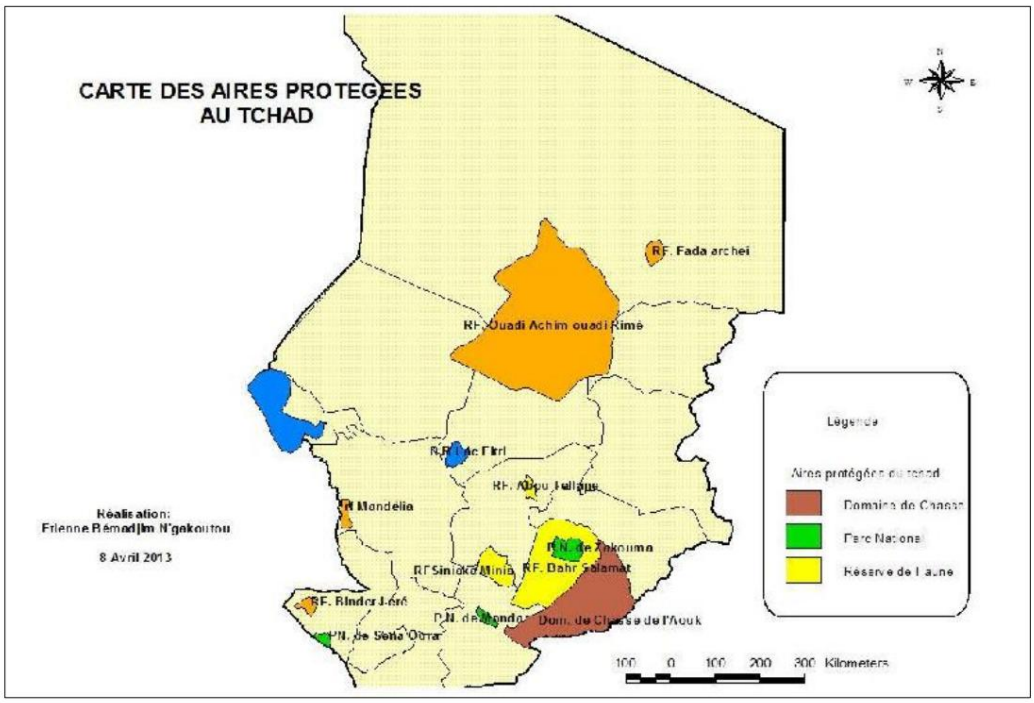

Figure 6. *Map of protected areas in Chad*

Chapter 4. National Action Plan for the Conservation of the cheetah and wild dog in the Republic of Chad

The National Action Plan for the conservation of the cheetah and wild dog in the Republic of Chad adopts the same structure as the Regional Strategy and includes 5 components:

1) a long-term vision for the conservation of these two species; 2) a medium-term goal for the Action Plan;
3) a number of objectives which make it possible to combat the threats weighing on the survival of these two species;
4) several expected results for each objective;
5) a list of activities to achieve each of the defined results

4.1. Vision and purpose

A **vision** is the formulation of a long-term goal that draws a line to follow for the Action Plan for the next 25-50 years. This vision must be optimistic but realistic about the future of these two species of carnivores in Chad and remain a source of inspiration.

Vision
A Republic of Chad, with populations of cheetahs and wild dogs protected and restored, managing its biodiversity and natural resources in a sustainable and concerted manner for the well-being of human populations by 2030

The **goal** should reflect what the group wants to accomplish in a shorter time frame than that defined for vision *(ie* 10-20 years). The goal must be realistic, achievable and measurable.

But
Better known, protected, viable and valued populations of cheetahs and wild dogs Chad

4.2. Objectives, Results and Activities

The formulation of objectives was entrusted to working groups; each group worked on two of the objectives defined in the Regional Strategy, shown below, as well as the corresponding results and activities.

Objectives of the Regional Strategy
1. Take stock of the resources, skills and tools necessary for the conservation of cheetahs and wild dogs
2. Deepen knowledge of the cheetah and wild dog based on the coordinated collection of reliable data
3. Raise awareness among all stakeholders of the socio-economic, ecological and intrinsic values of ecosystems and wildlife in general, and in particular cheetahs and wild dogs.
4. Promote the implementation of appropriate ecosystem-friendly policies and legislation, where necessary, to optimize the recovery of cheetah and wild dog populations.
5. Promote coexistence between the cheetah, the wild dog, human populations and their domestic animals by reducing conflicts.

6. Reduce the pressure of illegal harvesting and accidental mortalities of cheetahs and wild dogs as well as the overexploitation of their prey.

7. Maintain, enhance and restore the viability of cheetah and wild dog populations through habitat management and other appropriate measures.

8. Establish adequate skills and resources at the regional level for the implementation of the cheetah and wild dog conservation strategy in West, Central and Northern Africa.

The National Action Plan for the conservation of the cheetah and wild dog in Chad is presented below. The logical framework in tabular form is presented in Appendix 2.

4.3. Logical framework of the National Action Plan

Objective 1 Identify and establish the resources, knowledge and tools needed for the conservation of cheetahs and wild dogs

Outcome 1.1 Resources, skills and tools for cheetah conservation and of the wild dog are developed.

Activity 1.1.1 Identify needs in terms of capacity building specific to the two species within 2 years.

Activity 1.1.2 Identify specialized training institutions, researchers and other stakeholders who can strengthen the capacities of staff and other actors responsible for cheetah and wild dog management by 1 an.

Activity 1.1.3 Design training modules specific to the two species for staff responsible for their management within 3 years.

Activity 1.1.4. Implement training, assessment and refresher modules after completing Activities 1.1.1, 1.1.2, and 1.1.3.

Objective 2 Improve and deepen knowledge of the cheetah and the wild dog by based on the coordinated collection of reliable data.

Result 2.1 Data on the status and ecology of the cheetah and wild dog in the ranges (see distribution maps) are known, available, analyzed and disseminated through various methods within 5 years.

