CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Other proposals

A.Proposal (10-01-1997)

An annotated transfer of the Namibian population of the African elephant Loxodonta africana from Appendix I to Appendix II for the exclusive purpose of allowing:

a) direct exports of registered stocks of whole tusks (raw ivory) of Namibian origin owned by the Government of the Republic of Namibia only to one trading partner (Japan) that will not re-export, subject to the following export quotas for ivory:

September 1997-August 1998: not exceeding 6900kg
September 1998-October 1999: not exceeding 6900kg

b) international trade in live animals to appropriate and acceptable destinations for non-commercial purposes

c) international trade for non-commercial purposes in hunting trophies

B. Proponents

This proposal was submitted by Namibia (and other Parties that might have notified CITES Secretariat accordingly) pursuant to Resolution Conf. 7.9, in accordance with Resolution Conf. 9.24 (4) (d).

C.Supporting Statement (10-01-1997)

Executive summary

Purpose: The purpose of this proposal is to seek downlisting to Appendix II for the Namibian population of Loxodonta africana, and to establish an experimental trade characterized by stringent controls and precautions in registered government stocks of ivory for one interval between the meetings of the Conference of the Parties. The proposed trade is designed to be for primarily conservation purposes,with a single importing Party who has agreed not to allow re-exports. Export quotas will remain under the control of the Conference of the Parties to CITES. The purpose of the proposal is therefore to improve the flexibility of elephant management options needed internationally to achieve effective management of an elephant population dependent on land also used for farming purposes, while removing incentives and minimizing the risks of stimulating illegal trade and a negative impact on elephants in other range states.

Precautions: The following specific precautionary measures will be an integral part of any transfer of the species to Appendix II to which Namibia commits itself according to the provisions of Resolution 9.24, in order to prevent any negative conservation impact on any other elephant population or to stimulate illegal hunting or trade.

a)Namibia population only: Only the Namibian population is included in this proposal. Ivory of Namibian origin held in other countries or in private ownership are excluded from this proposal. Ivory included in this proposal amounts to 2551 whole tusks weighing 13777kg from known natural and management related mortalities of elephants that have occurred within the territory of the Republic of Namibia.

b)Withdrawal of reservation: Namibia will withdraw its reservation on the Appendix I listing of the Namibian population of Loxodonta africana before the transfer to Appendix II by the Parties to the Convention takes effect.

c)A quota for registered stocks of raw ivory only: The export quota will refer only to the stock of whole ivory tusks registered and managed by the Ministry of Environment and Tourism as on 09 January 1997, and owned by the Government of the Republic of Namibia. MET has provided CITES Secretariat with a catalogue register of all such items before 10 January 1997. There will be no export of any ivory of unknown origin, seized or confiscated ivory, or where it is known or suspected to have come from outside Namibia. Only ivory of known natural and

management related mortalities (eg. problem animal control, culling) is included in the total export quota of a maximum of 13800kg ivory over two 12 month periods until October 1999. No elephant will be killed in order to become part of the export quota, as all ivory proposed for export is already in stock.

d)Ivory to be marked with a standard system: In accordance with Conf. Resolution 9.16 (g), all 2551 whole tusks in the stockpile for export have been individually marked and the marks correlated with a register of ivory of known Namibian origin showing the source of each specimen. All other ivory will also be individually marked and registered with the CITES Secretariat before CITES COP10 to ensure that there can be no mixing of unknown or foreign ivory with ivory of Namibian origin as declared to CITES Secretariat on 10 January 1997. All other ivory will be kept in a separate facility that will be accessible to the CITES Secretariat at any time.

e)Safeguards against abuse: The Depositary Government (Switzerland) has already upon request from the Namibian Management Authority made a commitment to submit a proposal for re-transfer of the population in the case of abuse (see Annex 6). CITES already makes the provision that any Party who becomes aware of abuses of the downlisting, or a failure of the Namibian Management Authority or the importing Party to adhere to the terms of the proposal as agreed by the COP, to report such abuses to the Standing Committee which may ask the Depository Government to prepare an urgent proposal for re-transfer to Appendix I to put before the Parties under the postal procedure of Article XV par. 2. The proponent will submit a further proposal to COP11 that would be aimed at establishing an annual export quota based on actual annual ivory production. The proponent will furthermore not attempt to trade with any other Party or in greater volumes that agreed to by the COP, without submitting such proposals to the COP.

f)Sale through one single centre: All ivory sales and subsequent packing and dispatch will take place only from the government's central ivory store in Windhoek, Namibia, at the Headquarters of the Division: Specialist Support Services and Directorate of Resource Management of Ministry of Environment and Tourism (MET) as the CITES Management Authority in Namibia.

g)Limited number of ivory shipments: For ease of monitoring and control there will only be at most two shipments of ivory within the quota period between COP10 and COP11, and no more than one per 12 month period.

h)Direct export of ivory to only one importing country: Export permits will only allow shipment to one importing country and shipments will have to be made direct with no transit, other than that which is geographically unavoidable. The entire annual export quota will be exported as one consignment from the country of origin to the country of import, where the consignment will be registered upon arrival by the government of the importing country. The shipment will be open to international inspection by any Party or credible international organization agreed to by CITES Secretariat and the Namibian CITES Management Authority.

i)Importing country to have internal controls and to agree not to re-export: The controls for Japan's internal trade and its commitment not to re-export are in place and have been reviewed by the Panel of Experts.

j)Independent monitoring: Enforcement personnel from CITES Secretariat, or Parties and organizations agreed to in advance by the Namibian CITES Management Authority and the CITES Secretariat, may be present at any part or all of the sale, packing and shipping process to check all details and inventory. Similar inspection may take place when the containers are unloaded and the tusks distributed in the importing country. Access to all ivory store rooms under the control of MET will be guaranteed to the CITES Secretariat. MET additionally will refund one unscheduled inspection of its ivory stores per calendar year by one member of the CITES Secretariat, at a time decided by the CITES Secretariat, in addition to guaranteeing unlimited access to all ivory storage facilities to the CITES Secretariat at any other time. MET agrees to keep indefinitely, or lodge with CITES Secretariat, or provide for analysis to an appropriate institution, a 50g sample from every tusk removed from the national stockpile for trade.

k)Use of ivory revenue: Once enacted by Parliament, all revenue from ivory sales will be paid into a special trust fund and will be used exclusively for elephant conservation (including monitoring, research, law enforcement, other management expenses) and community conservation and development programmes, assisting conservancies and regional wildlife councils. MET will provide an annual report to CITES Secretariat on the use of such funds, if requested.

l)Monitoring of the effects of the downlisting: Namibia will cooperate with neighbouring countries in the monitoring of elephant population trends and illegal trade. Namibia will similarly assist credible organisations involved in the monitoring of population trends and trade patterns in neighbouring countries within its means. All proposals to this

effect will be evaluated on merit, and comments will be sought from the CITES Secretariat and Standing Committee on such proposals. (Namibia wishes to draw attention to the fact that there are no requirements under CITES that the effects of an Appendix I listing should be monitored - least of all by a developing country. It has thus far been very difficult to measure the impact of such a listing, and it is therefore impossible to state with any confidence whether the Appendix I listing of the African elephant had any beneficial - or negative - effects on the conservation status of the species across its range. Similarly, it will not be easy to tell what the effects are of a transfer to Appendix II. It is therefore necessary for the Parties to agree to establish a mechanism independently to monitor these processes so that more informed decisions can be made in future).

Rationale: It is important to transfer the Namibian elephant population to Appendix II to allow controlled trade in products because:-

a)Transfer to Appendix II is in the best interest of elephant conservation in Namibia, and ample precautions have been taken to prevent any negative impacts on other populations

i)The Namibian elephant population has increased throughout this century and elephant range is expanding. The population is viable and resilient, but is dependent on land also used by people for movements and access to water resources, especially during the periodic droughts that characterize southwestern Africa. Namibia shares elephants with primarily Botswana, and has established coordinated management and monitoring of probably the largest elephant population in Africa, concentrated in northern Botswana and northern Zimbabwe. Unlike other parts of Africa, southern African countries lost most elephants during the previous two centuries, and are now experiencing growing populations. Namibia and other southern African countries have set far more land aside for wildlife in protected areas than the international norm, and have large wildlife populations on land outside protected areas. Growing human populations are beginning to threaten species such as elephants, and conflicts between people and elephants are increasing rapidly.

ii)Protected areas are inadequate to ensure the long-term survival of elephants, especially in arid and semi-arid areas. Climatic and other environmental variations require that elephants remain mobile and opportunistic, which makes the artificial confinement of elephants to particular reserves impractical as well as detrimental.

iii)Protected areas in Namibia are increasingly acting as core refugia for elephants, especially during droughts, but most of the critically important migratory-nomadic routes and wet season dispersal range (= calving grounds) fall outside protected areas on communal farming land. It is precisely here that the competition for space between people and elephants is greatest and conflicts are most severe and growing. Rural development, primarily through agriculture, will slowly displace elephants from more and more land unless incentives can be established to make it sensible for people to set land aside for elephants without further loss of income, and to tolerate the damage that they may cause. Such a threat of displacement is very real in Namibia, as access to sparsely distributed surface watering points, on which elephants are completely dependent, is increasingly controlled by people.

iv)In Namibia, community conservation programmes have concentrated on the areas where the threat of elephant habitat loss is greatest, i.e. in the northeastern Caprivi region and areas with very limited water sources such as the Nyae-Nyae area of the Tsumkwe district (formerly called Bushmanland) and the Kunene region (formerly Damaraland or Kaokoveld). Emerging conservancies (i.e. voluntary associations of rural landholders with common land use objectives) in these areas will benefit directly from this proposal. Outside protected areas, successful conservation of natural ecosystems relies on sustainable use and the economic value of wild species. Eco-tourism in some instances as well as sport hunting contribute in establishing a high economic value for elephants, but opportunities are limited and trade in ivory and, where appropriate, other products is imperative. A first step is to enable communities to benefit from ivory collected from natural mortalities or the destruction of problem elephants.

v)Namibia has a proud record of achievements in wildlife management and conservation, and is one of few countries with mandatory conservation clauses in its national Constitution. There is no ground for concern that this proposal will give rise to massive exploitation of the Namibian elephant population. The proposal has been explicitly designed to benefit elephant conservation and sustainable development of the human communities that have to coexist with them.

vi)Namibia has accumulated one of the largest ivory stockpiles in Africa because:
-the national elephant population has been increasing throughout this century and has been producing potentially recoverable ivory at an estimated average rate of 300kg of ivory per 1000 elephants in the standing population per year;
-no raw ivory has been exported since 1984;
-effective law enforcement, close cooperation amongst law enforcement agencies and an efficient informer network have resulted in a comparatively high incidence of seizures of illegal ivory;
-incentives are paid for the handing in of ivory found in the elephant range outside protected areas;
-the comparatively open terrain, and frequent aerial surveillance and ground patrols facilitate the recovery of ivory from natural mortalities by conservation officials;
-ivory recovered from the last culling operation forced by drought in 1985 was never sold; and

-the country adopted a voluntary moratorium on ivory exports after acceding to CITES with a reservation on the App. I listing of the African elephant.

vii)Ivory stocks continue to increase rapidly from various sources, and present a major problem to the Namibian CITES Management Authority who has had to increase secure storage space for ivory by more than 100% since 1991. Further increases are being made at present, and will be needed in future. While the Namibian government along with other member States of the Southern African Development Community as well as most other elephant range states view ivory as an economic asset, there are concerns that deterioration in the quality of stocks over time will reduce the value of the asset and require increased expenditure for management and safekeeping.

viii)The Namibian government has decided to dedicate all ivory revenues to elephant conservation and community conservation and development programmes, and is in the process of creating a Trust Fund accountable to Parliament for transparent and effective management and disbursement of such revenues.

ix)A strictly controlled trade agreement has been negotiated with one importing country, Japan, who has agreed not to allow re-exports and to implement strict domestic controls over ivory imported from Namibia. A trade format has been designed to exclude any incentive for illegal trade or illegal hunting of elephants in Namibia or any other country.

x)The Namibian CITES Management Authority is well aware of and very sympathetic towards the elephant conservation problems and concerns in other range states. It is not claiming that the solution proposed for Namibia will be applicable to other countries, but is asking that other range states allow and support Namibia in developing a new form of trade in one of Africa's oldest products, this time with comprehensive controls and precautions in place, under the full scrutiny of the international community. Article I(a) of the Convention provides for a "geographically separate population" to be recognised as a species population, and thus for the elephant population (and products derived from it) of one country to be treated separately from other populations. This proposal for transfer is limited to the geographical population of Namibia, and the ivory proposed for trade consist of registered specimens of Namibian origin intended for export to one country which will not allow re-exports. The proposal from Namibia should in legal and practical terms have no impact on the conservation programme of any other country, except perhaps, to help restore international confidence in Africa's ability to deal with its own conservation problems.

b)<u>Transfer to Appendix II will assist rural communities and support rural conservation programmes in Namibia</u>

i)People-elephant conflicts are growing throughout the elephant range in Namibia and elephants are increasingly regarded as an agricultural pest. Increasing numbers of people are harassed, injured or killed by elephants, yet the future of the species depends on the goodwill and tolerance of these rural people with whom they have to share the land and sparse water resources.

ii)Programmes of conservation-based community development, such as the Namibian communal conservancies approach offer the best hope for the survival of wildlife and the development of human communities in the arid and semi-arid areas of southern Africa. With only the export of sport hunted ivory allowed under CITES communities could significantly supplement household incomes, but the number of adult elephant males that can be sustainably hunted is more limited in Namibia than in neighbouring countries. It is essential that communities gain access to the full range of revenue generation possible from elephants or else they will be forced by necessity to gradually displace elephants and other wildlife.

c)<u>Transfer to Appendix II will promote management control and law enforcement</u>

i)The current ivory ban will not prevent the ongoing overall decline of elephant populations or the gradual erosion of elephant habitat. With the exception of a few case studies, there has been no monitoring of the effects of the Appendix I listing and it is not known whether this is responsible for any reported declines in poaching. It is undeniable that after the ban, some countries enjoyed a respite from poaching, but it is not clear to what role the Appendix I listing had in this. Many of the worst affected countries introduced effective law enforcement for the first time and the two biggest ivory markets disappeared before the ban due to effective anti-ivory campaigns in Europe and the USA. There is clear evidence, despite the fact that the Appendix I listing has driven trade underground and made it far more difficult to monitor, that the illegal trade in ivory is thriving and

that elephant poaching for this trade is on the increase. There remains a demand for ivory and the Appendix I listing only stops legal trade not illegal trade.

ii)The proposal to transfer Namibia's elephant population to Appendix II and initiate a highly controlled form of trade in ivory is in essence a limited trade agreement between one exporter and one importer, and it is hard to see how such a trade could have a negative impact on other populations. The proposal is annotated to include stringent controls in trade to take into account the concerns of other range states. For example, to prevent illegal ivory from other countries entering the trade, Namibia will only sell ivory to one country which has stringent monitoring and control systems for their internal ivory trade. Only ivory of known origin from natural and management related mortalities in Namibia will be considered for trade. The proposal has been designed to remove incentives for illegal trade by for example, including a provision that all trade revenues will only be used for elephant conservation and community development and conservation programmes. This is a considerable sacrifice for the Namibian government but also a sign of its commitment to conservation and community conservation and development programmes such as communal land conservancies, and the importance attached at the highest level to breaking the impasse.

In conclusion, there is no evidence of any benefit to Namibian elephants from international trade bans. There is no evidence of elephant population declines or elephant or wildlife habitat loss this century in Namibia, to the contrary, the elephant population and habitat are expanding. This trend applies to other wildlife species, where there are fewer obstacles to using them for commercial purposes than in the case of elephants. Namibia must be one of the only countries in Africa where wildlife habitat has been expanding; where wildlife numbers have been steadily increasing, where wildlife-based industries are becoming a realistic alternative to conventional agriculture focused on growing exotic domestic livestock; where game species diversity is being restored on a large scale in formerly depleted areas - despite rapid human population growth, severe development disparities and deficits, rural poverty and limited options for industrial development (see eg. Ashley 1994, Ashley et al. 1994, Barnes & De Jager 1996). It is hugely ironic to Namibians that such little international recognition is given to what must be one of few notable conservation successes on a national scale in the past few decades, and that there has been such opposition and condemnation for attempts to apply working conservation models to continentally declining species such as elephant, cheetahs and rhinos.

Namibia has gone to extremes to present a proposal that holds no incentive for illegal trade, which cannot be said to threaten other populations, and is directed at benefiting elephant conservation and community development and conservation programmes. Whenever Parties choose to vote against management proposals aimed at securing the conservation status of a species and its habitat, the conservation efforts of Namibia are undermined and brings the effectiveness of CITES into question. The conservation record and achievements of Namibia and the southern African region deserve respect and support. New initiatives should be supported with constructive input to allow the political will in the region to secure a productive role for wildlife in the next century rather than the inevitable alternative - the slow dwindling and fragmentation of populations, ultimately to be confined to artificial ecological islands that will be protected in name only.

1. Taxonomy

1.1Class Mammalia
1.2Order Proboscidea
1.3Family Elephantidae
1.4Genus and speciesLoxodonta africana (Blumenbach, 1797)
1.5Synonymsnone
1.6Common names EnglishAfrican elephant
FrenchElephant d'Afrique
PortugueseElefante africana
1.7Code numberCITES A-115.001.002.001 (1984(1))
ISIS 5301415001002001001

2.Biological parameters (information only required for the elephant population of Namibia in accordance with Resolution Conf. 9.24 (4) (d))

2.1Distribution

Historical: De Villiers & Kok (1984) compiled a historical distribution of elephant in Namibia excluding only the hyper-arid southwestern third of the country and parts of the coastal desert, as also in Ansell (1974). Additional records in Vedder (1938), Skead (1980) and Rookmaker (1989) confirm the presence of elephants along the entire length of the Orange River, and in the vicinities of the Fish and Loewen Rivers. Viljoen (1987) also extended the historical range of elephants in the Kaokoveld to the mouth of the Kunene River and much of the coastal desert zone. Kinahan et al. (1991) described the presence of elephants in recent times in the extreme western part of the Kuiseb River, and it appears that elephants could have occurred virtually everywhere in Namibia in the past, as indicated in Fig. 1. Elephants are highly mobile in Namibia and capable of covering great distances between distant waterholes (Viljoen 1989; Lindeque & Lindeque 1991). The safest interpretation of historical distribution is that elephants probably occurred at low densities throughout Namibia wherever surface water could be found during the dry season, and at highly variably densities over larger areas during past wet seasons.

Dutch hunters began to operate north of the Orange River at the start of the 19th century, and rapidly depleted elephants in southern Namibia, where they were probably never very abundant (Bryden 1903; De Villiers & Kok 1984; Skinner & Smithers 1990). A century later, elephants were only found in the northwestern and northeastern sectors of Namibia, at the time of the 1926 and Shortridge's (1934) surveys.

Present: The distribution of elephant is well known in Namibia (Fig. 1), as the result of extensive aerial surveys and research involving conventional and satellite radio-telemetry. Elephants are currently found in a continuous zone across northern Namibia, but much of this range is infrequently used. Vagrants occur sporadically in northern Owambo, central Kaokoland and the Grootfontein and Otjiwarongo farming districts. Elephants in Namibia typically have distinct dry season ranges and much larger wet season dispersal areas. True migrations are not known to have occurred in Namibia. Elephants move along river courses in northeastern Namibia and between neighbouring countries, but most movements elsewhere seem to be related to the availability of water and spatial distribution of rainfall. Bigalke (1958) mentions that elephants used to trek from the Kaokoveld onto farmland in the Outjo district during the rainy season, a pattern still in existence today (Ministry of Environment and Tourism of Namibia (MET) data). Elephants in Namibia are migratory-nomadic and depend on their mobility to exploit favourable opportunities over a very large range (Lindeque & Lindeque 1991).

The Namibian elephant range varies according to season, with a maximum wet season dispersal range estimated at over 100000km^2. Approximately 25% of the wet season range falls within protected areas, with the rest on communal farmland. Protected areas form the core range of elephants in the dry season, except for relatively small sub-populations occurring entirely outside protected areas in the Kunene region (the "desert elephants" of former Damaraland and Kaokoveld) as well as elephants in parts of the Tsumkwe and Rundu districts (former Bushmanland and Kavango regions).

Elephant distribution in Namibia has been expanding as the result of population increases, especially in the southern part of the Kunene region. Elephants have also been translocated to several game ranches in Namibia within the recent historical range of the species.

The 1992 Panel of Experts report omitted to mention that parts of the semi-arid range of elephants in Namibia support the highest densities of elephants in Africa at present, eg. the Linyanti and Chobe River systems in the Caprivi region. This system has a variable density of elephants belonging to the same population occurring in northern Botswana, i.e. the largest remaining population in Africa.

2.2Habitat availability

Elephants in Namibia occur in three distinct land tenure categories, i.e. protected areas, communal land and privately owned commercial land, as illustrated in Fig. 2 A & B.

Protected areas: 13.6% of Namibia or a total of 111844km^2 are included in 20 proclaimed protected areas. Elephants occur in 7 protected areas; in the northern Namib Desert, the central northern Colophospermum mopane savannas; semi-arid woodlands of the northern Kalahari system and riparian systems of the Okavango, Quando, Chobe, Linyanti and Zambezi Rivers in the northeast, amounting to ca. 49791km^2, although parts of some protected areas in the hyper-arid zone are unsuitable for permanent or regular use by elephants. The availability of habitat for elephants in protected areas in Namibia has significantly increased in Namibia this century, through the development of the protected area network and by providing surface water in addition to existing springs. Elephants are not confined to any protected area, however, and elephant habitat should be seen within the context of seasonal and longer-term variation in elephant distribution and human settlement as influenced by climatic variation.

More habitat has become accessible through the provision of water from boreholes throughout Namibia, and elephants have colonized or recolonized formerly vacant areas, eg. two large elephant populations in two important protected areas have been founded since 1950 i.e. Etosha National Park (22270km^2) and the Khaudom Game Reserve (3841km^2) - Tsumkwe district (ca. 6000km^2). Protected areas are increasingly functioning as areas of core protection and drought refugia from where elephants expand into surrounding farming land as long as climatic conditions and access to surface water allow. The recent exodus of elephants from Etosha N.P. to the Kunene region (former Kaokoveld) as suggested by aerial survey estimates of population size and circumstantial evidence, is an example of this phenomenon. Elephant left Etosha N.P. in large numbers towards the west for the first time in 12 years, after unusually high rainfall occurred outside the park.

It remains an objective of MET to expand the protected area network and restore original biodiversity as far as possible. Elephants would be reintroduced to all new protected areas of suitable size within the historical elephant distribution area, along with as many other species as possible. Several protected areas currently do not have elephants, eg. Waterberg Plateau Park (ca. 400km^2), Hardap Game Reserve (ca. 300km^2) and the Namib-Naukluft Park (ca. 50000km^2). These protected areas currently have limited water supplies or are used by tourists in a way that would bring them into conflict with elephants, or are not adequately fenced. It remains an ideal to reintroduce elephants to the central Namib Desert, Nama-Karroo and southern Kalahari vegetation types/ecotypes where they formerly occurred in small numbers.

Communal land: The bulk of elephant range outside protected areas falls within this category, which includes ca. 21820km^2 land managed as tourism concessions and de facto conservation areas. About 12000km^2 of this total is suitable for elephants. A recent legal amendment (Annex 4) provides for the transfer of wildlife resources to rural communities that wish to practise sustainable use of wildlife through the conservancy system, which is a way to place significant parts of the elephant and other wildlife range under controlled management with clear management objectives. Several communal land conservancies are in the pipeline that will range in the 1000-10000km^2 category.

Although much of the elephant range on communal land is infrequently used by elephant, there are a few critically important districts in northeastern Namibia that serve as the migratory routes, drought corridors or seasonal range of several thousand elephant and the potential dispersal area for even more elephants concentrating in the Linyanti

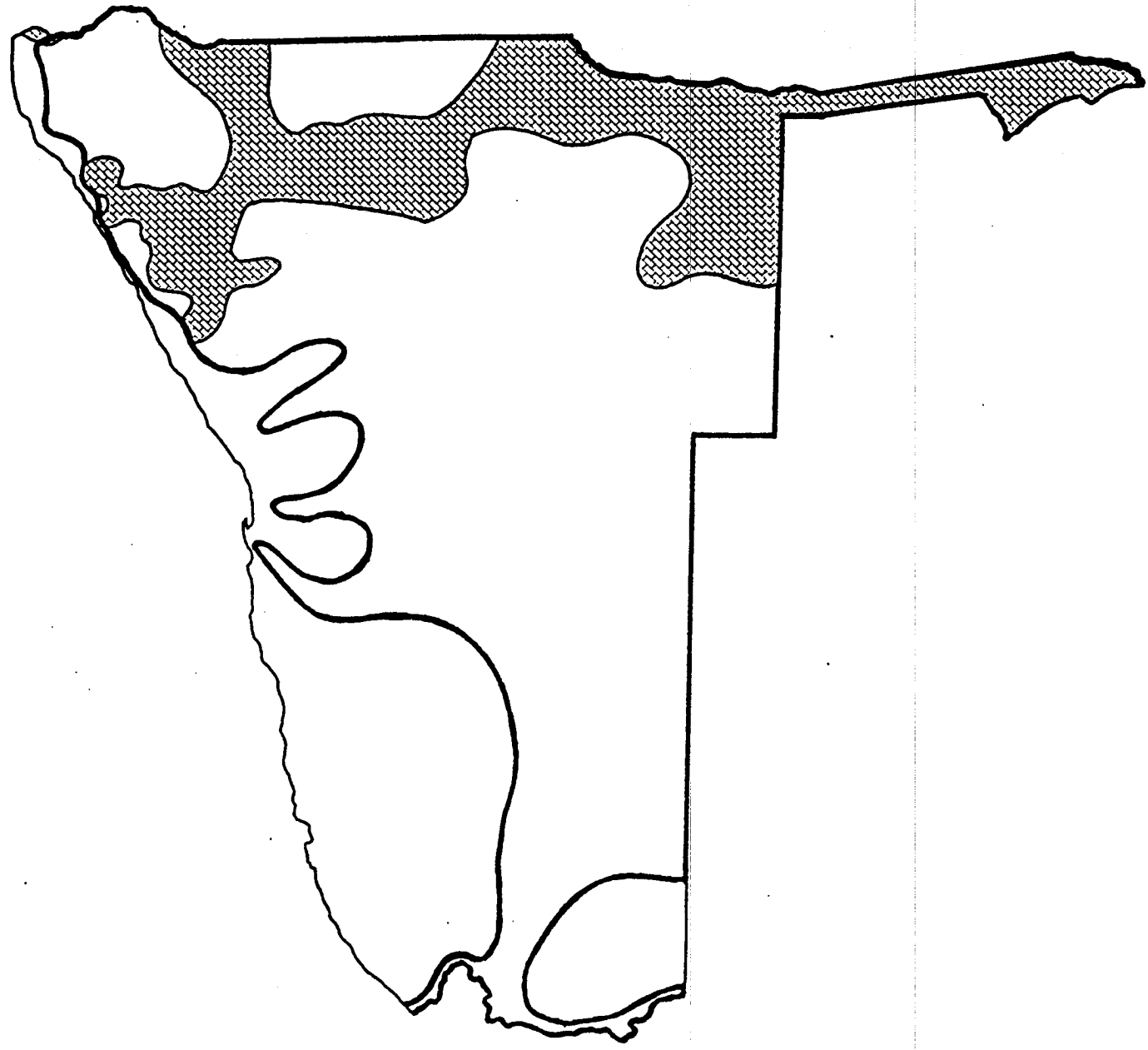
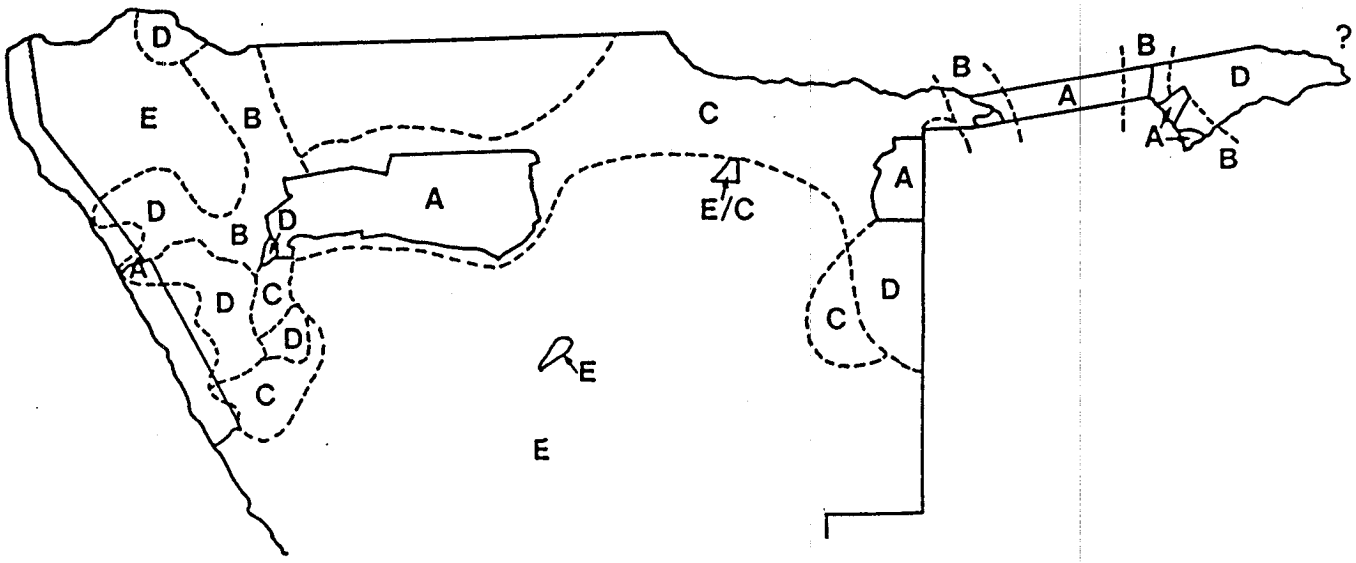


Figure 1: Historical (pre-1900) (area within bold line) and present distribution (hatched area) of elephants in Namibia (excluding elephants reintroduced on game farms and private nature reserves).



A: Primary range - protected

B: Drought/Genetic corridors

C: Seasonal dispersal range

D: Permanent range - not protected

E: Potential range

Figure 2 A: Ecological classification of the elephant range in Namibia

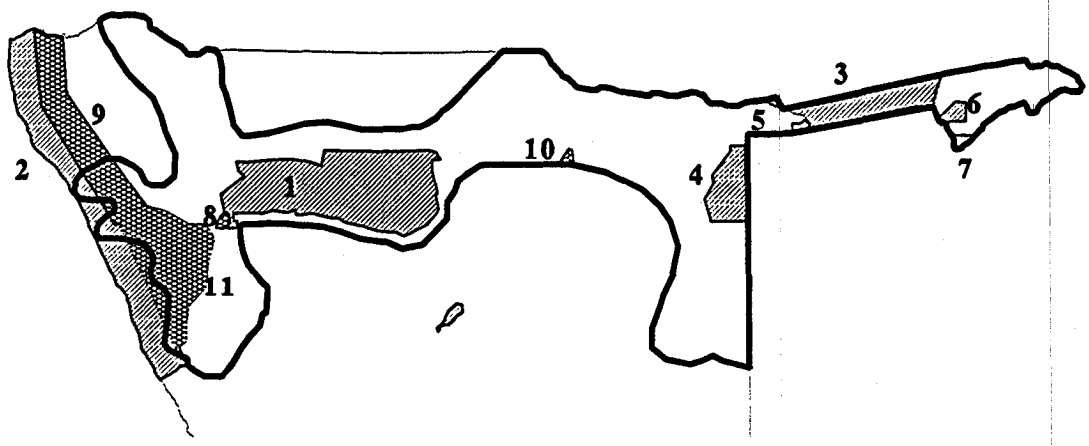


Figure 2 B: Major forms of land use in the elephant range of Namibia (1. Etosha National Park, 2. Skeleton Coast Park, 3. Caprivi Game Reserve, 4. Khaudom G.R., 5. Mahango G.R., 6. Mudumu N.P., 7. Mamili N.P., 8. Hobatere tourism concession, 9. Kaoko *de facto* game reserve, 10. Mangetti *de facto* game reserve, 11. Palmwag-Etendeka tourism concessions. Tourism concessions and *de facto* game reserves are managed by MET, communities and concessionaires for ecotourism and wildlife conservation purposes. The remaining part of the elephant range falls within communal farming land).

system along the Botswana border and the Chobe National Park in Botswana (Fig. 2 A & B). Amongst the highest known elephant densities in Africa have been recorded on both sides of the Linyanti and Chobe river systems in Namibia and Botswana over the past decade and elephants are still free to move in this region of optimal elephant habitat. It is ironic that the highest elephant densities recorded in Africa this decade are found on inter alia communal farmland in northeastern Namibia!

The 1992 Panel of Experts report mentioned that important parts of secondary elephant range are being lost to continuing human settlement at major water points, but elephants have not been totally excluded from even some of the relatively densely settled parts of their range on communal land - as evident from the incidence of complaints and conflicts. Communal lands in Namibia are the sole support base, primarily as subsistence farming land, for the majority of Namibia's rural population. It is inevitable that elephants will be displaced from some areas unless they become more valuable to rural communities than the damage that they cause and are not artificially disadvantaged compared to subsistence livestock and crop farming practises. Human population densities vary considerably in the communal areas, as largely determined by the agro-ecological potential of land as well as access to surface water, but Namibia remains one of the most sparsely settled countries on earth with a crude population density of ca. 1.5/km^2.

The communal lands have in some areas large numbers of wildlife but are primarily designated for subsistence farming. This designation should be seen in the context that almost 14% of Namibia's surface area has already been set aside in protected areas - significantly more than the international average of ca. 5%.

