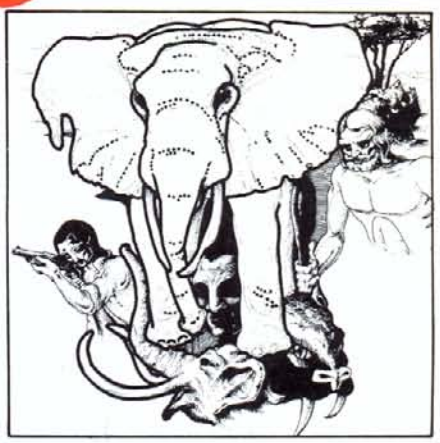
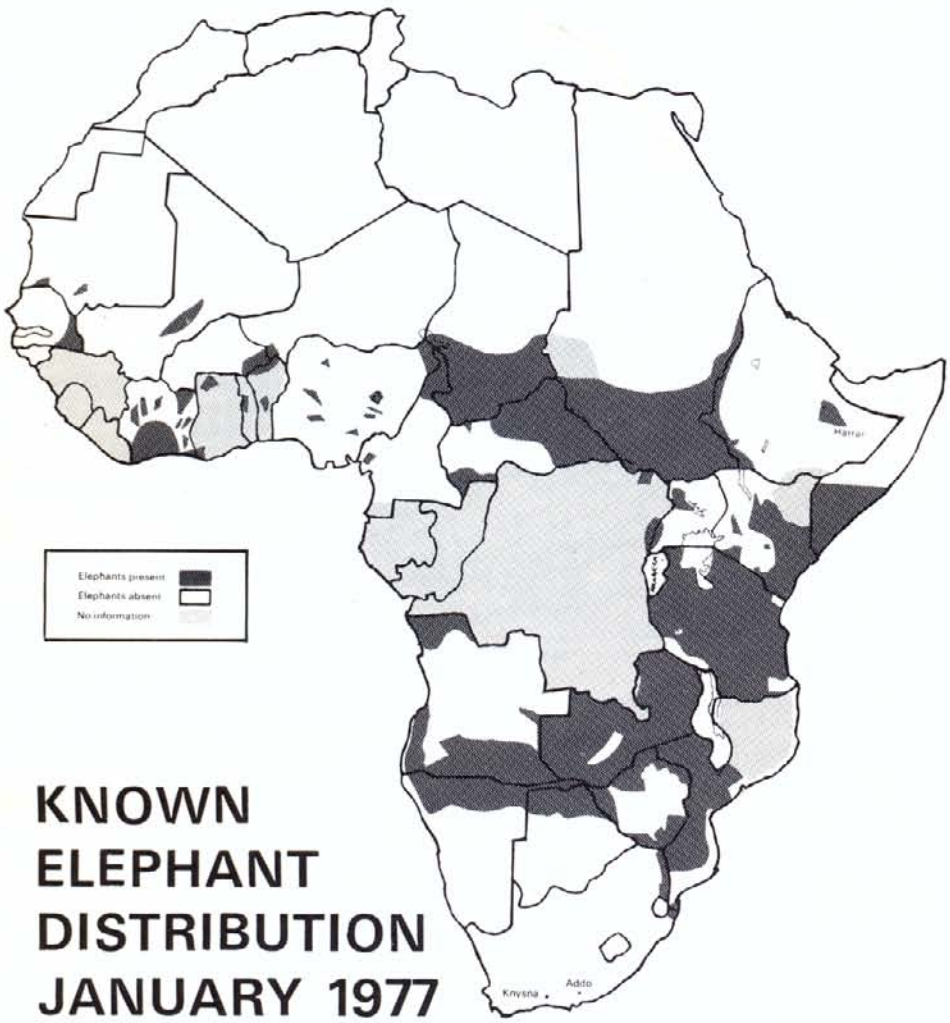
WWF/IUCN Elephant Survey & Conservation Programme

Newsletter No. 2. March 1977





KNOWN ELEPHANT DISTRIBUTION JANUARY 1977

BY DECEMBER 1976 the IUCN/WWF Elephant project with support from the New York Zoological Society had completed its first six months of operation. We can therefore review the extent to which our knowledge of the African elephant has advanced.