Activity 2.1.1 Take stock of knowledge on cheetah populations and of wild dog within a year.

Activity 2.1.2 Encourage and prioritize research, monitoring and conservation actions to be carried out in identified areas on an ongoing basis.

Activity 2.1.3 Create and update a centralized database at the national level and accessible to institutions involved in the conservation of the cheetah and wild dog.

Activity 2.1.4 Periodically disseminate data to decision-makers and donors on an ongoing basis.

Activity 2.1.5 Produce a biannual newsletter on the cheetah and wild dog within 6 months.

Activity 2.1.6 Develop a web page relating to the conservation strategy of both species on the website www.cheetahandwilddog.org within 1 year.

Activity 2.1.7 Carry out impact studies of different habitat management methods (e.g. water points, development fires, salt pans, etc.) on cheetah and wild dog populations to optimize management of the habitat to the conservation needs of these two species.

Objective 3 Inform, raise awareness and train all stakeholders on the socio-economic, ecological and intrinsic values of ecosystems and wildlife in general, of cheetahs and wild dogs in particular.

Outcome 3.1 Within 5 years, all relevant stakeholders are identified and aware of the conservation status of the cheetah and wild dog, as well as their importance.

Activity 3.1.1 Identify and convey the central message to all relevant stakeholders on the conservation status of the cheetah and Lycaon within 1 year (see activity 8.1.1).

Result 3.2 Within 5 years, identified stakeholders are informed, sensitized and trained on the conservation status of the cheetah and wild dog and their importance.

Activity 3.2.1 Develop appropriate information materials for a campaign awareness within 6 months

Activity 3.2.2 Organize national information, awareness and training campaigns in all areas where cheetahs and wild dogs are present within 2 years.

Activity 3.2.3 Evaluate the change in perception of different stakeholders on the conservation status of the cheetah and wild dog in the first and fifth years.

Objective 4 Promote the implementation of appropriate ecosystem-friendly policies and legislation, where necessary, to optimize the recovery of cheetah and wild dog populations.

Result 4.1 Within 5 years, all policies and legislation relating to the restoration of Cheetah and wild dog populations are identified and implemented.

Activity 4.1.1 Identify all policies and legislation relating to the recovery of cheetah and wild dog populations within 1 year.

Activity 4.1.2 Lobby and assist, where possible, in the implementation of policies and legislation identified from year two to year four.

Activity 4.1.3 Evaluate the changes that occurred following the implementation of the policies and legislation identified from the second year to the fifth year after the completion of Activities 4.1.1 & 4.1.2.

Outcome 4.2 Within 10 years, all appropriate policies and legislation are adapted to the conservation needs of the cheetah and wild dog, and harmonized across the region (e.g. transboundary agreements, CMS).

Activity 4.2.1 Identify all policies and legislation that need to be adapted to meet the conservation needs of the cheetah and wild dog during the second year.

Activity 4.2.2 Lobby to adapt the policies and legislation identified with the Ministries concerned, from the second year to the fourth year after the completion of Activity 4.2.1.

Activity 4.2.3 Monitor changes made in policies and legislation, and evaluate their implementation from the seventh to the tenth year after the completion of Activities 4.2.1 and 4.2.2.

Objective 5 Establish peaceful coexistence between the cheetah, the wild dog, human populations and their domestic animals by reducing conflicts.

Result 5.1 The level of conflicts between humans and carnivores (cheetah and wild dog) is assessed within 2 years.

Activity 5.1.1 Assess losses in and around the current range within 18 months.

Activity 5.1.2 Develop a map (and classify) areas of actual and potential conflict that require conflict reduction measures within 2 years.

Result 5.2 The number of conflicts between humans and carnivores around and in the area current distribution is significantly reduced within 5 years.

Activity 5.2.1 Target areas with high conflict intensity and implement local information, awareness and training campaigns to improve livestock protection and reduce conflicts with the cheetah and wild dog within 2 years.

Activity 5.2.2 Develop conflict reduction measures to improve breeding practices so as to effectively reduce livestock losses from cheetah and wild dog predation in the third to fifth year.

Activity 5.2.3 Identify and promote methods to reduce the transmission of diseases from domestic animals to wild dogs and cheetahs.

Outcome 5.3 The benefits derived by local communities will lead to better valorization of the cheetah and wild dog in and around the current range within 5 years.

Activity 5.3.1 Develop income-generating activities that respect environmental standards for the benefit of communities bordering the current range of the cheetah and wild dog from the first to the fifth year.

Activity 5.3.2 Develop ecotourism activities based on the cheetah and wild dog as emblematic species of the country within 5 years.

Objective 6 Reduce the pressure of illegal harvesting and accidental mortalities of cheetahs and wild dogs as well as the overexploitation of their prey.

Result 6.1 Illegal harvests and accidental mortalities of cheetahs and wild dogs are assessed and reduced significantly in and around the current range, within 5 years.

Activity 6.1.1 Assess, through interviews with stakeholders (local communities, healers, traders, protected area staff, customs services, etc.) and other methods, the number of cases and the importance of different types of use of the cheetah and the wild dog by local populations, the capture of live animals and accidental mortalities in the current range, within 3 years.

Activity 6.1.2 Implement vast public awareness, information and communication campaigns.

Activity 6.1.3. Lobby the authorities concerned to combat illegal harvesting and accidental mortalities in areas where these threats exist, from the second to the fifth year.

Activity 6.1.4. Strengthen anti-poaching activities in the various ranges to avoid illegal harvests and mortalities
accidental attacks by cheetahs and wild dogs; this is a long-term activity.

Result 6.2 The natural prey of the cheetah and wild dog are effectively managed in their ranges, within 5 years.

Activity 6.2.1 Improve range management to promote better anti-poaching activities in order to significantly reduce illegal prey taking within 5 years.

Activity 6.2.2 Increase the capacity of protected area managers to combat prey poaching by promoting intervention synergy between projects and donors who support protected areas housing resident populations of cheetahs and African wild dogs. here 5 years.