Privately owned commercial land (game farms, conservancies and private nature reserves): Table 1 presents a summary of the record of reintroduced elephants on game farms in Namibia. None of the populations has as yet reproduced. More than 1000 privately owned land units are registered as game farms or private nature reserves at present. Current policy restricts the establishment of elephants to farms larger than 6000ha, and strict requirements for fencing, a recent drought and restricted availability of elephants have limited the number of new populations on private land. A total of 54 elephants were auctioned in 1995 alone, for delivery in 1995 and 1996. The worsening of drought conditions in 1996, however, resulted in the cancellation of elephant sales or the postponement of delivery to a later date. The price of elephants has declined from the highest bid of N$17000 per individual to the lowest bid of N$8000 in 1995, reflecting variable demand and availability. As a rough estimate, approximately 200 elephants can be accommodated on the farms where they have already been reintroduced at a density of 0.1/km^2.

The development of new translocation techniques will make elephants more freely available and it is expected that at least another 100000ha of privately owned land could be stocked with elephants in future. The importance of elephants in tourism enterprises is well recognized and it can be expected that increasing numbers of elephants will be established on game ranches and conservancies (= voluntary associations of landholders on commercial or communal farmland established to practise coordinated wildlife management, with variable rights or ownership over wildlife) in future. The development of large conservancies over 100000ha on privately owned land will eventually make additional land available for elephant provided that adequate fences can be erected, which will be very costly given the size of the units. Some 0.7 million ha are already or are in the process of being included in conservancies, and should be seen as potential range for elephants.

An additional mixed group of 7 cattle and game farms in the upper Huab valley have had elephants virtually continuously during the past decade and can essentially be regarded as part of the permanent elephant range - not to imply that all the landowners are entirely happy about it.

2.3 Population status

The most recent estimate of the size of the Namibian elephant population was obtained in 1995 as part of the southern African regional elephant census programme, ELESMAP (Lindeque et al. 1996). This survey which covered about 90% of the elephant range in Namibia was based on standardized counting techniques and was done in synchrony with similar counts in northern Botswana to avoid any bias that might result from cross-border movements. The estimate produced was the highest and most precise estimate of elephants in Namibia to date (7684 $\pm$ 1422). This estimate was also the most expensive, but served to confirm the less costly and more simple estimates produced from earlier surveys - possibly even indicating that former surveys were underestimating elephant numbers across the board. An estimator with a confidence limit of 18.5% of the estimate is acceptable for all monitoring and management purposes. (The variances of composite estimates are additive, accounting for the overall low confidence limits). A detailed breakdown of this estimate is provided in Table 2 (see also Annex 1). As discussed in Annex 1, the national composite estimate is a conservative one, and does not cover the entire range of elephants in Namibia. Adding all elephants in private ownership increases the estimate to 7769 ($\pm$ 1422) (Table 1).

The 1995 census estimate was without any doubt affected by one of the worst droughts to hit Namibia this century. The elevation in elephant numbers in the Kunene region outside Etosha N.P. can be accounted for by the drought conditions in Etosha N.P. compared to abnormally good rainfall in northwestern Namibia in the 1994-1995 season. Elephants dispersed from Etosha N.P. where they are relatively easy to count into an area five times larger where only

Table 1. Elephants on game farms (including private nature reserves) in Namibia.

Name	Approximate size (ha)	Number of elephants	Date reintroduced
Mount Etjo	13000	14	1985 (9) 1994 (4) 1995 (1)
Ovita	10000	3	1990
Eden	30000	12	1990 (3) 1996 (9)
Epako	11000	5	1992
Ameib	16000	2	1992
Ongava	34000	5	1993
Okosongoro	11000	5	1994
Omaruru	* 3400	5	1994
Ombengu	10000	4	1994
Kuzikus	10300	6	1995
Okambara	11000	6	1995
Waldeck	10000	6	1995
Erindi	25000	12	1995
TOTAL	**194700**	**85**	

(13 Units) (1947km^2) (0.044/km^2)

* temporary permit while farm is being enlarged.

Table 2 ELESMAP census results for each block/region flown in Namibia

Block	Total area (sq km)	Area sampled	% sampled	Number of elephants seen	Population estimate	Variance	95% confidence intervals	95% confidence intervals as a % of the population estimate	Min	Max	Density /sq km
Kunene Region Total	**43398**	**10270**	**[23.66]**	**415**	**508**						**0.01**
Etosha 1	504	51	10.12	0	0						0.00
Etosha 3	1113	128	11.50	0	0						0.00
Etosha 4	1278	126	9.86	0	0						0.00
Etosha 5	984	97	9.86	0	0						0.00
Etosha 6	426	40	9.39	0	0						0.00
Etosha 7	2768	284	10.26	15	146	16748.00	273.06	187.03	15	419	0.05
Etosha 8	121	51	42.15	22	55	1024.30	73.80	134.18	22	129	0.45
Etosha 9	3939	1507	38.26	144	390	11655.90	214.85	55.09	175	605	0.10
Etosha 11	253	100	39.53	2	5	14.70	8.13	162.60	2	13	0.02
Etosha 12	359	145	40.39	1	3	3.60	4.05	135.00	1	7	0.01
Etosha 14	4106	1680	40.92	241	585	13324.20	228.55	39.07	356	814	0.14
Etosha 16	389	148	38.05	2	5	6.90	5.55	111.00	2	11	0.01
Etosha 17	2337	232	9.93	0	0						0.00
Etosha Total	**18577**	**4589**	**24.70**	**427**	**1189**	**42777.6**	**409.52**	**34.44**	**779**	**1599**	**0.06**
Kavango Total	**7901**	**1992**	**[25.21]**	**19**	**19**						**0.00**
Kaudom	1478	413	27.94	97	347	12593.09	231.62	66.75	115	579	0.23
Dussi	806	337	41.81	42	101	2685.22	106.96	105.90	42	208	0.12
Tsoana	1699	432	25.43	64	251	19688.03	289.61	115.38	64	541	0.15
Kaudom North	1113	106	9.52	8	84	7331.08	202.50	241.07	8	286	0.08
Xeidang	1324	200	15.11	0	0						0.00
Samagai-gai	1989	176	8.85	0	0						0.00
Cennqo	1314	264	20.09	7	35	967.48	66.28	189.37	7	101	0.03
Makuri	1332	348	26.13	60	230	31325.52	375.22	163.14	60	605	0.17
Klein Dobe	725	59	8.14	3	37	1256.50	112.79	304.84	3	150	0.05
Nyae Nyae	893	145	16.24	0	0						0.00
Gam	1897	203	10.70	0	0						0.00
Kaudom/Tsumkwe Total	**14570**	**2683**	**18.41**	**281**	**1085**	**75846.92**	**545.29**	**50.26**	**540**	**1630**	**0.07**
Caplow1	1816	232	12.78	224	** 0				0	0	
Caplow2	3051	296	9.70	0	0				0	0	
Ecaplow	10453	1257	12.03	11	92	7393.69	171.97	186.92	11	263	0.01
Mahango high intensity	317	157	49.53	125	252	9092.17	202.15	80.22	125	454	0.80
Mamili high intensity	396	181	45.71	667	1457	62148.18	526.01	36.10	931	1983	3.68
Mudumu high intensity	882	423	47.96	394	821	105336.40	662.09	80.64	394	1483	0.93
Nova high intensity	694	368	53.03	437	824	125468.70	729.68	88.55	437	1553	1.19
Susuwe high intensity	1193	566	47.44	682	1437	87834.78	592.74	41.25	844	2030	1.20
Caprivi Total	**18802**	**3480**	**18.51**	**2540**	**4883**	**397273.92**	**1247.99**	**25.56**	**3635**	**6130**	**0.26**
OVERALL TOTAL	**103248**	**23014**	**22.29**	**3682**	**7684**	**515898.44**	**1422.16**	**18.51**	**6262**	**9106**	**0.07**

** Analysis excluded due to possibility that these elephants were also counted in block Nova, and in order to make the most conservative estimate.

some could have been expected to be located during an aerial census. It is the first time in decades that more than 500 elephants were estimated to be in the Kunene region outside Etosha N.P. during the winter months.

A similar situation occurred in northeastern Namibia. Surface water was unusually scarce during the survey and the possibility exists that the dry season population in Namibia in that year could have been depressed as the result. Continuing and worsening drought conditions ruled out any possibility of an aerial census in 1996. The population estimate for 1995 is, despite these reservations, considered to be an accurate reflection of conditions at the time as well as a confirmation of the recent elephant population increases experienced in Namibia this century.

MET is committed to elephant population monitoring on a two to three year cycle, and has established ample capacity to survey the large elephant range with own resources (see Annex 1). Much appreciated support from the European Union and the USA (USFWS) through the ELESMAP project has been used primarily for replacing and modernizing survey equipment and training of staff. MET is in the midst of a major decentralization and rationalization process, with regional conservation scientists allocated to all parts of the elephant range. Consensus has been reached that the principal obligation of such staff will be ongoing monitoring of population trends of economically important species such as elephants in and outside protected areas.

Much has been made previously of the possibility of biased regional population estimates due to the counting of the same elephants in more than one country. As mentioned, the probability of such bias occurring was minimized by synchronizing recent aerial surveys with Botswana (as also done between Botswana and Zimbabwe). The possibility of bias resulting from elephant movements across national borders between censuses has been completely overrated, as no aerial censuses are done in Namibia or in contiguous elephant range in neighbouring countries at the time when seasonal movements occur.

2.4Population trends

Table 3 presents all major aerial census data for elephants since 1973. While methods have changed (improved) and census estimates have been produced infrequently for some areas, there seems to be no doubt that the elephant population has been increasing over at least the last two decades (Fig. 3). When only the two most recent estimates based on similar sample estimates are used, the increasing trend is confirmed (Fig. 4). Namibia will be the first to admit that elephant populations in especially the Caprivi region are variable and should be seen as part of a larger regional population (Rodwell 1995), as also long recognized in Botswana. All elephants in Namibia have marked seasonal movements influenced in extent and timing by annual variation in rainfall, making population monitoring more complicated than otherwise.

The higher figure recorded for elephants outside Etosha N.P. in 1995 can be ascribed to unusual climatic conditions. When combined with the Etosha N.P.- complex data, the trend is more in accordance with the trend expected from a population occurring at the edge of the continental distribution in a high infant mortality environment during more than a decade of unusually dry conditions. The impact, if any, of the above average 1994-1995 rainfall season has not been detectable through aerial survey yet.

All evidence thus indicates that the Namibian elephant population has been increasing, and there are now more elephants in the country than any time previously in this century. Several new sub-populations have been established in the past three decades, indicating an expanding population (see paragraph 2.5).

There is no evidence that the Namibian elephant population is anything but viable, and the fact that this population has been recovering throughout this century in semi-arid habitat indicates its resilience. A small percentage of elephants occur in hyper-arid habitat where they remain vulnerable to adverse climatic conditions and human impact. This sub-population has nevertheless been expanding despite two of the worst known droughts in recent history as well as a period of military occupation. The concern expressed by the 1992 Panel of Experts over the "uncertain" viability of the national population as a whole is unjustified. Namibia's elephant population has been increasing throughout this century and should be considered secure and viable. The 1992 Panel of Experts found no reason to dispute the accuracy of the census figures.

Much of the dispute amongst range states over elephant conservation stem from regional experiences. Whereas elephant range states in central, west and eastern Africa experienced major declines in elephant populations in the 1970s and 1980s as the result of illegal hunting and range conversion, simultaneous declines did not occur in southern Africa, and not in Namibia. Major declines in southern Africa occurred in the previous two centuries, after the introduction of firearms and the settlement of colonists and traders deeper into the interior (Bryden 1903). Some of the oldest

conservation laws (eg. the 1896 elephant hunting regulations in German South West Africa, now Namibia) and oldest protected areas (eg. Umfolozi-Hluhluwe in Kwazulu-Natal province of South Africa, Game Reserve No. 2 (now Etosha N.P.) and Sabi Game Reserves (now Kruger National Park)) in the world were established in southern Africa around the turn of the 19th century as the result of declines in elephants and other wildlife.

Elephant and other wildlife populations have generally increased south of the Kunene and Zambezi Rivers throughout the 20th century in response to sound legislation and administration, and despite the political and military upheavals

Table 3 Population estimates of elephants based on censuses in Namibia from 1973 to 1995 in five census zones. Estimates in parenthesis are derived from incomplete censuses and ground estimates.

Year	Etosha Hobatere complex a	Kunene Region b	Kaudom / Tsumkwe c	W. Caprivi complex d	E. Caprivi complex e	Total
1973[1]	1 293					
1974[3]	835					
1975[1,2]	1 293	350-500				
1976[3]	1 170					
1977[2,3]	836	250-500				
1978[3]	1 298					
1979[3]	1 876					
1980[4]					1 696	
1982[3,4]	2 202				2 405	
1983[2,4]	2 800	357			2 575	
1984[3,4]	2 464	(300)	395	395	2 015	(5 569)
1985[3,4]	1 244				1 754	
1986[3,4]	(1 600)				869	
1987[4]	2 021	(250)	1 037	1 037	1 559	5 395
1988[4]	(2 000)	(300)	(1 000)	(1 000)	1 388	(5 688)
1989[4]	(1 500)	(300)	(800)	(800)	1 141	(4 541)
1990[4]	1 556	288	1 125	966	1 388	5 323
1993[4,5]	(1 200)	[340]	(950)	4 346	592	7 428
1994[6]	(1 000)			4 733	1 071	
1995[7]	1 189	508	**1 104	2 513	2 370	7 684

a. Etosha N.P. and Hobatere Game Park; b. Entire elephant range is censussed, except Ehomba area and isolated parts of SE Kaokoland; c. Khaudom G.R. and approx. 2 000 km^2 of Tsumkwe region (formerly eastern Bushmanland); d. Mahango G.R. and approx. 2 000 km^2 of the Caprivi G.R.; e. Mudumu N.P., Mamili N.P. and approx. 1 000 km^2 of the floodplains of the Quando and Linyanti Rivers.

1. Joubert & Mostert (1975); 2. Viljoen (1987); 3. Lindeque (1988); 4. Unpublished data, Min of Environment & Tourism; 5. Rodwell (1993); 6. Rodwell (1994); 7. ELESMAP results.

( ) Derived from incomplete censuses and ground estimates
[ ] Minimum numbers
** Including 19 elephants from the Mangetti area of the Okavango Region.

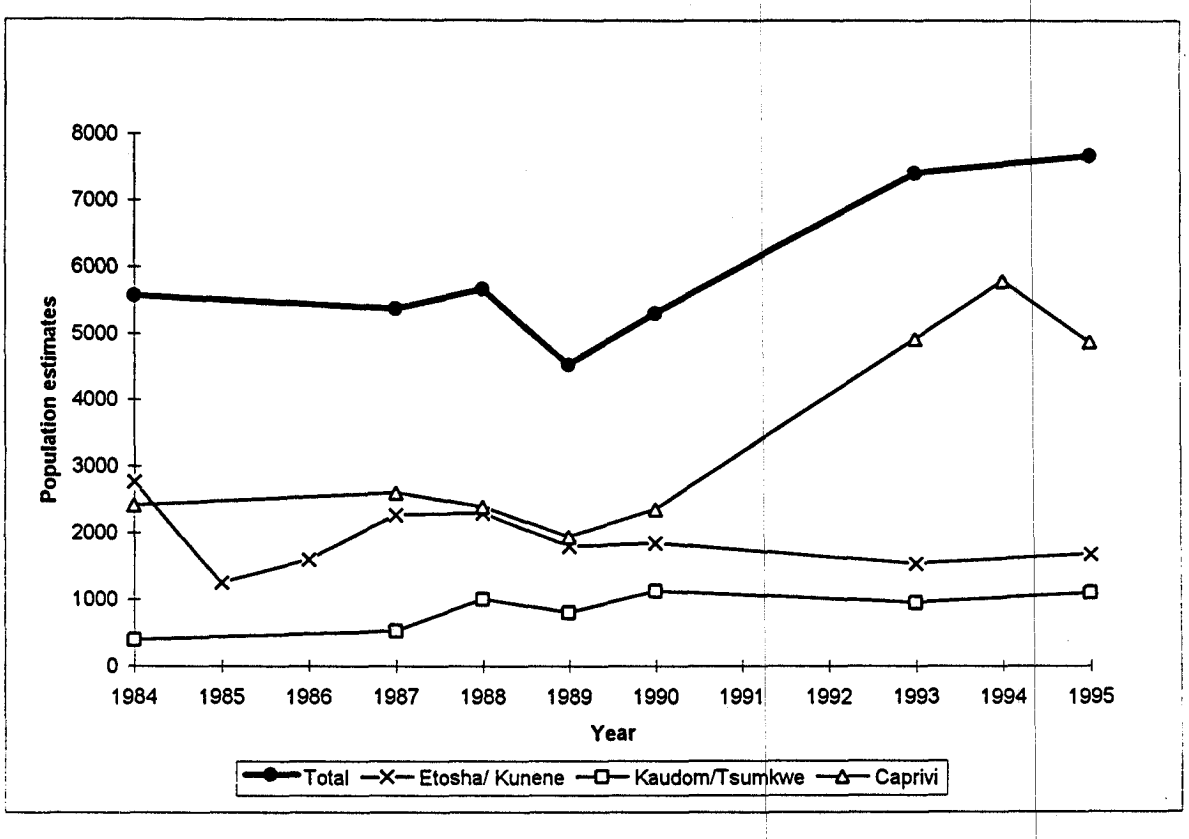


Figure 3: Elephant population trend in Namibia from 1984 to 1995 based on aerial surveys and estimates derived from partial aerial and ground surveys. (The national total population trend is illustrated as well as the trend of three main components).

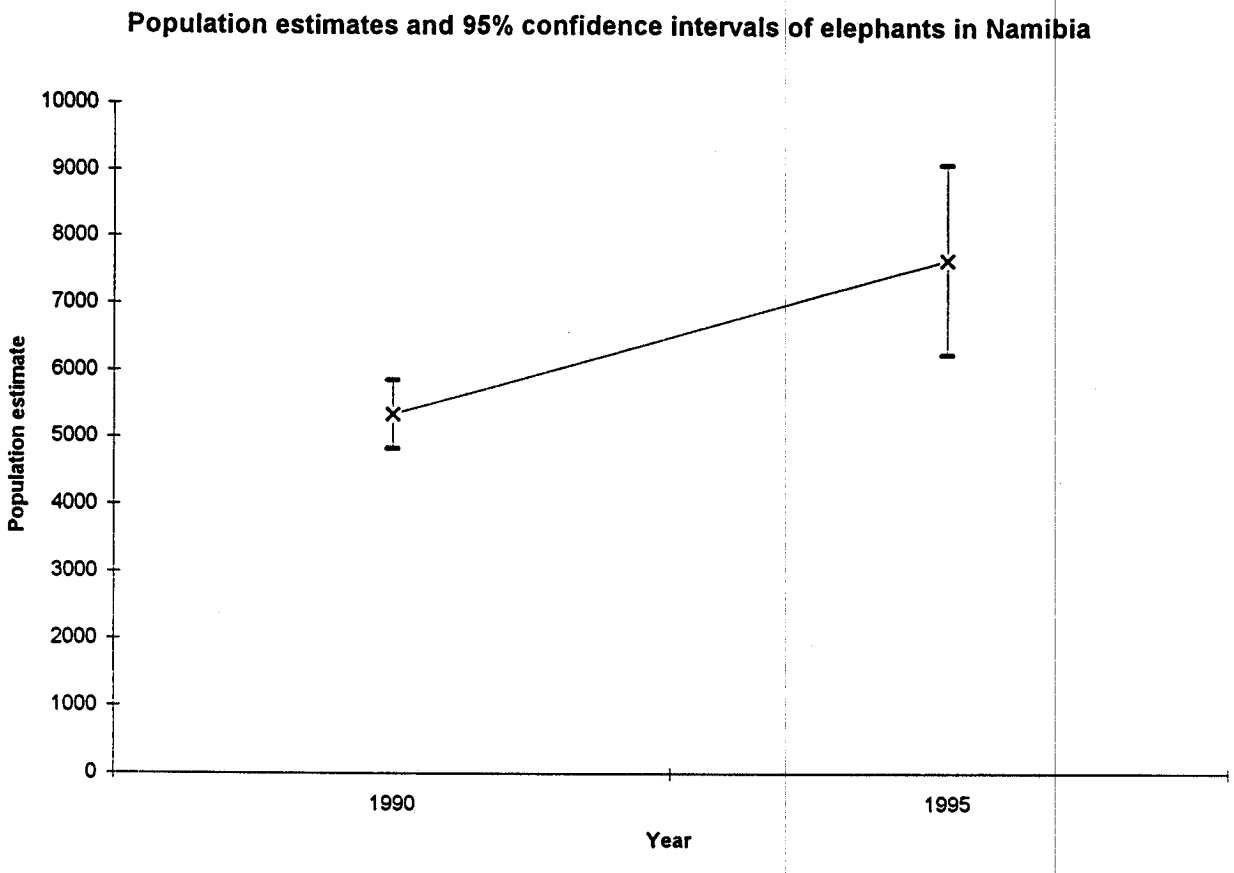


Figure 4: Namibian elephant population trend from 1990-1995 derived from two similar aerial surveys based primarily on aerial transect samples.

in this region. Spectacular wildlife population recoveries occurred in Namibia in the second half of the present century, when private landowners were given qualified ownership of wildlife on their land (Barnes & de Jager, in press). From a situation when livestock ranchers in the 1960s advertised farms for sale as "free of game", more than 60% of all game in Namibia now occur on privately owned land. Wildlife populations and the number of species on private land have doubled in 20 years, a feat that Namibia now wishes to repeat on communal land through the conservancy model (Annex 4).

2.5Geographic trends

Geographic range for elephants has not been decreasing in Namibia, but has rather been increasing. The current elephant range is probably the largest that it has been this century, with elephants expanding into previously unused or rarely used parts of the Kunene region. Elephants have in the past 5-10 years recolonized the Ehomba mountain range area (Lindeque & Lindeque 1991, MET data) (population recorded as extinct by Viljoen 1987), the Ugab River-Brandberg area, the Twyfelfontein area, the Khowarib Schlucht area and the southeastern corner (Uukwaluudhi) of the Kunene region, as well as the western part of the Omusati region (MET data). Even when disregarding the Kunene region where the extent of use of a particular area by elephants can be expected to be variable and to be determined by climate in addition to human influences that could restrict access to water, the relative age of important elephant populations indicate significant range expansion this century. The Etosha N.P. population dates back only to 1950, while the population in Khaudom Game Reserve - Tsumkwe district (former Bushmanland) was founded in the early 1970s (MET data).

The range available to elephants is also expanding southwards onto privately owned land (please see para 2.2 and Table 1) and game farms where the only restriction at the moment is the stringent fencing requirements before elephants can be reintroduced onto game farms or private nature reserves, as well as the availability of elephants for translocation. The relatively large size of game farms in Namibia

imply that fencing costs are proportionately greater than eg. the average game farm in South Africa. Conservancies (including prospective conservancies on communal land) in Namibia are relatively large (approx. 1000-6000km^2), which makes fencing very expensive. Many conservancies, private reserves and game farms nevertheless intend to acquire elephants in future.

Only a limited number of elephants have been available for translocation as Namibia has restricted the import of young elephants from other sources, and practical considerations have thus far limited the number of elephants that could be provided on auction from within Namibia. With the emergence of large communal land conservancies as well as the first conservancy in the commercial area that includes permanent and original elephant range, a significant proportion of Namibia's elephant population would become the property of such conservancies.

A major breakthrough has been the recognition by at least one very large emerging communal land conservancy (Tsumkwe region, former Bushmanland) that water must be set aside for elephants. Not only will this conservancy bring ca. 6000km^2 of elephant range under management directed at sustainable use and maintenance of biodiversity, but a good part of this 6000km^2 will remain permanent elephant range with secure water supplies.

2.6 Role of the species in its ecosystem

Elephants play a significant role at ecosystem level, and are capable of greatly modifying their own habitat and consequently the habitat for other species. On the short-term, elephants may displace other species such as rhinos and ungulates such as roan antelope in situations where surface water is limited, as elephants completely dominate water holes during droughts. Over-concentration of elephants in protected areas have in the past impacted on the biodiversity of such areas, and management intervention might be justified to reduce elephant densities through culling, translocation, fire management or by providing water elsewhere.

In addition to the standard perspective that all species in some way are valuable to natural ecosystems, elephants make an indisputable contribution or impact as bulk grazers, bulk vegetation converters, seed dispersers, opening access routes and affecting the quality and quantity of surface water available to other species. Elephants generally occur in relatively low densities in Namibia and have only periodically reached threshold densities where large scale vegetation modification lead to serious concern and management intervention. Elephants occur across a rainfall gradient of 50-750mm rainfall in Namibia, with concomitant variation in standing vegetation biomass, vegetation dynamics and community complexity. In most semi-arid areas, however, when elephant densities rise above about 0.1-0.25/km^2, woodland habitats are likely to be damaged and converted to open shrublands, which results in the loss of biodiversity and landscape structural diversity, which may lead to rapid losses of species sensitive to such conversion, eg. certain tree nesting birds and specialist antelopes.

Elephants have a particularly severe yet generally localized impact on vegetation in the vicinity of watering places, with marked effects around the focal watering points such as the springs, pans and seepages that are characteristic of arid and semi-arid areas in southern Africa. It is generally accepted in southern Africa that elephant populations recover much faster than trees and on the basis of the precautionary principle, most southern African ecologists concur that it is better to reduce elephant populations than lose mature trees because this is the option of least risk. There is currently serious concern over the impact of elephants on the riverine forest of the Okavango River in the Mahango Game Reserve in northeastern Namibia, which might require more severe management intervention than applied at present.

Elephant in Namibia compete with other species over access to water, and the series of culling operations in Etosha N.P. in the 1980s was intended as much to secure access to water for other species as to prevent irreversible vegetation modification. The limiting effects of sparse surface water supplies operate on completely different spatial and time scale than food limitations, and are important considerations for management. Conflict over water escalates during dry periods, and there is concern that elephants are limiting water currently available to rhinos and other species in some parks (eg. Etosha N.P.) and communal areas (eg. Tsumkwe district) during a period of intense drought conditions.

The only quantitative assessment of the economic impact of elephants on people in northeastern Namibia has shown that while the damage appears to be worth only tens of thousands of dollars in some communities, the impact on the people is considerable (O'Connell 1995; see summary in Jacobsohn 1996 - Annex 2). More serious than the economic or financial values of the actual losses suffered is the additional strain placed on poor communities struggling to make ends meet through manual farming techniques under inhospitable conditions. Predictably, the weakest elements of the community are at greatest risk. Many incidents of conflicts and increasing contact between people and elephants are recorded, and a few highly publicized incidents have become part of local folklore. Such incidents contribute to an overall negative perspective towards elephants, other wildlife, MET and government as a whole. The incidence of elephants

recorded as wounded seems to be increasing, which is interpreted as a sign that people are reverting to extreme measures to deter elephants.

Conflicts between people and elephants over water have severely increased this decade, and will become the most serious area of conflict in future. Water sources are unlikely to increase at the same rate as crop lands or elephant barriers around fields. As people have been part of the same ecosystem as elephants for perhaps millions of years, it is naive to consider elephant impact only in terms of a game reserve-type ecosystem without people. MET is aware of two different "carrying capacities" for elephant in Namibia, i.e. a density of elephants that can be supported by the available food, water, and space in the natural environment, within limits posed by disease and predation, as well as a level determined by human tolerance. The level of conflict between people and elephants may require that elephant density be kept at a level lower than the first level. Where conflicts occur over water, this disparity will be greatest. For example, a rural community in the Huab valley has already asked government to reduce the number of elephants on their land, which is considered to be a valid request considering the scale of conflicts in that area.

Of the greatest concern is the emergence of new evidence that the disruption of farming activities and community life by elephants may far outweigh the physical damage caused. There is a serious problem if junior students cannot reach schools because of elephants or when attempts at sophisticated livestock farming are ruined when herds are scattered and mixed due to broken fencing. Elephants indisputably have a significant impact on subsistence farming activities and community life which is of greater importance at present than their broader ecological role in ecosystems shared with people.

2.7 Threats

The 1992 Panel of Experts failed to identify specific potential risks that would threaten the survival of the Namibian elephant population in the short or medium term. Levels of poaching are insignificant and have not been affected by the political processes under way in Angola. No further import of elephants from South Africa is allowed until more is known about the genetic status of Namibian elephants (research currently in progress, N. Georgiades), and the small number previously imported has not reached breeding age and are completely controlled through the existing permit system. Additional comments pertaining to longer-term threats are provided below:

Long-term: Elephant habitat in Namibia is prone to serious periodic droughts and is arid or semi-arid in general. Elephant densities can be expected to be lower than under more humid conditions, and drought-related mortalities will periodically occur, particularly in the younger age classes (Lindeque 1991a,b). The Namibian elephant population has nevertheless managed to increase throughout this century despite arid conditions and the trans-African drought of the early 1980s. The principal reason for drought tolerance is the great mobility of elephants in Namibia and knowledge of terrain that allows them to travel long distances between waterholes. It is vital that elephants retain access to range in and out of protected areas and vital movement corridors, as would only be possible if they are not seen as incompatible with farming practises. There is little short-term threat to the accessibility of migratory routes and corridors to elephants in Namibia, but longer-term range conversion and exclusion from surface water sources would have a serious impact.

Elephants outside protected areas in Namibia face a serious long-term threat of displacement through progressive range conversion to subsistence agriculture - if, as MET contends, the international community fails to support measures that would make elephants more valuable to people than the land use which threatens to replace them. The approximately 50000km^2 of elephant range occurring within protected areas will nevertheless provide secure habitat for 6000 elephants at an average stocking rate of 0.12 elephants per km^2, and will serve as dry season refugia for elephants that use land outside protected areas.

Anthrax has occurred in elephants in Namibia but has not lead to population declines. Male elephants appear to be more susceptible to the disease. Selective groups have been vaccinated and Namibia participates in ongoing research to develop an oral vaccine. Research is currently being done in Etosha N.P. to determine the efficacy of long-term vaccination of elephants against anthrax (for which support from WWF International is greatly acknowledged). There has not been a major outbreak of anthrax amongst elephants anywhere in Namibia since 1989-1990 (Table 4).

Aridity of elephant habitat should not in itself be seen as a long term threat or risk for elephants, as seen in the resilience of the desert-dwelling elephant population, their behavioural adaptations and opportunistic range use. Additionally, less than 5% of Namibia's elephants occur permanently or frequently in hyper-arid areas (less than 150mm rain per year) and less than 10% in hyper-arid and arid areas (less than 300mm rain per year).

There is thus no evidence that the Namibian elephant population is anything but viable, and the fact that this population has been recovering throughout this century in semi-arid habitat indicates its resilience. A small percentage of elephants occur in hyper-arid habitat where they remain vulnerable to adverse climatic conditions and human impact. The emergence of large communal land conservancies in the arid zone will improve the status of some of the arid zone elephants. This sub-population has been expanding despite recent droughts and a period of military occupation.

The concern expressed by the 1992 Panel of Experts over the "uncertain" viability of the national population as a whole is unjustified. For example, elephants in northeastern Namibia, more than 50% of the national population, are part of the largest remaining population in Africa (occurring in northern Botswana, the Caprivi region of Namibia and western Zimbabwe), which is arguably also the most viable in Africa. Namibia, Zimbabwe and Botswana are already jointly managing this multinational population through the SACWM forum (formerly SACIM).

Table 4 Incidence of anthrax in elephants in the Etosha National Park since 1980 (from MET mortality register in Etosha N.P.).

Year	Confirmed anthrax	Suspected anthrax	Total	Elephant population estimate	Anthrax mortalities as a percentage of the population
1980	4	2	6		
1981	60	15	75		
1982	11	63	74	2202	3.36
1983	8	3	11	2800	0.39
1984	4	5	9	2464	0.37
1985	6	14	20	1244	1.61
1986	2	8	10	1600	0.63
1987	14	3	17	2021	0.84
1988	24	23	47	2000	2.35
1989	58	24	82	1500	5.47
1990	29	17	46	1556	2.96
1991	8	0	8		
1992	17	15	32		
1993	8	2	10	1200	0.83
1994	11	1	12	1000	1.20
1995	3	0	3	1189	0.25
1996	7	1	8		

3.Utilization and Trade

3.1National utilization

Namibia has not exploited elephant directly for their products either for commercial trade or domestic consumption, except through sport hunting and photo-tourism. Small numbers of elephants were removed in 1983 and 1985 to achieve specifically targeted population reductions for conservation purposes during drought periods in Etosha N.P. MET has also experimented with the capture of immatures and sub-adults from herds in problem areas for translocation purposes within Namibia.

Strict national legislation makes it obligatory to hand in found ivory and MET pays an incentive fee to rural people handing in ivory. Ivory is recovered from all recorded natural mortalities as well as elephants destroyed as problem animals. The 1992 Panel of Expert's report concluded that legal and illegal offtakes of elephants have not caused any population decline and that the order of magnitude of offtakes would be sustainable in the long term.

Sport hunting (trophy hunting, recreational hunting): Table 5 presents quotas for sport hunting since 1988, when elephant hunting was introduced on an experimental basis. Quotas have been allocated to varying areas, depending on elephant concentrations and conflicts with people. Annual quotas have varied from 20-28 per year.

The current level of sport hunting is largely determined by the 0.5% of standing population guideline (Martin, 1986). This implies that the maximum adult male takeoff through sport hunting at present should not exceed 38 ($\pm$7) per year for the present population estimate. It is a management objective, however, to reduce the elephant pressure on Mahango Game Reserve, but it was decided to reduce population size through sport hunting of this exclusively male population rather than through culling (in addition to other measures such as the installation of alternative waterholes and controlled veld burning programmes). The short-term quota could thus have been set as high as 38 ($\pm$7) plus 5-10 elephants from Mahango G.R. per year. The total current quota per year has nevertheless been limited to 28 individuals for the 1995-1997 period, on a precautionary basis, and to provide for additional elephants that might have to be destroyed in conflict situations.

Elephant quotas along with other species are presently sold per hunting block for a three year period on public auction. Elephants may also be declared as problem individuals and offered to sport hunters, to be shot for a fee rather than be destroyed by MET. Such elephants are currently added to the total offtake until the end of the current three year cycle when the entire hunting programme is up for review. Almost all of the present hunting areas may become part of one or more communal land conservancies within a period as short as one year, which will require a new administrative arrangement. Conservancies are expected to propose hunting quotas to MET, who will follow existing procedures to determine a sustainable takeoff per unit population. MET therefore retains control over the elephant hunting programme, and all related activities remain subject to stringent permit requirements. Once conservancies are allocated hunting quotas, central government will no longer get any revenue from such quotas.