From the start cooperation from African states has been good, and the Fund for animals passed on to us the results of their independent postal survey.

The continental picture is still very far from complete, and in most cases we cannot yet hazard a guess at elephant numbers within a country. We can, however, summarise our current knowledge of the elephants' distribution on a map. We have marked their ranges, even where they occur only occasionally or at very low densities, and have indicated areas where we lack information, or where elephants are definitely absent. The map is very much a first draft, and we hope that readers will send us ammendments and/or corrections.

The complexity of the elephants' overall status in Africa can also be illustrated by the following quotations from some of our informants and extracts from our research.

ANGOLA:

Dr. Brian Huntly has provided pre-September 1975 information from which is plotted the elephants' recent distribution. Since then reports have come in from different sources. During the conflict, armed men of the three political factions entered National Parks and Reserves and destroyed elephants and other animals, such as Giant Sable, with automatic weapons. The current situation is unknown.

BOTSWANA

Dr. Von Richter, recent Director of Wildlife National Parks and Tourism, reports... "Illegal trade in ivory does not present a problem, primarily due to the low human population density, and the fact that the elephant populations are mostly found away from any larger human population concentration ..... Elephants are hunted on licence by recreational and tribal hunters under a quota system..... The general attitude of the Government is a rational utilization of the resource, and the rural population goes more or less along with it; clashes between elephant and people occur only where arable agriculture is carried out." Most of the elephants are found in the North of the country, where they are studied both in the Okavango swamps and in the North East by F.A.O. Research Teams. "A relict group of elephants of no less than 800 is also found in the Tuli Block which will be studied by staff of the "Endangered Wildlife Trust." The Tuli Block is of special interest for the following reasons:

1. It appears from the records that elephants were eradicated from this area by early ivory hunters, but they have now successfully recolonised the area, with the first elephants reappearing in the 1940s.

2. The Tuli Block is one of the few places in Africa owned privately which has a thriving elephant population

3. The creation of artificial water points may have affected the distribution and intensity of damage to the trees

CHAD

In the last twenty years the human population has doubled and the elephant population together with other wildlife has been diminishing. It is also one of the poorest of African countries and suffers from the presence of armed rebels that roam over large areas. Chad authorities freely admit, that local resources cannot meet the challenge of effective wildlife protection and must rely on external assistance.

At the Fourth International Congress of the W.W.F that met in San Francisco in November last year, the Republic of Chad was congratulated for having established a new reserve to protect the Addax and Simitar – horned oryx, and for its efforts in maintaining it. This gesture is important especially as in the past, the last Greater Kudu were destroyed by rockets fired from helicopters, and the same system was used to shoot down elephants.

KENYA

We are in the process of compiling a report from the multiple sources available, which because of the intensive current research will probably be more detailed than for most other countries in Africa.

It has recently come to light that the famous elephant Ahmed who died in 1974 had traces of an old bullet wound. It appears the bullet entered from the left back of the skull and lodged in the root of the right tusk. The teeth are also far less worn on the left, and it is possible that the bullet may have damaged the roots of the left tooth, since it is far less worn, possibly because it was painful for Ahmed to chew on that side. The wound was judged to be 5 – 10 years old, which would mean that he was shot a few years before he was given Presidential protection in 1970. That he was shot within the protected area of Marsabit shows how necessary more stringent methods of law enforcement have become.

IVORY COAST

Elephants are still widely distributed but are very rapidly decreasing. Government laws decree total protection but poaching is rife especially by foreigners from neighbouring countries. Our informant reports, "If draconian measures are not taken in the immediate future for protecting this animal, the Ivory Coast will need to change its name."

MAURITANIA

The situation of this species today is absolutely unknown. Naturalists have not visited the area where these animals were known for more than 15 years. It is not even known if they exist any more." Droppings were seen, however, in 1971 ! These elephants, if they survive, are the Northernmost on the African Continent.

RWANDA

This country has the densest human population in Africa and still has a population of 100-150 elephants living in the Nyungwe forest on the Zaire border. Up until the beginning of 1975, 150 elephants also lived in the Bugesora area. Our informant remarks ... "The competition between these animals and man had come to such a pitch and was worsening, rapidly (10% of elephants wounded by snares, 30% severely multilated, crops damaged, small holders terrorised etc.), that the Government declared a final solution to this problem. All the elephants were slaughtered except for 26 young animals (aged 1-11 years) who were captured and transported to the Akagera Park."