Activity 6.2.3 Help the Chadian State to adjust hunting quotas for cheetah and wild dog prey in hunting zones on an ongoing basis.

Outcome 6.3 Plans for the restoration of natural prey in probable and rehabilitable ranges are developed and implemented within 5 years.

Activity 6.3.1 Identify key areas for the cheetah and wild dog in order to implement activities to lead to the restoration of habitat and prey and predator populations from years two to five.

Activity 6.3.2 Seek financial support and prepare plans to support the rehabilitation of cheetah and wild dog prey populations in selected potential ranges, including their reintroduction into rehabilitable areas in years three to five.

Objective 7 Maintain, improve and restore the viability of cheetah and wild dog populations through habitat management and other appropriate measures.

Result 7.1 Current resident populations of cheetah and wild dog and their habitats are restored within 10 years.

Activity 7.1.1 Develop and adopt conservation and area management plans protected areas sheltering populations of cheetahs and wild dogs within 2 years.

Activity 7.1.2 Implement conservation and management plans within 10 years.

Activity 7.1.3. Evaluate and revise conservation and management plans within 5 years.

Activity 7.1.4 Involve local populations in range management current number of cheetahs and wild dogs within 10 years.

Result 7.2 Populations of cheetahs and wild dogs in current residence areas are viable and have increased by at least 50% within 10 years.

Activity 7.2.1 Harmonize policies and intersectoral legislation for development and occupation of space for effective protection of the cheetah and wild dog.

Activity 7.2.2 Monitor and evaluate the growth of populations of cheetahs, wild dogs and their prey on an ongoing basis.

Activity 7.2.3 Reduce conflicts between humans and carnivores through the development of income-generating and environmentally friendly activities in neighboring areas from the second year.

Activity 7.2.4 Evaluate the possibilities of reintroducing the cheetah and wild dog into viable habitats (e.g. genetic analysis, habitat, etc.) from the third year onwards.

Result 7.3 Areas favorable to the survival of cheetah and wild dog populations in possible and rehabilitable ranges, as well as corridors are managed and reestablished within 7 years

Activity 7.3.1 Confirm potential presence areas and rehabilitated areas of cheetah and wild dog populations and identify current movement corridors of the two species within 2 years.

Activity 7.3.2 Develop and adopt conservation and management plans for areas with the possibility of rehabilitation of current travel corridors from the third year, after the completion of Activity 7.3.1.

Activity 7.3.3 Implement the management plans from the fifth year after the completion of Activity 7.3.2.

Activity 7.3.4 Evaluate and revise the development and management plans, from the seventh year, after the completion of Activity 7.3.3.

Activity 7.3.5 Involve local populations in the management of cheetah and wild dog movement corridors, from the fifth year onwards.

Objective 8 Establish adequate skills and resources for the implementation of the cheetah and wild dog conservation strategy in Chad.

Result 8.1 The cheetah and wild dog conservation strategy in accordance with the national natural resources management policy is adopted within 2 years

Activity 8.1.1 Organize a national workshop with supervisory structures and other stakeholders within 1 year.

Activity 8.1.2 Develop and adopt a Memorandum of Understanding for the implementation of the strategy within 2 years.

Outcome 8.2 A national sustainable financing mechanism for the strategy is created and operational within 5 years.

Activity 8.2.1 Develop the budget and carry out a feasibility study to seek sufficient funds for the implementation of the national strategy within 6 months.

Activity 8.2.2 Develop a financing plan for the implementation of the strategy nationally within 1 year.

Activity 8.2.3 Strengthen capacities with a view to raising funds to finance the national strategy within 1 year.

Activity 8.2.4 Identify and lobby potential donors on an ongoing basis.

Result 8.3 A coordination and monitoring and evaluation body for the implementation of the strategy is operational within 1 year.

Activity 8.3.1 Recruit a national coordinator and establish a network of experts nationals within 1 year.

Activity 8.3.2 Organize periodic (annual) meetings to monitor and evaluate the strategy on an ongoing basis.

Appendix 1. Bibliography

Bashir, S., Daly, B., Durant, S.M., Forster, H., Grisham, J., Marker, L., Wilson, K. & Friedmann, Y. (2004) Global cheetah *(Acinonyx jubatus)* monitoring workshop report Tanzania Carnivore Programme, Arusha.

Bauer, H. & Van Der Merwe, S. (2004) Inventory of free ranging lions *(Panthera leo)* in Africa. *Oryx,* 38: 26-31.

Bauer , H. , Vanherle , N. , De Silvestre , I. & De Iongh , HH (2008) Lion – prey relations in the West and central Africa. *Mamm. Biol.* 73: 70-73.

Bauer, H., Nowell, K. & Packer, C. (2012) *Panthera leo.* In: IUCN 2013. IUCN Red List of Threatened Species. Version 2013.1. Downloaded on 10 October 2013.

Burney, D.A. (1980) The effects of human activities on cheetah *(Acinonyx jubatus)* in the Mara region of Kenya, University of Nairobi, Nairobi.

Caro, T.M. & Collins, D.A. (1987a) Male cheetah social organisation and territoriality. *Ethology,* 74: 52-64.

Caro, T.M. & Durant, S.M. (1991) Use of quantitative analyses of pelage characteristics to reveal family resemblances in genetically monomorphic cheetahs. *Journal of Heredity,* 82: 8-14.

Caro, T.M. (1994) Cheetahs of the Serengeti plains University of Chicago Press, Chicago.

Chardonnet, P. (ed.) (2002) Conservation of the African Lion: Contribution to a Status Survey. Fondation IGF, France & Conservation Force, USA.

Creel, S. & Creel, N.M. (2002) The African wild dog: behavior, ecology and conservation Princeton University Press, Princeton.

Creel, S.R. & Creel, N.M. (1996) Limitation of African wild dogs by competition with larger carnivores. *Conservation Biology,* 10: 1-15.

Di Silvestre, I. & Bauer, H. (2013) Population Status of Carnivores in Pendjari Biosphere Reserve (Benin) in 2001-2002. *Cat News,* IUCN, Gland.