MET has established a national annual export quota through CITES of 75-80 elephants per year (150-160 tusks per year), currently set at 75 elephants or 150 tusks for 1996 (see eg. CITES Notification to the Parties Nos. 874 and 896). This quota level was necessary to allow for the possibility that the tusks of all elephants hunted in one or two years may only be exported the following year, as could result from delays in importing countries or the processing of specimens by eg. taxidermists etc.

Live capture and selling: MET encourages the redistribution of elephants to their former range in Namibia and the expansion of tourism operations by providing live elephants for sale and translocation to suitable land units. No elephants are provided for export purposes, and future exports will provisionally be restricted to translocation of elephants for reintroduction to suitable habitat in southern Africa. Elephants have been selectively captured from herds in Etosha N.P. and the Caprivi region on an experimental basis and in areas where culling would have been the only alternative option to reduce vegetation damage or conflicts with people. The size of elephants captured has been increased progressively to a maximum shoulder height of approx. 2m allowed by current capture equipment. MET has thus far offered only 79 elephants for sale at game auctions (5 in 1993, 20 in 1994, 54 in 1995) (in addition to selling calves removed live during the culling operation in 1985). A number of the transactions in 1995 have been cancelled because of drought or delivery has been delayed until conditions improve. A further 8 elephants have been exchanged for other species. MET is currently exploring the translocation of adult elephants as a selective population reduction measure and a source of elephants for translocation purposes. Elephants in Namibia (and southwestern Angola) are amongst the tallest in Africa (Lindeque & Van Jaarsveld 1993), however, and the loading and transportation of adults will pose special problems. MET will encourage communal land conservancies to market live elephants once technical constraints have been solved.

Elephant hide and related products: Namibia currently does not recover or stockpile elephant hides from the few cases when elephants are destroyed, except when sport hunters wish to export hide. It has not been cost-effective before the Appendix I listing to attempt recovery from single animals and the complicated curing and storing requirements for marketable quality hide, but the situation will be re-evaluated in future. All hides dating back to the 1983 and 1985 culls have been sold, destroyed or discarded.

Table 5. Quotas for sport hunting of elephants in Namibia since 1988.

Year	Hunting areas	Region	Quota per annum
1988-1992	former Bushmanland Eastern Caprivi	Otjozondjupa Caprivi **Total:**	10 10 **20 p.a.**
1993	former Bushmanland West of Khaudom Wester Kavango Bagani-Mahango GR Eastern W. Caprivi Eastern Caprivi	Otjozondjupa Okavango Okavango Okavango-Caprivi Caprivi Caprivi **Total:**	2 1 3 5 3 5 **19 p.a.**
1994	West of Khaudom Wester Kavango Western W. Caprivi and Mbukushu area Eastern Caprivi	Okavango Okavango Caprivi-Okavango Caprivi **Total:**	1 2 10 10 **23 p.a.**
1995-1997	Area 1 (West of Khaudom) Area 2 (Western Kavango) Area 3 (Western W. Caprivi and Mbukushu area) Area 4 (Eastern W. Caprivi) Area 5 (Mahango GR) Area 6 (East Caprivi) Area 7 (Hobater-Kamanjab)	Okavango Okavango Okavango-Caprivi Caprivi Okavango Caprivi Kunene **Total:**	3 3 5 2 5 8 2 **28 p.a.**

Ivory stockpile

Namibia has no formal moratorium in trade or export of raw ivory but has not made any commercial exports of raw ivory since becoming a Party to CITES with a reservation on the Appendix I listing of the Namibian population of the African elephant. Namibia has likewise not allowed the import of raw ivory for commercial purposes, nor the transit of such ivory through Namibia.

MET as the Namibian wildlife management agency has accumulated all ivory since 1984 from natural mortalities, problem animal control, the 1985 culling operation, as well as all tusk fragments found at waterholes and elsewhere. An analysis of this stockpile is provided in Table 6 and Figure 5. One third (34.5%) of the stockpile, or 2551 whole tusks with a combined mass of 13.8t, originate from natural and management mortalities. It is this component that Namibia wishes to trade internationally through this proposal. Once the origin of some of the confiscated ivory declared forfeit to the State can be determined through court proceedings and trace element analysis (Van der Merwe et al. 1990), some specimens of proven Namibian origin might also be considered for trade in future. Ivory from Namibia and different regions within Namibia is readily identifiable using trace isotope analysis as in most populations extensively sampled, when compared to the existing database on the chemical profiles of ivory.

It must be stressed, however, that MET has no intention of mixing confiscated ivory of whatever origin with ivory recovered from natural and management causes for the purposes of the current proposal. MET is willing to keep indefinitely, or lodge with CITES Secretariat or another appropriate institution, a ca. 50g sample from every tusk removed from the national stockpile for trade for chemical assay.

All seized and/or confiscated tusks are separately stockpiled, with many tusks being held on behalf of the Protected Resource Unit of the Namibian Police (PRU) as evidence for pending court proceedings. The management and ultimate disposal of confiscated ivory stocks remain a serious problem. While Namibia does not intend to trade in ivory of non-Namibian origin, it can also not agree to other ways to dispose of such stocks. Many specimens in the stockpile remain subject to further investigation and court proceedings, and have to be held for an indeterminate period.

The last public auction of ivory for export was held in 1984 in Namibia. Ivory for local use only, was offered on public tender in 1996 to assess the size of the local market. Local demand is insignificant at present.

A catalogue of the existing ivory stockpile intended for international trade has been provided to the CITES Secretariat before 10 January 1997. All specimens in this stockpile have been marked in accordance with Conf. 9.16 (g) and are stored separately from any seized ivory or ivory of unknown origin.

Once communal land conservancies are registered and become de facto owners of elephant populations, they will also have the right of ownership of all elephant derivatives, including ivory. MET will support communities to sell their accumulated ivory, subject to all permit requirements and procedures to ensure that the level of use is sustainable and compatible with the goals of the relevant conservancy, its approved management plan and MET's regional and national conservation priorities. Ivory belonging to conservancies will be stored in the national ivory store controlled by MET, in the absence of adequate alternative storage facilities. MET will furthermore provide all necessary support for marketing and export of such ivory - subject to the outcome of this proposal.

The Namibian supplementary supporting statement in 1991 included various analyses on the ivory stockpile in 1991 (Annex 3). This information has been completely updated for the current statement (see Table 7 and Fig. 6) following a complete verification of the origin and date of recovery of the entire ivory stockpile and the current computerized database. This information still has to be compared to law enforcement and court records, a process that cannot be completed quickly for various logistical reasons. Data presented in the 1991 supporting statement and earlier drafts of this statement cannot be directly compared, as the categorization of database entries as "whole tusks" and "pieces" was not entirely consistent before 1996.

in Table 7 and Figure 6 provide indications of annual stockpile gains from different sources. It is tempting to search for patterns and explanations for theories in this data, but MET is concerned that the dates of acquisition for seized ivory in particular might not consistently reflect the year of seizure but rather in some cases the year in which the ivory was declared forfeit to the State. In addition, not enough is known about elephant mortality patterns to infer any demographic trend from the annual accumulation of ivory in the natural/management category. It can be argued that elephants are unlikely to show a stable age distribution when there is large annual variation in key demographic parameters such as the first year survival rate, such as can be expected in semi-arid and arid environments (Lindeque 1988). It is thus not appropriate to deduce population trends from ivory accumulation rates over relatively short periods, such as the

1990-1996 data in Fig. 6. Ivory accumulation data are sensitive to single incidents of unusual mortalities, eg. anthrax outbreaks, and single large confiscations. The increase in 1996 of ivory from natural and management sources is an artifact of delays in handing ivory in from regional outposts to the central store, primarily causes by organizational and personnel changes in the Ministry of Environment and Tourism from 1994 to 1996.

Ivory stocks under the direct management of Namibia's Ministry of Environment and Tourism have increased from ca. 4313 tusks, pieces and chips (ca. 24500kg, average estimated tusk weight 5.7kg) in 1991 to the present 7857

Table 6 Analysis of ivory on stock in the national stockpile of Namibia controlled by the Ministry of Environment and Tourism

Origin	Description	Total number	Total weight (kg)	Mean weight (kg)	Minimum weight (kg)	Maximum weight (kg)	Variance
Natural and Management	Whole tusks	2551	13776.95	5.40	0.07	34.80	34.62
	Chips and pieces *	405	1342.08	3.36	0.02	65.20	49.28
SIZ	Whole tusks	4676	28232.77	6.04	0.05	40.95	32.53
	Chips and pieces *	46	110.28	2.45	0.15	15.5	10.22
UNK	Whole tusks	174	1001.50	5.76	0.20	34.00	30.54
	Chips and pieces *	5	19.40	3.88	0.75	10.85	13.43
TOTAL	**Whole tusks**	**7401**	**43011.22**	**5.81**	**0.07**	**40.95**	**33.30**
	Chips and pieces *	**456**	**1471.76**	**3.27**	**0.02**	**65.20**	**45.06**
GRAND TOTAL		**7857**	**44482.98**				

Where:

Natural and Management: ivory recovered from natural mortalities, the 1985 cull in Etosha N.P. and problem animal control by MET.
SIZ Ivory seized by police or MET personnell during law enforcement operations, including specimens subject to ongoing court proceedings.
UNK origin unknown.

* Some entries under this category consist of a whole bag of chips and pieces of ivory collected by MET staff in the field.

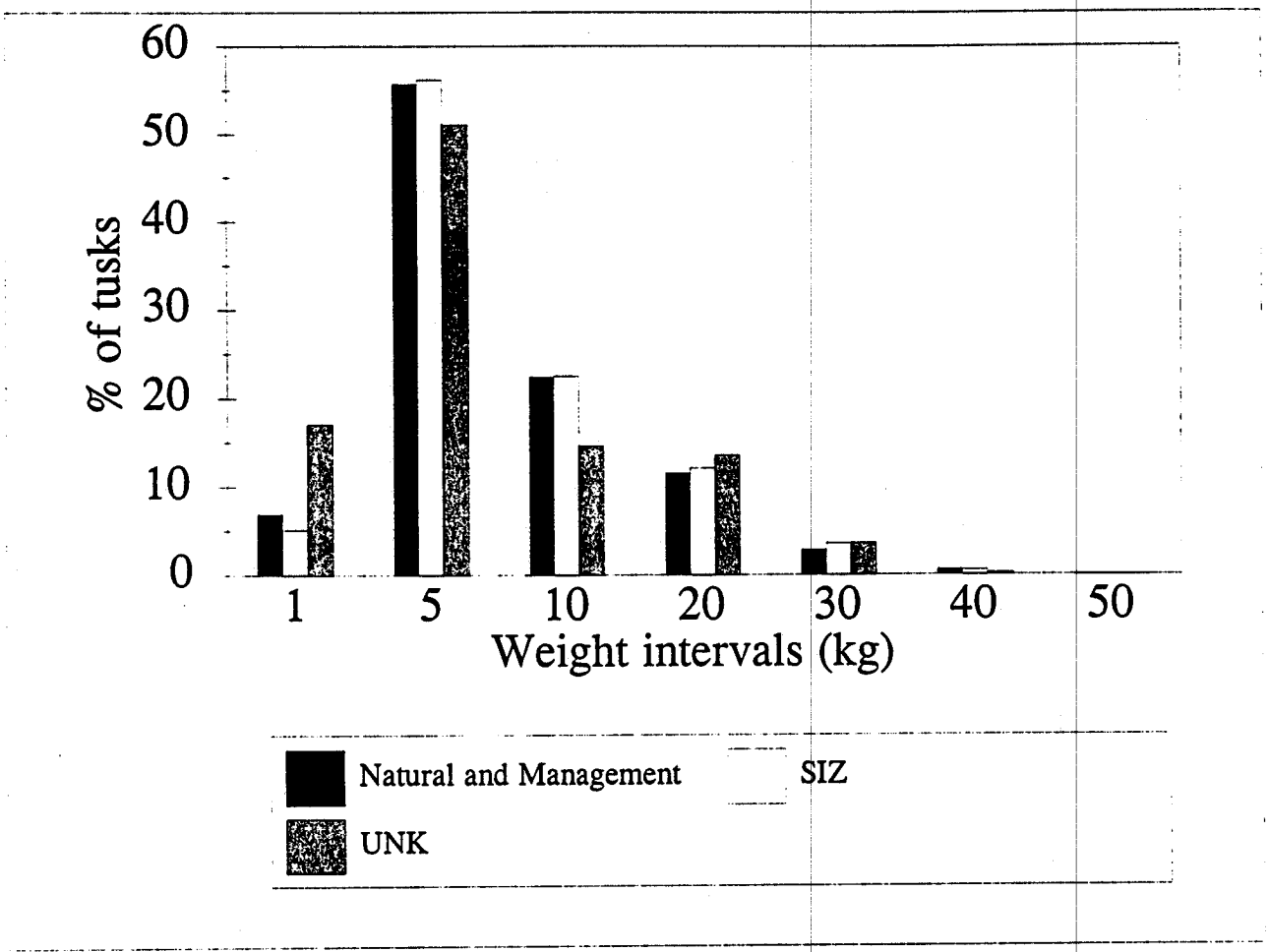


Figure 5: Percentage distribution of weight intervals of whole tusks in the categories: seized (SIZ), natural and management mortalities and unknown in the national storage facility on 10 January 1997 (see Table 6).

Table 7 Annual ivory stockpile accruals of whole tusks in Namibia currently in stock.

Year	Origin	Number of tusks	Total weight (kg)	Mean weight (kg)
1983*	Natural & Management	39	121.21	3.11
	SIZ	0		
	UNK	0		
1984*	Natural & Management	27	135.20	5.01
	SIZ	17	48.60	2.86
	UNK	0		
1985	Natural & Management	503	1299.34	2.58
	SIZ	30	175.80	5.86
	UNK	0		
1986	Natural & Management	99	557.90	5.64
	SIZ	160	573.30	3.58
	UNK	0		
1987	Natural & Management	134	1119.75	8.36
	SIZ	146	716.00	4.90
	UNK	0		
1988	Natural & Management	89	594.64	6.68
	SIZ	294	1544.00	5.25
	UNK	0		
1989	Natural & Management	303	1627.25	5.37
	SIZ	1106	7790.99	7.04
	UNK	161	944.40	5.87
1990	Natural & Management	214	1258.80	5.88
	SIZ	201	1369.28	6.81
	UNK	0		
1991	Natural & Management	205	1377.85	6.72
	SIZ	220	1800.76	8.19
	UNK	0		
1992	Natural & Management	144	928.82	6.45
	SIZ	456	2596.24	5.69
	UNK	1	27.80	27.80
1993	Natural & Management	100	412.22	4.12
	SIZ	891	5917.70	6.64
	UNK	0		
1994	Natural & Management	122	614.37	5.04
	SIZ	612	3017.64	4.93
	UNK	0		

Year	Origin	Number of tusks	Total weight (kg)	Mean weight (kg)
1995	Natural & Management	147	638.50	4.34
	SIZ	413	2027.69	4.91
	UNK	0		
1996	Natural & Management	425	3091.10	7.27
	SIZ	130	654.79	5.04
	UNK	** 12	29.30	2.44
TOTAL	**Natural & Management**	**2551**	**13776.95**	**5.40**
	SIZ	**4676**	**28232.77**	**6.04**
	UNK	**174**	**1001.50**	**5.76**

Natural & Management: Ivory recovered from natural mortalities, the 1985 cull in Etosha N.P. and problem animal control by MET.

SIZ: Ivory seized by police or MET personnel during law enforcement operations, including specimens subject to ongoing court proceedings.

UNK: Origin unknown.

* Data not complete for 1983 and 1984, as some specimens were sold on auction.

** Tusks found surplus during 1996 stocktaking.

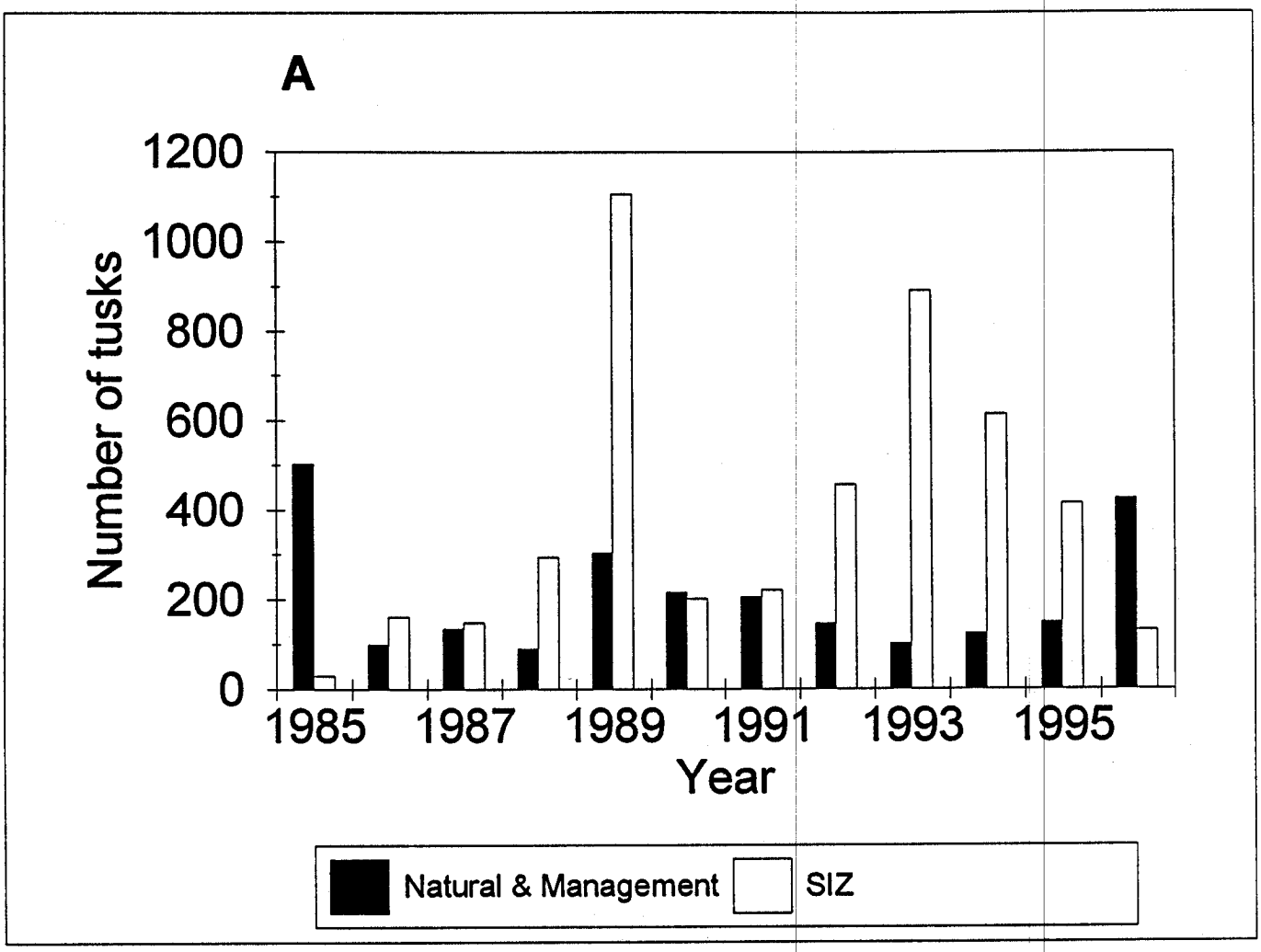


Fig. 6A. Accumulation in the number of whole tusks seized and from natural and management mortalities in Namibia from 1985 to 1996.

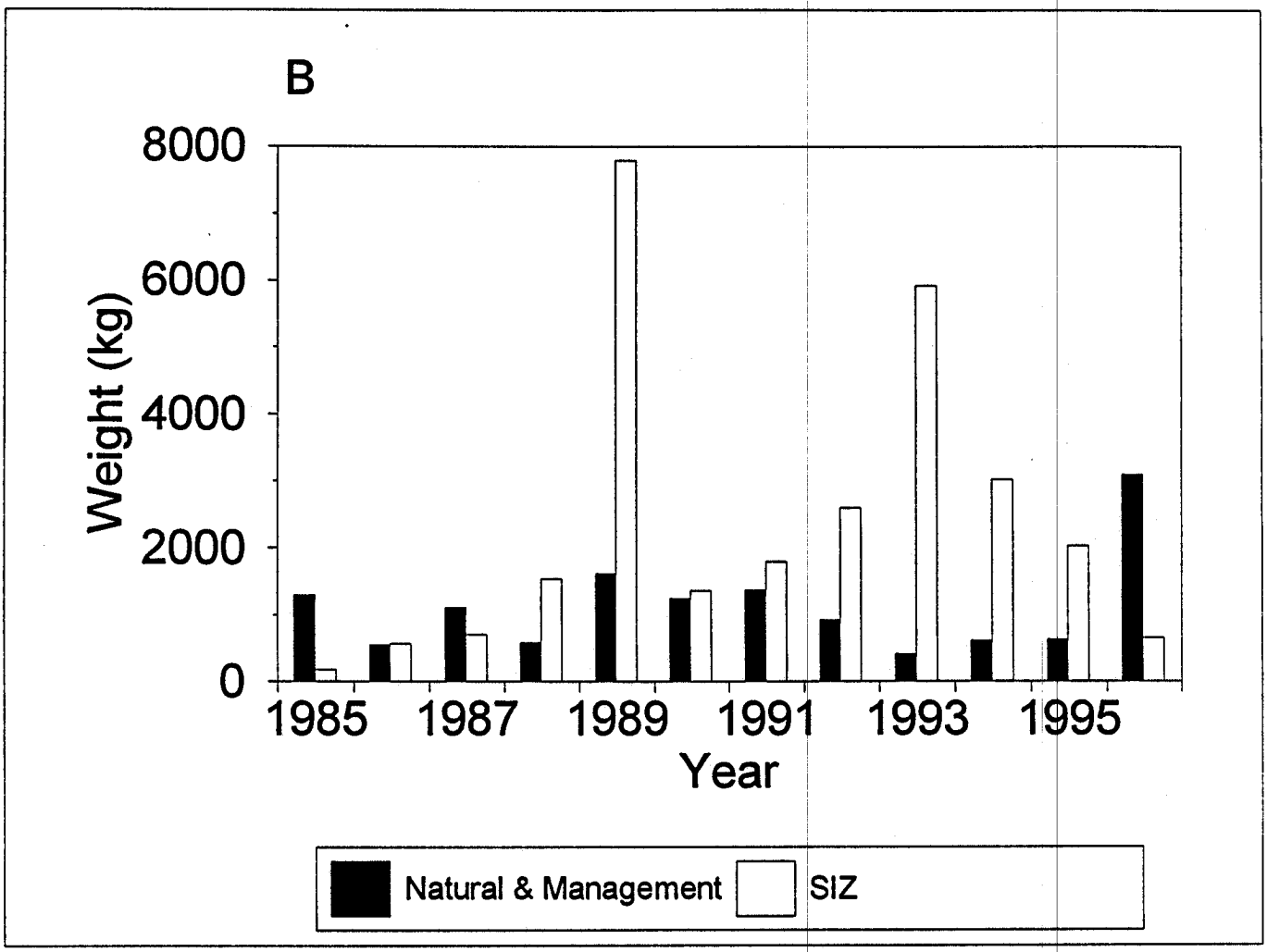


Fig. 6B. Accumulation in the total mass of ivory seized and from natural and management mortalities in Namibia from 1985 to 1996.

items (44483.0kg), consisting of ca. 456 chips and pieces (1471.8kg) and 7401 whole tusks (41370kg, mean tusk weight 5.6kg (see Table 6)) on 10 January 1997. This increase represents an approximate average accumulation of 3996.6kg per year from all sources. Over the period 1990-1996 (Table 7), on average 194 tusks (1189kg, representing ca. 97 elephants) were recovered annually from natural causes and management-related mortalities. This represents an annual mortality of ca. 1.3% which is well within the expected mortality rate of the Namibian population and species as a whole.

Not all ivory is likely to be recovered, but intensively patrolled and surveyed areas such as the open elephant range of Etosha N.P. and the Kunene region would facilitate recovery. Incentives (rewards) are also paid by MET and the Namibian Police (Protected Resources Unit) for ivory handed in by the public, which must represent a significant portion of elephant mortalities on communal lands.

The almost doubling of the Namibian stockpile over as little as five years has important implications for Namibia and elephant conservation in Africa. Firstly, stockpiles can obviously grow very rapidly, and should increase, using Namibian data, by approximately 100-500kg per 1000 elephants in the standing population per year, at mortality rates of between 1-5% p.a. and an average tusk weight of 5kg (Table 6) - excluding ivory confiscated and seized. If the continental population is estimated at the minimum of 286234 (only "definite" category in ca. 19% of the total elephant range in Africa in Said 1995), annual production of ivory could amount to 28,6 - 143,1t p.a.

Growing stockpiles will represent major management, administrative and security problems in future. MET has had to double it storage space from 1991 to 1995, and is currently in the process of further extensions. The international conservation community has to take cognisance of this situation and the predicament that conservation agencies find themselves in countries where elephant populations have been expanding, where law enforcement is effective and where there is cooperation from the public.

Ivory in private ownership

Records of ivory in private ownership are currently under review, but current data indicate that 1051 tusks amounting to 9800kg are privately owned by approx. 800 Namibian citizens and residents. Most acquisitions pre-date Namibia's Independence and accession to CITES, and virtually no ivory has entered into private ownership since 1990. The possession and trade in privately-owned ivory are subject to stringent permit conditions. Initial reviews of permit records show virtually no changes in ownership or movement of ivory, except through bequests from estates of deceased persons. The recent domestic sale of ivory to test local demand included the condition that ivory sold may not be exported. Ivory in private ownership will not qualify for export under the terms of this proposal, as eg. privately owned stock do not form part of registered stocks in the national stockpile.

Once conservancies are established in the elephant range, as is expected to occur within the 1996-1997 period, ivory legally recovered from such conservancies will belong to the conservancy. Such ivory will for the purpose of providing assistance to conservancies with security, management and marketing of stocks, be required to be deposited in the central storage facility of MET and will be included in future stocks that Namibia will offer for trade.

Trade in worked ivory

MET manages a rather impractical and unjustifiably strict registration system of importers and retailers in worked ivory that will be reviewed in the current revision of environmental legislation. While this system can perhaps be seen as inadequate or ineffective, it is irrelevant in the context of this proposal to export raw whole tusks for primarily conservation purposes. Worked items include primarily carved animal figurines and armbands, and are imported from manufacturers in South Africa and Zimbabwe. The onus rests on non-resident purchasers to obtain import permits, and retailers generally warn clients that permits are required for importing ivory. Retailers report minimal trade in worked ivory, and most have not imported significant amounts of stock to Namibia since Independence in 1990 or Namibia's accession to CITES in 1991. An exception is trade in traditional Ovambo ivory adornments. All items inspected by the Management Authority appear to be several decades old, dating back to a period around the turn of the century when traditional dress was in common use by Ovambo women.

3.2Legal International Trade

Namibia has not has not made any commercial exports of raw ivory since 1984, and no other southern African country with reservations on the Appendix I listing of elephants has exported raw ivory since the ban came into effect. In the absence of international trade from the Parties with reservations, there presumably exists no legal international trade in

ivory and other elephant products beyond trade in specimens exempted under Article VII of CITES. None of the international monitoring agencies (TRAFFIC, IWMC, CITES Secretariat) have reported significant legal trade in ivory since the ban came into effect. It can be safely said that the ban effectively stopped the legal international trade in ivory throughout the world.

If successful, this proposal will not lead to an increase in legal trade in elephant products within Namibia, except for the proposed reduction in registered stocks under government control through export. The nature of this proposal is to establish a new form of trade in ivory for conservation purposes and the resulting trade will be unlike any previous international trade in elephant products. As the objective of this proposal is to establish a form of highly regulated trade in registered stocks of ivory from Namibia, international trade will increase by the amount traded from the Namibian stockpile if the proposal is successful. This trade will, however, only take place between Namibia and one importing country (Japan) and, through the precautionary approach adopted, cannot lead to the establishment of a legal ivory trade with other Parties. Similar proposals from Botswana and Zimbabwe will have the same intention and effect as the Namibian proposal.

3.3Illegal Trade

Illegal trade resulting from illegal hunting in Namibia as well as the southern African region is low, but probably increasing (see Zimbabwean Supporting Statement and Dublin et al. 1995). No elephant has been hunted illegally within Etosha N.P. for two decades. The Kumleben Judicial Commission of Enquiry into the role of the South African military in illegal wildlife trade in support of one faction in the civil war in Angola (Kumleben 1996) as well as popular accounts (Potgieter 1995) on the same issue have failed to provide any evidence of elephant hunting by military forces within Namibia after 1983.

Incidents of illegal hunting of elephants in Namibia include cases of illegal shooting before or after elephants have damaged or have threatened to damage crops and farms. Many such elephants are not killed on the spot, and in many cases there is no attempt to recover ivory from carcases. It is nevertheless very difficult to separate illegal hunting with the intent to collect ivory from all hunting incidents, and illegal hunting is notoriously difficult to monitor.

Carcass ratios recorded during the 1995 aerial survey are presented in Annex 1, and are below 5% in the non-anthrax areas, including relatively densely populated parts of the northeastern communal lands. The data on carcass ratios do not suggest that there has been mortality higher than expected from natural mortality patterns and which can thus be assumed to be from illegal off-take, although there is concern that illegal hunting is on the increase in southern Africa (Dublin & Jachmann 1992; Dublin et al. 1995). The only regions where relatively high carcase ratios were found in the 1995 aerial surveys correspond to parts of Etosha N.P. where enzootic anthrax is prevalent - and where elephant carcases usually mummify and remain visible for longer periods than elsewhere in Namibia (MET data).

The relatively high incidence of seized and confiscated ivory in Namibia has in the Panel of Experts' report for 1992 only been used as evidence of illegal trade through Namibia. The incidence of seizures, however, equally points to successful law enforcement and the remarkable efficiency of a police unit (PRU) with decades of experience in managing informer networks to curb the illegal diamond trade (Namibia is one of the world's largest producers of gem quality diamonds), as also mentioned by Bradley-Martin (1993). Most tusks seized appear to be several years old, and appear to have come from stockpiles in neighbouring countries north of Namibia. Furthermore, the incidence of confiscations is irrevocable proof that the illegal trade in ivory has persisted despite the ban. TRAFFIC (1995a) notes that confiscations of ivory in Zambia have increased markedly since the ban, a possible indication that the level of law enforcement in Namibia is forcing a directional shift in the outflow of ivory from Angola.

While intensive research has not been done, it appears that most items confiscated did not enter Namibia in a fresh state, and thus probably represent old accumulations. Partially worked items of ivory of the type reported from other countries have been confiscated in Namibia, indicating that a small scale manufacturing operation might have been established in Namibia since the ban, as in most other range states (TRAFFIC 1995a; Milliken 1996). It is more likely however that partially manufactured items were illegally imported into Namibia from West Africa, given the resemblance of some carved items to typical market goods recently observed in that region.

There is very little evidence that Namibia acts as a trade route for illegal ivory from eg. Angola to eg. South Africa. There is also little historical evidence of such a trade route except the unusual involvement of the South African military in ivory issues prior to the Independence of Namibia. Most seizures are interpreted by the Protected Resources Unit of the Namibian Police as ivory brought across northern borders by people looking for buyers in Namibia - for which the PRU is ideally suited to seize ivory through the informer network and persons posing as buyers (PRU, pers. comm. to MET

1996). South Africa has furthermore not reported an unusual number of seizures of ivory transhipped through Namibia compared to other neighbours, and the fact that the origin of seizures is at best rather difficult to determine makes it difficult to dispel unsubstantiated claims.

The existence, and resurgence of illegal international trade in ivory as well as the illegal hunting of elephants for ivory come as no surprise, given the value of the product and the history of ivory in Africa. Abundant proof of trade in ivory that appears to be illegal in terms of CITES and possibly also the domestic legislation in some countries in Africa, range from the selling of ivory to non-resident travellers and tourists as well as providing advice to buyers on avoiding detection; the selling without permits of substantial amounts of worked and raw ivory on local markets in parts of Africa (not Namibia) to foreign tourists and foreign civil servants (CITES Secretariat staff; Milliken 1996; M. Fay pers. comm. to IUCN AfESG 1996); the emergence of crude ivory manufacturing facilities in virtually every range state; recent confiscations in certain countries in the Asian region (Milliken 1996); a recent study of the effect of the trade ban (Dublin et al. 1995) which reported the absence of stockpile accumulations and increases in local market trade in several countries with elephants; increases in poaching of elephants for ivory in some countries (see Dublin et al. 1995, Anon. 1996); the problems many range states have in the management of their ivory stockpiles; as well as the rate of seizures of illegal ivory in Namibia and other countries (this report and TRAFFIC 1995b).

While it is said that the illegal trade occurs in a different form (market trade in west and central Africa, smuggling small volumes of semi-finished articles via postal services from several range states) to new markets (rapidly growing economies in south central Asia), it should also be noted that the ban has also driven the ivory trade underground as all legal trade was abolished. The ability to monitor the flow of trade has therefore greatly diminished, and it is very likely that illegal trade volumes are greatly underestimated. It thus appears as if the ban has not been able to prevent the emergence of new forms of trade (Dublin et al. 1995, TRAFFIC 1995b, MET data), despite the protestations of activist NGOs. It should also be noted that the budgets of most conservation agencies in Africa has also declined dramatically since the ban, which together with the fact that almost all ivory trade is done in an illegal and hidden way, do not present the same circumstances for recognizing the impacts of resurgent large scale trade and illegal hunting than occurred before the ban. Many countries might now lose many more elephants without being able to detect or prevent losses. Illegal hunting of elephants and the international trade in ivory have, after all, already been outlawed almost everywhere, and it is not clear what range states are expected to do next - this time with less clear evidence of trends and with diminishing financial resources!