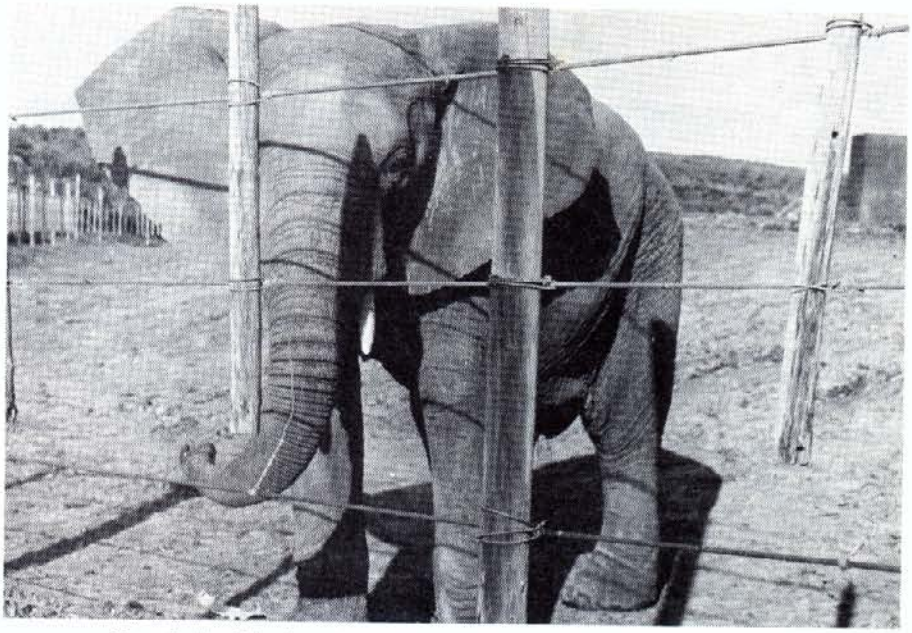
TANZANIA

Intensive poaching of elephants, especially in the North is of great concern to the Game Division and National Parks, but as the Selous survey showed, elephants are abundant in the South. The dry season count tallied more than 110,000 elephants. Tanzania is one of the greatest reservoirs of elephants in Africa, and the Government has a strong policy on conservation. Our analysis of records in the Ivory Room in Dar es Salaam showed that 3,000 to 4,000 elephants are killed each year in defence of human life and property. Out of a sample of 3080 tusks, the mean weight was 4.81kg. This mean weight is lower than expected, and if it is similar in other countries, we may have to revise our estimates upwards of the numbers of elephant represented by ivory imported into Hong Kong and elsewhere.

UGANDA

Dr. Keith Eltringham, an honorary consultant to the elephant group, and his colleague Mr. Malpas, made a fourth annual count of the Ruwenzori and Kabalega Parks in September 1976. Their results show a further decline in the number of elephants in the Ruwenzori Park, the fall last year being very substantial. The total count in September 1975 returned a total of 1047 indicating a drop of 343, i.e., one third of the total present 12 months earlier. The high proportion of dead elephants suggests that poaching continues unabated, a conclusion supported by the wardens. Numbers are now only a quarter of what they were 3 years ago. If this trend continues, there will be no elephants left in Ruwenzori within a few years.

The total for Kabalega of 2435 is about the same as last year when 2246 were recorded. The difference of 189 is well within the confidence limits of the totals so that no significant change has occured. This may mean that poaching has eased in the Kabalega region, but the counting technique is not altogether reliable at such low densities.



The Addo Elephants, protected behind steel boundaries.

ZAMBIA

Dr. Graeme Caughley, a biologist working for F.A.O. estimated 350,000 elephants for the whole of Zambia in 1972, with about 100,000 of these in the Luangwa Valley, where he thought that they might be increasing. However, poaching has increased since then, though not yet on an East African scale. More recently an informant from the National Parks and Wildlife Service stated ...."the Zambian elephant's existence is seriously threatened by increased poaching, reduction of its natural range and habitat damage."

