

**T H E   I V O R Y   T R A D E**

**V o l u m e   3**

**D i s c u s s i o n   &  
R e c o m m e n d a t i o n s**

**J U N E ' 7 9**

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VOLUME 3 (1) DISCUSSION

In the preceding volumes the world trade has been rudely quantified and the tables in Volume 4 are a base for further refinement. Some idea - albeit hazy - has been gained of the investment in ivory. Despite its vagueness it is quite clear that the value of both raw and worked elephant tusks about the world is of the order of billions of dollars. The role of ivory as a currency - i.e. as a medium of exchange - has not been defined in exact terms. It was not possible to even consider the textiles and comestibles which it paid for across Zambia's or Mozambique's borders; neither was it prudent to try and find out how many rounds of .762 ammunition may have been bartered for ivory by UNITA guerillas. Through false accounting and documentation, twice as much ivory has left the continent as appear on African records. Considerable capital transfers out of Africa were made by under-invoicing ivory so that part payment remains overseas. Through such devices the continent loses more than half the value of its ivory production. The component links in the economic chain of the ivory trade have been described sufficiently to give broad understanding of its structure. Biological evidence from tusks traded has been examined and, while it gave more idea of what could be done with the type of material coming forward, it also does not support some of the contentions made previously - particularly on the average size of tusk and the number of elephants involved in the trade. Other than at a local level, the allegation that the ivory trade has brought about widespread elephant declines is not substantiated.

In fear that the African elephant was on the brink of extinction, conservationists in a number of countries agitated for remedial measures - of which this survey is one. The most extreme expression of their sentiment is illustrated in the Bill - HR 10083 - which was presented to the 1st session of the 95th Congress of the U.S. House of Representatives. As it encompasses many issues which are germane to the evolution of future policy and as it synthesises points which are widely but incorrectly

believed, it is worth examining.

Bill HR 10083 was introduced by Congressman A. Beilenson in the process of which he stated :

*"elephants...are now severely threatened with extinction"*

*"more than one hundred thousand elephants are slaughtered annually"*

*"the deliberate slaughter of elephants for their valuable ivory tusks is the greatest present threat to Africa's remaining elephants"*

*"Hong Kong...imported 710 tons of ivory taken from 71,000 elephants in 1976"*

All these assertions are untrue. He also stated that *"as long as the elephant herds flourish, tourists, for whom the elephant herds are a prime attraction, will continue to supply a substantial flow of foreign currency to the developing African nations where the benefits may be felt more widely by the poor as well as the rich"*

This was naive. The bulk of elephants are inaccessible to tourists. Most African countries with elephants (e.g. Chad, Central African Empire, Congo, Cameroun, Gabon, Zaire, Zambia) have negligible tourism. Those with greater volume - Kenya and Tanzania - are at best, only able to 'present' a very small fraction of their elephants to tourists. The benefits of tourism seldom touch the rural peasant directly and, most important, tourists are fickle and unownable.

Beilenson claimed that

*"the decreasing size of the tusks being exported from Africa is an early warning sign that the species is diminishing faster than it can sustain itself"*

This is not generally true and only applies locally. One could continue to comb through the pronouncement and bring out yet further mis-statements of fact. To do so however would be to miss the underlying principles which HR 10083 violates: And to miss these would be to miss the same points as were overlooked

earlier in the century when a different group of white men endeavoured to impose their will upon Africa.

Conservation is a dear cause to many in America and Europe, yet for all the passion its disciples obviously feel, its progress and implementation cannot come about outside the scope of our political principles. Democracy is a belief by which the United States claims to abide. Within democracy, leadership is elected. At this fundamental level let us look to HR 10083 and its background once more.

The elephants of the world live in Africa or Asia and are - *de facto* - resources which belong to sundry African and Asian peoples. They have a sovereign right to use or not to use their resources according to their particular requirements. Where Africa is concerned the resource is distributed across 7,000,000 km<sup>2</sup> and as a standing crop of ivory alone the 1.3 million elephants are worth \$984,874,280 (5.09 kg per tusk x \$74.42). Yet the intent of the Bill and the hope of its supporters was to render this enormous asset (and by African economies it is enormous) valueless. The goal strains credulity on two counts. The first is the act of imagination called for in believing Africa should accept that its near billion dollar renewable resource be devalued to zero. The second is how so large and widespread a resource can really be regarded as on the verge of extinction.

The international leadership the Bill is supposed to provide has not been approved or even asked for by the ivory resource's owners. This negation of a democratic approach was magnified by Beilenson's inference that African Governments did not have wildlife management programmes (to which he was not opposed!) and that they were currently "in haste to make a quick profit".

