The Future of Elephants and Rhinos in Africa

A Special Report by Peter Jackson, a freelance writer specializing in wildlife and conservation

Around the turn of the century there were fewer than 10 000 elephants in Zimbabwe. Now there are 47 000.

By contrast, in 1970 there were about 20 000 elephants in Uganda and now there are only about 2000.

Two graphic aspects of the elephant picture in Africa. Zimbabwe is an extreme case, for it is one of the very few places where elephants are known to be increasing in numbers because of good management, and are, in fact, controlled and cropped for ivory, meat and other products. Uganda is also an extreme case, but representative of most of the other 34 countries where elephants are declining in number because of poaching and loss of habitat.

COUNTING ELEPHANTS

How many elephants are there in Africa? This is still something of a mystery despite the efforts of elephant specialists who have been cooperating under a program organized by the International Union for Conservation of Nature and Natural Resources (IUCN), World Wildlife Fund (WWF), and the New York Zoological Society (NYZS) to assess the population and status of elephants in Africa and to make recommendations for their conservation (see Box 1). When the specialists met at Zimbabwe's Wankie National Park last year to review their work they agreed that there were at least 1.1 million African elephants, but speculated that there might be over two million more. The solution to this mystery lies in the dense forests of the central African basin, which cover about one-third of present elephant habitat, estimated at more than 7 million km^2.

On the basis of informed guesses and extrapolation from assumed elephant densities and the area of potential habitat, the experts came up with a figure of 436 000 elephants in the equatorial forests, of which 376 000 were attributed to Zaire and the remainder to the Central African Republic, Cameroon, Congo and Gabon. It was admitted that the figures were unsatisfactory and most participants at the meeting were prepared to go along with the guess of one scientist with experience in Zaire that there might be huge numbers more, perhaps even as many as 3 million.

Even the minimum elephant population now estimated is considerably higher than the 300 000 proposed by some authorities within the last 20 years. It does not seem that the African elephant is in danger of extinction, although it is declining in many parts of its range and is threatened in localities where it is easy for poachers to operate and transport ivory. However, numbers are not necessarily a safeguard against extinction. Remember the hundreds of millions of now-extinct passenger pigeons; and the American bison narrowly escaped the same fate even though there may have been 70 million of the beasts roaming the plains in the early part of the 19th century.

The intensive study of elephants in Africa began in 1975 following widespread concern about a massive wave of poaching in East Africa, large-scale shipment of ivory to world markets, and a great surge in the price of ivory. These events took place when world currency markets were in chaos. Gold, freed of its link with the dollar, soared in price, and ivory again assumed its age-old role as a similar wealth store. Ivory was a convenient way of circumventing restrictions on the movement of capital, especially from Africa.

The poaching problem came on the heels of a long controversy over what to do about excessive elephant populations in some protected areas, where they were destroying their habitat. Culling was resorted to in Kabalega Falls (formerly Murchison Falls) National Park in Uganda, while in Kenya's Tsavo National Park a prolonged drought killed many thousands of elephants. In fact drought and the wave of poaching solved the problem of too many elephants in affected areas of East Africa for the time being.

That was the situation when the IUCN/WWF/NYZS elephant survey was launched under the leadership of Dr Iain Douglas-Hamilton, who was known for his long-term work on elephants in the Manyara National Park in Tanzania. As the survey developed Mr Ian Parker, a leading expert on elephant management, undertook an ambitious study of the ivory trade, of which he already had considerable personal knowledge.

WANING RHINOS

It became evident quite early in the elephant survey that rhinos were being heavily poached and were declining rapidly. Dr Kes Hillman, a young woman scientist, was put in charge of a separate rhino survey, and geographer Dr Esmond Bradley Martin, expert in East Africa's trading relations, began an investigation into the traffic in rhino horn and other products.