The proposed amendment presented here is designed to establish a highly controlled form of ivory trade between a single exporting country and a single importing country that will benefit elephant conservation directly and support rural conservation programmes, with the intended export from Namibia to be for exclusively conservation purposes. No link can be expected to develop between this trade proposal and the current form of illegal trade, as no evidence exists of a significant parallel illegal trade of ivory into Japan (J. Berney, CITES Secretariat, pers. comm.; N. Okuda, Environment Agency of Japan pers. comm.). Japan is the best option for importing ivory, as it is a country that is an end-user market for ivory with enormous resources for domestic control and law enforcement, within the context of a high degree of self-regulation by the ivory industry and a society with exceptionally low crime rates.

Existing illegal trade appears to be confined to other CITES Parties in the Asian region than Japan, and can be expected to continue regardless of the Namibian trade proposal because the ivory involved originates elsewhere and the trade benefits other sectors of society on both exporting and importing sides. Namibia, as well as Botswana and Zimbabwe, however, will be in a far better position to detect and combat illegal trade in ivory through the increased investment that would result from using all revenues from ivory for elephant conservation, anti-poaching and community conservation programmes. These countries will similarly support the monitoring of elephant population status and illegal trade in neighbouring countries by providing financial support to international institutions engaged in such monitoring.

Trade controls established in Japan as well as a sophisticated self-regulation system managed by the ivory manufacturing industry and supervised and monitored by the CITES management authority (Ministry of International Trade and Industry) and the Environment Agency of Japan (see Annex 7) are more than adequate to prevent the illegal entry of ivory into the Japanese manufacturing community.

3.4 Actual or potential trade impacts

Southern African countries see the absence of trade as the greatest threat to elephant populations in the region. The greatest threat stems from the fact that elephants have no or very little direct value to rural communities in a situation where so much land has already been excluded from human use in the protected areas network, and where so many elephants use land that people also depend on for farming. Elephants will only survive in the long term if they are more

valuable to people than the alternative forms of land use, i.e. subsistence farming (see also paragraph 7 and the opening part of part C). The form of trade proposed has been designed to benefit elephant conservation directly while posing negligible threat to other populations. Elephant populations in Namibia and neighbouring states will benefit through the reinvestment of ivory trade revenues in the monitoring of elephant populations, as well as where appropriate, investment in community conservation programmes. The new type of highly controlled ivory trade proposed here will directly benefit the survival of the species as all revenue will be reinvested in elephant conservation in Namibia, including rural community conservation programmes, and the monitoring of the impact of trade will be supported.

Trade in registered existing stocks of ivory cannot be said to pose a threat to elephant populations, unless it would be possible for illegal ivory to be entered into the existing stockpile, in the complete absence of competent international supervision or precautionary measures - and also assuming a scale of corruption unheard of in Namibia or southern Africa. The opening part of section C and paragraph 7 outlines precautionary steps that would reduce the possibility of and the incentive for unlawful trade to a minimum.

Comprehensive trade controls established in Japan as well as a sophisticated self-regulation system managed by the ivory manufacturing industry and supervised and monitored by the CITES management authority (Ministry of International Trade and Industry) and the Environment Agency of Japan (see Annex 7) are more than adequate to prevent the illegal entry of ivory into the Japanese manufacturing community. The entry of ivory into Japan is thus sufficiently controlled that this aspect of the trade will not have a negative impact on trade, eg. stimulating a parallel illegal trade.

It has been claimed by certain organizations that the biannual occurrence of meeting of the Conference of the Parties to CITES stimulates illegal hunting and trade, in anticipation of the re-opening of trade, even as far afield as remote parts of the central African forest. No proof or evidence with any degree of credibility has ever been presented to substantiate such claims. (If true, the Parties to CITES might have to reconsider meeting in the current fashion).

The proposal from Namibia (and similar proposals from Botswana and Zimbabwe) is unlikely to stimulate illegal trade domestically or internationally, in view of the precautionary approach taken (outlined in paragraphs 3.2, 4.3.1 and opening part of Section C). No incentives for illegal trade will result from the Namibian proposal as only registered stocks are involved and all revenue generated will be invested in elephant conservation and community conservation programmes - under international supervision and oversight. The proposed trade system does not offer incentives for abuse on either the exporting or importing side, as all revenues will be reinvested in conservation and community development and conservation programmes. (Also see paragraphs 3.2, 3.3, 4.3.1 and opening part of Section C).

3.5 Captive breeding

There is no captive breeding of elephants in Namibia at present, or in any other range state. No one has yet made a credible claim that the keeping and breeding of African (or even Asian) elephants outside range states in zoos and circuses are for anything but primarily commercial purposes as currently defined in Conf. 5.10, yet with little international objection to the trade in live elephants amongst producer countries, zoos etc. No summary of the extent of captive breeding of elephants outside Namibia is available to the proponent, but African elephants are generally regarded as difficult and expensive to keep or breed in captivity. It is therefore unlikely that any significant breeding for commercial purposes takes place in all except the largest facilities. There is furthermore a considerable commercial export market for live elephant juveniles, in which Namibia at present declines to participate. Up to 50 juveniles per year could have been sold to non-range state institutions over the past few years. This demand indicates that breeding in captivity is severely limited.

4. Conservation and Management

4.1 Legal status

4.1.1 National

Elephants are classified as a "Specially Protected" species under the Nature Conservation Ordinance (Ordinance 4 of 1975) in Namibia. Hunting, capture, transport, being in possession, and trade (the import, export, re-export), and trade in raw ivory, live animals and other derivatives are subject to permit conditions. Ivory and all other parts of an elephant are classified as "Controlled Game Products" under Proclamation 42 of 1980. The maximum penalty for contraventions related to controlled game products is N$200000 (approx. US$50000) and/or 20 years imprisonment. There is no such permit requirement for worked ivory. The legislation also contains detailed prescriptions for keeping registers and marking ivory. When issuing an export permit, reference to veterinary requirements are made. Although there is no legal

provision stipulating a formal liaison between the import licensing procedures of the CITES management authority and the veterinary services, a healthy working relationship exists between the two services. On the basis of the Animal Diseases and Parasites Act (Act 13 of 1956), the import and transit of raw wildlife products, including ivory, are subject to permits issued by the Veterinary department. The transport of raw wildlife products across national and international veterinary cordon fences requires a veterinary permit. Upon request, health certificates are issued for the export of such products. There is a general policy not to allow import of raw wildlife products from Angola and Zambia, and very strict controls apply to the movement of all biological derivatives and live specimens out of disease control areas.

Most of the current legal provisions concerning elephants and ivory have been inherited from South Africa and the pre-Independence period. Namibia has entered into a major programme to establish comprehensive and modern environmental legislation (for which support from the Norwegian Government is gratefully acknowledged) over three years, to end in 1998. Existing measures are nevertheless completely satisfactory for the purpose of this proposal, in so far as the protection and trade in elephants and elephant products are concerned. In the recent review of the Namibian national legislation for the implementation of CITES by the CITES Secretariat, shortcomings were identified that will be rectified during the current legal drafting process. It should be noted, however, that shortcomings in legislation for the implementation of CITES were restricted primarily to plants and the fact that the legislation pre-dated Namibia's accession to CITES and that the issuance of permits "does not have to be according to CITES criteria". Article 144 of the Constitution of the Republic of Namibia nevertheless establishes the principle that "Unless otherwise provided ....., the general rules of public international law and international agreements binding upon Namibia ..... shall form part of the law of Namibia. This article serves as the basis for implementing CITES even where no specific reference is made in current conservation legislation.

The Namibian Management Authority has never intentionally issued CITES permits under any criteria other than CITES. Article 95 of the Namibian Constitution furthermore places a far stricter obligation on the Namibian government for the management of all wildlife resources in Namibia than CITES i.e. that "The State shall actively promote and maintain the welfare of the people by adopting ..... policies aimed at ..... the maintenance of ecosystems, essential ecological processes and biological diversity in Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future ....." This Article provides the fundamental framework for all wildlife management decisions by the Government of Namibia, including the issuance of permits.

4.1.2International

According to the new IUCN criteria, the Namibian elephant population is classified by MET as " Conservation dependent", despite the fact that the continental population would be listed as "threatened", or arguably "endangered" on the basis of recent declines in other parts of the continental range, notably in forest areas where postulated declines were not in every instance backed up by accurate population estimates (African Elephant Specialist Group, SSC/IUCN).

The only other international status of relevance here is the listing of the African elephant on Appendix I of CITES - a status not reflecting the conservation status of elephants in Namibia and working against domestic conservation programmes. There is no reason to believe that illegal hunting of elephants or the illegal trade in ivory has ceased under the ban, and evidence has been presented that both illegal killing as well as trade are increasing at present (Dublin et al. 1995). Namibia and other southern African countries accordingly hold reservations against this listing. In accordance with Resolution Conf. 4.25 these Parties are continuing to regard the elephant as if it were listed in Appendix II. However, it is noted that Article XV (3) of the Convention provides for Parties entering reservations to be treated as States not Parties to the Convention.

Loxodonta africana also appears on Appendix II of the Convention on the Conservation of migratory species of wild animals, as a species which has "unfavourable conservation status" and requires international cooperation for their conservation and management. The African elephant is not listed on Appendix I of the Bonn Convention as an endangered migratory species.

Namibia is a signatory of the Southern African Convention for Wildlife Management, which is the successor to the agreement to establish the Southern African Centre for Ivory Marketing (SACIM). The aim of this convention, currently under revision and amendment, is to formalize the expansion of the exceptional level of cooperation which has developed among the former SACIM member states, to other fields of wildlife management and conservation and other members of the Southern African Development Community (SADC). The 1996 SADC Annual Heads of State summit reiterated its support for the downlisting of elephant and the use of the elephant resource as part of the region's wildlife resources management (SADC communique, 24 Aug. 1996).

The trade agreement presented in this proposal between Namibia and Japan will be in the form of an exchange of letters or memorandum of understanding between the CITES Management Authorities of the two Parties, copies of which will be lodged with the CITES Secretariat for further distribution as appropriate. This instrument is designed to establish the precautionary framework and strict controls on exporting and importing sides to prevent the development of incentives for illegal trade over and above the existing illegal trade in ivory. (Also see paragraphs 3.2, 3.3, 4.3.1 and opening part of Section C).

4.2Species management

4.2.1Population monitoring

The Ministry of Environment and Tourism is responsible for monitoring elephants in protected areas and large parts of their range on communal lands. Aerial surveys have been used to monitor elephant populations in Namibia since the late 1960s, with gradual improvements and expansions until entire populations were covered in the 1970s. All surveys were initially aimed to be total counts, but diminishing funds prior to Independence lead to the use of sample techniques. Transect sample counts currently used involve stratifying the survey area and counting elephant in a calibrated strip width of about 250m each side of the aircraft. The aircraft is flown along transect lines chosen at random or placed systematically, as required by environmental periodicities (eg. dunes and waterholes) or the need for accurate distribution data. Sample coverage is generally planned for 15-25% coverage, to compensate for Namibia's low elephant densities and the clumped distribution typical of the species.

MET has doubled the number of aircraft that can be used for aerial surveys since 1992; it has increased technical capacity to conduct census surveys through training (including the training of pilots, one up to commercial rating), and has replaced and upgraded survey equipment to conduct sophisticated aerial censuses, through the recent ELESMAP project which has been funded partly by the European Union and the US Fish and Wildlife Service (please also see Annex 1 as well as paragraphs 2.4 and 2.5 for detail of methods and rationale).

Concern has been expressed at the possible risk of counting errors during aerial surveys of northern Namibia and northern Botswana due to cross-border movements. Although elephants are highly mobile and undertake seasonal movements, such major movements occur primarily at the turn of each season, i.e. at the beginning and end of the rainy season. Daily or short-term home ranges are small, and there should be little threat of major error resulting from elephants crossing a border during a count. Namibia and Botswana have nevertheless been conducting synchronized surveys since 1994 to address such concerns.

Concern has also been expressed that elephants in the Caprivi region also periodically move into Zambia. Two recent satellite tracking and conventional telemetry studies showed that elephants from the Caprivi (with satellite collars (Rodwell 1995)), and northern Botswana (VHF and satellite collars (Botswana Dept. of Wildlife and National Parks) are exchanged north-south within Namibia and Botswana with virtually no overflow into Zambia. Incursions into Zambia were very brief, presumably due to the relatively greater density of people and settlements across the Zambian border than in Namibia and Botswana (Rodwell 1995).

MET is aiming to survey the entire elephant range every second or third year, but more frequent estimates of population size will be derived for smaller management units or from censuses done for other purposes. The size of the area to be covered (ca. 100000km^2) is too large to be done every year with available human and financial resources. A considerable part of the revenue that will be generated from trade would be invested in population monitoring, which will make it possible to conduct more frequent aerial surveys of the entire range. The cost of such a survey amounts to approximately N$0.4million (approx. US$90000) and future censuses are likely to be more expensive due to inflation.

4.2.2Habitat conservation

Almost 14 per cent of the land surface of Namibia has been placed in proclaimed protected areas, including approx. 50% of the national elephant range. Protected areas are reputedly well managed and the Namibian government has allocated per capita financial resources to the management of protected areas that are probably only exceeded by South Africa, but comparative data are scarce. (Zimbabwe maintains that the country has a greater proportional expenditure of Gross Domestic Product on protected area management than eg. the USA, and it is logical to infer that developing countries are at a considerable economic disadvantage that increases with the proportion of land enclosed in protected areas, and thus excluded from economic production. There is accordingly very little incentive for governments to place more land in under-productive protected areas or invest more in protective areas for little economic return).

Of the greatest relevance to the issue of habitat conservation is the question of protecting elephant habitat outside protected areas, in addition to ample habitat inside parks. A cornerstone of wildlife conservation philosophy in southern Africa is that habitat loss, not trade, ultimately threatens all wildlife outside protected areas, and indirectly also a substantial portion of wildlife inside those areas - unless wildlife becomes more valuable than the land use systems that are threatening to replace them. This value should be perceived by the agents in charge of day to day land use and decisions that would allow shared access of resources by wildlife or will exclude wildlife spatially or temporally, i.e. individual landholders and communities rather than central government. Southern Africa has moved further than most other regions to restore a high economic, financial and social value for wildlife, but the distinction was often lost that the wildlife of greatest concern are those outside protected areas on land allocated to farming. The entire focus of the conservation philosophy in Namibia (and some neighbouring countries) is aimed at protecting elephant (and other wildlife) habitat outside protected areas, by providing people with appropriate incentives. Namibian communities that currently have to bear the brunt from wildlife depredation on their crops and villages will be able to get a financial return from wildlife that would in some cases be greater than the value of their agricultural production, and in every case a significant supplement to that income.

This scenario is not an untested theoretical model that the international community should be wary of - approx. 0.7 million ha of privately owned land have already been placed or are in the process of being voluntarily incorporated in conservancies and one in six farms in Namibia is a registered game producer, i.e. a further 5.6 million ha. The correct incentives have resulted in the doubling of game populations in the commercial farming area over twenty years (Barnes & de Jager 1996). The number of large mammal species on farmland has similarly doubled as private land owners have restored much of the original large mammal diversity. It can be confidently predicted that game production will be similarly successful in the communal lands of Namibia, otherwise marginally suitable or unsuitable for farming with exotic livestock and crops.

Legal amendments (see Annex 4) now make it possible that communities who undertake to use wildlife resources sustainably will get the full value from such resources, as the incentive for inter alia elephant habitat protection. Concerning elephants, the major forms of resource use will be the selling of sport hunting quotas and controlled trade in ivory recovered from natural mortalities and problem elephant control - provided that this proposal is approved at COP10.

Other countries in southern Africa have had more problems in funding conservation activities i.e. "habitat conservation" in protected areas and have argued strongly for the sustainable use of park resources as a source of income for park management. Namibia has consistently supported this argument but currently places greater emphasis on the future of wildlife outside protected areas.

4.2.3Management measures

The provisional Namibian national elephant management plan (Lindeque 1995, Annex 5) has established target elephant densities per management unit (Table 8), as well as a procedure to simplify decision-making when management intervention is required. This rationale is based on the maintenance of elephant habitat within the wider framework of maintaining biodiversity and a multiple conservation role for protected areas.

Protected areas: Elephants are protected in protected areas through the following routine or conventional practices:

-the prohibition of new human settlement in such areas;

-amongst the most severely regulated forms of eco-tourism in Africa, and thus the prohibition of any form of disturbance;

-the provision of water. Water is supplied as hygienically as possible to minimize the incidence of anthrax and other diseases;

-the management of pastures through controlled burning and stocking rates;

-the prevention and control of disease through eg. vaccination, sanitation of water supplies and destruction of carcases. Elephants have been vaccinated against anthrax during sporadic outbreaks. Research is being conducted to improve the efficiency of anthrax vaccinations of elephants.

-Practising controlled veld burning programmes in protected areas and increasingly on communal lands as well to maintain vegetation productivity and diversity.

-Where applicable, management control of the populations of other species to maintain a balanced community in protected areas and secure food supplies.

-provision of security through anti-poaching work by wildlife protection units. Providing protection against illegal hunting through anti-poaching programmes that include aerial surveillance, informer networks, anti-poaching patrols by wildlife protection units stationed in all major elephant distribution areas, community liaison programme aimed at protected area neighbours etc. (Namibia has the second largest remaining black rhino population in Africa that is under far greater risk of illegal hunting, and most anti-poaching efforts are orientated towards protecting rhinos. Activities have been and can easily be focused on elephant protection, however, and all species benefit from prevention programmes even if the focus is on rhinos).

-ongoing research and monitoring of key environmental parameters that might affect the elephant population. (Etosha N.P. must be one of the very few protected areas in the world with a resident functional research institute within its borders, and being equipped with its own remote sensing facility, (for which MET is very grateful to the United Kingdom, Overseas Development Agency).

-controlling elephant population size when most appropriate or when all other measures fail. Local over-concentrations of elephants are preferentially managed through adjustments in water availability, veld burning programmes, live capture and removals, rather than culling.

Communal land: A recent amendment to the Nature Conservation Ordinance has provided the mechanism for community ownership of wildlife through the conservancy programme (Annex 4). Conservancies on communal lands, modelled after conservancies on privately owned land in Namibia, Zimbabwe and South Africa, are in essence voluntary associations of landholders committed to sustainable use of wildlife resources, will operate under the guidance of the Ministry of Environment and Tourism an approved management plans where the requirement that resources are sustainably used will be emphasized. Conservancies have to be registered with MET and will be supported by MET in wildlife management and utilization, especially concerning population monitoring, quota determination, management plans, marketing and general training.

On land outside protected areas, MET furthermore provides or has decided to provide a series of routine management measures aimed at elephant conservation and conflict resolution in addition to aspects listed above, including inter alia:
-Providing additional and alternative drinking places for elephant on some communal lands where elephants are a threat to the water security of people (eg. Huab catchment, Kunene region; Tsumkwe district, Otjozondjupa region), or as warranted by the scale of conflicts between people and elephants (Ruacana, Kunene region), or where communities have set land aside for elephant (eg. Uukwaluudhi, Kunene region).

Table 8 Preferred management densities and target elephant population sizes for some categories of land in Namibia.

	Elephant range ca. (km^2) *	Provisional Preferred Management Densities (n/km^2)	Present population (approx.)	Target range
(Protected areas and known contiguous elephant range on adjacent land)				
Etosha Management Unit				
Etosha N.P.	18600	.08-.13	1500	1500-2500
Hobatere	300	.10-.30	30	30-90
Adjacent land [1]	3000	.05-.08	50	150-250
	21900	**.08-.13#**	**1580**	**1680-2840**
Kunene Management Unit				
Skeleton C.P.	2000	0-.02		0-40
W. Kaokoland [2]	4000	.02-.05		80-200
Palmwag Conc.	7000	.02-.04	300	140-280
Huab-Ombon. Bas	6000	.03-.04		150-250
	19000	**<.02-.04#**		**370-770**
Khaudom Management Unit				
Khaudom G.R.	3840	.15-.30		580-1150
Adj. Kavango [3]	10000	<.01-.01		50-100
E. Bushmanland	6000	.03-.08	1100	150-450
W. Bushmanland	12000	0-.01		0-120
N. Hereroland	1000	0-.01		0-10
	32840	**.02-.06#**		**780-1830**
Okavango River Management Unit				
Mahango G.R	250	0-.50		0-125
W. Caprivi [4]	1200	.42-.83	500-1800	500-1000
Kavango [5]	500	0-.10		0-50
	1950	**.26-.60#**		**500-1175**

Table 8 (continued)

Quando River - Eastern Caprivi Management Unit				
W. Caprivi [6]	1600	.38-1.00		600-1600
Mamili N.P. **	320	0-1.00		0-320 ***
Mudumu N.P.	900	0-.50	500-3500	0-450 ***
E. Caprivi [7]	2500	0-.60		0-1500
	5320	**.11-.73#**		**600-3870**
	81010	.05-.13		3930-10485

1. Adjacent land here includes indeterminate sections of former Owamboland, eastern Kaoko, and possibly as far north as southern Angola and as far east as the Mangetti area of southwestern Kavango.
2. Estimated extent of marginal elephant range west of the escarpment in former Kaokoland, included in the unproclaimed Kaokoland "G.R."
3. A large part of the Okavango region bordering the Khaudom G.R. has no surface water, but form part of the wet season dispersal range of elephants of the region.

4&5. Parts of the Okavango region and the Caprivi G.R. adjacent to the Okavango River and Mahango G.R.

6. Remainder of the Caprivi G.R. including settled areas.
7. The distribution of elephants in the Eastern Caprivi region seems to be highly variable, but the area adjacent to the two small national parks could be regarded as part of the centre of elephant distribution in the Caprivi region.

* not corresponding to actual sizes of land units/variable
** Nkasa-Lupala
*** elephant numbers are highly unstable
\# crude preferred management density per elephant management unit.

-Maintaining fences around protected areas or parts of protected areas to minimize elephant movements near major roads, major settlements and veterinary control areas.

-Providing secure water supplies in protected areas to prevent impacts on other species and the sudden displacement of elephants in search of water.

-Elephants are provided for sale to encourage redistribution in Namibia and enlarge potential habitat for the species, and reduce elephant densities in problem areas. Live sales will provide a means to generate revenue from problem elephant situations for local communities.

4.3 Control measures

4.3.1 International trade

Permit control: All permits relating to elephants or elephant derivatives are issued by the MET permit office at Windhoek which is partly computerized. No competencies are delegated to local or regional authorities. (All veterinary permits are issued by the Directorate of Veterinary Services's offices at Windhoek, with no competencies delegated to regional offices).

Marking of ivory: In accordance with Conf. Resolution 9.16 (g), all 2551 whole tusks in the stockpile for export have been individually marked and the marks correlated with a register of ivory of known Namibian origin showing the source of each specimen. All other ivory will also be individually marked and registered with the CITES Secretariat before CITES COP10 to ensure that there can be no mixing of unknown or foreign ivory with ivory of Namibian origin as declared to CITES Secretariat on 10 January 1997. All other ivory will be kept in a separate facility that will be accessible to the CITES Secretariat at any time. All specimens of ivory are furthermore marked in a standardized way derived from the domestic permit control system. The Management Authority will appreciate obtaining information from other Parties who have come across more efficient yet affordable techniques for the permanent marking of tusks than the current methods.

Customs and border control: Namibian Customs Officers check CITES import permits and veterinary import and transit permits. Where necessary, they refer to the district veterinary officer. The Customs Service has been greatly expanded since the 1991 Panel of Experts report, and is regarded a regional leader in the field of customs control. Customs representatives have participated in a CITES training course and there are open channels of communication with MET, i.e. a standing inter-ministerial consultative meeting on wildlife trade issues that meets on average twice a year. Customs officials have been trained in the identification of controlled game products, and MET and the Protected Resources Unit of the Namibian Police will provide further training to all customs service recruits passing through the Namibian Police training college and as might be requested by the Customs Service. Co-operation between MET and the Customs Service has improved considerably since the 1992 panel assessment, through inter alia, the establishment of a high level consultative forum on illegal wildlife utilization and trade issues. Namibia is a member of the Southern African Customs Union (SACU) but is not constrained in inspecting goods in transit within SACU. The Namibian Customs Service for the moment uses South African customs legislation in force prior to Independence and the same List of Prohibited Goods used by all SACU members, but is in the process of developing a list of prohibited goods specifically for Namibia.

Customs and police control along the border with Angola has greatly improved since 1992, as the result of ongoing fighting in Angola, increased incidents of incursions by especially UNITA supporters into Namibia to obtain food and medicine, the regional vehicle theft problem and increasing problems with illegal stock movements. Customs checkpoints on this border has been established at Oshikango and Mahenene and routine random inspections of freight are conducted according to international norms. A Police Border Control Unit has been established and international borders and fences are actively patrolled. Permanent Police and military patrols have also been established on other borders, eg. the border with Zambia, South Africa and Botswana. People resident within 50 km on either side of the border with Angola have permission to cross the border at approved crossings without passports, but this concession is under review at present. Customs and Police control has according to circumstances been provided at the internal stock disease control points covering all major access roads from ther north, i.e. at Bagani, Mururani and Werda checkpoints within Namibia. The Customs Service also participate in Police roadblock checks on vehicle transport and the traffic in illegal goods within Namibia.

Law enforcement: At the time of the 1992 Panel of Experts assessment, the panel concluded that Namibia's law enforcement and anti-poaching efforts were adequate to deal with the scale of illegal hunting and trade. Further improvements have been made through the expansion of wildlife protection units (anti-poaching units) to other parts of

the elephant range and especially through the creation of a special police unit dedicated to serious wildlife crime, i.e. the Protected Resources Unit of the Namibian Police. This unit grew out of the former Gold and Diamond branch who was well-known for their efficiency in the use of informer networks and combating the illegal diamond trade.

MET stations representatives at the main border crossings to South Africa during part of the year to facilitate control of primarily hunters from South Africa. Such staff are in principle available to provide assistance concerning other wildlife shipments and customs inspections. MET routinely participates with Customs Service personnel and Police in road block inspections primarily along the major arterial routes in central Namibia, aimed at curbing illegal transit of goods, illegal hunting and improving road safety.

The Namibian Government has established Joint Permanent (bilateral) Commissions with Angola, Zambia and Botswana, which serve as fora for high level discussions on border issues and law enforcement, including illegal hunting and trade in wildlife. Namibia also participates in all SADC regional law enforcement initiatives, and the Namibian Police cooperates closely with neighbouring police forces as well as the South African Endangered Species Protection Unit. The establishment of a regional Interpol office in Harare for southern Africa, as well as a cooperative law enforcement protocol for SADC member States will further facilitate regional cooperation in law enforcement.

The incidence of ivory confiscations points also to effective law enforcement, especially by the Protected Resources Unit of the Namibian Police. Effective law enforcement is also attributed for the fact that Namibia has been the only African country that has managed to halt a full scale rhino poaching onslaught (1989-1991), whereas in other places rhino populations have been reduced to very low levels once they have become the focus of illegal hunting operations. Namibia is regarded as having been the most effective of all rhino range states in prosecuting people for rhino mortalities recorded since the early 1980s (Bradley- Martin 1993).

Law enforcement agencies rely primarily on information, and well established informer networks exist and are maintained. This approach has been the most effective in a situation of a low human density and government aiming to remain as small as possible.

Future trade controls: The proposed trade format was designed to remove any incentive and prevent any stimulation of the illegal trade in ivory and to provide maximum transparency and international control. Only the Namibian population is included in this proposal. Ivory of Namibian origin held in other countries or in private ownership are thus excluded from this proposal. Only a single importing country is involved, who does not allow any re-exports of ivory. Namibia will withdraw its reservation on the Appendix I listing of the Namibian elephant population before the transfer to Appendix II comes into effect. Trade will be restricted to an export quota that will consist only of registered stocks of raw ivory of Namibian origin, excluding any seized or confiscated specimen regardless of origin or any specimen with inadequate documentary proof of origin. All specimens for export have been individually marked in accordance with Conf. Resolution 9.16 (g). All other ivory will also be individually marked and registered with the CITES Secretariat to ensure that there can be no mixing of unknown or foreign ivory. All seized and confiscated ivory is kept in a separate facility that will be accessible to the CITES Secretariat at any time. The export quota will be for one interval between the meeting of the Conference of the Parties with built-in safeguards against abuse. A further proposal will be submitted to COP11 that would be aimed at establishing an annual export quota. All sales will take place from a single centre, and there will be only one sealed shipment of ivory per year. The controls for internal trade in the importing country are in place and can be reviewed by the Panel of Experts. Independent monitoring of the entire trade process will be encouraged. Persons agreed to by CITES Secretariat, Namibia and the importing country may be present at all steps in the process. CITES Secretariat staff will have guaranteed access to all MET ivory storage facilities. MET agrees to keep/provide for analysis a 50g sample from every tusk. All revenue from ivory sales will be used exclusively for elephant conservation and community development and conservation programmes, with detail reported annually to the CITES Secretariat if required. Namibia will cooperate with neighbouring countries in the monitoring of elephant populations and illegal trade, and will assist within its means credible international organizations involved in such monitoring.

For further detail please see paragraph 7.

4.3.2 Domestic Measures

Most of paragraphs 4.1.1, 4.2.1, 4.2.2, 4.2.3 and 4.3.1 apply here also, with reference to control and precautionary measures to ensure sustainable use and management of the elephant population, and preventing illegal trade from impacting on the national population.

In addition, standing policy determines that all MET officials must report elephant mortalities and recover ivory. All ivory has to be recorded and marked, and transported to the national stockpile in Windhoek as soon as possible. MET has adopted the stringent standardized control systems required under the SACIM agreement, and will undertake not to export ivory commercially until all aspects of the regional control system relevant to trade from Namibia to a single importing country has been implemented, as well as all requirements in Res. Conf. 9.16, (which Namibia is currently under no obligation to heed in view of its reservation, see paragraph 4.1.2). Full implementation of increasingly complex and cumbersome administrative control procedures have major financial and human resource implications that are probably not justifiable unless there is a realistic indication that international trade can be resumed.

5.Information on similar species

No similar species is currently recognized as occurring naturally in Namibia or the rest of Africa, and no trade links have ever been demonstrated between ivory from Asian elephants and Namibia. The proponent believes that with the strict control measures adopted, the proposal to downlist the Namibian population of elephants will not prejudice the conservation status of the Asian elephant. Trade controls outlined in para 3 are considered sufficiently rigorous to exclude any Asian ivory from entering the trade at the point of export. Asian ivory cannot be readily distinguished from African ivory (Espinoza & Mann 1992), but since the proposed trade will be restricted to registered and marked stocks subject to international supervision, it is extremely unlikely that any Asian ivory could be traded from Namibia as the designated route of import of raw ivory into Japan. There is no evidence of any Asian ivory present in Namibia, but the trade controls advanced in paragraphs 3 and 7 are, however, considered sufficiently rigorous to exclude any Asian elephant ivory at the point of export. The measures included in this proposal for identifying the origin of ivory (paragraphs 3 and 7) as well as emerging isotopic methods (Van der Merwe et al. 1990), if applied by an importing State, should detect any Asian ivory mixed with African ivory. A CITES manual is available for identifying other ivories and lookalike substances from elephant ivory. As the Namibian proposal does not contain incentives for personal profit and illegal activities, it is highly unlikely that Asian ivory will be entered into Namibia (and if seized no further trade is possible) or into the stockpile intended for export to Japan (very unlikely as all specimens were registered with CITES Secretariat already on 10 January 1997, and nonsensical unless the owners of such ivory intend to make a contribution to elephant conservation in Namibia, as the beneficiary of revenues from selling such ivory).

6.Other comments

Comments from other range states as a result of consultation.

The Namibian CITES Management Authority has consulted extensively with other range states by submitting a proposal six months earlier than required to allow time for the Panel of Experts to meet and make their review before the planned meeting of the African elephant range states in Dakar, Senegal in November 1996. Extensive consultations were held at recent meetings of the Southern African Development Community (including 10 African elephant range states and two non-range states) in Malawi, and the African Elephant Range State meeting (31 range states were present) organized by IUCN and UNEP/CITES Secretariat in Senegal, on the subject of elephant conservation and proposals for CITES COP10.

Comments were invited from range states at these occasions, but no formal response had been received in time for inclusion in this statement. Most Parties were planning to reserve comments until the final Panel of Experts report on Namibia had become available. (This report was not available by 08 January 1997).

7.Additional Remarks

7.1Namibia complies with CITES

Namibia as one of the most recent signatories of CITES has tried to make a constructive contribution to CITES and to clarify several issues concerning natural resource management that it believes to be important to wildlife producing countries in the developing world. It has attempted to implement the provisions of CITES as far as possible within the limits of resources available to the Management Authority and national wildlife management and conservation agency (MET). Namibia has not been listed on any CITES infractions report ever, and has despite occasional unavoidable delays, submitted all required reports and returns, and has paid its contributions in full. Namibia has similarly tried to make a positive contribution through its representation on the Standing Committee, first as alternate member for the Africa region from 1992-1994, and subsequently as one of three regional representatives for Africa. The extent of its participation in all CITES activities and fora has been limited only by constraints on resources.

Namibia is in the process of drafting comprehensive umbrella environmental legislation, as well as rewriting the Nature Conservation Ordinance. Most of the provisions covered in CITES can nevertheless be covered under existing legislation, bearing in mind that Namibia is almost exclusively an exporter of wildlife rather than an importer or transit route.

Namibia is furthermore committed to the implementation of Resolution Conf. 9.16 once international trade is possible through CITES, including those aspects on the registration of merchants, carvers and, additionally, retailers.

Namibia, along with its regional partners, has chosen not to make use of its reservation on the Appendix I listing of the African elephant, but to attempt to establish a regulated ivory trade under the protective, facilitating and regulatory umbrella that it believes CITES should provide to producer countries.