It was just this arrogant 'we know what is best for you' approach and blindness to the facts of the situation which ensured that the earlier game laws failed.

The concerns for elephants which find expression in HR 10083 are understandable, given the general ignorance which prevailed at the time of its inception. The inaccuracies in the statements of, for example, Glieber, Merchant, Murphy, Newman and van Note, before the Merchant Marine and Fisheries Committee of the U.S. House of Representatives, December 13, 1977, can be corrected. The present position *vis-à-vis* elephant can be regarded a little more objectively.

Before proceeding further it must be clear that I speak of Africa's needs and capacities as an observer and not a representative. The great default in this report is its absence of representative African opinion and outlook.

The first necessity is to regain some sense of proportion and unscramble distinctions between the calls of conservation and the material potentials of elephants as a natural resource. International concern is clearly over the prospect of elephant extinction. To approach this matter from its most basic aspect I pose the question - how many elephants are necessary for the survival of the species? From the example of the Addo elephants in South Africa which are said to have increased from c.20 in 1954 to 90 in 1977 (Douglas-Hamilton 1977) we know that recoveries can be made from very low levels. In extreme terms Africa's elephants could be reduced to 20 and still recover to far greater numbers. In view of this and the current abundance of elephants, the question of how many are necessary for survival is somewhat semantic. It can be replaced by how many are wanted? In as far as national priorities permit international influence, the answer may well be an area in which the world at large wishes to have say. Fundamentally however each nation having elephants must make its own decision. Until this is done the logistics of conserving cannot be adequately catered for. Not only is it impossible to plan conservation programmes without this type of information, but it is equally difficult to gauge success or failure. Currently we see the use of terms such as 'endangered', 'threatened', 'vulnerable' and 'safe' (IUCN Elephant Survey

Provisional Estimates 1978) - but what do they mean? They are really only of use when applied to the status of animals in conjunction with what is wanted of them.

At a somewhat involuntary level decisions have been made on how many elephants Africans want through the creation of national parks. According to the provisional estimates in 1978 of IUCN Elephant Survey, elephant occur in more than 60 parks across Africa which encompass 261,871 km<sup>2</sup> (over 100,000 square miles) and hold more than 175,000 elephants (perhaps 5 times the number of bison that are in the U.S.A.). Is this number adequate to ensure the survival of the species? I believe that it is - providing that the parks are adequately staffed and the elephants managed, should this be necessary. Indeed it would be continued waste of time and effort to deploy inadequate conservation forces widely over the whole resource until parks are running as planned.

The presence of elephants outside parks is obviously of interest from many points of view; not least of which is their economic potential. If there is a rule which should govern their use it would be for the greatest good of the greatest number of people. However the greatest good will always be a subjective measure. It will be the prerogative of the elephants' owners to make such decisions, which could vary from 'cashing them in' over the short term to raise capital for development, to keeping them going for as long as possible. However, these outside 'resource' elephant are those that are constantly giving way to expanding man. They will continue to do so until Africans attain stable populations. This is of no consequence to the survival of the species providing the national parks become truly effective.

It has been alleged that the ivory trade has undermined law-enforcement within national parks, and that since the rise in prices illegal hunting pressures have become irresistible. If this is the case we could expect a general rise in ivory

poaching in all countries. This is not the case. No wholesale or commercial slaughter has been reported from Malawi. The same is true of Botswana, though CITES focussed attention on it and there has been use of its permits. Somalia, from whence the most vigorous of Kenya's poachers come has, paradoxically, little illicit hunting - as apparent from the lack of exports on the international market. In contrast the most severe illegal hunting has occurred in Kenya and Uganda in which corruption and disregard for commercial law was widespread. In both instances the illegalities were general and involved ivory incidentally. Smuggling of cloves, coffee, wheat, livestock and many other commodities was general. Indeed the most conspicuous illicit ivory buyers in Eastern Africa 'switched horses' in mid-stream, going out of ivory and into illegal coffee. The role of the ivory trade was thus not a primary, isolated stimulus to corruption, but more that of a scavenger, taking advantage of a general disrespect for law.

The illegal trade is also subject to ivory's perennial difficulty - that of transport. Only where there are well developed transport infrastructures is it possible to move ivory *en masse*. This is one of the aspects which permitted such wholesale slaughter in Kenya and Uganda - they have better road systems than almost any other country north of the Zambezi. It is this aspect of a well developed national park which renders it more vulnerable to large-scale ivory extraction. The wilderness, of its own is a barrier to mechanised exploitation. Its penetration and intersection by a system of roads 'to enforce the law', will render it that much more vulnerable in the event of a regression in adherence to law.