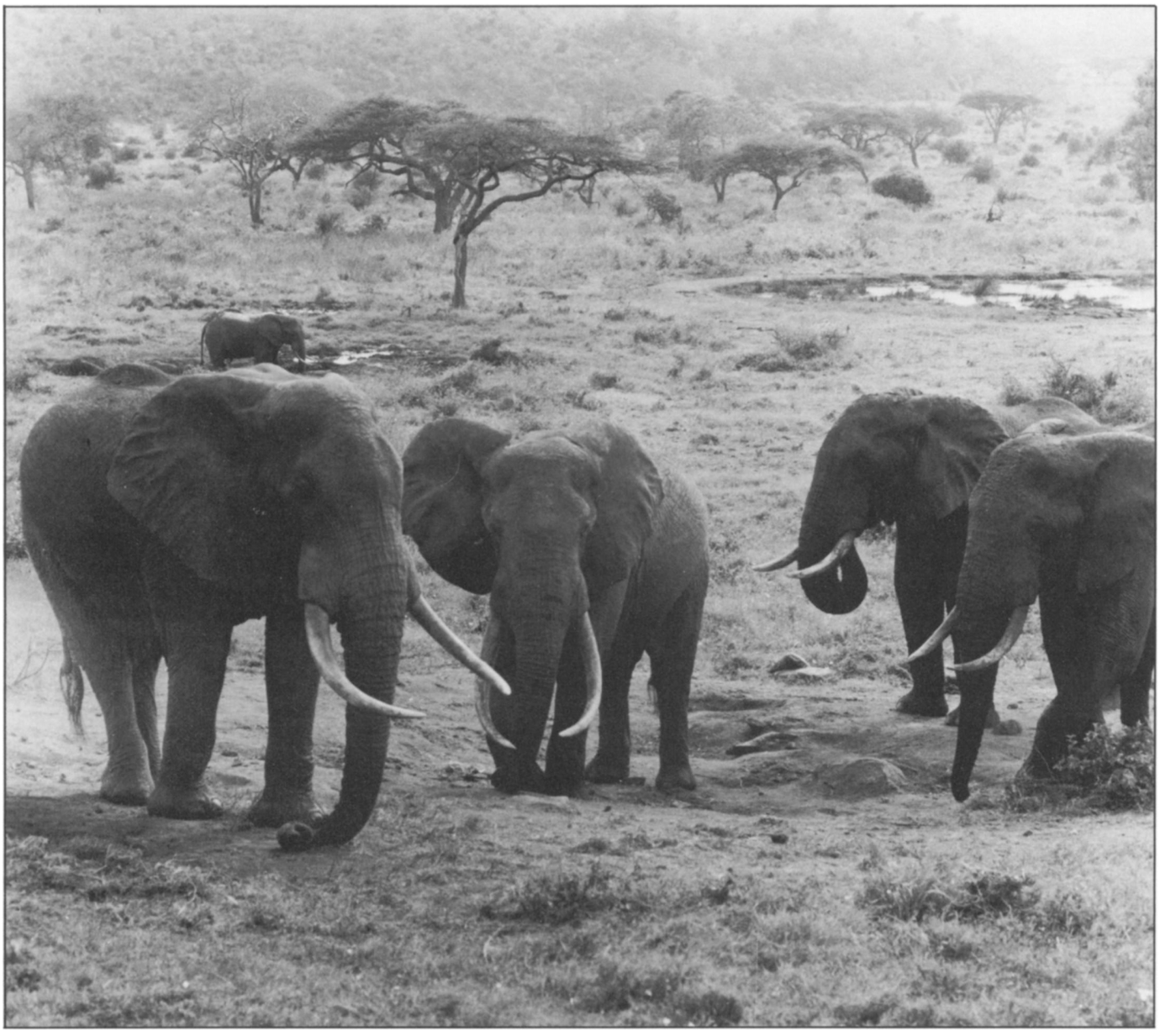
At the Wankie meeting grave concern was expressed about the situation of the northern white rhino (*Ceratotherium simum cottoni*) which was estimated to number fewer than 700 in Zaire's Garamba National Park and southern Sudan, where poaching is rife. The overall population of the black rhino (*Diceros bicornis*) was put at 10 000–15 000 scattered

BOX 1. THE STATUS OF ELEPHANTS IN AFRICA

Elephants occur in 34 countries in Africa south of the Sahara, and their range, although diminishing, still covers more than 7 million km^2. Detailed surveys between 1975 and 1980 accounted for a population of 600 000 elephants in the savannas of eastern and southern Africa. Other areas, which have only been sampled or remain unsurveyed, including the equatorial forest, are estimated to contain at least another 500 000 elephants and possibly as many as 3 million. Thus there are at least 1.1 million elephants in Africa.