7.2Unilateral statement by Namibia

Precautions: The following specific precautionary measures will be an integral part of any transfer of the species to Appendix II to which Namibia commits itself according to the provisions of Resolution 9.24, in order to prevent any negative conservation impact on any other elephant population or to stimulate illegal hunting or trade.

a)Namibia population only: Only the Namibian population is included in this proposal. Ivory of Namibian origin held in other countries or in private ownership are excluded from this proposal. Ivory included in this proposal amounts to 2551 whole tusks weighing 13777kg from known natural and management related mortalities of elephants that have occurred within the territory of the Republic of Namibia.

b)Withdrawal of reservation: Namibia will withdraw its reservation on the Appendix I listing of the Namibian population of Loxodonta africana before the transfer to Appendix II by the Parties to the Convention takes effect.

c)A quota for registered stocks of raw ivory only: The export quota will refer only to the stock of whole ivory tusks registered and managed by the Ministry of Environment and Tourism as on 09 January 1997, and owned by the Government of the Republic of Namibia. MET has provided CITES Secretariat with a catalogue register of all such items before 10 January 1997. There will be no export of any ivory of unknown origin, seized or confiscated ivory, or where it is known or suspected to have come from outside Namibia. Only ivory of known natural and management related mortalities (eg. problem animal control, culling) is included in the total export quota of a maximum of 13800kg ivory over two 12 month periods until October 1999. No elephant will be killed in order to become part of the export quota, as all ivory proposed for export is already in stock.

d)Ivory to be marked with a standard system: In accordance with Conf. Resolution 9.16 (g), all 2551 whole tusks in the stockpile for export have been individually marked and the marks correlated with a register of ivory of known Namibian origin showing the source of each specimen. All other ivory will also be individually marked and registered with the CITES Secretariat before CITES COP10 to ensure that there can be no mixing of unknown or foreign ivory with ivory of Namibian origin as declared to CITES Secretariat on 10 January 1997. All other ivory will be kept in a separate facility that will be accessible to the CITES Secretariat at any time.

e)Safeguards against abuse: The Depositary Government (Switzerland) has already upon request from the Namibian Management Authority made a commitment to submit a proposal for re-transfer of the population in the case of abuse (see Annex 6). CITES already makes the provision that any Party who becomes aware of abuses of the downlisting, or a failure of the Namibian Management Authority or the importing Party to adhere to the terms of the proposal as agreed by the COP, to report such abuses to the Standing Committee which may ask the Depository Government to prepare an urgent proposal for re-transfer to Appendix I to put before the Parties under the postal procedure of Article XV par. 2. The proponent will submit a further proposal to COP11 that would be aimed at establishing an annual export quota based on actual annual ivory production. The proponent will furthermore not attempt to trade with any other Party or in greater volumes that agreed to by the COP, without submitting such proposals to the COP.

f)Sale through one single centre: All ivory sales and subsequent packing and dispatch will take place only from the government's central ivory store in Windhoek, Namibia, at the Headquarters of the Division: Specialist Support Services and Directorate of Resource Management of Ministry of Environment and Tourism (MET) as the CITES Management Authority in Namibia.

g)Limited number of ivory shipments: For ease of monitoring and control there will only be at most two shipments of ivory within the quota period between COP10 and COP11, and no more than one per 12 month period.

h)Direct export of ivory to only one importing country: Export permits will only allow shipment to one importing country and shipments will have to be made direct with no transit, other than that which is geographically unavoidable. The entire annual export quota will be exported as one consignment from the country of origin to the country of import, where the consignment will be registered upon arrival by the government of the importing country. The shipment will be open to international inspection by any Party or credible international organization agreed to by CITES Secretariat and the Namibian CITES Management Authority.

i)Importing country to have internal controls and to agree not to re-export: The controls for Japan's internal trade and its commitment not to re-export are in place and have been reviewed by the Panel of Experts.

j)Independent monitoring: Enforcement personnel from CITES Secretariat, or Parties and organizations agreed to in advance by the Namibian CITES Management Authority and the CITES Secretariat, may be present at any part or all of the sale, packing and shipping process to check all details and inventory. Similar inspection may take place when the containers are unloaded and the tusks distributed in the importing country. Access to all ivory store rooms under the control of MET will be guaranteed to the CITES Secretariat. MET additionally will refund one unscheduled inspection of its ivory stores per calendar year by one member of the CITES Secretariat, at a time decided by the CITES Secretariat, in addition to guaranteeing unlimited access to all ivory storage facilities to the CITES Secretariat at any other time. MET agrees to keep indefinitely, or lodge with CITES Secretariat, or provide for analysis to an appropriate institution, a 50g sample from every tusk removed from the national stockpile for trade.

k)Use of ivory revenue: Once enacted by Parliament, all revenue from ivory sales will be paid into a special trust fund and will be used exclusively for elephant conservation (including monitoring, research, law enforcement, other management expenses) and community conservation and development programmes, assisting conservancies and regional wildlife councils. MET will provide an annual report to CITES Secretariat on the use of such funds, if requested.

l)Monitoring of the effects of the downlisting: Namibia will cooperate with neighbouring countries in the monitoring of elephant population trends and illegal trade. Namibia will similarly assist credible organisations involved in the monitoring of population trends and trade patterns in neighbouring countries within its means. All proposals to this effect will be evaluated on merit, and comments will be sought from the CITES Secretariat and Standing Committee on such proposals. (Namibia wishes to draw attention to the fact that there are no requirements under CITES that the effects of an Appendix I listing should be monitored - least of all by a developing country. It has thus far been very difficult to measure the impact of such a listing, and it is therefore impossible to state with any confidence whether the Appendix I listing of the African elephant had any beneficial - or negative - effects on the conservation status of the species across its range. Similarly, it will not be easy to tell what the effects are of a transfer to Appendix II. It is therefore necessary for the Parties to agree to establish a mechanism independently to monitor these processes so that more informed decisions can be made in future).

8.References

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Annexes

1. Namibian elephant censuses in 1995: ELESMAP country report (draft). Ministry of Environment and Tourism. Lindeque, M., Lindeque, P.M., Stander, P.E., Erb, P., Loutit, R. & Scheepers, J.L.

2.Balancing the cost of wildlife. M. Jacobsohn. 1996. (as published in Namibia Environment 1: 191-195).

3.Information provided on the 1991 ivory stockpile (from the 1991 Namibian supplementary supporting statement for the downlisting of its elephant population to Appendix II and COP8).

4.Nature Conservation Amendment Act of 1996.

5.Conservation and management of elephants in Namibia. M. Lindeque. 1995. (as published in Pachyderm 19: 49-53).

6. Letter of commitment from the Depository Government to propose the re-transfer of the Namibian elephant population as a further precaution in the case of abuse following transfer to Appendix II.

7. Ivory trade control documentation provided by the CITES Management Authority for Japan

Annex 1

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

(draft)

Namibian elephant censuses in 1995: ELESMAP country report

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Introduction

Current perceptions are that a very large number of elephants may constitute a unit population in a contiguous range of more than 300 000 km^2 in Botswana, Namibia, and Zimbabwe, possibly extending into Angola and Zambia. This regional elephant population is expected to be the largest remaining single population in Africa. Elephants in southern Africa occur primarily on or near national boundaries, and major cross-border movements occur seasonally. There was a need for range states in southern Africa to coordinate and standardize elephant censuses, and thus compensate for errors potentially resulting from cross-border movements. The output of such a survey would give the first simultaneous estimate of regional elephant population size based on actual data. The Southern African Elephant Survey and Monitoring Program (ELESMAP) was thus an initiative of states in the region to

improve information on elephant populations in the region. The project is jointly funded by the European Union and participating Governments, with major additional support to Namibia from the US Fish and Wildlife Service. The project is managed by the Namibia Nature Foundation (NNF).

ELESMAP was designed to contribute to the long-term conservation of southern African elephant populations through the establishment and maintenance of accurate, up-to-date information on the population numbers of elephants throughout the southern African region, with secondary information on range and distribution. The broad objectives of the programme are:

(i) To establish and maintain region-wide survey and monitoring of elephant populations of sufficient accuracy to meet all management needs.

(ii) To provide the necessary elephant population data for the development of joint or cooperative management of cross-border populations.

(iii) To develop regional self-sufficiency in conducting and coordinating elephant survey and monitoring work.

It was recognised that survey methods that ensure adequate accuracy and precision of population estimates are essential to the success of this regional project. Inaccurate and/or imprecise estimates would not serve current conservation needs nor serve as a basis for evaluating changes in elephant numbers in the future. Because the regional elephant populations, and the Namibian population in particular span diverse habitats and occur at widely varying densities, several different sampling designs were needed. Some reasonably accurate and precise sampling designs for portions of the range had been developed and could be used as the basis for further development. Some areas, however, had not been surveyed, or had used designs which resulted in low precision and accuracy.

By virtue of its size and ecological diversity, the elephant range of Namibia has to be surveyed in subsections. Each subsection will generally have ecological and management significance and thus will need to have an accurate and precise elephant population estimate (Lindeque 1995). Elephants occur along an extreme gradient of 50 - 750 mm rainfall per annum in Namibia, presenting greatly varying censussing conditions that reflect the ecological characteristics of the different parts of the range. The semi-arid and arid elephant range of Namibia is characterized by sparse surface water supplies and an elephant population occurring at a relatively low crude density. Elephants are nevertheless distributed in a highly aggregated way and are typically highly mobile in Namibia (Lindeque & Lindeque 1991; Rodwell 1995). These conditions greatly complicate the monitoring of elephant population trends, perhaps even more so in Namibia than any other country in southern Africa (Lindeque & Lindeque in press a, b, c).

A regional workshop on census design, methods and survey co-ordination was held in Windhoek on 23 and 24 May 1995. Representatives from all the countries involved were present, and discussions were held on census designs in an attempt to standardise survey methods so that a regional synthesis of the results would be possible. Co-ordination of the censuses between the countries with elephant populations in common were also established at this meeting. The logistics and final preparations for the Namibian component of the ELESMAP aerial census 1995 were discussed at a meeting held in Okaukuejo from 26-30 June 1995.

In this way, a major co-ordinated, synchronized, regional elephant aerial census took place between July-October 1995, involving the elephant ranges in Botswana, Malawi, Namibia, South Africa and Zimbabwe, following earlier co-ordinated censusses between Botswana and Zimbabwe, and Botswana and Namibia. The ELESMAP Namibia census began in the west of Etosha National Park on 16 July 1995 and the census ended on the Zambezi River in eastern Caprivi on 11 September 1995. Surveys in northeastern Namibia were synchronized with surveys in northern Botswana. This report serves as a summary of the results of the aerial censuses

within the Namibian borders. Detailed reports for each of the districts were compiled by regional biologists and wildlife managers, all of whom had participated in survey planning, design, execution, analysis and reporting. Delays in the release of funds by the EU have caused some delays in the project, notably the composition of national and regional reports. This report serves as a preliminary country report.

Capacity building

The ELESMAP project served as a major opportunity for Namibia to replace survey and related equipment. Major acquisitions include a Cessna 182 aircraft, navigational equipment (GPS and radar altimeter), computers and peripheral equipment. All acquisitions are currently held as property of the NNF. A large number of people participated in various forms of training provided through this project. One pilot was trained up to commercial rating, one staff member up to private pilot licence, and a further eight staff members of MET received training up to various levels in aerial census design, execution and analysis. Several new observers were trained during the census as well, including members of the Ju//wa community of the Tsumkwe district. Major advances were made in the planning and analyses of censuses and census data using commercial and unpublished computer software, as well as the presentation of results.

Survey areas

The areas surveyed during the Namibia ELESMAP census are shown in Figure 1. These covered most of the elephant range in Namibia, excluding commercial farms, game ranches and private nature reserves with elephants. A further ca. 2000 km^2 in the Kunene Region, central Okavango Region and Ohangwena Region were not surveyed because too little information was available on the general location of outlying elephant groups or seasonal residents in those areas. No more than 200 elephants were expected to occur in the areas not surveyed. Figures 2 to 6 show the flight coverage in the different regions.

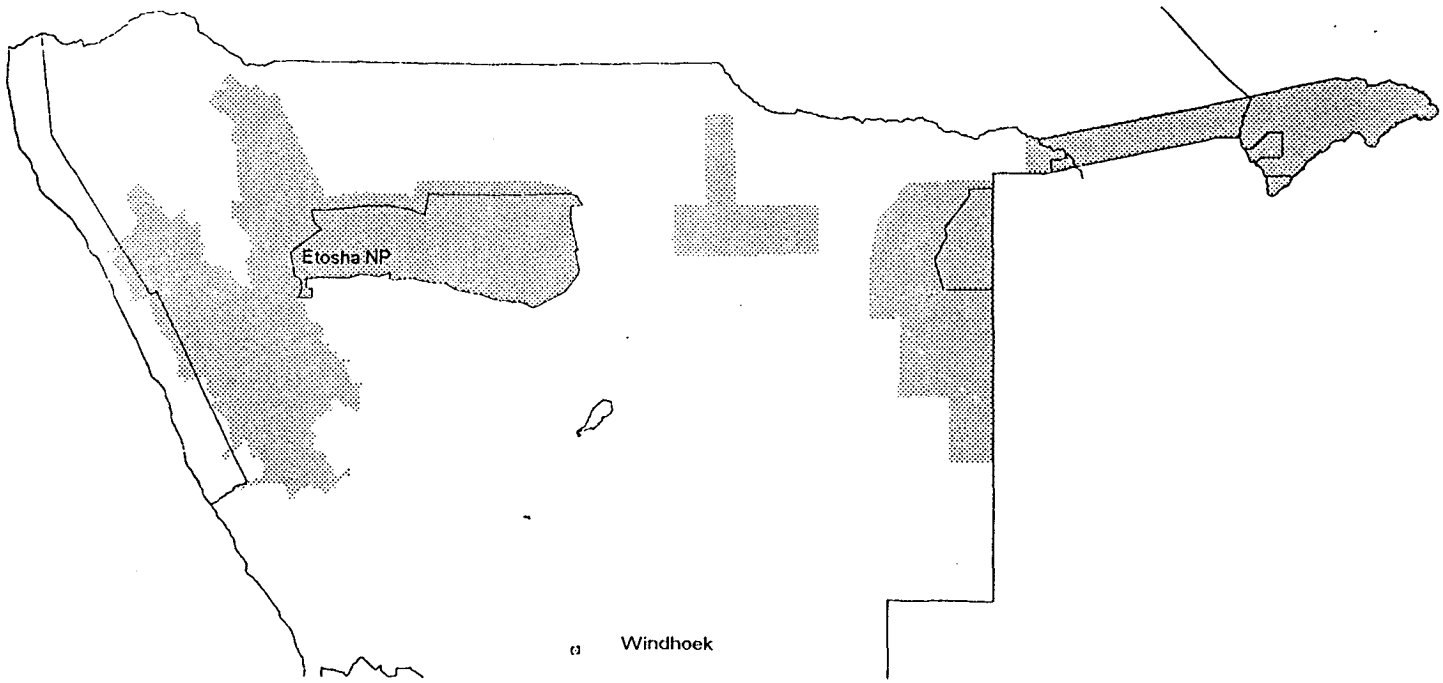

Figure 1 Areas surveyed in Namibia during the 1995 aerial elephant census.

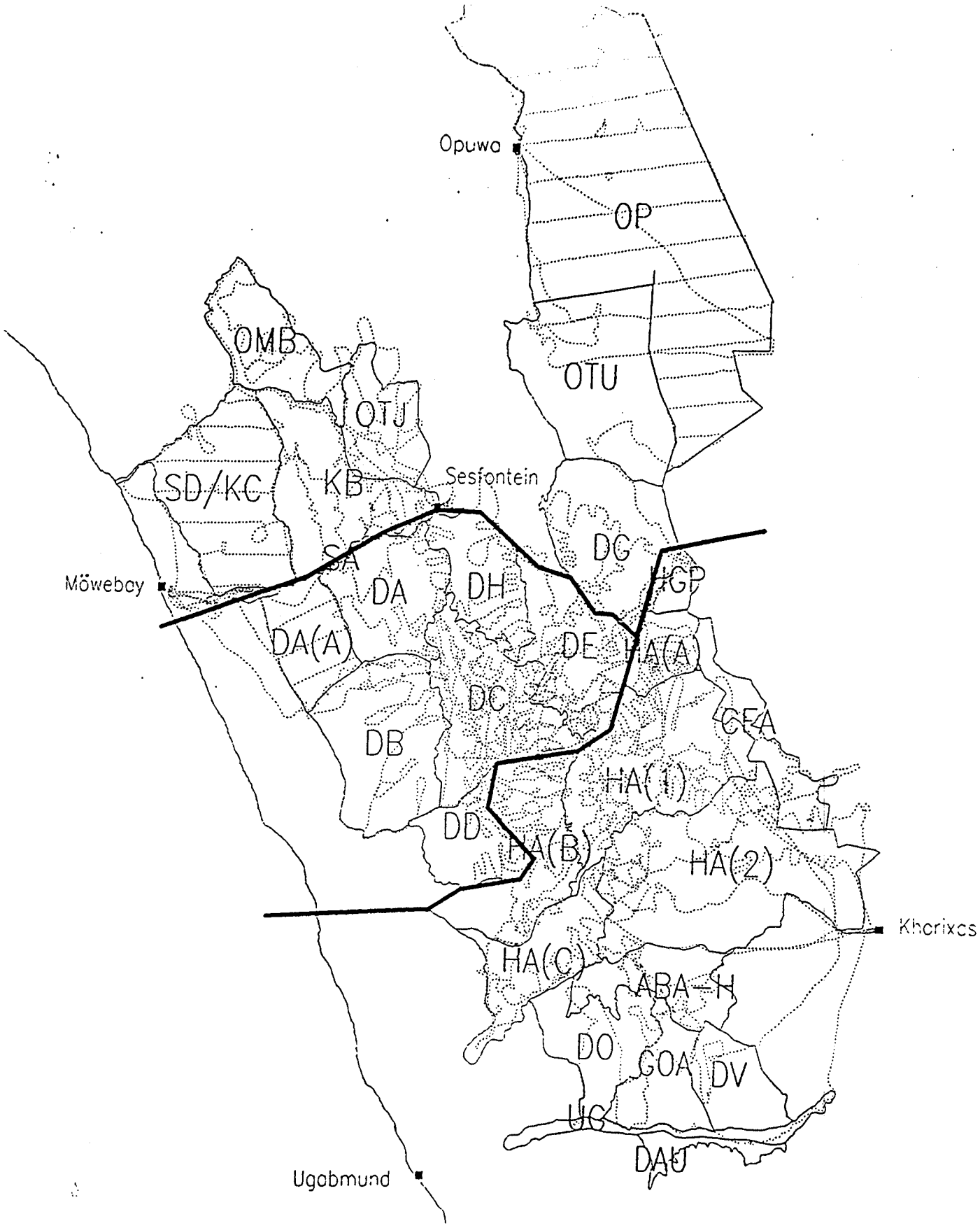

Figure 2 Flight paths taken during the aerial census of elephants in the Kunene Region, Namibia.

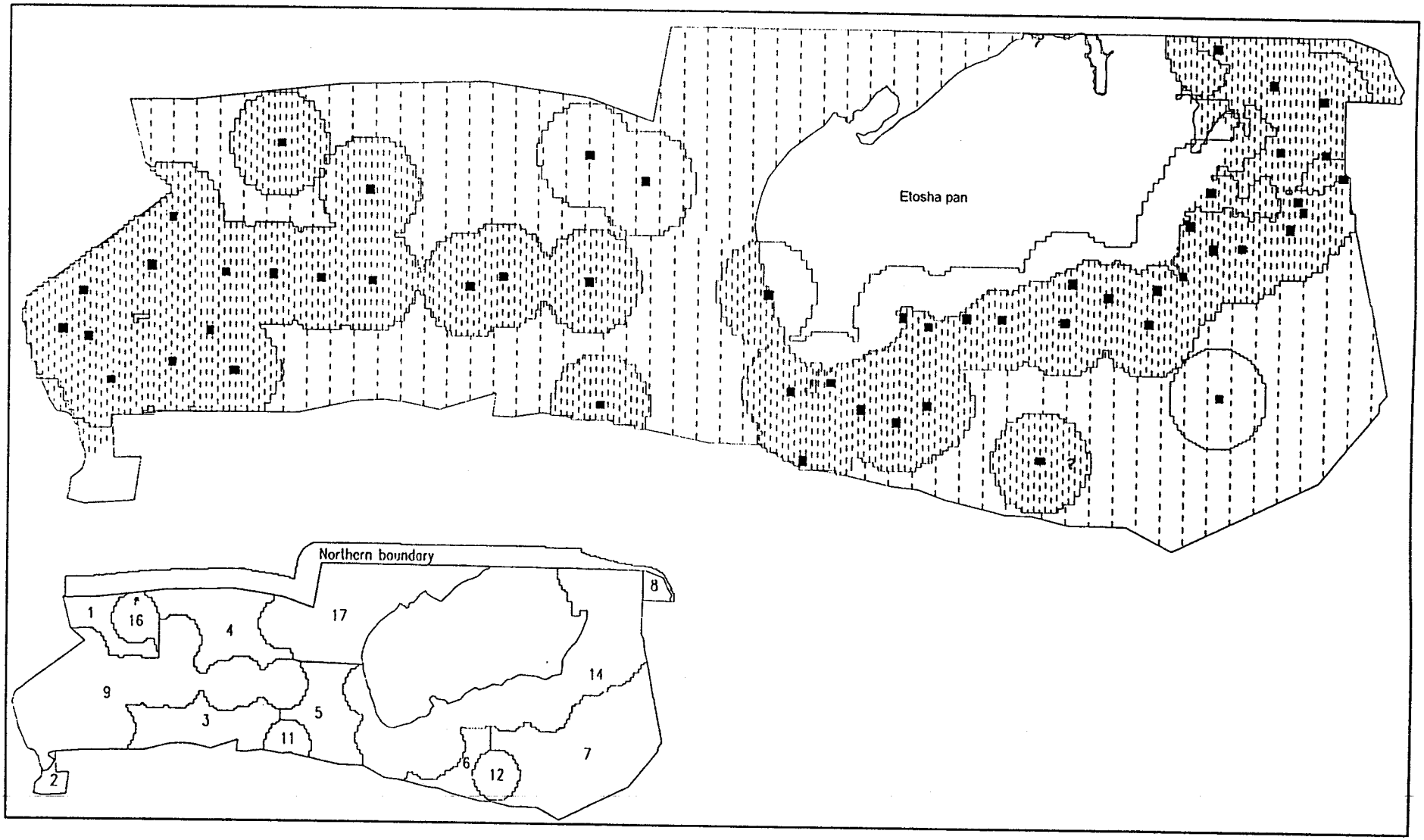

Figure 3 The 10 km radii around the selected waterholes (solid squares) and the actual transects flown during the aerial census of elephants in Etosha National Park. The inset shows the different counting blocks.

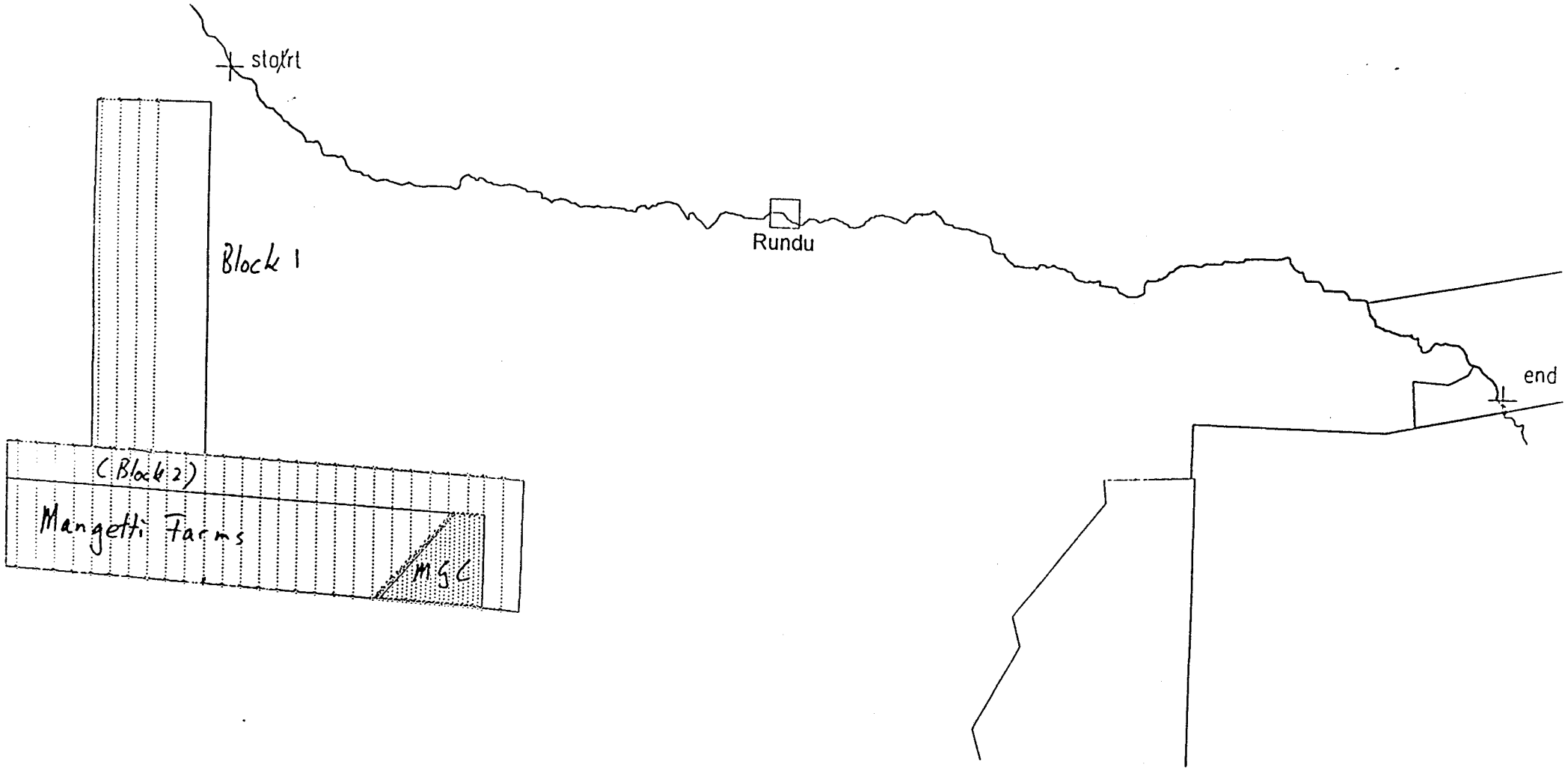

Figure 4 Transects flown in the Kavango Region during the ELESMAP census in Namibia.

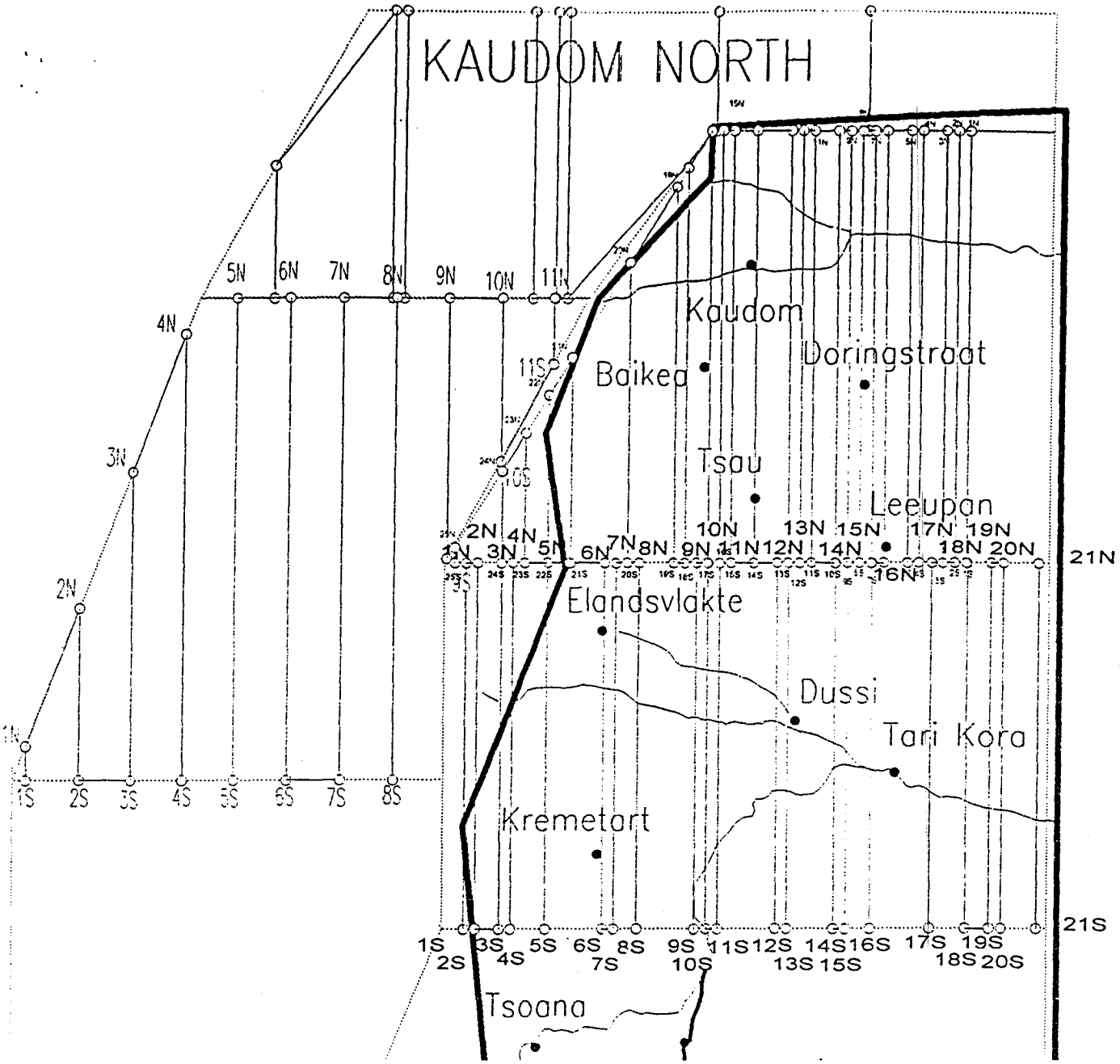

Figure 5 a Actual transect positioning in the four northern census blocks, Kaudom North, Kaudom Xeidand and Dussi, during the aerial census of August 1995 in the Kaudom Game Reserve - Tsumkwe Region.

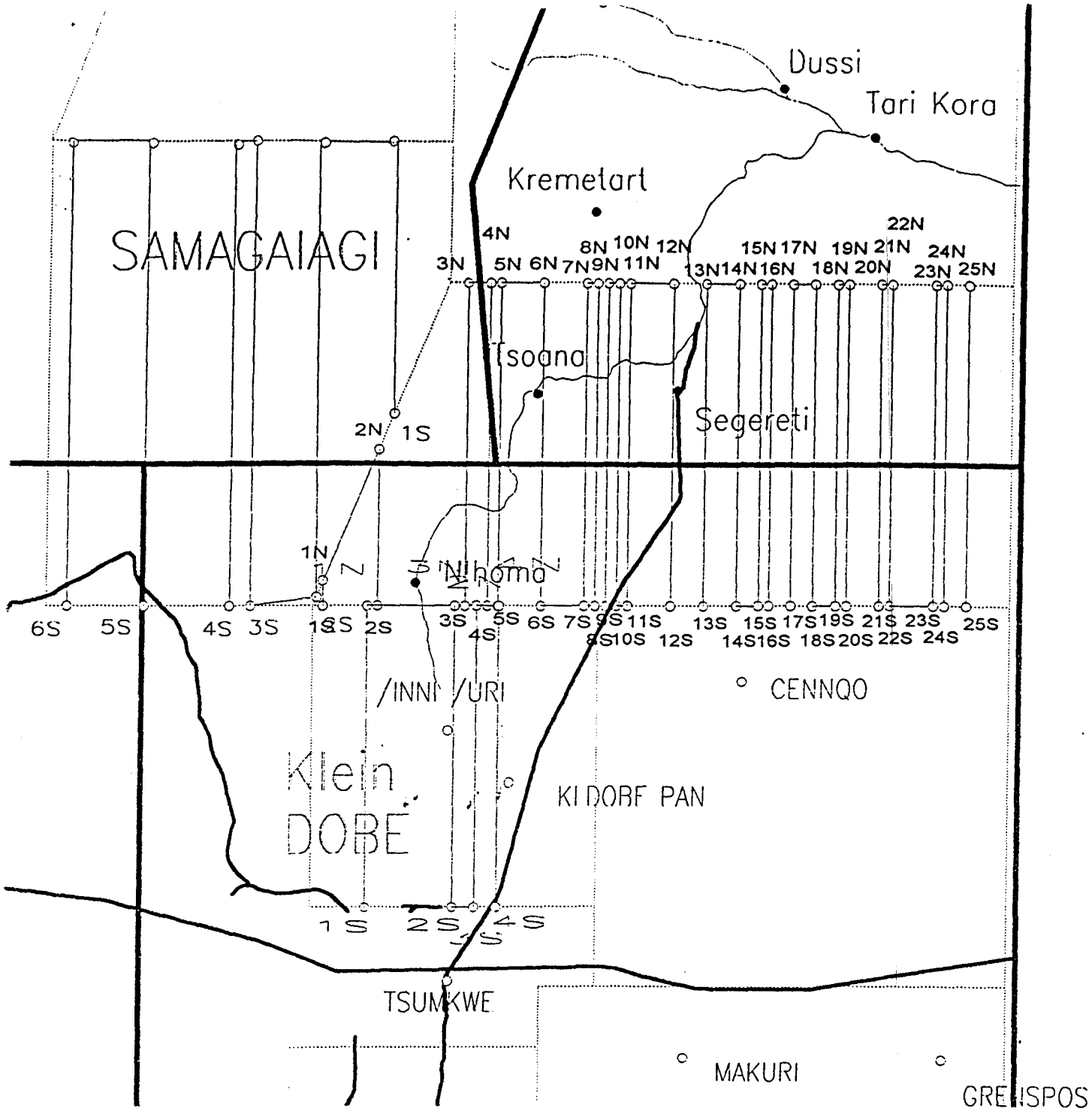

Figure 5 b Actual transect positioning in the three central census blocks, Samagaigai, Segereti and Klein Dobe, during the aerial census of August 1995 in the Kaudom Game Reserve - Tsumkwe Region.