Divyabhanusinh (1995) The end of a trail – The cheetah in India Banyan Books, New Delhi.

Durant, S.M. (1998) Competition refuges and coexistence: an example from Serengeti carnivores. *Journal of Animal Ecology,* 67: 370-386.

Durant, S.M. (2000) Living with the enemy: avoidance of hyenas and lions by cheetahs in the Serengeti. *Behavioral Ecology,* 11: 624-632.

Durant, S.M., Bashir, S., Maddox, T., & Laurenson, M.K. (2007) Relating long-term studies to conservation practice: the case of the Serengeti cheetah project. *Conservation Biology,* 21: 602-611.

Durant, S.M., Kelly, M., & Caro, T.M. (2004) Factors affecting life and death in Serengeti cheetahs: environment, age and sociality. *Behavioral Ecology,* 15: 11-22.

Dutson, G. & Sillero-Zubiri, C. (2005) Forest-dwelling African wild dogs in the Bale Mountains, Ethiopia. *Canid News,* 8:1-6.

Fanshawe, J.H., Ginsberg, J.R., Sillero-Zubiri, C. & Woodroffe, R. (1997). The status and distribution of remaining wild dog populations. In The African wild dog: Status survey and conservation action plan (eds R. Woodroffe, J.R. Ginsberg & D.W. Macdonald), pp. 11-57. IUCN, Gland.

Frame , LH & Fanshawe , JH (1990). African wild dog *Lycaon pictus:* a survey of status and distribution 1985-88.

Fuller, T.K., Kat, P.W., Bulger, J.B., Maddock, A.H., Ginsberg, J.R., Burrows, R., McNutt, J.W. & Mills, M.G.L. (1992a). Population dynamics of African wild dogs. In: Wildlife 2001: Populations (eds D.R. McCullough & H. Barrett). Elsevier Science Publishers, London.

Fuller, T.K., Mills, M.G.L., Borner, M., Laurenson, M.K. & Kat, P.W. (1992b) Long distance dispersal by African wild dogs in East and South Africa. *Journal of African Zoology,* 106: 535-537.

Girman, D.J. & Wayne, R.K. (1997b). Genetic perspectives on wild dog conservation. In The African wild dog: Status survey and conservation action plan (eds R. Woodroffe, J.R. Ginsberg & D.W. Macdonald), pp. 7-10. IUCN, Gland.

Girman, D.J., Wayne, R.K., Kat, P.W., Mills, M.G.L., Ginsberg, J.R., Borner, M., Wilson, V., Fanshawe, J.H., FitzGibbon, C.D. & Lau, L.M. (1993) Molecular-genetic and morphological analyses of the African wild dog *(Lycaon pictus). Journal of Heredity,* 84: 450-459.

Gottelli, D., Wang, J., Bashir, S. & Durant, S.M. (2007) Genetic analysis reveals promiscuity among female cheetahs. Proceedings of the Royal Society of London Series B-Biological Sciences.

Gros, P.M. & Rejmanek, M. (1999) Status and habitat preferences of Uganda cheetahs: an attempt to predict carnivore occurrence based on vegetation structure. *Biodiversity and Conservation,* 8: 1561-1583.

Gros , PM (1996) Status of the cheetah in Malawi . *Marriage,* 19: 33-36.

Gros, P.M. (1998) Status of the cheetah *Acinonyx jubatus* in Kenya: a field-interview assessment. *Biological Conservation,* 85: 137-149.

Gros, P.M. (2002) The status and conservation of the cheetah *Acinonyx jubatus* in Tanzania. *Biological Conservation,* 106: 177-185.

Hensche,l P. , Azani , D. , Burton , C. , Malanda , G. , Saidu , Y. , Sam , M. & Hunter , L. (2010). . . . . *Cat News,* 52 : 34-37.

Henschel, P., Kiki, M., Sèwadé, C. & Tehou, A. (2012) Inventory of large carnivores in the W-Arly-Pendjari Complex. 29p.

IUCN (2012) IUCN Red List of Threatened Species. Version 2013.1. Downloaded on 10 October 2013.

IUCN/SSC (2006) Conservation strategy for the lion in West and Central Africa. West and Central African Lion Workshop, Douala, 2-7 October 2005. IUCN SSC Cat Specialist Group report.

Kingdon, J. (1997) The Kingdon field guide to African mammals. Academic Press, San Diego, USA.

Kuhme, W.D. (1965) Communal food distribution and division of labour in African hunting dogs. *Nature,* 205: 442-444.

Laurenson, M.K. (1993) Early maternal behaviour of wild cheetahs: implications for captive husbandry. *Zoo Biology,* 12: 31-43.

Laurenson, M.K. (1994) High juvenile mortality in cheetahs *(Acinonyx jubatus)* and its consequences for maternal care. *Journal of Zoology,* 234: 387-408.

Lindsey, P.A., Roulet, P.A. & Romañach, S.S. (2007) Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa. *Biological Conservation,* 134: 455-469.

Lindsey, P.A., Balme, G.A., Booth, V.R., Midlane, N. (2012) The significance of African lions for the financial viability of trophy hunting and the maintenance of wild land. PLoS ONE 7(1): e29332

Lindsey, P.A., Balme, G.A., Funston, P., Henschel, P., Hunter, L. *et al.* (2013) The trophy hunting of African lions: scale, current management practices and factors undermining sustainability. PLoS ONE 8(9): e73808

Loveridge A.J. & Canney, S. (2009) African lion distribution modeling project. Born Free Foundation, Horsham, UK.

Malcolm , JR & Marten , K. (1982) Natural selection and the communal rearing of pups in African wild dogs *(Lycaon pictus). Behavioral Ecology and Sociobiology .*

Marker, L. (1998). Current status of the cheetah *(Acinonyx jubatus).* In: A symposium on cheetahs as game ranch animals (ed B.L. Penzhorn), pp. 1-17, Onderstepoort, South Africa.