Zaire is estimated to have the largest elephant population approaching 400 000, and may be found to have many more when satisfactory forest surveys are carried out. Tanzania is estimated to have over 200 000 elephants; Zambia about 160 000; and Sudan over 130 000. There is good survey data for substantial elephant populations found in Kenya (65 000), Zimbabwe (47 000), and Botswana (20 000), while several other countries are believed to have large numbers, although reliable data are lacking —Mozambique (55 000), Central African Republic (31 000), and Somalia (25 000).

Despite apparently healthy overall numbers, elephants appear to be declining in number in almost every country where comparative data are available. In the few countries where elephant numbers are known to be stable or increasing, the populations involved are small compared with the continental populations.



African elephants are not as endangered as previously thought. There are at least 1.1 million of the packyderms roaming Africa and perhaps as many as 3 million. Photo: P Jackson.

through 18 countries with heavy poaching in most areas.

Only the southern white rhino (*C.s. simum*) can be considered safe at the present time. Although it was thought to be extinct before the turn of the century, survivors found in Natal have been so well-managed that there are now some 3000, including several hundred sent to zoos in various parts of the world. The story shows that determined conservation efforts can succeed.

Dramatic pictures and sensational stories make poaching the most obvious threat to elephants and rhinos, and as far as rhinos are concerned they reflect the true situation. But in the case of elephants there is also an insidious long-term threat —loss of habitat. Human populations are increasing rapidly in African countries, as elsewhere, and more and more wild land is being taken over for human use.