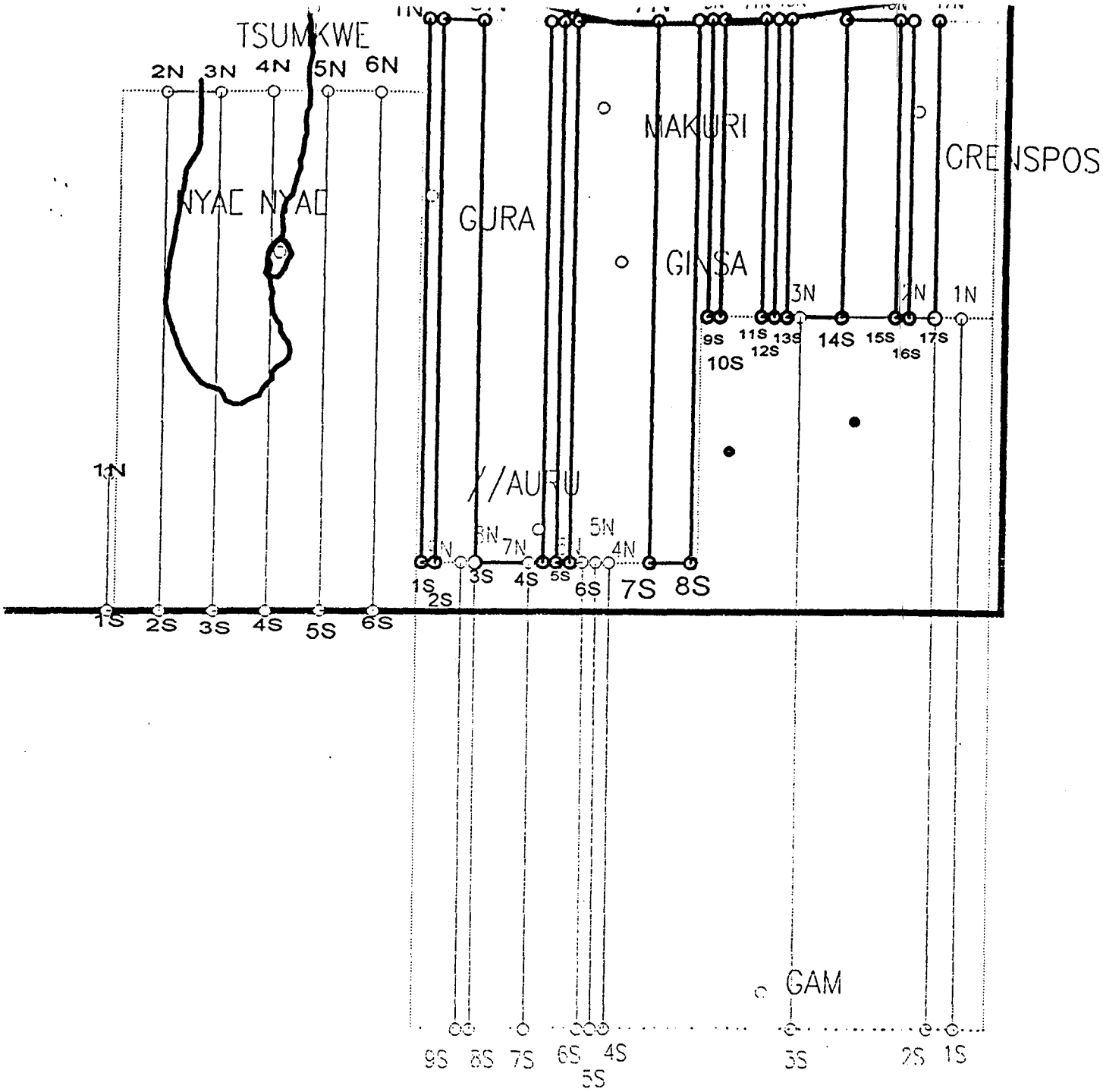

Figure 5 c Actual transect positioning in the three southern census blocks, Nyae Nyae, Makuri and Gam, during the aerial census of August 1995 in the Kaudom Game Reserve - Tsumkwe Region.

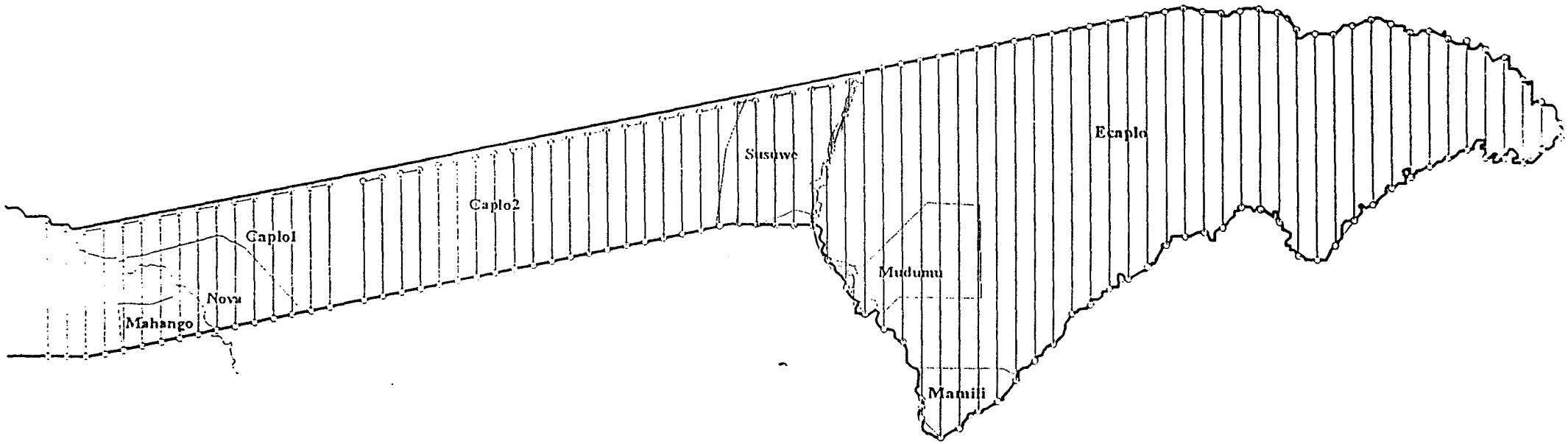

Figure 6 a Low intensity transect positioning in the Caprivi Region during the aerial census of August/September 1995.

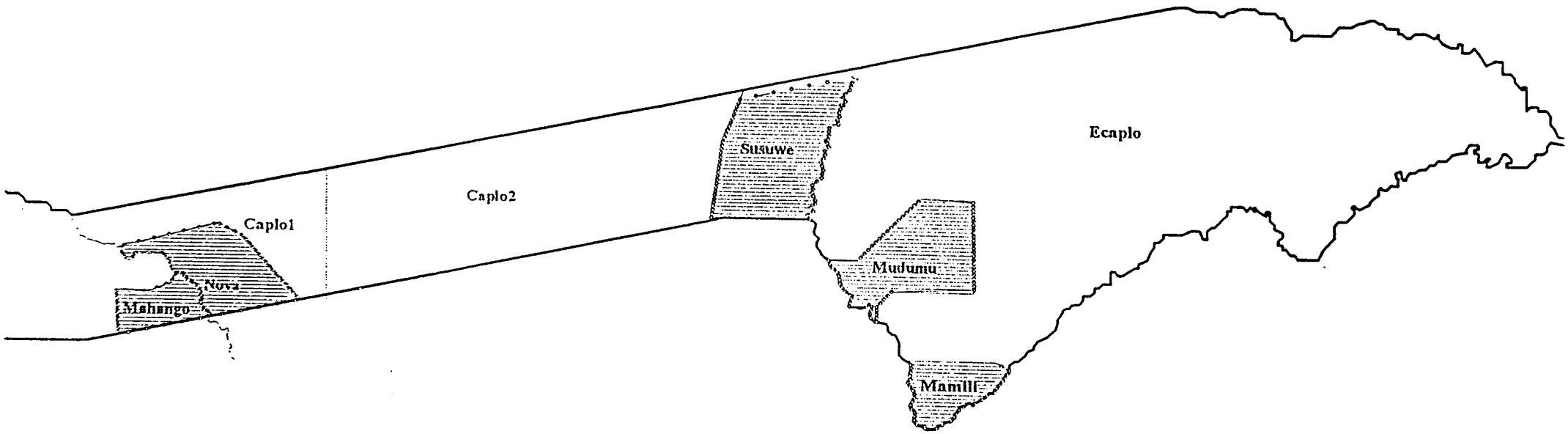

Figure 6 b High intensity transect positioning in the Caprivi Region during the aerial census of August/September 1995.

Methods

In all areas except for the Kunene Region, systematic or random aerial transect sampling methods were used as described by Norton-Griffiths (1978). All counting on transects was done with a Cessna 182 aircraft. Navigation on predetermined transect lines was done using a Garmin 100 GPS. Height was maintained at 300 feet using a radar altimeter, but actual height was recorded at regular intervals, and the average height was used in the strip width calculation. Strip width was maintained using streamers attached to wing struts. Each observer was calibrated for a 250 metre mark to determine actual strip width, and these corrected strip widths were used in the analysis. Survey areas were stratified into high and low intensity areas, and actual coverage ranged from 8.11% to 53.06% (Table 1). Stratification was based on independent information of elephant densities and water availability, or reconnaissance flights.

In the Kunene Region, three blocks were counted using a transect sampling method. Population estimates, however, produced numbers of elephants which were deemed too high, so only the elephants seen were included in the total, as a minimum number. The rest of the area was counted using a search flight method, due to the low density of elephants and the mountainous terrain, which makes transect sampling ineffective and dangerous. Apart from the elephants physically seen (415), there were 93 additional elephants which were not seen during the census, but which were known to be present in the area at the time, hence the population estimate of 508 (Table 1)

Results and discussion

Table 1 gives the results of each of the blocks flown during the ELESMAP census. Population estimates derived from this series of sophisticated surveys confirmed recent population estimates based on less expensive and more simplistic surveys in 1990 (Lindeque & Lindeque 1996 a, b, c). Relatively high sampling intensities were

generally effective compensators for aggegrated low density distributions. Table 2 gives the summary for each area, and the composite total population estimate of 7684 ± 18.51% (6262 - 9106). This is the most conservative estimate which excludes the results from the CAPLOW1 stratum and the sample estimate for three blocks in the Kunene Region. This is due to the fact that in this low intensity block, 224 elephants were counted on one transect very close to the adjacent high intensity block. The possibility exists that these same elephants were already counted in the high intensity block. Including them in the low intensity strata produces a population estimate of that area of 1754, which is not deemed to be realistic. Details on distribution of elephants seen is given in the separate reports for each region.

Figures 7 - 10 illustrate the distribution of elephant sightings during the survey, taken from individual census area reports.

Table 3 summarizes the elephant carcases sighted during the census. For the purpose of this report, no distinction was made between carcasses of different ages. Only Etosha N.P. has a relatively high carcase ratio reflecting the incidence of anthrax in this population and the persistence of carcases in this dry environment. Furthermore, most elephants contracting anthrax die near the water (Lindeque 1991), which leads to their carcases being highly visible, as vegetation cover is less around waterholes.

Acknowledgments

Funding from the European Union, US Fish and Wildlife Service (Elephant Conservation Act grant) and the Namibian Government made this series of surveys possible. Colin Craig shared freely his expertise and software. The Namibia Nature Foundation managed the finances and provided logistical support. Many thanks to all survey participants, the pilots who performed so well, the navigators and data recorders, observers and ground support staff, for contributing to the success achieved.

Table 1 ELESMAP census results for each block/region flown in Namibia

Block	Total area (sq km)	Area sampled	% sampled	Number of elephants seen	Population estimate	Variance	95% confidence intervals	95% confidence intervals as a % of the population estimate	Min	Max	Density /sq km
Kunene Region Total	**43398**	**10270**	**[23.66]**	**415**	**508**						**0.01**
Etosha 1	504	51	10.12	0	0						0.00
Etosha 3	1113	128	11.50	0	0						0.00
Etosha 4	1278	126	9.86	0	0						0.00
Etosha 5	984	97	9.86	0	0						0.00
Etosha 6	426	40	9.39	0	0						0.00
Etosha 7	2768	284	10.26	15	146	16748.00	273.06	187.03	15	419	0.05
Etosha 8	121	51	42.15	22	55	1024.30	73.80	134.18	22	129	0.45
Etosha 9	3939	1507	38.26	144	390	11655.90	214.85	55.09	175	605	0.10
Etosha 11	253	100	39.53	2	5	14.70	8.13	162.60	2	13	0.02
Etosha 12	359	145	40.39	1	3	3.60	4.05	135.00	1	7	0.01
Etosha 14	4106	1680	40.92	241	585	13324.20	228.55	39.07	356	814	0.14
Etosha 16	389	148	38.05	2	5	6.90	5.55	111.00	2	11	0.01
Etosha 17	2337	232	9.93	0	0						0.00
Etosha Total	**18577**	**4589**	**24.70**	**427**	**1189**	**42777.6**	**409.52**	**34.44**	**779**	**1599**	**0.06**
Kavango Total	**7901**	**1992**	**[25.21]**	**19**	**19**						**0.00**
Kaudom	1478	413	27.94	97	347	12593.09	231.62	66.75	115	579	0.23
Dussi	806	337	41.81	42	101	2685.22	106.96	105.90	42	208	0.12
Tsoana	1699	432	25.43	64	251	19688.03	289.61	115.38	64	541	0.15
Kaudom North	1113	106	9.52	8	84	7331.08	202.50	241.07	8	286	0.08
Xeidang	1324	200	15.11	0	0						0.00
Samagai-gai	1989	176	8.85	0	0						0.00
Cennqo	1314	264	20.09	7	35	967.48	66.28	189.37	7	101	0.03
Makuri	1332	348	26.13	60	230	31325.52	375.22	163.14	60	605	0.17
Klein Dobe	725	59	8.14	3	37	1256.50	112.79	304.84	3	150	0.05
Nyae Nyae	893	145	16.24	0	0						0.00
Gam	1897	203	10.70	0	0						0.00
Kaudom/Tsumkwe Total	**14570**	**2683**	**18.41**	**281**	**1085**	**75846.92**	**545.29**	**50.26**	**540**	**1630**	**0.07**
Caplow1	1816	232	12.78	224	** 0				0	0	
Caplow2	3051	296	9.70	0	0				0	0	
Ecaplow	10453	1257	12.03	11	92	7393.69	171.97	186.92	11	263	0.01
Mahango high intensity	317	157	49.53	125	252	9092.17	202.15	80.22	125	454	0.80
Mamili high intensity	396	181	45.71	667	1457	62148.18	526.01	36.10	931	1983	3.68
Mudumu high intensity	882	423	47.96	394	821	105336.40	662.09	80.64	394	1483	0.93
Nova high intensity	694	368	53.03	437	824	125468.70	729.68	88.55	437	1553	1.19
Susuwe high intensity	1193	566	47.44	682	1437	87834.78	592.74	41.25	844	2030	1.20
Caprivi Total	**18802**	**3480**	**18.51**	**2540**	**4883**	**397273.92**	**1247.99**	**25.56**	**3635**	**6130**	**0.26**
OVERALL TOTAL	103248	23014	22.29	3682	7684	515898.44	1422.16	18.51	6262	9106	0.07

** Analysis excluded due to possibility that these elephants were also counted in block Nova, and in order to make the most conservative estimate.

Table 2 Summary of results obtained in Namibia during the ELESMAP aerial census of elephants in 1995.

Block	Total area (sq km)	% sampled	Number of elephants seen	Population estimate	95% confidence intervals	Min	Max	Density /sq km
Kunene Region Total	43398	[23.66]	415	508				0.01
Etosha Total	18577	24.70	427	1189	409.52	779	1599	0.06
Kavango Total	7901	[25.21]	19	19				0.002
Kaudom/Tsumkwe Total	14570	18.41	281	1085	545.29	540	1630	0.07
Caprivi Total	18802	18.51	2540	4883	1247.99	3634	6130	0.26
OVERALL TOTAL	103248	22.29	3682	7684	1422.16	6262	9106	0.07

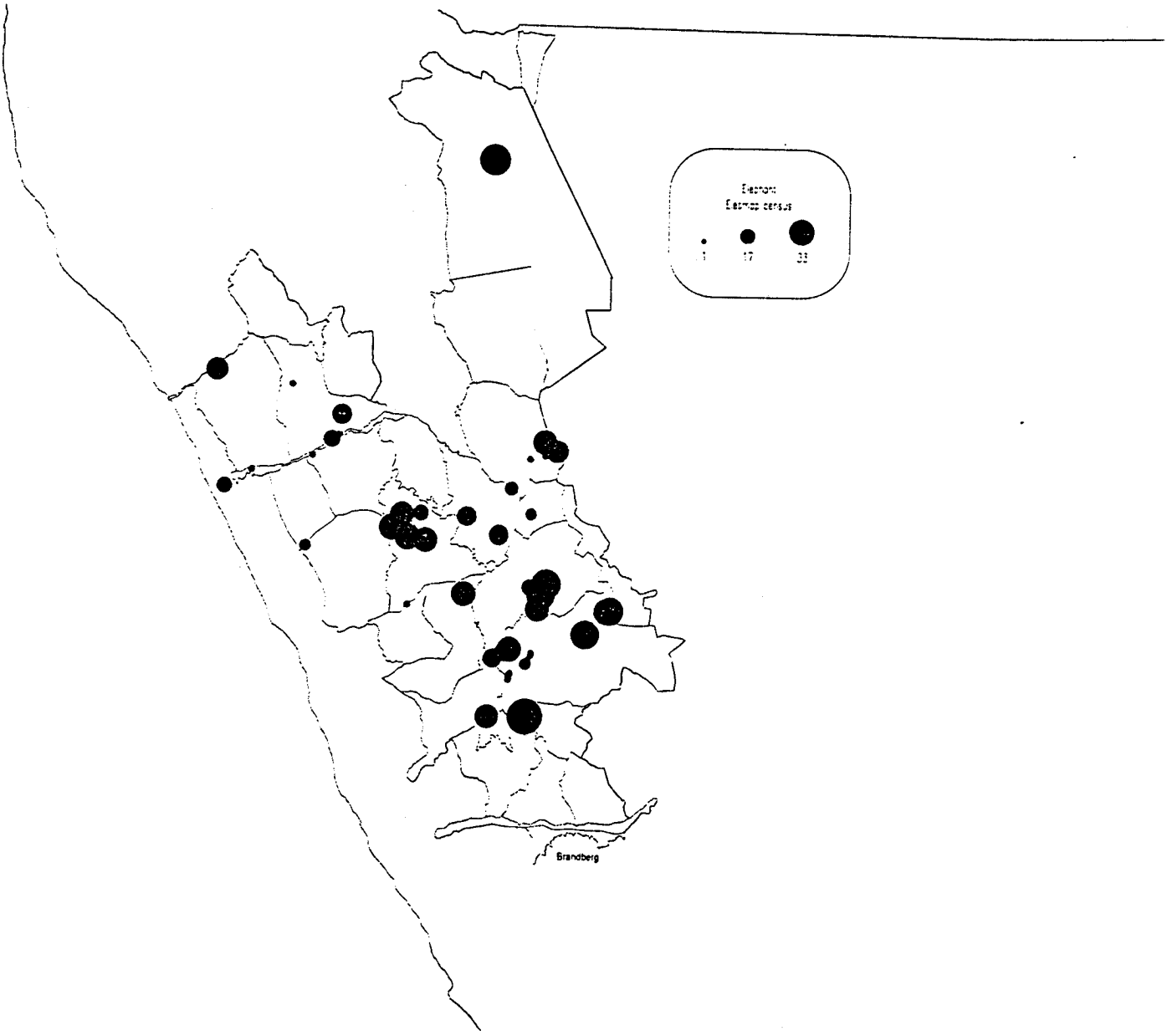

Figure 7 Distribution of elephant sightings in the Kunene Region during the aerial census of September 1996.

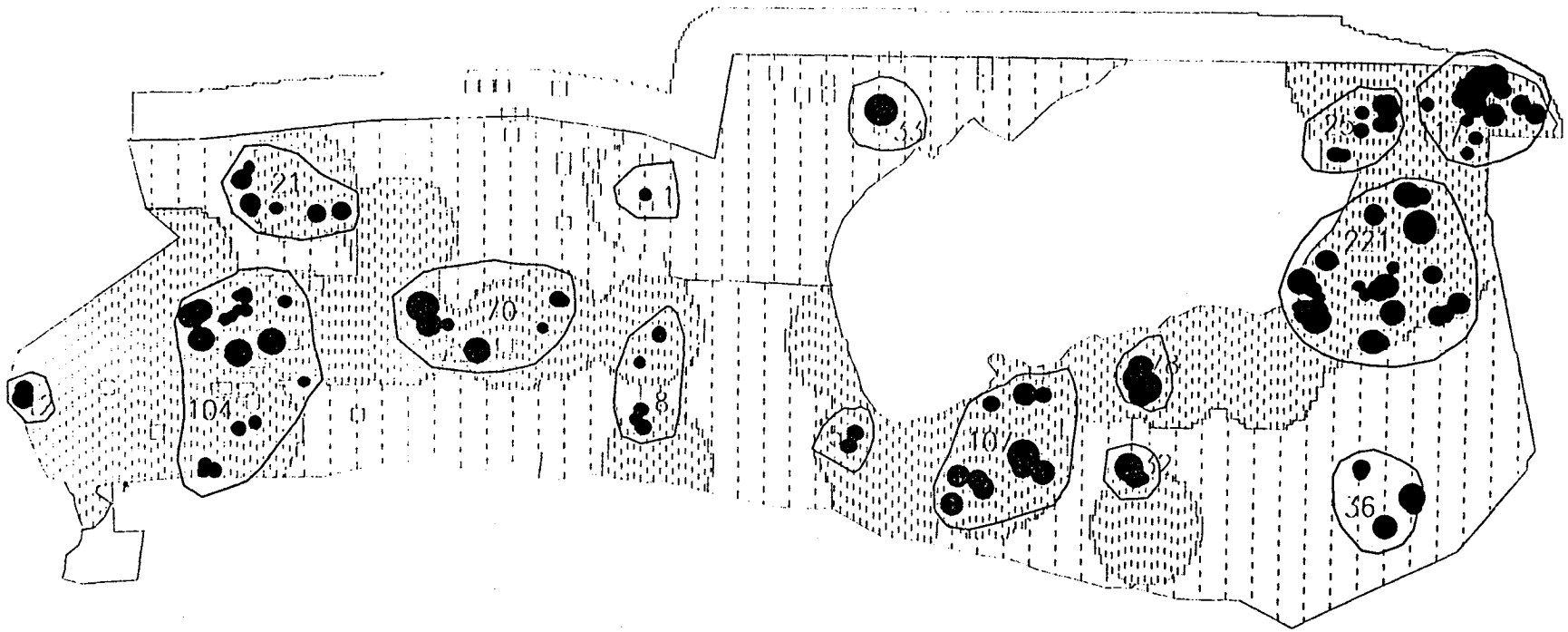

Figure 8 **Distribution of 870 elephant counted in Etosha N.P. during the Elesmap census 1995**

Individual elephant groups have been visually grouped together and the total for these groupings are indicated in the figure. The additional 27 elephant without waypoint data were observed in the grouping in the west with 104 elephant. Open squares indicate the distribution of seasonal water. Each circle represents an elephant/elephant group sighting, with circle diameter indicating group size.

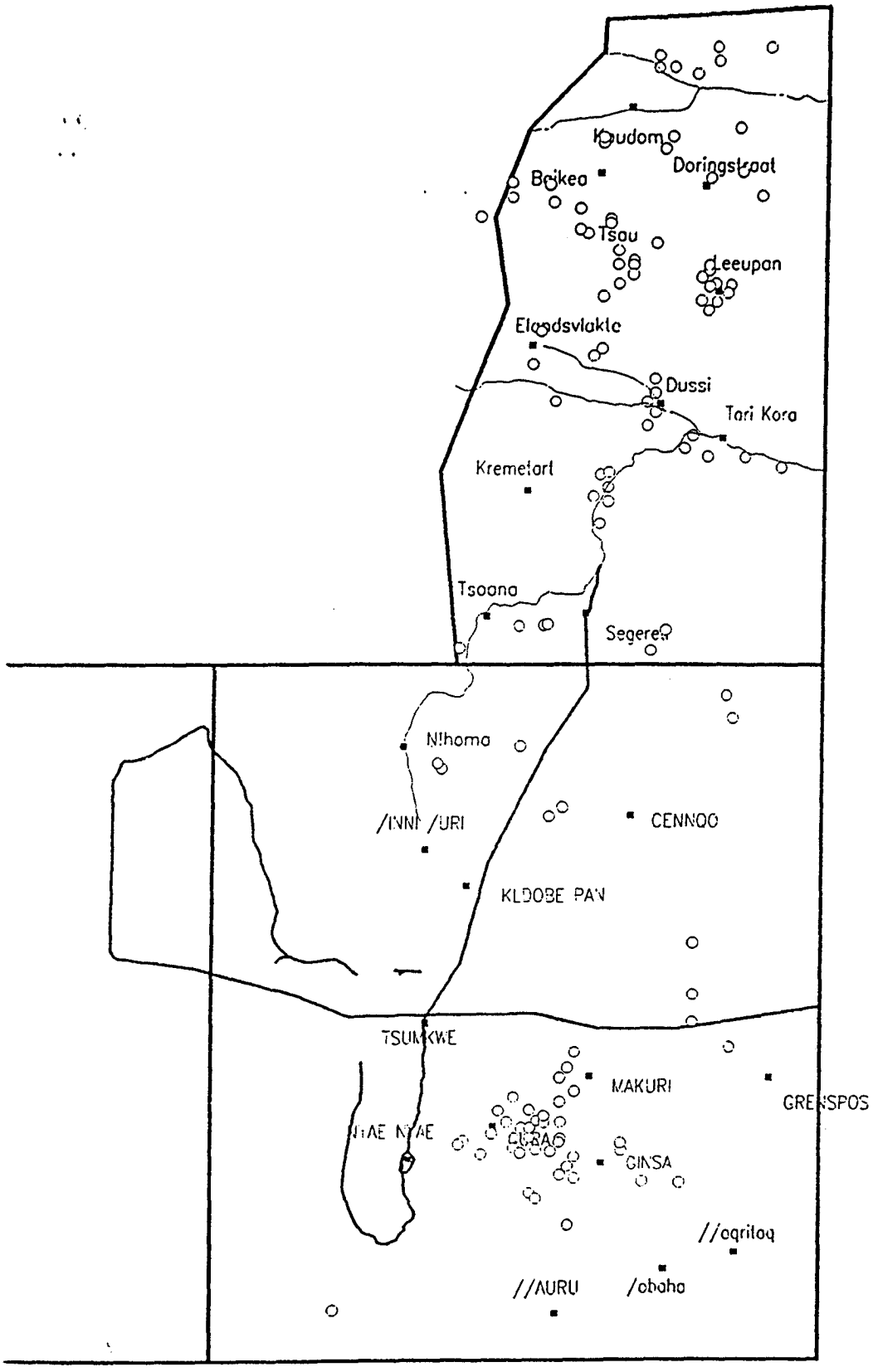

Figure 9 Distribution of elephant sightings in the Khaudom G.R. / Tsumkwe Region during the aerial census of August 1995.

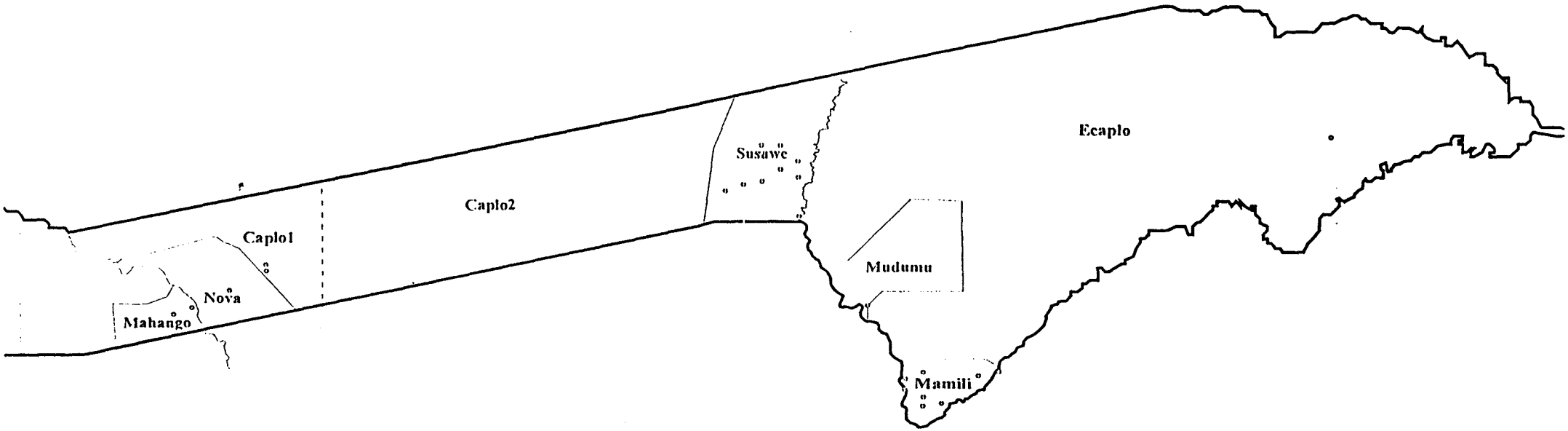

Figure 10 a Distribution of elephant sightings in the Caprivi Region during the low intensity survey in August / September 1995.

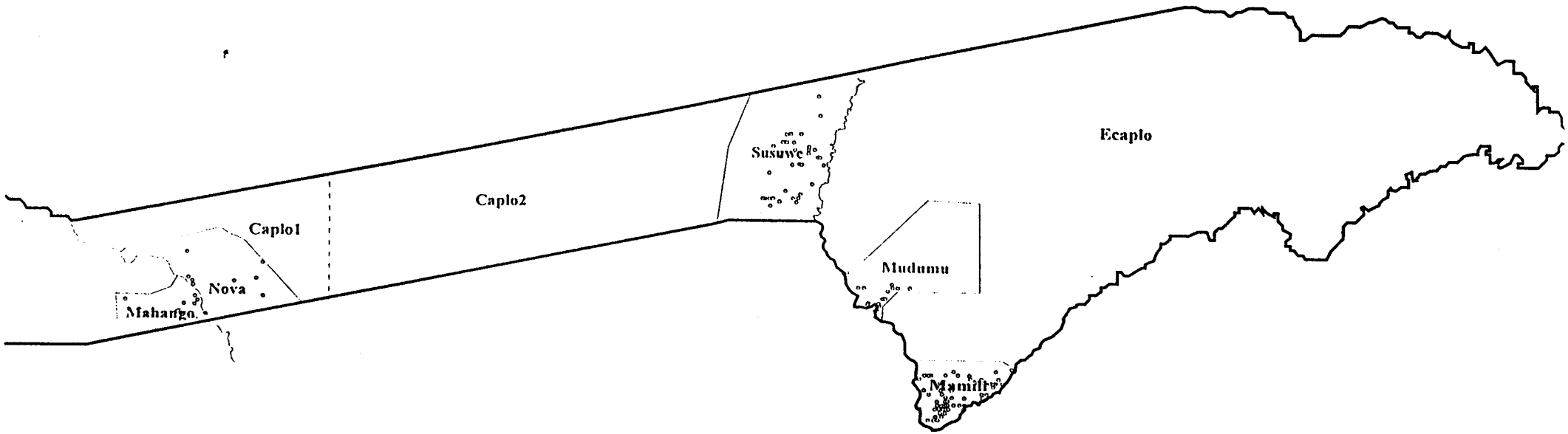

Figure 10 b Distribution of elephant sightings in the Caprivi Region during the high intensity survey in August / September 1995.

Table 3 Summary of elephant carcases seen during ELESMAP census in Namibia.