Marker, L. (2002) Aspects of cheetah *(Acinonyx jubatus)* biology, ecology and conservation strategies on Namibian farmlands. D.Phil. thesis, University of Oxford, Oxford.

Marker, L., Dickman, A.J., Jeo, R.M., Mills, M.G.L. & Macdonald, D.W. (2003a) Demography of the Namibian cheetah, *Acinonyx jubatus jubatus. Biological Conservation,* 114: 413-425.

Marker, L., Dickman, A.J., Mills, M.G.L., Jeo, R.M., & Macdonald, D.W. (in press) Spatial ecology of cheetahs *(Acinonyx jubatus)* on north-central Namibian farmlands. *Journal of Zoology.*

Marker, L., Muntifering, J.R., Dickman, A.J., Mills, M.G.L. & Macdonald, D.W. (2003b) Quantifying prey preferences of free-ranging Namibian cheetahs. *South African Journal of Wildlife Research,* 33: 43-53.

McNutt, JW (1996) Sex-biased dispersal in African wild dogs, *Lycaon pictus. Animals Behaviour,* 52: 1067-1077.

Mills, M.G.L. & Biggs, H.C. (1993) Prey apportionment and related ecological relationships between large carnivores in Kruger National Park. Symposia of the Zoological Society of London, 65: 253-268.

Mills, M.G.L. & Gorman, M.L. (1997) Factors affecting the density and distribution of wild dogs in the Kruger National Park. *Conservation Biology,* 11: 1397-1406.

Morsbach, D. (1986) The behaviour, ecology and movements of cheetah on the farm areas of SWA/Namibia Directorate of Nature Conservation and Recreation Resorts, Windhoek.

Myers, N. (1975) The cheetah *Acinonyx jubatus* in Africa. IUCN Monograph No. 4 IUCN, Morges, Switzerland.

Packer, C., Brink, H., Kissui, B.M., Maliti, H., Kushnir, H. & Caro, T. (2011) Effects of trophy hunting on lion and leopard populations in Tanzania. *Biol. Cons.*

Pellerin, M., Kidjo, F., Tehou, A., Sogbohossou, EA, Ayegnon, D. & Chardonnet, P. (2009) *Conservation status of the lion (Panthera leo* Linnaeus, *1758) in Benin.* IGF & CENAGREF Foundation, Cotonou, Benin.

Rasmussen, G.S.A. (1999) Livestock predation by the painted hunting dog *Lycaon pictus* in a cattle ranching region of Zimbabwe: a case study. *Biological Conservation,* 88: 133-139.

Rey-Herme, P. (2004) Epidemiological investigation on the outskirts of the W ECOPAS regional park. Veterinary Thesis.

Riggio, J., Jacobson, A., Dollar, L., Bauer, H., Becker, M., Dickman, A., Funston, P., Groom, R., Henschel, P., de Iongh, H., Lichtenfeld, L. & Pimm, S. (2013) The size of savannah Africa: a lion's *(Panthera leo)* view. *Biodiversity Conservation,* 22: 17-35.

Schaller, G.B. (1972) The Serengeti Lion: a study of predator-prey relations. University of Chicago Press, Chicago, USA.

Sharp, N.C.C. (1997) Timed running speed of a cheetah *(Acinonyx jubatus). Journal of Zoology,* 241: 493-494.

Soclo, HH (2004) Study of the impact of the use of chemical fertilizers and pesticides by local populations on the ecosystems (surface water, substrates of wildlife reserves) in the complexes of the Pendjari Protected Areas and the W. CENAGREF report, PCGPN.

Sogbohossou, EA (2009) Counting lions in the Biosphere Reserve of the Penjari. Technical report. CENAGREF, Cotonou, BENIN.

Sogbohossou, EA (2011) Lions of West Africa. Ecology of lion populations and human-lion conflicts in Pendjari Biosphere Reserve, North Benin. Doctoral thesis, University of Leiden, Netherlands.

Thesiger, W. (1970) Wild dog at 5894 m (19,340 ft). *East African Wildlife Journal,* 8: 202.

Van Dyk, G. & Slotow, R. (2003) The effect of fences and lions on the ecology of African wild dogs reintroduced into Pilansberg National Park, South Africa. *African Zoology* 38: 79-94.

Woodroffe, R. & Ginsberg, J.R. (1997a) Past and future causes of wild dogs' population decline. In: The African wild dog: Status survey and conservation action plan (eds R. Woodroffe, J.R. Ginsberg & D.W. Macdonald), pp. 58-74. IUCN, Gland.

Woodroffe, R. & Ginsberg, J.R. (1998) Edge effects and the extinction of populations inside protected areas. Science, 280, 2126-2128.

Woodroffe, R., Davies-Mostert, H., Ginsberg, J.R., Graf, J.A., Leigh, K., McCreery, E.K., Mills, M.G.L., Pole, A., Rasmussen, G.S.A., Robbins, R., Somers, M. & Szykman, M. (2007a) Rates and causes of mortality in endangered African wild dogs *(Lycaon pictus):* lessons for management and monitoring. *Oryx,* 41: 1-9.

Woodroffe, R., Ginsberg, J.R., & Macdonald, D.W. (1997b) The African wild dog: Status survey and conservation action plan IUCN, Gland.

Woodroffe, R., Lindsey, P.A., Romañach, S.S., & Ranah, S.M.K. (2007c) African wild dogs *(Lycaon pictus)* can subsist on small prey: implications for conservation. *Journal of Mammalogy,* 88: 181-193.

Woodroffe, R., McNutt, J.W. & Mills, M.G.L. (2004). African wild dog. In: Foxes, wolves, jackals and dogs: status survey and conservation action plan. 2nd edition (eds C. Sillero-Zubiri & D.W. Macdonald), pp. 174-183. IUCN, Gland, Switzerland.

ZSL (in press) Regional strategy for the conservation of the Cheetah and Wild Dog in West, central and northern Africa.