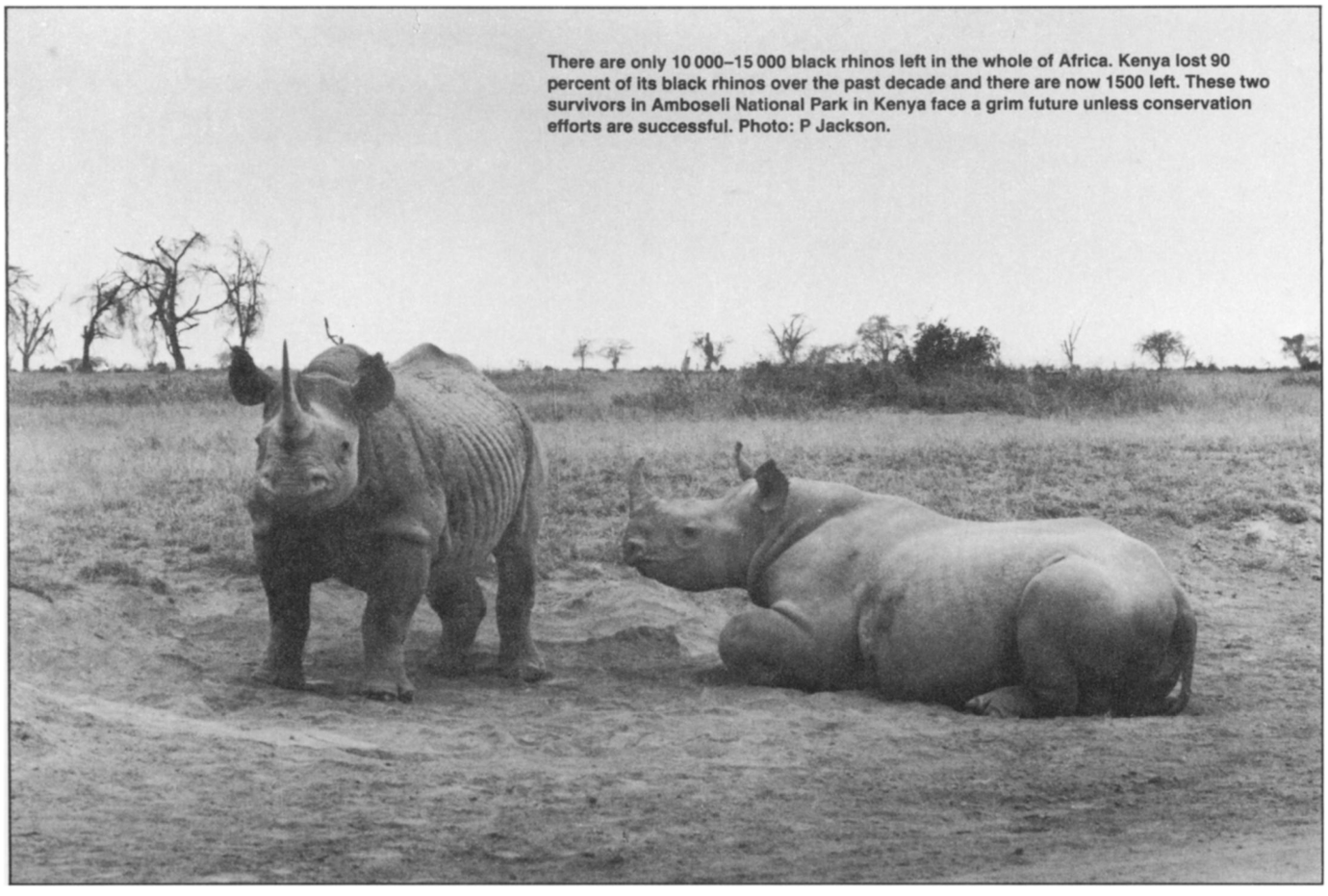
NUMBER ONE ENEMY: LOSS OF HABITAT

Ian Parker reckons that elephants have been losing habitat at a rate of two percent per year since 1950, which could account for a reduction of elephant numbers of 20 percent in the last 30 years. If habitat loss continues at the same rate it could result in the elimination of at least 20 000 elephants every year.

At the present time Uganda is most notable for the terrible slaughter of its elephant population, due to poaching, during former President Idi Amin's regime. But it is also a prime example of elephants losing ground to humans. At the beginning of this century elephants ranged over 70 percent of the country but today their habitat has shrunk to an estimated 17 percent.

In Rwanda the last non-forest elephants were eliminated by government order in 1975 because there was no longer room for them in this densely populated country.

While poaching has tended to obscure the elephant's loss of habitat it has focussed attention on the ivory trade, sometimes to the extent of giving the impression to the general public that the trade is based solely on poached ivory. But elephants also die naturally, and most mature animals leave ivory. Death may be due to disease, accident or old age, or elephants may



There are only 10 000–15 000 black rhinos left in the whole of Africa. Kenya lost 90 percent of its black rhinos over the past decade and there are now 1500 left. These two survivors in Amboseli National Park in Kenya face a grim future unless conservation efforts are successful. Photo: P Jackson.

be killed for various reasons, including control of populations to protect habitat, prevention of damage to crops, and sport hunting, as well as poaching.

Less than a quarter of the ivory left by natural deaths is believed to be recovered, but there is enormous variation depending on the type of habitat and its accessibility. However, after examining tusks in Hong Kong, Ian Parker has stated that over 20 percent of the ivory in world trade may be from elephants that have died natural deaths.

Parker proposes that another 20 percent or more of the ivory in trade comes from shooting elephants for control purposes and licensed hunting. This suggests that about half the ivory in trade is derived from poaching, a proportion much lower than generally assumed.

IVORY TRADE

The number of elephants accounted for by the ivory trade has also been a matter of dispute, with a figure as high as 400 000 a year having once been widely quoted, although its proponent subsequently reduced Parker's estimate to a maximum of "well over 100 000 elephants a year".