These few examples represents a fraction of the questionnaire answers now filed by country and area, but out of a sample of 21 countries, only five appear to have stable elephant populations and the others are all declining. Our most complete information comes from South Africa

Techniques for establishing trends

Wherever possible we revist key areas throughout the elephants' range and recount populations which have been exactly counted before. In practice such counts were seldom made, and are difficult to repeat precisely.

However we can also sample recent trends by recording all dead elephants, and calculating a ratio of dead to live. This technique is in effect an "on going body count" to monitor the continuing human predation and other causes of death.

Body counts can also suggest variation in the death rate between different areas. For instance, in the dry season we found that within the Selous Game Reserve the ratio of dead to live elephants was 4 : 100, whereas outside it was 9 : 100. Meru National Park in Kenya also showed difference with 6: 100 live elephants within the Park compared with 70 : 100 outside the boundaries. It appears that in both cases human predation was responsible for the higher ratio of dead to live outside the protected areas.

The main problem in interpreting this data is that carcasses disappear at different rates depending on rainfall, insects which eat the body, and density of predators. In Serengeti we found that predators had devoured the flesh and scattered the bones so that very little remained two months after death, whereass in the drier parts of Tsavo a full skeleton may endure for 10 years or more. Nevertheless by looking for a rot patch where putrifying flesh has killed the grass it is often possible to identify a recent corpse even when the skin is absent and the bones are scattered.

Useful data on trends can also come from small populations of "known" elephants, such as Manyara in Tanzania, Amboseli in Kenya, and Addo in South Africa. In these cases it is possible to record all births and deaths, family by family, and precise trends can be calculated. Long term studies are now in progress in these three areas which will monitor the response of these elephants to changing conditions.

Plans for Analysis

To further analyse information and to predict likely outcomes under various management practices, we need computer simulation models. Professor Richard Miller, of Yale University, is currently developing such a model and has accepted to join our group as an honorary consultant. Another group member, Peter Thornbahn, is developing a programme to simulate the exploitation of ivory and its effect on elephants in pre-colonial Africa.

The field surveys in representative key areas are intended to provide data from which predictions can be made. We are currently trying to assess annual mortality by recording the ratio of dead to live elephants counted from the air, and developing visual criteria to distinguish carcasses less than a year old.

However, the objectives of this first phase of the programme have been achieved — with just two disappointments. Not all the African nations have responded to our request for information on elephant dynamics and — predictably — *hard* information on ivory trading is scarce. But these two problem areas are being tackled, as the project enters its second six-month phase.

Pictures by Iain and Oria Douglas - Hamilton

Culling in the Kruger National Park is done from a helicopter using lethal darts

South African Elephants Pattern for the future?

Extermination

Most South African elephants were destroyed before the twentieth century. In 1905 Bryden, in his paper "The decline and fall of the South African Elephant" wrote, "The story of the elephant in South Africa may be described as one long tragedy of extermination". In 1652 when the Dutch first arrived, elephants were plentiful around Table Mountain. Within a hundred years they had been wiped out within a 200 mile radius and the first to be encountered by Sparrman in 1775 were in the Tsitsikama forest near Knysna. Another hundred years passed, and elephants had been exterminated in the Cape Province, Orange Free State, Natal and the Transvaal, except for a few small pockets in Kruger, Knysna and Addo. The destruction of South Africa's elephants and other wildlife in the nineteenth century was on a scale unsurpassed on the continent and rivalled the eradication of the North American bison.

The Survivors — Kruger National Park: Today there is only one large elephant population in South Africa. They have built up from less than 100 to about 7,275 animals stabilized at that level by cropping. Culling is carried out by herding the family units by helicopters until they are bunched and conveniently near to a road, then shooting them with darts filled with excessive doses of succinyl choline chloride. They are then bled by cutting the throat of each with a spear, and the carcasses are transported to the Abattoir where every portion of the body is utilized.