Zongo, I., Dorsey, G., Rouamba, N., Dokomajilar, C., Lankoande, M., Ouedraogo, J.B. & Rosenthal, P.J. (2005) Amodiaquine, sulfadoxine-pyrimethamine, and combination Therapy for uncomplicated falciparum malaria: a randomized Controlled trial from Burkina Faso. *Am J Trop Med Hyg,* 73: 826-832.

Annex 1. List of participants in the national strategic planning workshop; Zakouma National Park, Tinga Camp, March 16-17, 2015

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Appendix 2. Logical framework of the National Action Plan for the conservation of the cheetah and wild dog in the Republic of Chad.

Vision : A Republic of Chad, with populations of cheetahs and wild dogs protected and restored, managing its biodiversity and natural resources in a sustainable and concerted manner for the well-being of human populations by 2030.					
But : Populations of cheetahs and wild dogs better known, protected, viable and valued in Chad.					
Axe objective	**Strategic**	**Result**	**Activity**	**Indicators Objectively Verifiable** 80% **Main Actors**	
	1. Identify and establish the resources, knowledge and tools necessary for the conservation of Cheetahs and Wild Dogs	1.1 Within 5 years, the capacities for the implementation of the national cheetah and wild dog conservation strategy are acquired.	1.1.1 Identify needs in terms of capacity building specific to the two species within 2 years.	of needs (human resources, material resources and legal tools) identified	MEP, Coordination National Project G/L (CNPGL), MESRS, Experts etc.
			1.1.2 Identify specialized training institutions, researchers and other stakeholders who can strengthen the capacities of staff and other actors in charge of cheetah and wild dog management within 1 year.	List of specialized training institutions, researchers and other stakeholders established.	MEP, CNPGL, MESRS, Experts etc.
			1.1.3 Design training modules specific to the two species for staff responsible for their management by 3 years.	At least two training modules designed.	MEP, CNPGL, MESRS, Experts etc.
			1.1.4 Implement training, assessment and refresher modules after completion of Activities 1.1.1, 1.1.2, and 1.1.3.	At least 80% of the designed modules delivered.	MEP, CNPGL
	2. Improve and deepen knowledge of the Cheetah and the Wild Dog based on the coordinated collection of reliable data.	2.1 Data on the status and ecology of the cheetah and wild dog in the distribution areas 2.1.2 Promote conservation and manner known, maps for distribution available, analyzed and disseminated through	2.1.1 Take stock of knowledge on cheetah and wild dog populations within 1 year.	A report on the current state of knowledge on cheetah and wild dog populations produced.	MEP, CNPGL, Experts
			prioritize actions (see research, monitoring and continuous.	At least four research, monitoring and conservation actions carried out within 5 years. At least one scientific publication on the cheetah and wild dog produced within 5 years.	MEP, CNPGL, MESRS

		various methods within 5 years.	2.1.3 Create and update a centralized database at the national level and accessible to institutions involved in the conservation of the cheetah and wild dog.	A database created, centralized, accessible and updated.	MEP, CNPGL, Donors
			2.1.4 Periodically disseminate data to decision-makers and donors on an ongoing basis.	At least one distribution per year to decision-makers and donors organized.	MEP, CNPGL, Donors
			2.1.5 Produce a biannual newsletter on the cheetah and wild dog within 6 months.	A biannual newsletter produced.	MEP, CNPGL, Experts
			2.1.6 Develop a web page relating to the conservation strategy for the two species on the website www.cheetahandwilddog.org within 1 year.	A web page created and powered.	MEP, CNPGL, Experts, Lessors
			2.1.7 Carry out impact studies of different habitat management methods (e.g. water points, development fires, salt pans, etc.) on cheetah and wild dog populations to optimize management of habitat to the conservation needs of these two species.	At least one impact study of different habitat management methods carried out.	MEP, CNPGL, Experts, Lessors
	awareness and train all stakeholders in the conservation of socio-economic, wild dog, as well as ecological values and their importance .	3.1 Within 5 years, all relevant stakeholders are identified and 3. Inform, raise	3.1.1 Identify and transmit the central message to all relevant stakeholders on the conservation status of the cheetah and Lycaon within 1 year (see activity 8.1.1).	List of stakeholders established. 80% of stakeholders aware of the status of conservation.	MEP, CNPGL, Communities, MISP PTF, ONG
			National Workshop (See activity 8.1.1)	A national workshop organized.	MEP, CNPGL, Experts, Donors…
	intrinsic 3.2.1 Develop information supports 3.2 Within 5 years the ecosystems and the appropriate for an wildlife stakeholders are identified within 6 months. general, cheetahs and informed awareness and particular.	awareness campaign		Information supports developed and available.	MEP, CNPGL, MESRS Experts, PTF, ONG
		3.2.2 Organize national wild dog campaigns in awareness and information, trained on training in all areas where cheetahs and wild dogs are present and their by 2 conservation status of the cheetah and wild dog years		At least one workshop per region organized. 2 radio broadcasts produced and posters displayed.	MEP, CNPGL, MESRS Experts, PTF, ONG Media
			3.2.3 Evaluate the change in perception A survey at T0 of the different stakeholders on the status perception made.		MEP, CNPGL, MESRS Experts, PTF, ONG