Since then further efforts have been made to produce a reliable estimate by studying the weights of tusks in trade. Parker and Martin have made an estimate based on tusks examined in Hong Kong and Japan, which, they say, imported 83 percent of Africa's exports between 1976 and 1980. Although the average weight of tusks imported into Japan was 16 kg they decided to use the lower Hong Kong average weight of 9.65 kg as a conservative base for their calculations. And because some elephants may have only one tusk they used an average of 1.88 tusks per elephant. On this basis they produced the estimates shown in Table 1.

Parker and Martin concluded that the number of elephants involved in the ivory trade at present is fewer than 40 000 a year, which is a relatively small proportion of the estimated "standing crop" of ivory and within the limits of sustained production, given a minimum elephant population of 1.1 million.

On the other hand Dr Iain Douglas-Hamilton calculated an average tusk weight of only 4.8 kg from examining over 40 000 tusks in the Tanzanian ivory room, a figure which would double the number of elephants involved in the ivory trade. But Parker and Martin declare that those tusks were mostly taken on control operations, which usually involve female elephants with smaller tusks, thus producing a lower average weight than tusks from all possible sources.

The overall elephant situation conceals considerable variations on a local or regional basis, from Zimbabwe and South Africa with burgeoning elephant populations controlled by culling, to Uganda, where the total collapse under President Amin of one of Africa's best conservation programs, and widespread availability of firearms, as well as easy access to national parks, led to their near elimination. Kenya's elephants too, were vulnerable because of the roads and tracks opened up for tourists and, according to two separate surveys, Kenya is reckoned to have lost more than half its elephants to poachers and severe drought between 1970 and 1977.

On the other hand Tanzania has one of the healthiest elephant populations in Africa which may exceed 200 000 in a vast range. Poaching was confined to northern areas at first, but it later spread southwards and has affected most of the country.

In West Africa there has been a long decline in elephant numbers as a result both of the ivory trade and loss of habitat. By 1979 there were only about 17 000 elephants, broken up into fragmented and beleaguered populations for the most part. Continued loss of habitat is the overwhelming threat, for ivory poaching is usually more trouble than it is worth in the dense forests where it is hard to find the surviving elephants.

Central Africa, comprising Cameroon, Central African Republic, Chad, Congo, Gabon and Zaire, has been the world's major producer of ivory for a century or

BOX 2. THE STATUS OF RHINOS IN AFRICA

The northern white rhino (*Ceratotherium simum cottoni*) is one of the most seriously endangered large mammals in the world. Fewer than 700 are believed to survive, almost all of them in southern Sudan and the Garamba National Park in Zaire, where they are still threatened by poachers.

The black rhino (*Diceros bicornis*) has also suffered severely from poaching and its present population of between 10 000 and 15 000 scattered through 18 countries is a fraction of what it was only a decade ago. Kenya is believed to have lost 90 percent of its black rhinos in that time, leaving only about 1500 today, and numbers have declined sharply almost everywhere. The largest numbers are believed to survive in Tanzania (3000–4000), Zambia (2500–3000), and the Central African Republic (1000–3000).

The southern white rhino (*C s simum*) was thought to be extinct before the turn of the century, but a handful of survivors found in Natal were so well managed that there are now 2500 southern white rhinos in South Africa, 300 in other countries in the region, and over 600 have been sent to zoos in other parts of the world.

more, and most of the ivory comes from the forest elephant (*Loxodonta africana cyclotis*), which is smaller than the savanna elephant (*L. a. africana*) and has slender, almost straight tusks. About 60 percent of the ivory examined by Parker in Hong Kong was from the forest elephant. Since Zaire has most of the elephants and has long banned exports, its seems clear that most of the Central African trade in ivory is illegal. With no reliable population figures it is impossible to judge the effect of the ivory trade on the region's elephants.

While the status of elephants in South Africa and Zimbabwe is healthy, and reasonably good in Malawi and Botswana, the situation is disturbing in other parts of southern Africa. There is no reliable information about elephants in Angola and Mozambique, but it is generally assumed that they are declining in numbers, put tentatively at some 12 000 for Angola and about 55 000 for Mozambique.