Block	Number of elephants seen A	Number of elephant carcases seen B	Carcase ratio * C
Kunene Region Total	**415**	**1**	**0.24**
Etosha 1	0	1	100.00
Etosha 3	0	0	
Etosha 4	0	6	100.00
Etosha 5	0	2	100.00
Etosha 6	0	0	
Etosha 7	15	4	21.05
Etosha 8	22	0	0.00
Etosha 9	144	26	15.29
Etosha 11	2	0	0.00
Etosha 12	1	1	50.00
Etosha 14	241	22	8.37
Etosha 16	2	5	71.43
Etosha 17	0	5	100.00
Etosha Total	**427**	**72**	**14.43**
Kavango Total	**19**	**0**	**0.00**
Kaudom	97	0	0.00
Dussi	42	0	0.00
Tsoana	64	0	0.00
Kaudom North	8	0	0.00
Xeidang	0	0	
Samagai-gai	0	0	
Cennqo	7	0	0.00
Makuri	60	0	0.00
Klein Dobe	3	0	0.00
Nyae Nyae	0	0	
Gam	0	0	
Kaudom/Tsumkwe Total	**281**	**0**	**0.00**
Caplow1	224	8	3.45
Caplow2	0	13	100.00
Ecaplow	11	3	21.43
Mahango high intensity	125	7	5.30
Mamili high intensity	667	0	0.00
Mudumu high intensity	394	0	0.00
Nova high intensity	437	15	3.32
Susuwe high intensity	682	52	7.08
Caprivi Total	**2540**	**98**	**3.71**
OVERALL TOTAL	**3682**	**171**	**4.44**

* $C = B/(A+B)*100$ (Douglas-Hamilton 1996)

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NAMIBIA Environment

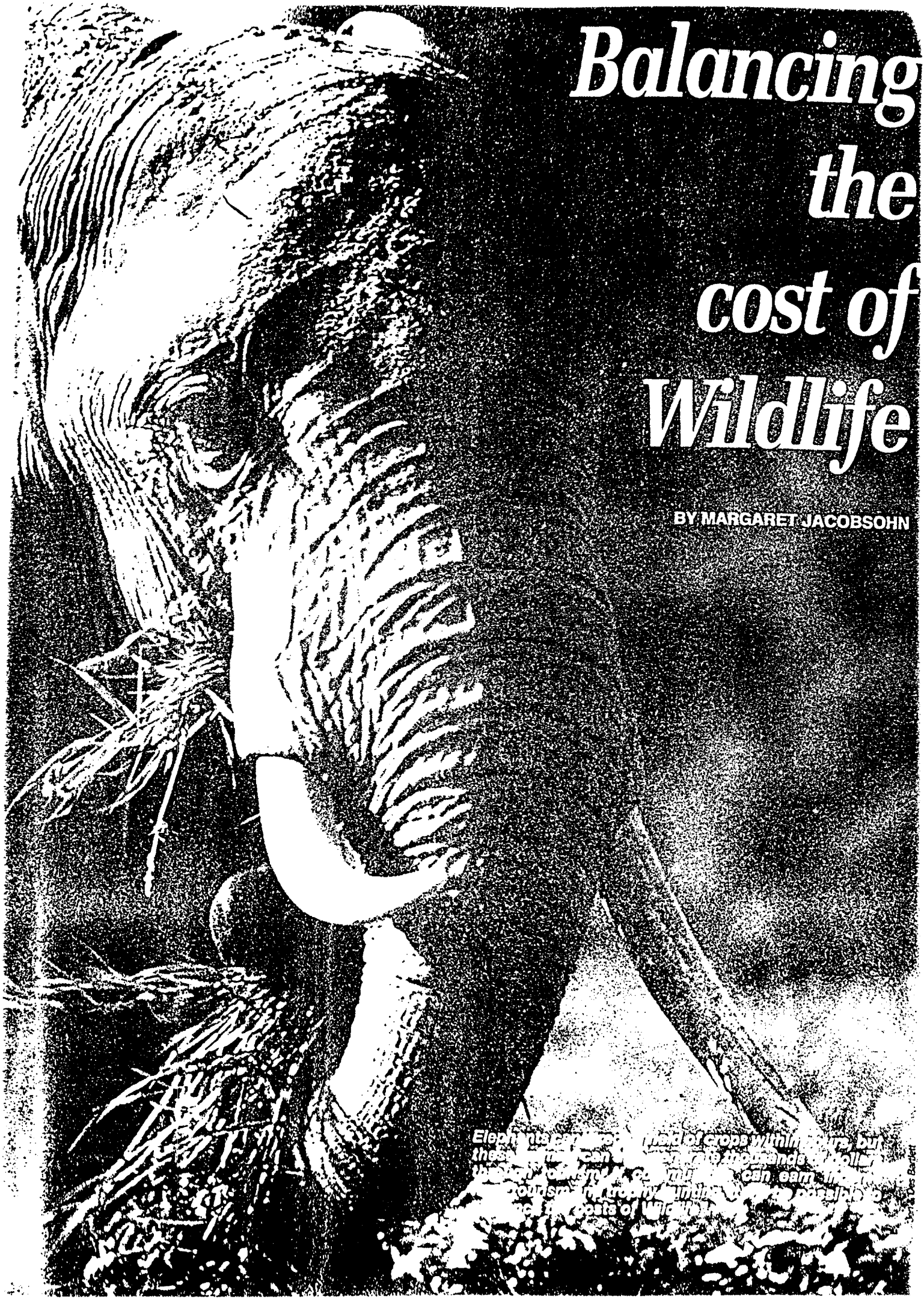
ANNEX 2

VOLUME 1

Annex 2

Balancing the cost of Wildlife

BY MARGARET JACOBSOHN



Brian Jones

Manni Goldbeck

Above: Funds earned through a bed-night levy at Lianshulu lodge were distributed amongst five neighbouring villages in March 1995. The levy's contribution (N$ 26 000 over one and a half years) is not enough to compensate for crops damaged by wildlife, but this promising start could encourage other income-generating activities based on wildlife and natural resource management.

Above right: In Namibia's rural areas, crops grown by subsistence farmers are food security for their families, but an appetizing meal for animals such as elephants. Innovative solutions are needed to protect fields without eradicating wildlife.

THE still, golden moments before sunset are disturbed by the sharp crack of branches as a herd of elephant feed on the banks of the Kwando River in Caprivi's Mudumu National Park. They are not concerned about the double-decker barge drifting slowly past with its load of respectful tourists training cameras and binoculars on them. The barge glides through the water lilies, round a bend. The tourists return to their deckchairs and cocktails, awaiting the Kwando's next wild offering. Later that night the herd moves out of Mudumu and enters the fields of the park's neighbours.

The next morning the tourists are enjoying a luxurious breakfast of fresh fruit, cereals and yogurt, bacon, sausages, eggs and coffee at Lianshulu Lodge. The villagers of Sauzuo, one of the settlements near the park boundary, are inspecting the swathe of destruction caused by the elephants. In just a few hours the herd had eaten or crushed more than half the millet field which was to have made a major contribution to a rural family's subsistence economy.

Elephants do not only damage grain crops. In Kunene Region the world famous Kaokoveld elephants frequently break water installations, fences, fruit trees and small irrigated gardens around homesteads or simply drink large quantities of the stockfarmer's precious water. Although the windmills and piping damaged by the elephants are repaired at government cost, the disrupted water supply - sometimes for weeks before the repair team visits the farm - can cause major problems including financial losses for stockowners in this arid region.

Lions are undoubtedly the biggest attraction for tourists visiting Namibia's national parks. From the safety of a safari vehicle the great cats can be viewed from close up in all their awesome splendour, but lions do not always stay inside the parks. Young males in particular are driven from the pride when they reach maturity and have to seek safety outside the territories of their own and oth prides. This often means crossing the boun aries of the wildlife sanctuary onto neig bouring farmland. From the small unfenced parks, whole prides may also pe odically make forays into communal lands add relatively easily caught donkeys, hors and cattle to their natural prey. During o month. June 1994, a pride of five lions kill nearly 40 head of cattle in the Malengaleng area which borders the Mamili National Pa in East Caprivi.

Although elephants and lions are capable c the most spectacular damage to the livel hood of Namibia's rural population, man other wildlife species cause serious econom ic losses to subsistence and commercia farmers. In the north-east hippo often rai fields to feed on young maize, millet an sorghum. Where they still occur, buffal sometimes do extensive damage to cultivate crops and so do kudu, duiker, bushpigs, por cupines, baboons and monkeys. The preda tors that can, and often do, take livestock include crocodile, cheetah, leopard, caracal, spotted hyena and jackal, as well as some of the larger eagles. The extent of the losses caused by predators can be extrapolated from the claim by Herero and Damara farmers in the Sesfontein district that more than 2 000 sheep lambs and goat kids were killed by jackals in one year (1992).

This scenario reflects the reality of eco-tourism in Namibia: On the one hand tourism is the second largest generator of foreign exchange in the country, essential to our national economy. On the other hand, it is the ordinary rural Namibian who is being

Claudia Auer

Above: Community members, Ministry staff and NGO representatives inspect a low-cost electric fence along the southern boundary of the Mudumu National Park. The simple two wire fence is powered by a solar panel which provides an electric pulse of between 7 000 and 9 000 volts. These fences are not totally elephant-proof, but they can reduce crop damage in high-risk areas.

Above left: This radio-collared cheetah is one of many being studied by conservationists, who track and monitor their movements. Research has shown that only a small number of predators turn to livestock killing. The majority are content to hunt wild prey if this is available.

forced to bear the costs of living with the wildlife on which our multi-million dollar tourism industry depends.

At a recent community meeting in Western Caprivi a senior game ranger put forward the conventional argument that all Namibians benefit indirectly from wildlife because income from tourism, trophy hunting and game sales is used by the government to build roads, schools and clinics, etc. This was countered from the local people's perspective that Namibians who don't have to live with wildlife also get roads and schools and clinics.

In fact, not only do rural area dwellers receive no additional benefits for bearing the brunt of the problems caused by wildlife, they are also often the people who, because they live in remoter corners of Namibia far from centres of development, receive the least infrastructural and financial assistance from government and the private sector.

Are there solutions to this clear inequity of cost and benefit with regard to damage causing wild animals? The problem is particularly unfair in the country's communal areas where a burgeoning human population, with new material aspirations, is being economically handicapped by wildlife that is still, according to pre-Independence legislation, the property of the State.

Could the Ministry of Environment and Tourism do more to reduce damage by problem animals? In an ideal situation perhaps it could, but the Ministry has a serious shortage of appropriately experienced officers, their budgets barely enable management staff to cope with their existing tasks. The outst tions in communal areas suffer from a chro ic lack of serviceable vehicles.

Consequently, when they are able to assi farmers, it is never enough and often too la to prevent serious crop or stock losses.

To address the problem animal issue, son African countries have opted for paying con pensation to farmers for wildlife damag This is not realistic in Namibia with its wic range of problem-causing wildlife and th enormous losses incurred annually throug out the country. If the precedent is set to pa for elephant damage, for example, compensa tion would also be demanded for other prob lem animals which often cause greater eco nomic losses.

The cost to the State would be considerabl but more importantly, how would the systen be implemented and monitored? Who woulc economically quantify each case of crop damage and livestock loss? Who would go tc the scene and verify that a goat its owner claimed had been killed by a jackal had not died of disease or drought?

Another option would be for all potential problem animals to be confined to effectively fenced national parks and game reserves. If such a policy were implemented, the implications for Namibia's elephant population, the majority of which either live in, or seasonally use feeding areas on communal land, would be catastrophic. Internationally endangered species such as wild dog and cheetah, which require vast areas to range in, would also become virtually non-viable within the country's borders. On the other hand, jackal and caracal, which cause major smallstock losses, have proved remarkably resilient in spite of the commercial farmers' costly attempts to exterminate them. We should also remember that predators and scavengers, including jackals, also perform a valuable ecological role.

The confining of all problem causing wild

animals to the larger national parks would also have a negative effect on Namibia's tourism industry, which is marketed on a wide range of venues, many of which are on private or communal land. Because this is the case, the conflicts between wildlife conservation and rural development must be urgently addressed if tourism is to achieve its full potential in Namibia.

The most promising solution to the problem is the integration of wild animals back into the country's rural economy so that financial losses are balanced by direct benefits. This has already been very successfully done on privately owned farmland in Namibia which has stimulated the growth of a booming, complementary industry based on trophy and photographic safaris, game harvesting and live game sales.

In communal areas, the first step must be to redress the inequities and discrimination of the past. The existing nature conservation legislation must be amended to grant communal land farmers similar conditional rights to use and market their wildlife resources as those that are given to private landowners by the Nature Conservation Ordinance 4 of 1975. When the farmers neighbouring Mudumu National Park get direct economic benefits through trophy fees and tourism enterprises - from the elephants that raid their crops - it will go a long way towards changing their attitudes to these and other national wildlife assets. From the income they receive, they as a community, will be in a position to verify, evaluate and pay individual owners of damaged fields, if they so choose.

Some tourist enterprises are already attempting to share their profits with local people. Following on the pioneering policies of Skeleton Coast Fly-In Safaris under the late Louw Schoeman, a number of other tourist operators including Lianshulu and Palmwag Lodges and Etendeka Wilderness Camp are now collecting bed-night levies which will be paid annually to their neighbouring communities.

The author: Margaret Jacobsohn is an archaeologist and journalist, having studied at the University of Cape Town. She has conducted extensive sociological and socio-environmental research in Namibia, especially amongst the Himba people of the Kunene Region. She has written many publications including a book about the Himba. Margaret is currently a director of Integrated Rural Development and Nature Conservation (IRDNC), based at Wêreldsend in the Kunene Region

Can the benefits of wildlife outweigh the costs for Caprivi households?

Research indicates that financial benefits from wildlife could far outweigh the financial costs if communities are given the rights and opportunities to wildlife and tourism earnings.

Research in Caprivi on four years of elephant damage to crops estimates that some of the worst-affected villages, such as those around Mudumu National Park on the east bank of the Kwando, lose around N$1 000 worth of crops per year. Losses of cattle and goats to lions, hyaena and crocodile cost another N$2 000 or so per village - except for the four villages on the northern border of Mamili National Park,where lion attacks are more frequent, causing livestock losses ranging from N$ 1 300 to N$ 23 000 per village in 1994 (calculated at the market price of cattle of N$ 800 per head). These losses are catastrophic in a rural subsistence economy. Though the crop losses have a lower cash value, they are significant because the poorest households depend on crops rather than cattle.

However, these villages along the Kwando are also prime tourism areas. Total losses per village, averaging N$ 3 000 per year for most and N$ 12 000 for a few, are still less than what can be earned from tourism by local residents. A community enterprise, such as a Traditional Village or campsite, can earn a community anything from a few thousand to more than N$20 000 per year. A bed-night levy from a nearby lodge, such as Lianshulu Lodge, can bring in around N$15 000 a year, in addition to income of local staff of over N$50 000 a year. Once communities have established conservancies with tourism rights, they could lease out tourism concessions for tens of thousands of dollars per year.

This means that if the households that lose crops and stock can also receive the benefits of tourism, the costs of wildlife can be outweighed by the profits. Much depends on who earns the wages and shares the community profits, or whether a share of profits is used by the community to cover compensation claims.

Altogether in the areas along the Kwando River in East Caprivi, it is estimated that local losses from wildlife damage have been around N$70 000 per year since 1991. By comparison, total annual earnings of local individuals selling crafts and working in lodges and camps are probably already around N$300 000. This could double if tourism and wildlife develop to their sustainable potential (for example, community guided walks and mokoro rides, a few more lodges), and increase further through joint ventures.

Cash alone won't offset the costs of lost livelihood and disruption - especially if the benefits are earned by a few individuals and not whole communities. But it shows that with appropriate rights and institutions it can be well worth it for local communities to develop wildlife as a complement to farming, despite the costs.

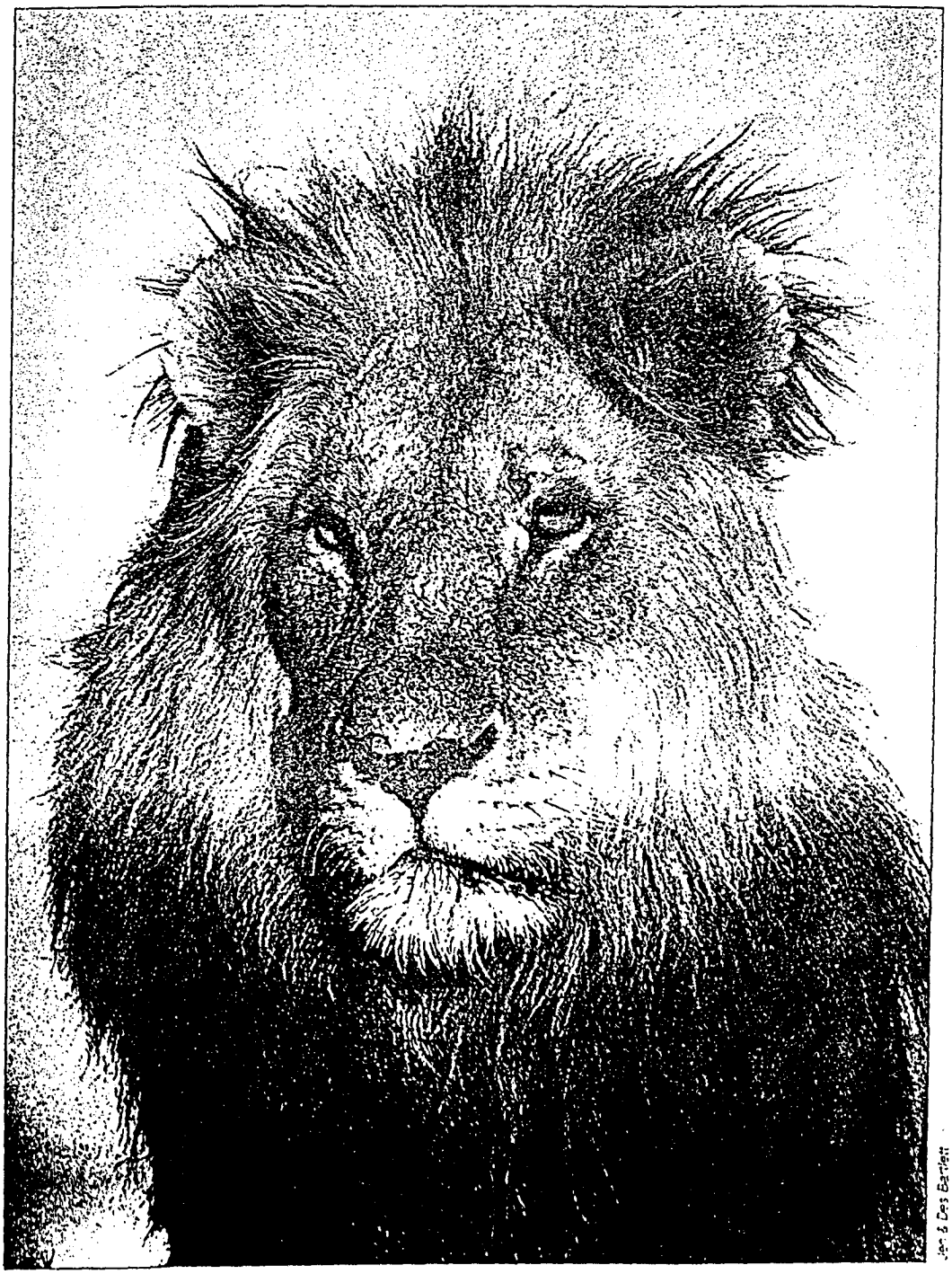
Caroline Ashley and Caitlin O'Connell, drawing on research by Jon Barnes and monitoring by IRDNC community game guards in eastern Caprivi.

However, economic benefits will not alone balance "the costs of wildlife". Rural communities must also be given a role in the management of the wild animals that share their land and affect their daily lives. Only when they are empowered to see themselves as genuine partners in the custodianship of the wildlife resources in their areas can we expect them to act responsibly towards them. This is the rationale behind the community game guard systems in the Kunene and Caprivi Regions. NGO sponsored rhino-monitoring teams, drawn from local communities, are another aspect of this approach.

In the communal areas, where natural resources are common property, the long-term success of this new policy will hinge on the creation of appropriate, representative, local community structures for shar responsibility, with the conservation auth ities, for the management of wild anim outside of parks and reserves, and also for t equitable distribution of economic benef accruing to the local people from its cc sumptive and non-consumptive use.

Finally, and most importantly, is the need establish an environment of mutual tru understanding and respect between rur communities, the Ministry of Environme and Tourism, the tourism industry and loc conservation NGOs. Only once this has bee achieved can we hope to effectively resol the conflicts between wildlife and huma needs - one of the greatest challenges facir all concerned with the long term future c Namibia's priceless natural heritage.

Lions sometimes venture onto farmland where they kill livestock. Instead of indiscriminate poisoning or revenge killings, known "problem animals" can be made available to trophy hunters for a high fee. Lions were declared a protected species in Namibia in 1995.



Jen & Des Bartlett

Supplementary Supporting Statement ANNEX 3

Table 3. Probable annual production of ivory in Namibia (1992-1997).

Origin/Cause	Approx. pop. size	No. of elephants dying	No.* of tusks produced	Est.** ave. tusk mass (kg)	Total ivory (kg)
Natural mortality***					
Etosha N.P.	1 500	45	86	6.7	576
Kaokoveld	300	3	6	(8.0)	48
Khaudom-Bushmanl.	1 100	11	21	(8.0)	168
W. Caprivi	1 000	10	19	(7.5)	143
E. Caprivi	1 400	14	27	(7.0)	189
			159		1 124
Problem elephants					
Destroyed by State		10	19	(10.0)	190
Trophy hunted		10	19	(12.0)	228
			38		418
Culling in protected areas****					
Etosha N.P.		40 (max.)	76	3.5	266
Mahango G.R.		20 (max.)	38	(15.0)	570
			114		836
Culling/ harvesting in unprotected areas****					
Huab catchment		10 (max.)	19	(4.0)	76
E. Caprivi		50	95	(3.7)	352
W. Caprivi		20	38	(3.8)	144
			152		572
Ivory confiscated (only of Namibian origin)		-	40	(5.0)	200
Trophy hunting					
Khaudom-Bushmanland		6	12	28.0	336
Mahango-W. Caprivi		10	20	(15.0)	300
E. Caprivi		10	20	10.5	210
			52		846
Total		269	555		3 996

* assuming that 1.9 tusks are produced per elephant, except elephants from the primary trophy hunting operations where elephants with two tusks are selected.

** average tusk masses from unpublished data, or estimated and indicated by parenthesis.

*** assuming a 3% mortality rate in Etosha N.P. and a 1% rate elsewhere which are lower than the estimated 4% and 2% mortality rates respectively, to compensate for tusks not recovered.

**** Note: There are no definite plans to cull elephants anywhere in Namibia in the near future, much will depend on rainfall in the next few years and land use planning in the elephant range. Estimates quoted here are speculative, and are given as an average quota per year, while culling is likely to be done only once in several years.

Table 4. Volumes of ivory confiscated in Namibia since 1983.

Year	No. of tusks confiscated (approx. mass kg)*					
	NE Namibia		Rest		Total	
1983	141	[705]	0		141	[705]
1984	71	[438]	6	[30]	77	[468]
1985	56	[305]	0		56	[305]
1986	170	[1 098]	0		170	[1 098]
1987	200	[1 131]	2	[10]	202	[1 141]
1988	216	[1 185]	0		216	[1 185]
1989	1 076**	(7 327)	16	(131)	1 092	(7 458)
1990	206	[1 517]	3	(12)	209	[1 529]
1991	108	(857)	6	(38)	114	(895)
Total	2 244	[14 563]	33	[221]	2 277	[14 784]

* [ ] indicates that totals include a minority of tusks of unknown mass (data unavailable at present), for the purposes of this analysis estimated arbitrarily at 5 kg per tusk.

** including one batch of 973 tusks from Angola

ANNEX 3

Table 5. A preliminary analysis of current ivory stocks in Namibia.

Year obtained	Source*	No. of tusks	Mass (kg)**
1984	ENP	66	399
1985	ENP	63	516
	ENP cull	552	1 087
	Conf.	56	305
1986	ENP	53	359
	Conf.	170	(1 098)
1987	ENP	122	876
	Conf.	202	(1 141)
1988	ENP	25	170
	Conf.	216	(1 185)
1989	ENP	160	927
	Conf.	1 092	7 458
1990	ENP	164	801
	Conf.	209	(1 529)
1991	ENP	125	1 107
	Conf.	114	895
Total		3 389***	19 853***

* ENP= Etosha N.P. natural mortalities and problem elephant control on land adjacent to the park, Conf.= Ivory confiscated in Namibia including ivory from foreign origin.

** Parenthesis indicate that tusks of unknown mass (records unavailable) were assumed to weigh 5 kg

*** A further 924 tusks of unknown mass (records unavailable at present) have accrued from natural mortalities and problem elephant control elsewhere in Namibia, but the year of collection is not known and this sample cannot be broken down further. If an average mass of 5kg is assumed for this sample, the total mass of ivory in the stockpile is estimated at 19 853 + (924 x 5) = 24 473kg.

Table 6. Summary of current ivory stockpile.

Source	No. of tusks (% of total)	Approx. mass in kg (% of total)
Natural mortalities & problem elephant control	1 702 (39.5)	9 775 (39.9)
Culling	552 (12.8)	1 087 (4.4)
Confiscated ivory of Namibian & foreign origin	2 059 (47.7)	13 611 (55.6)
Total	4 313	24 473*

* approximate

ANNEX 4

GOVERNMENT GAZETTE

OF THE

REPUBLIC OF NAMIBIA

N$1.20 | WINDHOEK - 17 June 1996 | No. 1333

CONTENTS

Government Notice

OFFICE OF THE PRIME MINISTER

No. 151 1996

PROMULGATION OF ACT OF PARLIAMENT

The following Act which has been passed by the Parliament and signed by the President in terms of the Namibian Constitution is hereby published in terms of Article 56 of that Constitution.

No. 5 of 1996: Nature Conservation Amendment Act, 1996.

Act No. 5, 1996 NATURE CONSERVATION AMENDMENT ACT, 1996

ACT

To amend the Nature Conservation Ordinance, 1975, so as to provide for an economically based system of sustainable management and utilisation of game in communal areas; to delete references to representative authorities; and to provide for matters incidental thereto.

(Signed by the President on 4 June 1996)

BE IT ENACTED by the Parliament of the Republic of Namibia, as follows:-

Amendment of section 1 of Ordinance 4 of 1975, as amended by section 1 of Ordinance 4 of 1977, section 1 of Act 27 of 1986 and section 1 of Act 6 of 1988

1. Section 1 of the Nature Conservation Ordinance, 1975 (hereinafter referred to as the Ordinance), is hereby amended by -

(a) the substitution for the definition of "communal land" of the following definition:

" 'communal land' means any geographic area of land habitually inhabited by traditional communities;";

(b) by the insertion after the definition of "communal land" of the following definitions:

" 'conservancy" means any area declared a conservancy in terms of section 24A(2)(ii);

'conservancy committee' means a conservancy committee recognized as such by the Minister under section 24A(2)(i);

'consumptive use' means the utilisation of individual game by its permanent removal, or removal of its parts, from or within an area;";

(c) by the deletion of the definition of "Executive Committee";

(d) by the substitution for the definition of "local authority" of the following definition;

" 'local authority' means the council of any area declared to be a municipality, town or village under section 3 of the Local Authorities Act, 1992 (Act 23 of 1992);";

(e) by the insertion after the definition of "local authority" of the following definition:

" 'Minister' means the Minister of Environment and Tourism;";

(f) by the insertion after the definition of "nature conservator" of the following definition:

"non-consumptive use" means use not entailing the permanent removal of individual game, but use for recreational, educational, research, cultural, or aesthetic purposes;";

(g) by the substitution for paragraph (d) of the definition of "owner" of the following paragraph:

"(d) where such farm or land is owned by the State, the Government of Namibia;";

(h) by the deletion of paragraph (dA) of the definition of "owner";

(i) by the deletion of the definition of "population group";

(j) by the deletion of the definition of "representative authority";

(k) by the substitution for the definition of "security forces" of the following definition;

" 'security forces' means the Namibian Police or the Namibian Defence Force;";

(l) by the deletion of the definition of "Territory"; and

(m) by the addition of the following definition:

" 'wildlife council' means a wild life council established under section 24B(1).".

Substitution of heading to Chapter II of Ordinance 4 of 1975

2. The following heading is hereby substituted for the heading to Chapter II of the Ordinance:

"Game Parks, Nature Reserves, Conservancies and Wildlife Councils".

Act No. 5, 1996 NATURE CONSERVATION AMENDMENT ACT, 1996

Insertion of sections 24A and 24B in Ordinance 4 of 1975

3. The following sections are hereby inserted in the Ordinance after section 24:

"Conservancies

24A. (1) Any group of persons residing on communal land and which desires to have the area which they inhabit, or any part thereof, to be declared a conservancy, shall apply therefor to the Minister in the prescribed manner, and such application shall be accompanied by -

(a) a list of the names of the persons who are members of a committee established for the purpose of being recognised by the Minister under subsection (2)(ii) as the conservancy committee for the conservancy applied for;

(b) the constitution of such committee;

(c) a statement setting out the boundaries of the geographic area in respect of which the application is made; and

(d) such other documents or information as the Minister may require.

(2) If the Minister is satisfied in respect of an application made in terms of subsection (1) that -

(a) the relevant committee is representative of the community residing in the area to which the application relates;

(b) the constitution of such committee provides for the sustainable management and utilization of game in such area;

(c) such committee has the ability to manage funds and has an appropriate method for the equitable distribution, to members of the community, of benefits derived from the consumptive and non-consumptive use of game in such area;

(d) the geograhic area to which the application relates has been sufficiently identified, taking into account also the views of the Regional Council of that area;

(e) the area concerned is not subject to any lease or is not a proclaimed game park or nature reserve; and

(f) any other prescribed requirements have been complied with,

the Minister shall -

(i) in writing to the committee in question and on such conditions as he or she may determine in addition to any prescribed condition or restriction, recognize that committtee as the conservancy committee for the conservancy concerned; and

(ii) by notice in the *Gazette* declare the area to which the application relates as a conservancy, and such notice shall set out the geographic boundaries of the area in respect of which the conservancy is being declared.

(3) (a) The Minsiter may, subject to paragraphs (b) and (c), at any time -

(i) withdraw his or her recognition of a conservancy committee given under subsection (2)(i);

(ii) amend or withdraw any condition imposed under subsection (2)(i); or

(iii) amend or withdraw any notice made under subsection (2)(ii).

(b) Before the Minister under paragraph (a) withdraws the recognition of a conservancy committee or amends or withdraws any condition or notice, he or she shall in writing-

(i) inform the conservancy committee of his or her intention to do so;

(ii) furnish the conservancy committee with the reasons for the intended withdrawal or amendment, in question; and

(iii) call upon the conservancy committee to show cause within a period specified, why the withdrawal or amendment in question should not be effected.

(c) After considering any representations received within the specified period from the conservancy committee concerned by virtue of the provisions of paragraph (b)(iii), the Minister may in his or her discretion -

(i) proceed in terms of paragraph (a) with the withdrawal or amendment in question; or

(ii) refrain from taking any steps in terms of paragraph (a),

and the Minister shall in writing inform the conservancy committee concerned of his or her decision in terms of this paragraph.

(4) Notwithstanding section 28 and subject to subsection (5) of this section, a conservancy committee shall on behalf of the community in a conservancy or in respect of which a conservancy has been declared have rights and duties with regard to the consumptive and non-consumptive use and sustainable management of game in such conservancy, in order to enable the members of such community to derive benefits from such use and management.

(5) The provisions of Part III shall *mutatis mutandis* apply to a conservancy committee insofar as it confer rights and privileges and imposes duties and obligations on an owner or a lessee of land in relation to game on such land, except that no requirement of any such provision with regard to any fence or the extent of any land or any provision classifying land for a prescribed type of fence shall apply to any conservancy.

Wildlife councils

24B. (1) The Minister may, after consultation with a community residing on communal land and if all the prescribed requirements have been met, establish a wildlife council for the area, or any part thereof, in which such community resides on such conditions as he or she may determine in addition to any prescribed condition or restriction: Provided that no such area shall include any conservancy, any land subject to any lease, or any proclaimed game park or nature reserve.

(2) The Minister shall give notice in the *Gazette* of any wildlife council established under subsection (1), and such notice shall set out the geographic boundaries of the area in respect of which the wildlife council has been so established.

(3) (a) The Minister may, subject to paragraphs (b) and (c), at any time -

(i) dissolve a wildlife council;

(ii) amend or withdraw any condition imposed under subsection (1); or

(iii) amend or withdraw any notice made under subsection (2).

(b) Before the Minister under paragraph (a) dissolves a wildlife council or amends or withdraws any condition or notice, he or she shall in writing -

(i) inform the wildlife council of his or her intention to do so;

(ii) furnish the wildlife council with the reasons for the intended dissolution, amendment or withdrawal in question; and

(iii) call upon the wildlife council to show cause within a period specified, why the dissolution, amendment or withdrawal in question should not be effected.

(c) After considering any representations received within the specified period from the wildlife council concerned by virtue of the provisions of paragraph (b)(iii), the Minister may in his or her discretion -

(i) proceed in terms of paragraph (a) with the dissolution, amendment or withdrawal in question; or

(ii) refrain from taking any steps in terms of paragraph (a),

and the Minister shall in writing inform the wildlife committee concerned of his or her decision in terms of this paragraph.

(4) Notwithstanding section 28 and subject to subsection (5) of this section, a wildlife council shall on behalf of the community in the area for which such council has been established have rights and duties with regard to the consumptive and non-consumptive use and sustainable management of game in such area, in order to enable the members of such community to derive benefits from such use and management.

(5) The provisions of Part III shall *mutatis mutandis* apply to a wildlife council insofar as it confer rights and privileges and imposes duties and obligations on an owner or a lessee of land in relation to game on such land, except that no requirement of any such provision with regard to any fence or the extent of any land or any provision classifying land for a prescribed type of fence shall apply to any wildlife council.".

Amendment of section 28 of Ordinance 4 of 1975, as substituted by section 10 of Act 27 of 1986

4. Section 28 of the Ordinance is hereby amended -

(a) by the substitution for paragraph (a) of subsection (1) of the following paragraph:

"(a) Subject to the provisions of sections 24A and 24B and Chapter IV, no person shall without the written permission of the [Cabinet] Minister hunt any huntable game, huntable game bird or exotic game or any other wild animal on any land, including communal land, owned by the [Government of the Territory or a representative authority] State."; and

(b) by the substitution for paragraph (b) of subsection (1) of the following paragraph:

"(b) For the purpose of paragraph (a) land leased by the Government of [the Territory or a representative authority] Namibia shall, unless an intention to the contrary appears from the lease, and unless, in the case of communal land, the land leased is an unsurveyed piece of land, be deemed not to be land owned by the [Government of the Territory or a representative authority] State.".

Amendment of section 31 of Ordinance 4 of 1975, as amended by section 12 of Act 27 of 1986 and section 3 of Act 6 of 1988

5. Section 31 of the Ordinance is hereby amended by the substitution for paragraph (a) of subsection (3) of the following paragraph:

"(a) 'owner' shall not include the town clerk or the secretary of a local authority [or the executive authority of a representative authority or any member of such an executive authority];".

Amendment of section 33 of Ordinance 4 of 1975, as amended by section 13 of Act 27 of 1986

6. Section 33 of the Ordinance is hereby amended by the substitution for paragraph (a) of subsection (3) of the following paragraph:

"(a) 'owner' shall not include the town clerk or the secretary of a local authority [or a executive authority of a representative authority or any member of such an executive authority];".

Amendment of section 40 of Ordinance 4 of 1975, as amended by section 17 of Act 27 of 1986

7. Section 40 of the Ordinance is hereby amended by the substitution of paragraph (d) of subsection (1) of the following paragraph:

"(d) The [Cabinet] Minister may, in [its] his or her discretion grant exemption from any or all of the provisions of this subsection to the owner or lessee of a farm which is enclosed with a game-proof fence or of a piece of land which is not less than one thousand hectares in extent and which is enclosed with a game-proof fence, or to a licensed game dealer or to any member or the members of any particular [population] group residing on the communal land of the [population] group concerned.".

Act No. 5, 1996 NATURE CONSERVATION AMENDMENT ACT, 1996

Amendment of section 67 of Ordinance 4 of 1975, as substituted by section 23 of Act 27 of 1986

8. Section 67 of the Ordinance is hereby amended by the substitution for paragraph (b) of subsection (1) of the following paragraph:

"(b) any member of a particular [population] group may angle in waters situated on the communal land of the [population] group concerned;".