		importance.	conservation of the cheetah and wild dog during the first and fifth years.	A survey at T+5 years carried out. Differences in perception analyzed and available.	Communities
		4.1 Within 5 years, all policies and legislation 4.1.2	4.1.1 Identify all policies and legislation relating to the recovery of cheetah and wild dog populations by 1 an.	All policies and legislation identified.	DFAP, DGE, SG DLCC, CNPGL
		Lobby and recovery of	assist, where possible, the identified legislations of the cheetah and wild dog populations from the second year to the fourth year.	At least 80% of the authorities relating to the implementation of policies and ranges of informed.	MEP, MISP, MEH, CNPGL
	introduction of wild dogs are identified and implementation for the	cheetahs and 4.1.3 following the of the legislations identified implemented.	Evaluate the changes that have occurred 4. Promote the implementation of the policies and implementation of the policies and from the second year to the fifth year after the favorable implementation of Activities 4.1.1 & 4.1.2.	Activity 2.1.1 redone at T+5. Changes analyzed and available.	MEP, MISP, MEH, External consultants, Lessors, CNPGL
	ecosystems, adapted, where necessary, the reestablishment of populations appropriate legislations are and about lycaons.	4.2 Within 10 years, cheetah and the policies and legislation identified. second year.	4.2.1 Identify all policies and legislation that must be adapted in order to optimize 80% of policies and meet the needs of the wild dog in terms of conservation during the cheetah		MEP, MISP, MEH CNPGL
		adapted to the identified with the Ministries	4.2.2 Lobby to adapt the needs of the policies and legislation concerned, from the second year to the fourth year after the completion of Activity 4.2.1.	80% of policies and legislation harmonized.	MEP, MISP, MEH, MD CNPGL
		conservation, and harmonized to and evaluate (e.g. agreements year after the completion of the CMS).	4.2.3 Monitor changes made across the region policies and legislation, their implementation from the seventh to the tenth Activities 4.2.1 and 4.2.2.	An implementation monitoring and evaluation report is available.	MEP, MISP, MEH External consultants Lessors, CNPGL
	the coexistence of peaceful humans and a map (and classify) is their animals evaluated	5.1 Level 5. Establish conflicts between cheetahs, wild dogs, carnivores (and lycaon) within 2 years.	5.1.1 Assess losses in and around the current range within 18 months.	The rate of losses caused within and around the distribution area assessed within 18 months.	MEP, CNPGL, MESRS Experts, PTF, ONG
	2 years. reducing conflicts.		5.1.2 Develop populations and areas of real and potential conflicts which require measures to reduce domestic conflicts within	Map of conflict zones developed.	MEP, CNPGL, MESRS Experts, PTF, ONG
		5.2 The number of conflicts between	5.2.1 Target areas with high conflict intensity and implement information, awareness and awareness campaigns	At least 80% of areas with high intensity of conflicts in the country.	MEP, CNPGL, MESRS Experts, PTFs, NGOs, the targeted Socks

		man and within 2 years. current distribution to significantly	local training to improve the protection of with the informed, sensitized and carnivores 5.2.2 Developing reduction measures is reduced from conflicts improve breeding practices so as to reduce within 5 years. effectively reduce livestock losses due to predation by cheetahs and wild dogs in the third to fifth year.	At least 80% of people from livestock and reduce conflicts around and in the cheetah and wild dog range trained on the conflict. Conflict reduction measures developed.	 MEP, CNPGL, MESRS Experts, PTF, ONG, Communities
			5.2.3 Identify and promote methods to reduce the transmission of diseases from domestic animals to wild dogs and cheetahs.	Methods for reducing MEP, CNPGL, MESRS transmission of diseases Experts, TFPs, NGOs, identified.	Communities
		benefits derived from income respecting local e communities bordering the wild dog. first to fifth grade. 5.3.2 Developing ecotourism activities in the range- Development of the cheetah and wild dog within and around the country by 5 years. years.	5.3.1 Develop income-generating activities 5.3 The vironmental standards for the benefit of he hold area will lead to a better value of the current distribution of the cheetah and the based on the cheetah and wild dog as current 5.3.2	At least 3 AGR developed MEP, CNPGL, MESRS for the benefit of communities Experts, PTFs, NGOs, Communities local residents. At least 2 ecotourism activities based on the cheetah and the wild dog developed.	 MEP, MDT, CNPGL, MESRS Experts, PTF, ONG, Communities
	6. Reduce the pressure of illegal harvesting and accidental mortalities of cheetahs and wild dogs as well as the overexploitation of their prey.	6.1 Collections 6.1.1 (local communities, services, etc.) and cheetahs dogs are the and the wild dog by animals and distribution , within and around the current range, within 5 years.	Evaluate, through interviews with illegals and stakeholders healers, traders, protected area personnel, customs importance of the different types of use assessed and of the cheetah the local populations are decreasing, the capture of live the manner of accidental mortalities in the area of significant to current within 3 years.	List of types of use MEP, CNPGL, Experts, established and updated every 2 years	in the Communities.
			6.1.2 Implement vast public awareness, information and awareness campaigns	At least 5 campaigns completed.	MEP, CNPGL Communities

			Communication.	2 advertising spots produced and broadcast. At least 5 Information Communication sessions Education (ICE) carried out.	
			6.1.3 Lobby the authorities concerned to combat illegal harvesting and accidental mortalities in areas where these threats exist, from the second to the fifth year.	At least 20 people contacted among the authorities in each area of potential presence.	MEP, CNPGL, MISP, National Assembly
			6.1.4 Strengthen anti-poaching activities in the various ranges to avoid illegal harvests and accidental mortalities of cheetahs and wild dogs; this is a long-term activity.	At least 2 village surveillance brigades (BVS) set up per canton. At least 20 BVS members trained. An information sharing network between BVS and operational state technical services.	MEP, CNPGL, Communities, Donors, MISP
		prey of protected a cheetah and managed by populations in their by 5 years.	6.2.1 Improve range management to promote better anti-poaching activities in order to significantly reduce illegal prey taking within 5 years.	Each guard, working for a protected area in the potential range of the two species, benefits from at least two specialized training courses on anti-poaching.	MEP, CNPGL, Communities, Donors, MISP
		areas to the synergy of intervention between projects and wild dog are donors who support them effectively protected areas housing resident areas of cheetahs and wild dogs by 5 distribution, years.	6.2.2 Increase the capacity of managers 6.2 The natural fight against the poaching of prey by promoting	A consultation framework for synergy of action between MEP, CNPGL, Experts, managers and donors landlords available.	
			6.2.3 Help the Chadian State to adjust hunting quotas for cheetah and wild dog prey in hunting zones on an ongoing basis.	An inventory of available resources carried out each year. A quota allocated for MEPs, CNPGLs, Lessors prey species, depending on the conservation of predators.	