Dr. Salmon Joubert, Chief Research Biologist writes "Culling quotas for elephant killed each year vary with population trends and local environmental conditions. Initial culling was aimed at reducing the population to between 7,000 and 7,500. This objective has been attained and expected future annual cropping will be in the region of 200 - 400 elephant. Should the population drop to below 7,000 cropping will be discontinued

"It must be emphasized that cropping of elephants is solely applied in the management of the population and that commercial cropping is not a goal in itself. Ivory obtained from cropping operations is traded. Illegal trade in ivory is not known to occur. Illegal hunting is virtually non-existent".

The Relicts

Dr. Anthony Hall-Martin reports on Addo National Park and Tongaland:

Addo: The Addo Elephant National Park is a small area of 7,735 situated in the south eastern Cape Province. The park lies in an area of dense, succullent evergreen thicket and together with the Knysna Forests gives sanctuary to the southernmost elephants in Africa.

The Addo elephants have a long history of incessant persecution which started with the arrival of ivory hunters and white settlers in the late 18th century. By 1920 there were only 10-20 elephant left. The park was proclaimed in 1931 with a population of 11 elephants — but while the elephants were still able to move freely across the boundaries their running battle with, by now well-established farmers continued. Every form of elephant deterrent tried - including trap guns, flames, cannons, patrols and electric fences failed to keep the animals in the park. Then from 1952-1954 the warden Graham Armstrong, erected his now famous fence of railway lines and lift cable, and the remaining 18 elephant were enclosed in an area of 2,270 ha (5400 acres). The animals were vicious having known nothing other than conflict with man for years, they were secretive and charged or fled at the first sign of man. By a strategy of providing food for the animals in the form of citrus, pumpkins and lucerne they were gradually habituated to man and can now be viewed by the thousands of tourists which visit the park each year.

Since 1954 the population has increased four-fold and now stands at 81 animals — at a density of 3.5 km — thanks to a short intercalving interval, abundant food and early maturity of the females. Possibly because of selective hunting for ivory the cows which survived the holocaust were tuskless or single tusked; with two exceptions (a single tusker and a normal animal) all the females born since in Addo have been tuskless.. The males carry normal ivory. The increase of the elephants has resulted in the inevitable habitat destruction so typical of nearly every African park in which they occur. In Addo the vegetation biomass in the enclosed area has been reduced by half, by comparison with adjacent vegetation, and at least one plant species, *Aloe africana* has been eliminated. To counter this disturbing trend

the National Parks Board of South Africa has embarked upon an imaginative programme of elephant proof fence construction which will enclose an adjacent 4500 ha of largely virgin habitat occupied mainly by the southernmost populations of Cape buffalo and black rhinoceros. Concomitantly an intensive research project on the ecology, population dynamics and behaviour of these unique elephants is under way. It is intended that realistic population limits will be set for the Parks; thus ensuring the continued well-being of a now secure, viable population of elephants.

Togoland

The northeastern border area of Southern Africa — bounded to the west by the Lemombo mountains and Swaziland, to the north by Mocambique and to the east by the Indian Ocean is locally known as Tongaland.

The central part lying between the Pongola River and Mosi swamps forms a refuge for some of the last elephants living outside a protected area in South Africa. There are now only about 20-30 elephants remaining, probably all bulls, and though some are resident others wander to and fro across the international boundary into Mocambique.

That they have survived at all is due to the remoteness of the areas which they frequent, and the absence of roads and settlements until very recently.

The elephant move southwards during the wet season when water in numerous small pans is abundant and the crops of the rapidly expanding human population are ripening. The resulting crop damage, and breaks in the veterinary fence along the international boundary has incurred the enmity of the authorities and people. Over the past three years at least 9 animals have been killed by the authorities in attempts to drive the elephant out of settled areas and to placate the people who suffer their depredations. Most of these animals were found to have multiple bullet wounds. Though numbers are consequently declining there is still some recruitment of young bulls 15-20 years old and the nearest breeding herd from which they could have originated is in the Maputo Elephant Reserve in Mocambique.

The remnants are now steadily being pushed into an area of some 50,000 ha of largely uninhabited country which is waterless during severe dry seasons. With the development of political institutions among the people who fall under the recently constituted Government of Kwa-Zulu, responsibility for conservation has passed into black hands. There is hope that this area will one day be a National Park proclaimed by the Kwa-Zulu Government.