Some of Namibia's elephant populations are considered to be increasing, but there is deep concern about the desert-dwelling elephants of Kaokoland and Damaraland. Along with the black rhinos of the area they have extremely high biological value because they have evolved the ability to survive in a particularly harsh environment. Following the shooting last year by a safari hunter of a known fine bull elephant representations from IUCN led to the termination of legal elephant hunting. But there have been subsequent reports of poaching, both of elephants and rhinos, and IUCN has called for improved protection and the creation of a reserve.

DEMAND FOR RHINO HORN: THE OIL CONNECTION

The threat to the rhinos is almost entirely due to demand for the horn. It has long been used in eastern Asia, especially China, but *not* as an aphrodisiac, as is widely thought in the west. It is highly esteemed as an agent to reduce fever, a cold medicine and general tonic. Only in some parts of India did Dr Esmond Bradley Martin find that it was used as an aphrodisiac. The demand has brought the Great Indian, Sumatran and Javan rhinos to the brink of extinction, and has contributed to the decline of the African species. But it is oil, ironically enough, which has brought catastrophe to the northern white and black rhinos. From about 1969 the men of the Yemen Arab Republic found lucrative jobs in oil-rich Saudi Arabia and other oil-producing countries. Their earnings enabled them to buy the prestigious types of traditional dagger, or *jambia*, with a handle made of rhino horn. The result: import of rhino horn, along with the price, soared.

Dr Martin found official Yemeni statistics showing that 22 645 kg of rhino horn were imported between 1969 and 1977, which, he calculated, had meant the death of 8000 rhinos. Asian traders had to compete to maintain their supplies and between 1975 and 1979 the wholesale price of rhino horn in southeast Asia rose 2000 percent. With the prospects of such lucrative rewards available poachers went after the most vulnerable rhino populations of East Africa first, and then spread their activities elsewhere.

The only hope for the rhinos is to protect them from poachers and, in the long run, persuade Yemenis, Chinese and other consumers to use substitutes for their dagger handles and medicines. It might seem a forlorn hope, but there was a good augury when Hong Kong traders voluntarily agreed to stop handling rhino horn when they were informed that the beasts were in grave threat of extinction. It may be hard for conservationists to believe, but most consumers of rhino horn are unaware of the threat (Box 2).

Table 1. The relationship between number of elephants, number of tusks and ivory exported. Source: Parker and Martin, 1982.

Year	Ivory Exported (kg)	No. of Tusks (av. 9.65 kg wt)	No. of Elephants
1976	991 000	102 694.3	54 625
1977	827 000	85 699.5	45 485
1978	816 000	84 559.6	44 979
1979	681 000	70 569.9	37 537
1980	680 000	70 466.3	37 482

WHAT MUST BE DONE

In the case of elephants, proper control of the ivory trade parallels the need to stop the trade in rhino horn. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is important in both cases. Major consumer countries like China, Hong Kong and Japan are parties to the convention, as well as most west European countries, Canada and the USA. The Yemen Arab Republic has not so far acceded. Nor have all the producers joined, and many of those that have fail the test of effective implementation.

Effective protection and management of both species and habitat are crucial to elephant conservation. With such a wide-ranging and dominant animal—and one which is often not an easy nor a welcome neighbor for humans—careful planning is needed to ensure a modus vivendi with expanding human populations. Decisions need to be taken on long-term land use, and the setting aside of adequate reserves managed by a well-trained staff, in the light of each country's socio-economic situation and its future development. Delay in making those decisions can only lead to conflicts harmful to men and elephants.

The effort is worthwhile, for the elephant has great value as a producer of ivory and as a tourist attraction, and it has often played an important role in local cultures. These factors already make it a national asset, and if healthy, sustained populations are established, elephants could also be cropped regularly for meat. They are cropped already in South Africa and Zimbabwe.

Rhinos and many other valuable wild species, as well as spectacular landscapes, would benefit from the extra effort put into elephant conservation.

The decisions rest with African governments, but they need the continued aid of the international community to help in conserving species which are after all part of the world's heritage.