		6.3 Plans for restoration of natural prey in probable and rehabilitative ranges are developed and implemented by 5 years.	6.3.1 Identify key areas for the cheetah 1. and wild dog in order to implement activities leading to the restoration of habitat and prey and predator populations from the second to fifth years.	The key current distribution areas of the 2 predators identified.	MEP, CNPGL, Experts, Communities, Donors, MISP
			6.3.2 Seek financial support and prepare plans to support the rehabilitation of cheetah and wild dog prey populations in selected potential 2. ranges, including their reintroduction into rehabilitable areas in years three to five .	List of potential landlords available. A joint action plan developed.	MEP, CNPGL, Experts, Lessors
	7. Maintain, enhance and restore the viability of cheetah and wild dog populations through habitat management and other appropriate measures.	7.1 Current resident populations 7.1.2 plans within 10 years. wild dogs and their established within 10 conservation years.	7.1.1 Develop and adopt conservation and management plans for protected areas housing cheetah and wild dog populations within 2 years.	A management plan for the areas sheltering the population of cheetahs and wild dogs available for each zone of presence.	MEP, CNPGL
			Implement cheetah and conservation and management	At least 60% of planned activities carried out. .	MEP, CNPGL
			7.1.3 Evaluate and revise habitat plans are re- and management, within 5 years.	Evaluation report of each revised plan available.	MEP, External consultants, Donors, CNPGL
			7.1.4 Involve local populations in the management of current cheetah and wild dog distribution areas within 10 years.	A co-management plan with local populations in the MEP, MISP, MEH areas presence of the 2 predators CNPGL, Communities available.	
		dogs occupy space for wild dogs in current residence areas are viable and have increased 7.2.2 wild dogs and less years.	7.2.1 Harmonize policies and legislation A text specific to the intersectoral development and protection and conservation 7.2 Populations of cheetahs and wild effective protection of cheetahs and wild dogs.	developed and available.	MEP, MISP, MEH, SGG, CNPGL
			Monitor and evaluate the growth of populations of cheetahs, than 50%, by 50%, by 10 their prey on a continuous basis.	Annual report on the results of monitoring and assessments of cheetah, wild dog and prey populations available.	MEP, MISP, MEH, External consultants, Lessors, CNPGL
			7.2.3 Reduce conflicts between humans and carnivores through the development of income-generating activities and	Human-carnivore conflicts reduced by 80% through activities	MEP, MISP, MEH, Consultants, CNPGL

			environmentally friendly practices in neighboring areas from the second year onwards.	environmentally friendly income generators from the second year.	
			7.2.4 Evaluate the possibilities of reintroducing the cheetah and wild dog into viable habitats (e.g. genetic analysis, habitat, etc.) from the third year onwards.	A study report available.	MEP, MISP, MEH, External consultants, Donors, CNPGL
		7.3 The zones zones with the displacement distribution areas year after the that the corridors are managed and reestablished within 7 years.	7.3.1 Confirm the potential presence areas and rehabilitated areas of cheetah and wild dog populations and identify the current movement corridors of the two species within 2 years.	At least 80% of areas with potential and rehabilitable presence of cheetah and wild dog populations, as well as current movement corridors identified/confirmed.	MEP, CNPGL
			7.3.2 Develop and adopt conservation and management plans for the survival of the possibility of rehabilitation of the corridors for each potential zone populations of external from the rehabilitation of cheetah corridors and Communities, CNPGL populations, current third year, after the completion of current wild dog movements in Activity 7.3.1. developed and available		
			7.3.3 Implement the management plans at least 80% of the plans possible and from the fifth management described in 7.3.2 put rehabilitated, thus carrying out Activity 7.3.2. artwork.		MEP, CNPGL
			7.3.4 Evaluate and revise the development and management plans, from the seventh year, after the completion of Activity 7.3.3.	An evaluation and review report of the MEP, MISP, MEH plans, planning and management External within 2 years after completion Donors, CNPGL activity 7.3.3 available.	consultants,
			7.3.5 Involve local populations in the management of cheetah and wild dog movement corridors, from the fifth year onwards.	A co-management report on cheetah and wild dog movement corridors available.	MEP, MISP, MEH, CNPGL, Communities
	Implement the conservation of the guardianship within 1 year. the implementation of the conservation strategy policy and management of the wild dog in Chad.	8.1 The strategy of 8. structures and other parties national cheetah resources natural, is	8.1.1 Organize a national workshop with the skills and the cheetah and adequate means for lycaon compliant with stakeholders	A strategy validation workshop by stakeholders organized.	MEP, CNPGL, experts, Donors…..
			8.1.2 Develop and adopt a Memorandum of Understanding for the implementation of the strategy within 2 years.	A Memorandum developed and adopted.	MEP, CNPGL

		adopted within 2 years			
		8.2 A national sustainable financing mechanism for the strategy is created and operational within 5 years.	8.2.1 Develop the budget and carry out a study A budget to establish the feasibility of seeking sufficient funds has been developed and adopted. for the implementation of the strategy A national feasibility study within 6 months. carried out.		MEP, CNPGL, Experts
			8.2.2 Develop a financing plan for the implementation of the national strategy within 1 year.	A financing plan developed.	MEP, CNPGL, Experts etc.
			8.2.3 Strengthen capacities with a view to raising funds to finance the national strategy within 1 year.	At least 10 specialized national executives trained in fundraising.	MEP, CNPGL, Experts etc.
			8.2.4 Identify and lobby potential donors on an ongoing basis.	Lobbying carried out in communication tools.	MEP, CNPGL
		8.3 A body for coordination and monitoring and evaluation of the implementation of the strategy is operational by 1 (annual) for monitoring an.	8.3.1 Recruit a national coordinator and set up a network of national experts within 1 year.	A coordinator recruited and an operational network of national experts established.	MEP, Donors
			8.3.2 Organize periodic meetings and evaluation of the strategy on an ongoing basis.	Periodic meetings organized.	MEP, CNPGL