Amendment of section 68 of Ordinance 4 of 1975, as substituted by section 24 of Act 27 of 1986

9. Section 68 of the Ordinance is hereby amended by the substitution for subsection (4) of the following subsection:

"(4) The provisions of this section shall not apply to any member of a particular [population] group who catches fish in inland waters situated on the communal land of the [population] group concerned.".

Amendment of section 83 of Ordinance 4 of 1975, as amended by section 30 of Act 27 of 1986

10. Section 83 of the Ordinance is hereby amended -

(a) by the substitution for subsection (2) of the following subsection:

"(2) Every permit, licence, registration, approval, permission or exemption granted by the Minister in terms of this Ordinance shall be issued against payment of the fees, if any, prescribed for such permit, licence, registration, approval, permission, or exemption by this Ordinance or by regulation: Provided that the Minister may, subject to the provisions of this Ordinance, decrease such fees or grant exemption from the payment of such fees if he or she is of the opinion that good and sufficient reasons therefor exists.";

(b) by the substitution for subsection (3) of the following subsection:

"(3) Every permit, licence, registration, approval, permission or exemption granted by the Minister in terms of this Ordinance shall be subject to the conditions, requirements and restrictions prescribed by regulation, whether in general or for the particular permit, licence, registration, approval, permission, or exemption and, in addition thereto, to the conditions, requirements and restrictions which the Minister may in every particular case deem necessary or expedient to impose.";

(c) by the deletion of paragraph (e) of subsection (5); and

(d) by the deletion of subsection (7).

Act No. 5, 1996 NATURE CONSERVATION AMENDMENT ACT, 1996

Amendment of section 84 of Ordinance 4 of 1975, as amended by section 7 of Ordinance 4 of 1977 and section 5 of Act 6 of 1988

11. Section 84 of the Ordinance is hereby amended by the insertion after paragraph (x) of subsection (1) of the following paragraphs:

"(xA) the requirements to be complied with for the recognition of conservancy committees and the declaration of conservancies, and any restrictions and conditions to which a conservancy committee shall be subject;

(xB) the requirements to be complied with for the establishment of wildlife councils, and any restrictions and conditions to which a wildlife council shall be subject;".

Substitution of certain expressions in Ordinance 4 of 1975

12. The Ordinance is hereby amended -

(a) by the substitution for the expression "the Territory", wherever it occurs, of the expression "Namibia";

(b) by the substitution for the expressions "Executive Committee", "Cabinet" and "Administrator-General", wherever they occur, of the expression "Minister"; and

(c) by the substitution for the expressions "Government of the Territory or a representative authority" and "Government of the Territory", wherever they occur, but excluding section 28(1)(b), of the expression "State".

Short title and commencement

13. This Act shall be called the Nature Conservation Amendment Act, 1996, and shall come into operation on a date to be determined by the Minister by notice in the *Gazette*.

ANNEX 5

CONSERVATION AND MANAGEMENT OF ELEPHANTS IN NAMIBIA

Malan Lindeque
Ministry of Environment and Tourism, Etosha Ecological Institute, Etosha National Park,
PO Okaukuejo, Namibia

ABSTRACT

Namibia's elephant population recovered from near extinction due to uncontrolled hunting for ivory at the turn of the century, to over 7000 elephants since the 1980s (currently estimated at approximately 8000), with a range of about 80,000km². The increase is attributed to effective management practices and a conservation policy based on law enforcement, habitat protection and sustainable use. Elephants in Namibia are amongst the most migratory-nomadic of any elephants on the continent, primarily as the result of scarce surface water resources. The elephant population is therefore unusually vulnerable to changes in access to water and migration routes.

Most elephants in Namibia occur outside protected areas on marginal agricultural land, along with some of the poorest people in the country. Conflicts between people and elephants are increasing throughout Namibia's elephant range, following the cessation of war, drought, and the acceptance of agricultural policies promoting food self-sufficiency. The preliminary elephant management strategy of the Namibian Ministry of Environment and Tourism is based on classification of elephant range, definition of elephant management units, development of preferred management densities, and formulation of simple rules to aid decision-making. This strategy promotes the use of elephants for the benefit of people and attempts to retain a high value, and thus a role, for elephants in the rural landscape in the next century.

HISTORY OF ELEPHANT CONSERVATION IN NAMIBIA

Elephants formerly occurred throughout Namibia, wherever surface water was available. Densities were likely to have been very low in the southern half of the country, where savanna vegetation is replaced mainly by karroid scrub and annual desert grasslands. Most elephants seem to have inhabited the areas along drainage lines, which in Namibia are often the only sources of shallow subterranean water or springs. As in the northern Namib Desert today, elephants are likely to have been dependent on riverine vegetation, with seasonal rivers serving as linear oases.

The scarcity of surface water and springs in Namibia indirectly led to the rapid decline in elephant distribution and numbers following the 19th century introduction of firearms and the arrival of commercial elephant hunters. By approximately 1900, perhaps only a few hundred elephants remained in the extreme north-western and north-eastern parts. The German Colonial Administration (1890-1915) had already passed hunting laws to protect elephants in 1892 and proclaimed the first three game reserves in 1907. Apart from a significant decline in the number of elephants in the Kaokoveld (northern Namib Desert and transitional zone) during the 1970s and early 1980s while northern Namibia was under South African military administration, the elephant population has continued to recover and increase throughout its range. The elephant range is also expanding southwards through the establishment of elephants on game ranches by private land owners.

KEY FEATURES OF THE NAMIBIAN ELEPHANT POPULATION

The most striking feature of the elephant population is its distribution across a rainfall gradient of <50mm ->700mm per annum, along the same latitude. Despite the dramatic variation in habitat from true desert to sub-tropical forests, the population tends to share similar characteristics. Elephant densities tend to be highest along drainage lines, wet or dry, and almost all elephants show marked seasonal/migratory/nomadic movements. Elephants in north-western and north-eastern Namibia move approximately 100km between wet and dry season ranges, and in the north-west, home ranges extend to approximately 7,000-10,000km².

Short-term movements and seasonal distribution nevertheless vary according to local rainfall, accounting for the ca. 80,000km² Namibian elephant range with an extremely low crude density of 0.06-0.10 elephants/km². The elephant population is dependent on sparse surface water sources, and has become increasingly vulnerable to human settlement. Regional elephant densities vary considerably from year to year, and cross-border movements occur primarily along the northern Botswana border, but elephants also move between Namibia, Angola and Zambia. Annual population size accordingly ranges from approximately 4,500 to 8,000 and is largely unpredictable from year to year.

CURRENT ELEPHANT CONSERVATION PROBLEMS

Conflict with people

A sharp increase in conflict between elephants and people occurred after Namibia gained independence from South Africa, because of the cessation of war and the settlement of people in formerly unused parts of communal lands which make up a large part of the elephant range. A national campaign to increase and diversify food production in the communal areas resulted in higher aspirations and greater intolerance towards elephant damage. The crop-growing season in Namibia is short, and only one crop can be harvested per year. The gap between perceptions of elephants internationally and locally is widening, with increasing numbers of rural people regarding the revered animals of western fantasy and wonder as irredeemable agricultural pests and obstacles to their development. People in some marginal agricultural areas have nevertheless agreed to tolerate elephants, as long as they can receive a benefit which exceeds the losses caused by elephants. The challenge remains to generate sufficient revenues, given the international ban in legal trading of ivory.

Displacement by people

One of the most serious issues in Southern Africa, including Namibia, is the normalising of post-colonial land tenure systems and the development of land-use policies aimed at sustainable development. In practice, however, human land-use patterns within the elephant range are determined by basic short-term subsistence needs. As most elephants occur outside protected areas, they are currently losing range to human settlements and agricultural expansion. Lack of intra-governmental co-ordination on land-use and sustainable development planning will only result in an unmanageable escalation of human-elephant contact and conflict, with a predictable outcome for the elephant.

Viability of protected area populations

Protected areas in Namibia, with the questionable exception of Etosha National Park, are inadequate to maintain isolated elephant populations through the next century. It has proven virtually impossible and economically unsustainable to attempt to confine elephants to protected areas with less than a cable fence. Confining elephants to any unit is furthermore undesirable in view of annual variation in local rainfall and availability of surface water. The vegetation and associated biodiversity of smaller parks, in particular, are highly susceptible to impacts from elephants, and some units already show signs of elephant over-abundance and require management intervention.

Resource or burden?

In some parts of Namibia elephants are, or may become, the single most valuable, renewable resource for people, especially considering the limiting effects on agriculture imposed by an arid climate and nutrient deficient Kalahari sands. The only way that elephants, with their migratory/nomadic movements, will survive on communal lands is if the people in contact with them can benefit more than they lose to elephants. Acceptable economic incentives to retain elephants are nevertheless compromised by the continued listing of Namibian elephants on CITES Appendix I, banning the legal trade in ivory. If legal ivory trading is not possible, the gradual displacement and ultimate loss of elephants as a resource are inevitable.

POLICY FRAMEWORK FOR ELEPHANT MANAGEMENT

The Namibian Ministry of Environment and Tourism (MET), as the national elephant management authority, is in the process of revising its elephant management strategy. Aspects of the current draft conservation and management policy which might be of wider interest are explained below. This particular approach

considers the available human resources for implementing a management plan and monitoring its consequences, rather than being confined to theoretical elegance. MET is undergoing a rationalisation programme aimed at decentralising decision-making and management responsibility. This additional aspect requires that the management plan should be immediately relevant and useable by a new generation of relatively inexperienced staff.

Classification of the national elephant range

The elephant range in Namibia has been provisionally classified according to recent land-use by elephants (Figure 1). It is intended that this classification be incorporated into land-use planning processes in northern Namibia. Of principal importance is the retention of access for elephants to the most important migratory corridors. Such corridors mainly follow drainage lines which present favourable habitat for agriculture and settlement.

Elephant management units

The management strategy for elephants in protected areas needs to be integrated with general land-use planning and with the management of elephants on adjacent land. This concept thus reflects the existing land-use pattern of elephants, described above, superimposed on the classification of the elephant home range as "protected area" and, for example, "communal land". Protected areas in Namibia will increasingly be regarded as protected cores or refuges for mobile species within a region, rather than the artificial conservation islands which they resemble now. Park management will thus become increasingly integrated with the management of a particular region. Elephants, as a species not confined within any park, present the ideal test case of this integrated approach.

Preferred management density

Rainfall, grass biomass, fire, elephant density and tree recruitment vary almost unpredictably from year to year in Namibia. The concept of a "carrying capacity for elephants" seems to be particularly inappropriate as a parameter in management planning for this type of system, where time lags are very long, and complex factors determine the particular state of the vegetation. Rather than use scarce research resources for a series of elephant-habitat studies - which over the usual period of study might not have revealed significantly more about elephant-tree interactions than an educated guess - a team from MET developed preferred management densities. Such densities are used as management targets within an adaptive management philosophy. Given the potential annual variation in elephant densities, preferred management densities are expressed as a minimum and maximum figure (Table 1). These figures were derived by combining the field experience and best intuitive understanding of elephant populations of 12 MET senior wildlife managers and biologists with direct responsibilities for elephant

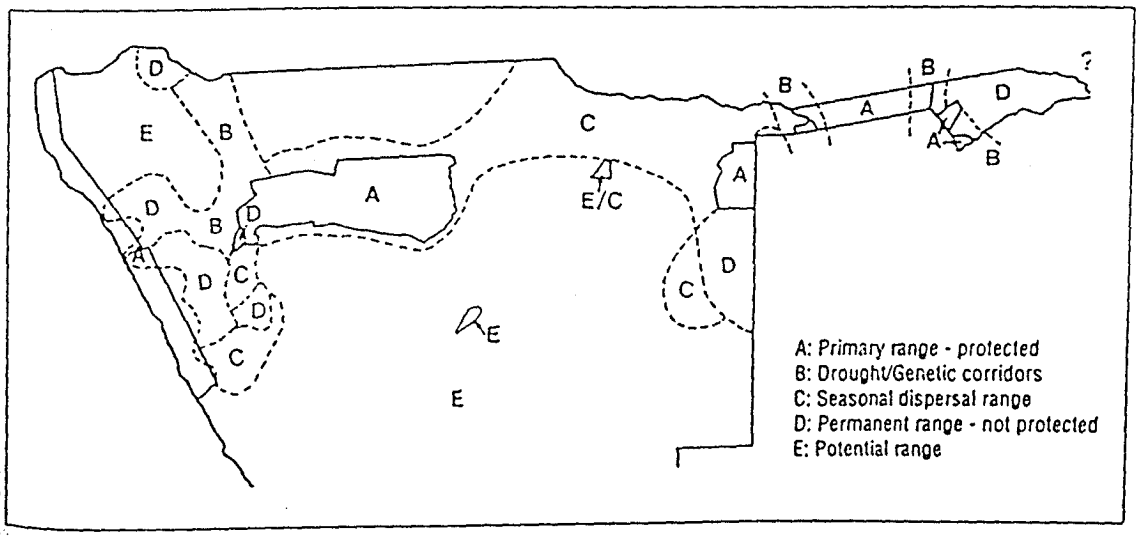


Figure 1. A preliminary classification of the elephant range in Namibia.

Table 1. Preferred management densities and target elephant population sizes for some categories of land in Namibia.

	Elephant range ca.(km²) *	Provisional preferred management densities (n/km²)	Present pop. (approx.)	Target range
(Protected areas and known contiguous elephant range on adjacent land)				
Etosha Management Unit				
Etosha N.P.	18600	.08-.13	1500	1500-2500
Hobatere	300	.10-.30	30	30-90
Adjacent land[1]	3000	.05-.08	50	150-250
	21900	.08-.13#	1580	1680-2840
Kunene Management Unit				
Skeleton C.P.	2000	0- .02		0-40
W. Kaokoland[2]	4000	.02-.05		80-200
Palmwag Conc.	7000	.02-.04	300	140-280
Huab-Ombon. bas	6000	.03-.04		150-250
	19000	<.02-.04#		370-770
Khaudom Management Unit				
Khaudom G.R.	3840	.15-.30		560-1150
Adj. Kavango[3]	10000	<.01-.01		50-100
E. Bushmanland	6000	.03-.08	1100	150-450
W. Bushmanland	12000	0-.01		0-120
N. Hereroland	1000	0-.01		0-10
	32840	.02-.06#		780-1830
Okavango River Management Unit				
Mahango G.R.	250	0-.50		0-125
W. Caprivi[4]	1200	.42-.83	500-1800	500-1000
Kavango[5]	500	0-.10		0-50
	1950	.26-.60#		500-1175
Quando River - Eastern Caprivi Management Unit				
W.Caprivi[6]	1600	.38-1.00		600-1600
Mamili N.P.**	320	0-1.00		0-320***
Mudumu N.P.	900	0-.50	500-3500	0-450***
E. Caprivi[7]	2500	0-.60		0-1500
	5320	.11-.73#		600-3870
	81010	.05-.13		3930-10485

Footnotes

1. *Adjacent land here includes indeterminate sections of former Owamboland, eastern Kaoko, and possibly as far north as southern Angola and as far east as the Mangetti area of south-western Kavango.*

2. *Estimated extent of marginal elephant range west of the escarpment in former Kaokoland, included in the unproclaimed Kaokoland "G.R."*

3. *A large part of the Okavango region bordering the Khaudom G.R. has no surface water, but forms part of the wet season dispersal range of elephants of the region.*

4. & 5. *Parts of the Okavango region and the Caprivi G.R. adjacent to the Okavango River and Mahango G.R.*

6. *Remainder of the Caprivi G.R. including settled areas.*

7. *The distribution of elephants in the Eastern Caprivi region seems to be highly variable, but the area adjacent to the two small national parks could be regarded as part of the centre of elephant distribution in the Caprivi region.*

* *not corresponding to actual sizes of land units/variable*

** *Nkasa-Lupala*

*** *elephant numbers are highly unstable*

\# *crude preferred management density per elephant management unit*

management, possessing about 170 years of collective experience between them. Preferred management densities take into account average rainfall, amount of surface water available, size of unit, other management objectives, state of vegetation, incidence of fire, amount of staff available, current and expected future budget allocations in each management unit, existing degree of conflict with people, apparent trend in human land-use of the unit, and the elephant management policies of neighbouring countries, where appropriate.

Rule-based management

In order to deal with the unpredictable annual variation in elephant densities in a given region, a qualification was required in the decision-making process. Simple rules were developed from the same intuitive process described above, particularly to facilitate decisions about starting any management intervention. Provisionally, the first general rule is applied when elephant densities begin to approach the upper preferred limit. For this rule the specific target management density must be evaluated by assessing the status and behaviour of an indicator or system close to the threshold elephant density, eg. by monitoring tree recruitment, etc. The second general rule is applicable when elephant densities begin to approach the minimum preferred density, and involves evaluating whether local limiting factors could have caused a population decline, rather than short-term changes in density and distribution in response to rainfall. This necessitates, for example, determining carcass ratios, examining the incidence of illegal hunting, calculating the proportion of calves in annual mortalities, etc.

Examples of provisional rules applicable to a specific management unit or sub-unit are:

- If elephant densities exceed 0.3/km² (1,150 elephants) in the Khaudom Game Reserve in more than two consecutive dry season population estimates, the density should be reduced through intervention (e.g. sport hunting, culling, live capture, or providing water on adjacent land).

- As the upper limit is approached on the state land component of the Khaudom Management Unit, management plans to cope with or prevent further elephant increases should be initiated jointly by MET and the relevant communities.

- If elephant densities exceed 0.5/km² (125 elephants) west of the Okavango River in Mahango Game Reserve for longer than two consecutive dry seasons, the density should be reduced through intervention, regardless of relative abundance of the combined Mahango Game Reserve- western half of the Caprivi Game Reserve population.

- If elephant densities exceed 1.0/km² (1,600 elephants) in the eastern half of the Caprivi Game Reserve for longer than two consecutive dry seasons, the density should be reduced through intervention.

- If elephant densities exceed 0.5/km² in Mudumu National Park in more than three consecutive dry season population estimates, the population should be reduced through intervention. Brief episodes of much greater elephant densities exceeding 1.00/km² can be expected to occur as this area serves as a cross-border migratory corridor.

Sustainable use

MET remains convinced that elephants are doomed on the communal lands, and thus ultimately also in the protected areas of Namibia, unless elephant and other wildlife utilisation is allowed to surpass subsistence farming in terms of benefits. Numerous cases throughout southern Africa show that wildlife populations on communal or private land, in competition with another form of land-use, eg. agriculture, remain viable in the long run only if the economic value and yield from wildlife exceed that of another land-use, or at least significantly supplement the yield from other competitive forms of land-use. In a free and democratic society, the role of the central government diminishes to a level which people will allow. People living throughout Namibian elephant range can make a conscious decision about whether they want to live with elephants or just have a few token elephants confined to a game reserve. Unless a real incentive is provided, people in harsh environments will insist on living in security from elephants, and will not be prepared to carry a burden created by any so-called "international conservation community". The listing of Namibian elephants on CITES Appendix I, against which Namibia holds a reservation, will therefore not save the elephants of Namibia from gradual loss of range and displacement by people. The only option in Namibia is to provide people with a real economic incentive for retaining elephants as part of their rural resource base. No one can otherwise deny them their intention of making all the important land-use decisions themselves.

ANNEX 6

BVET
OVF
UFV

Bundesamt für Veterinärwesen
Office vétérinaire fédéral
Ufficio federale di veterinaria
Uffizi federal veterinar

Ihre Ref.
Unsere Ref. Do / 821.10
Datum [illegible]

Telefax No 00264-61-25 91 01

The Permanent Secretary
Ministry of Environment and Tourism
Private Bag 13306
Windhoek - Namibia

Betrifft **Proposal to transfer the Namibian elephant population from CITES Appendix I to II**

Dear Sir

Referring to your telefax letter of 16 September 1996, I am pleased to give you the assurance that the Management Authority of Switzerland, representing the Depositary Government of CITES, will undertake to submit a proposal to transfer the Namibian population of the African elephant back to Appendix I, if so requested by the Standing Committee or the CITES Secretariat.

Such a proposal will be in conformity with Resolution Conf. 9.24 and will be intended as a safeguard in case of abuse or other problems resulting from the inclusion in Appendix II of the Namibian elephant population. It could be submitted to the Parties by postal vote or at any ordinary meeting of the Conference of the Parties.

This statement may be included or attached to the supporting statement that will form part of the Namibian proposal to transfer its elephant population to Appendix II.

Yours sincerely

DIVISION INTERNATIONAL TRAFFIC
The Head

Dr. Dollinger

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ANNEX 7

Taking into account the amendment to the terms of reference of the Panel of Experts on the African elephant, adopted by the Standing Committee at its 36th meeting, the Government of Japan would like to submit the following information regarding the general implementation of CITES controls .

Ⅰ. Import

1. Permit requirement

1.1 Japan complies with the permit and the certification requirements as laid down in Articles Ⅲ to Ⅴ and Ⅶ of the Convention.

1.2 In addition, Japan requires the presentation of a CITES export permit and , in the case of Appendix I specimens, the issuance of a CITES import permit for specimens except in the case of household effects imported under the exemption of Article Ⅶ.

2. Border Controls

2.1 All CITES specimens are subject to controls to ensure their compliance with the provisions of the Convention.

2.2 CITES border controls are the responsibility of the Customs Authority with technical direction from the CITES Management Authority.

2.3 CITES specimens may be imported through designated ports of entry only.

2.4 CITES controls consist of

a) systematic verification of the documentation , using the prior confirmation made by CITES Management Authority when appropriate ; and

b) physical inspection of all shipments.

2.5 CITES documents are collected by the Customs Authority and periodically transmitted to the CITES Management Authority.

Ⅱ. Domestic controls

1. General

1.1 As from 1987, domestic controls on a range of Appendix I specimens and specimens of Appendix I species bred in captivity for commercial purposes are carried out by the Environment Agency under the Law for the Conservation of Endangered Species.

1.2 The domestic controls for specimens of an Appendix I species would remain in place even if certain populations of the species concerned would be transferred to Appendix II .

2. Ivory Controls

Stocks of whole tusks and cut pieces of ivory, and all transactions of this ivory are legally controlled and monitored by the competent Government Authorities from the moment of importation until final carving. Thereafter, carved ivory is subject to a monitoring and labelling scheme administered under Government supervision by the Japan Federation of Ivory Arts and Crafts Association.
From the point of carving to the point of sale this is achieved as follows:

2.1 With the exception of personal possession, all whole tusks, whether raw, carved or polished, must be legally registered by the Environment Agency, and may only be bought and sold if they are accompanied by a fully completed registration card. Changes of ownership must be notified to the Environment Agency within 30 days.
Violations of these regulations can lead to imprisonment for a period of 6 months, or to a fine of 500,000 yen.

2.2 Anyone engaged in trade in cut pieces of ivory must legally register with the Environment Agency and the Management Authority(MITI), and must keep records of all transactions.
These records must be kept for 5 years and may be inspected at any time by government officials.
Violations of those regulations may lead to imprisonment for a period of 6 months, or to a fine of 500,000 yen.

2.3 Those registered to engage in trade in cut ivory are entitled to participate in a government controlled scheme whereby blocks of raw ivory are sold only when accompanied by a "management card", through which in subsequent history can be traced. The Japan Federation of Ivory Arts and Crafts Association has committed all its members to participate in this scheme.
Any abuse of this scheme can lead to imprisonment for a period of 6 months, or a fine of 500,000 yen.

2.4 Carvings proven to be produced under the scheme described above are entitled, under the control of the Ministry of International Trade and Industry and the Environment Agency, to be accompanied by a uniquely numbered seal certifying their legality.
Abuses of this system can lead to a fine of 200,000 yen.

Oct. 1996

The Environment Agency

The Ministry of International Trade and Industry

Japanese Government

Domestic trade control system in Japan

The latest amendment of the Law for the Conservation of Endangered Species of Wild Fauna and Flora entered into force on June 28, 1995, and provides for the following four steps to be taken:

(1) Registration of whole tusks,

(2) Notification by those engaged in business dealing with pieces of tusks,

(3) Obligation imposed upon the producers having made the notification to compile records of their transactions, and

(4) Certification of ivory products.

1. Registration of whole tusks,

Raw tusks, carved tusks and polished tusks (only limited to those maintaining their whole shapes), may be bought or sold only if they are accompanied by a registration card issued by the Director-General of the Environment Agency.

The method by which the registration is made is as follows:

(1) Tusks to be Registered

The raw tusks proven to have been acquired or imported prior to the inclusion of the African elephant in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

(2)Management of Registered Tusks

<1> Anyone having been given a registration card is required to be ready to present it at any time when he/she (or a corporation) displays the tusk relating to the registration card for the purpose of trading in it either commercially or non-commercially.

<2> When a registered tusk, is delivered or transferred it must be accompanied by the registration card.

<3> Anyone having received a registered tusk is required to notify the Environment Agency within 30 days of receiving it.

<4> Where anyone ceased to own a registered tusk either by losing it (including theft) or cutting it up into pieces, he is required to return the registration card, within 30 days of the day the event took place.

<5> Those having violated (2)<1>～<4> may be fined an amount not exceeding 200,000 yen.

<6> Those having made the registrations by falsification or other illegal means are liable to imprisonment for a period not exceeding 6 months or to a fine not exceeding 500,000 yen.

<7> Any registered tusk without CITES standard mark may be marked with the ISO code for Japan, the registration number, the year of registration and the weight.(e.g. JP 1234-95-11)

(3)Designated registration organization

<1> The business of registering is conducted by public organization designated by the Director-General of the Environment Agency.

(Designated registering organization:Japan Wildlife Research Center(JWRC))

<2> All data of the registered tusks are collected in the computerized database at JWRC.

2. Notification by those engaged in business dealing with cut-pieces

Anyone who is to carry out any transaction involving the transfer or delivery of pieces of tusks of elephants is required to notify the Director-General of the Environment Agency and the Minister of International Trade and Industry of the matters mentioned below. The matters to be notified are:

<1> his/her own address and name.

<2> the name and location of the facilities to carry out the business; and

<3> the quantity in stock.(the number of the cut pieces and the total weight of the stock.)

Anyone having carried out any transaction involving cut pieces of tusks of elephants without the notification may be fined an amount not exceeding 500,000 yen.

The officials of the Environment Agency and the Ministry of the International Trade and Industry have randomly inspected the ivory traders. The inspections have been done without the prior notice.

3. Obligation upon persons having made notification to compile a ledger of transactions,

Anyone who carries out any transaction involving cut pieces of tusks of elephants is required to compile and maintain a ledger recording all such transactions; and is required to preserve the ledger for five years, and to present it at the request of officials of the Environment Agency and the Ministry of International Trade and Industry.

(1) The obligations

<1> The person responsible must enter in the ledger the name and address of the person (or corporation) from whom the transfer. was carried out (this must be confirmed) as well as the date of the transaction, weight and quantity in stock.

<2> Each record in the ledger must be kept for five years, and the person responsible is required to present the ledger at the time of surprise inspection by officials of the Environment Agency and the Ministry of International Trade and Industry.

<3> Where anyone has failed to make the entry in the ledger or has made a falsified entry, the Environment Agency and the Ministry of International Trade and Industry should issue necessary instructions, if necessary,; and, where anyone has violated the instructions, he/she may be ordered to suspend business for a period not exceeding 3 months. Those having violated the orders may be imprisoned for a period not exceeding 6 months or fined an amount not exceeding 500,000 yen.

<4> Where the Environment Agency and the Ministry of International Trade and Industry seek to undertake an inspection of a business, the owner of the business is required to accept such an inspection. Anyone having refused such an inspection may be fined an amount not exceeding 200,000 yen.

(2) Preparation of Management Card

<1> Anyone having made a notification may prepare and maintain a management card in which the date of acquisition and other information are recorded.

<2> The cases where one may make up the management card are:

a) Where cut pieces of raw tusks, etc. are transferred or received together with the registration card.

b) Where materials accompanied by a registration card are transferred or delivered and where those materials are cut up to be transferred or delivered further.

c) Where the transfer etc. of cut pieces of tusks, etc. which were legally imported by the person making the transfer are to be carried out.
d) Where the transfer etc. of cut pieces which were legally imported by the person making the transfer are to be carried out.
<3> The preparation of a management card is not mandatory. However, if a management card has been prepared, the transfer of the cut piece to which it relates must be accompanied by the management card. The Japan Federation of Ivory Arts and Crafts Association has committed all its members to participate in this scheme.
<4> Where anyone has violated the rules for preparing a management card or has entered any falsified information in the management card, the Environment Agency and the Ministry of International Trade and Industry shall issue instructions, if necessary. Where anyone has violated these instructions, he/she may be ordered to suspend business for a period not exceeding 3 months.
A person having violated such an order may be imprisoned for a period not exceeding 6 months or fined an amount not exceeding 500,000 yen.

4. Certification of Ivory Carvings

Where ivory carvings are recognized as having been produced from legally obtained raw tusks, that had been registered on the basis of an application filed by a producer, the producer may obtain a seal certifying to that effect from the Director-General of the Environment Agency and the Minister of International Trade and Industry.
In order for a producer to obtain the seal, he/she is required to prove that the carving has been produced from legally imported or legally obtained ivory.

(1)Carvings that may be certified

<1> a carving produced from ivory was transferred together with the management card;

<2> a carving produced from a raw tusk was transferred together with the registration card; and/or

<3> a carving produced from a raw tusk or cut piece was legally imported by a producer.

(2)Method by Which the Seal Is To Be Attached

<1> A seal shall not be attached to any carving other than the one for which the seal was issued.

<2> Anyone having obtained a seal by illegal means may be fined an amount not exceeding 200,000 yen.

Anyone having attached a seal to any carving other than the one to which it relates may be fined an amount not exceeding \200,000.

<3> The business of certification is conducted by public organizations, JWRC, designated by the Director-General of the Environment Agency and the Minister of International Trade and Industry.

<4> All data of the cut pieces are collected in the computerized database at JWRC. JWRC always refers to the data when it issues the seal.

To whom it may concern

Tokyo, 29 July 1996

Dear Sir,

This is to inform you that Japan Federation of Ivory Arts and Crafts Association (JIA) held a meeting of the Directors of the Board on 20 June 1995. At the meeting, the Directors of the Board unanimously adopted a Resolution on Management Cards effecting that all JIA members are required to produce and attach a Management Card when selling raw ivory materials. This was informed to all members by 3 July 1995 through its Notification. While the production and attachment of a Management Card is not mandatory under the Japanese law, all cutpieces and scraps to be dealt with by JIA members accompany a Management Card.

Yours faithfully,

Tamotsu Ishibashi

Tamotsu Ishibashi
President

Only the front pages of this annex are included here. Copies of the full annex are available from the Secretariat on request.

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Proposal to Amend the Appendices I and II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Catalogue of ivory from Namibian origin included in the proposed export quota for 1997 to 1999.

10 January 1997

Catalogue of ivory from Namibian origin included in the proposed export quota for 1997 to 1999.

Explanation for details given in the Namibian Ivory catalogue.

MET Permit Number

The number allocated to each tusk by MET, referring to the Permit number, and the item number (eg. Permit number 00067, items 1-5 will be numbered 00067/01, 00067/02 etc.). This number is written on each tusk, and source documentation filed according to these numbers.

* (other source document) Refers to documentation other than a permit number, which contains details on the origin of the tusk.

ISOCODE

The isocode is a unique number allocated to each tusk, according to CITES regulations, consisting of a 4-digit consecutive number, 2 digits reflecting the year, followed by the weight of the tusk in kg.

Weight (kg)

This is the weight recorded in kilograms at the time of first registration.

Source from within Namibia:

NAT : tusks originating from natural mortalities within Namibia.

CUL : tusks originating from the 1985 cull in Etosha N.P.

PAC : tusks originating from problem animal control.

SHOT : tusks originating from elephants destroyed for other management purposes., eg. euthanasia of injured or wounded individuals, and tusks recovered from mortalities likely to have resulted from crop protection, hunting and attempted hunting.

Namibian Ivory catalogue for COP10
10 January 1997

MET Permit Number * (other source doc.)	ISOCODE	Weight (kg)	Source from within Namibia
* K108	32318913.2	13.20	NAT
* K120	0836891.5	1.50	NAT
* K124	31398914.8	14.80	NAT
* K127	1008893.2	3.20	NAT
* K150	30028924.8	24.80	NAT
* K151	30138923.8	23.80	NAT
00067/04	0280960.50	0.50	NAT
00067/05	0281960.50	0.50	NAT
00067/21	0282964.50	4.50	NAT
00067/27	0283965.00	5.00	NAT
00068/01	0284961.00	1.00	NAT
00068/02	02899619.00	19.00	NAT
00068/03	02909622.00	22.00	NAT
00068/08	0291965.00	5.00	NAT
00068/09	0292964.00	4.00	NAT
00068/10	02859619.00	19.00	NAT
00068/11	02869614.00	14.00	NAT
00068/12	0287965.00	5.00	NAT
00068/13	0288964.50	4.50	NAT
00251/01	0161923.90	3.90	NAT
00251/02	0162926.80	6.80	NAT
00251/03	0163927.00	7.00	NAT
00251/04	01649210.20	10.20	NAT
00251/05	0165923.60	3.60	NAT
00251/06	0166923.40	3.40	NAT
00251/09	0168926.20	6.20	NAT
00251/10	0169926.20	6.20	NAT
00251/11	01709216.00	16.00	NAT
00251/12	01719213.10	13.10	NAT
00251/13	0172922.60	2.60	NAT
00251/14	0173922.80	2.80	NAT
00251/15	0174925.80	5.80	NAT
00251/16	0175925.40	5.40	NAT
00251/17	0176925.40	5.40	NAT
00251/18	0178924.20	4.20	NAT
00251/19	0179922.80	2.80	NAT
00251/20	0180922.80	2.80	NAT
00251/21	0181925.60	5.60	NAT
00251/22	0182925.40	5.40	NAT
00251/23	0183923.00	3.00	NAT
00251/24	0184923.00	3.00	NAT
00251/25	0185923.80	3.80	NAT
00251/26	0186925.80	5.80	NAT
00265/05	00629310.40	10.40	NAT
00265/06	0063938.80	8.80	NAT
00265/07	0064933.20	3.20	NAT