However, this will only be the beginning of the fight to maintain a viable elephant population — because there have been no reliable reports of breeding herds in the area for over 30 years. Settlement, development and political tensions will no doubt also seal off the contact between these animals and those in the Maputo Elephant Reserve in the future. The prospects are therefore not encouraging, and the only hope for the future of these elephants would seem to be the construction of an Addo-type elephant-proof fence around the whole area (an exorbitantly expensive undertaking) and the introduction of females from other areas.

Knysna

Knysna: The Knysna elephants live in a large and dense forest. Despite a main road running through the forest and the proximity of numerous settlements, the elephants are so secretive that they are very seldom seen. Only 10-14 animals survive and their numbers seem to have remained stable, since 1925 when last thoroughly counted. Mr. Nick Carter, an ex-Kenya Game Warden, describes how he followed them for the year of 1969 identifying and counting their tracks and catching occasional glimpses of the elephants until he was able to hazard a reasonable estimate.

According to the Eastern Cape Wildlife Society poaching is to be blamed for the fact that "Knysna elephants although protected for many years are not increasing". In contrast is the phenomenal breeding rate of the enclosed Addo elephants. They suggest that the elephants should be herded into a limited portion of their range and enclosed by a fence. The Forestry Department disagrees however, considering that the herding would be too risky for the elephants and puts forward the view that the elephants are probably in balance with their environment. It is to be hoped that a recent research initiative from the Department will resolve the question, since as Nick Carter writes, "the existence of this little group of elephants hangs by a slender thread".

THE ELEPHANTS FUTURE

Dr. Joubert reports ..."For Southern Africa (South Africa, Rhodesia, Botswana, Mocambique and Zambia). I could certainly not regard the elephant as either endangered or threatened and their future must be regarded as secure, provided the various populations are managed scientifically and political stability in the various countries can provide effective law enforcement".

From slaughter to strict preservation and management of a remnant: could the South African example be the pattern for the future elsewhere on this continent? Or can the rest of Africa at the eleventh hour halt the killing, and preserve elephants within wider and more balanced ecosystems? And would in some of these a more laisez faire policy still be appropriate, while in others sustained yield cropping is carried out?

An immediate problem of Policy

A bill is currently before the U.S. Congress to ban the import of all ivory into the United States.

The I U C N ELEPHANT Group has discussed this issue by correspondence and at a meeting in Nairobi. Members were divided about the desirability of the ban. The arguments may be summarised as follows:

Against: There is not enough information on the status of African elephants to classify them as either endangered or threatened.

The volume of US ivory imports as a fraction of the world trade is unknown.

Alternative markets could any way be found. Mr. Alistair Graham considered that buying and selling ivory could no more be prevented than trade in liquor during the prohibition era in the United States.

The ban might drive the trade unnderground and make statistics more difficult to collect.

The legitimate ivory needs trade outlets, such as the 40 to 50 tons acquired by the Tanzanian Game Division every year in defence of life and property, or in confiscation from poachers. As the Director of Game, Mr. Raphael Jingu says, "we cannot eat this ivory".

Unless worked and carved ivory is included the ban would any way be ineffective.

In Favour: The majority of elephant populations for which we have information seems to be on the decline and there may not be time to wait for detailed information on the size and significance of U.S. ivory imports.

The U.S. ban may have the effect of lowering the price of ivory, reducing incentives both for the middlemen and the poachers themselves. There is no doubt that the killing of elephants leapt up with the ivory price from 1970, and there is no reason to suppose that it would not also decline in concert.

The ban might encourage Governments to set up proper trade controls on ivory.

The ban is not irreversible and could always be modified in the future as soon as the form of trade control had been agreed upon.

The ivory ban must also be judged as a political gesture from the United States which shows a concern that may provide an example to other Governments, not necessarily to take the same step but at least to search for a means of preventing the wasteful and unnecessary eradication of elephants.

The divided views of the Elephants Group have been forwarded to I U C N so that a unified policy can be formulated.

WORLD WILDLIFE FUND (Morges) is calling for help to meet the expenses of this $180,000 project. Any donations will be welcome and should be addressed to:

WORLD WILDLIFE FUND, P.O. Box 40075, NAIROBI — KENYA.

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