Illegal ivory hunting on the scale witnessed in Kenya and Uganda was primarily the product of a general disrespect for law. Secondly the high price of ivory has been a magnet, attracting many people to poach. The high price, in turn, is not the consequence of 'frivolous' desires, but the product of general economic instability in just the same manner as the flight

of the price of gold. Blaming the ivory trade for all that has happened is in truth a frivolous view of a complicated chain of events which no politician has understood - let alone mastered! If someone had, there would be fewer spectres of gloom and a decline in the use of tranquillisers among the world's captains of industry!

All the foregoing notwithstanding, I am committed to make recommendations for the regulation of the trade to lessen adverse effects that it may have upon elephant survival.

Total prohibition of the ivory trade would not be regulation of trade but its destruction. However it has been proposed and must be considered. The proposers are a group of U.S. citizens who have based some of their belief upon a number of errors. These notwithstanding, if their aim was against the U.S. trade only, it would be an issue of their concern alone. However, as their object is international in intent, namely to devalue the ivory assets of Africa, it warrants comment. The salient features of the issue are that African Governments have made no request to the citizens of the U.S.A. for assistance in devaluing the asset. Only one ivory producer of consequence - and it is of past not present consequence - Kenya, has supported a ban. Another, Liberia, which is of no ivory consequence at all, also supported the ban. All others who have responded to the U.S. proposal have opposed it (Hallagan 1979). In these circumstances further attempts to ban all trade in ivory would constitute unwarranted meddling in the affairs of other nations and is insupportable.

A prohibition of the trade would deprive more than 30,000 workers and dependants of their livelihood. As the volume of ivory involved in the trade does not appear excessive, relative to the number of elephants extant, there is no moral justification for depriving them of their way of life. On this ground too, I find the proposal to ban trade in ivory insupportable.

A third and practical ground for rejecting a ban on trade as a viable solution to poaching, concerns the volume and value of that already owned. For a ban to be effective people would have to be dispossessed of it and this would call for impossible compensation. If retention of ivory already owned was permitted, there would be no way to differentiate it from new. An artificial constriction of supply would drive the value of that already owned yet higher. In turn this would raise, not lower, the incentive to poach. There would be a Beilenson effect of yet greater proportions. Further, in view of the evidence now available, it is extremely unlikely that many nations would follow the lead of the U.S.A. On such practical grounds the proposal for a ban is unlikely to work. If it is attempted I foresee a repeat of an earlier American prohibition at which the world stood back and marvelled! Then too, of more recent example is gold which the U.S. attempted to demonetise and failed. The flight to gold, ivory and the like is precisely because history has shown that these are the hardest things to demonetise. A ban in the U.S.A. would hurt a number of traders and artisans, but would not devalue the commodity internationally.

The main point overall is that a ban is unnecessary.

Throughout my contacts with the trade, I endeavoured to determine whether it had the will to regulate itself. This report is the strongest evidence that such a will exists. If it didn't, I would never have been given access to the records and stocks that I was. That the recommendation of one set of traders was sufficient to obtain the goodwill and trust of others in different countries is evidence that there is a basis for co-operation between them. Currently, however, there is no international institution for ivory traders. There is also a conservative suspicion between groups - e.g. as between Hong Kong and Japan. However, this was at a peak when I was in Hong Kong, for as CITES made its impositions there, it gave differential advantage to Japan, which was able to continue purchasing without permits. While it would take some organisation to establish an

international ivory traders' association, I am in no doubt that such a body could be brought into being and that it would be joined by bona fide traders from all ivory trading nations of consequence. It would serve a useful function and provide a channel for communication with producers, law enforcement agencies and conservation people as well as see to the interests of the traders themselves.

As a group the traders were reluctant to surrender independence (an attitude I cordially share) and would obviously prefer to continue as they have done in the past. This in no way meant that they were callous to the future of elephants. While they were obviously not as emotionally riven as those who have made conservation their business or hobby, they exhibited a deep interest in all matters pertaining to the foundations of their trade. All accepted that stability in the business would be of benefit not only to elephants, but to themselves. However how such stability could be brought about was an issue over which most were rather pessimistic. The general feeling was that there was no substitute whatsoever for integrity and sound law-enforcement in Africa. Permits and licences were all very well as supports to well-administered law, but they were not ends in themselves. They were only as good as the man who issued them and, as a generalisation, it was said that if you produce money in most parts of Africa, you can get permits.

The greatest hesitation over any enthusiastic acceptance of CITES and permits was the knowledge that while a majority might accept them and endeavour to abide by them, the effort would be jeopardised by a minority who used the situation to competitive advantage. That such a minority exists I have no doubt at all. It does in any aspect of human enterprise.

A second base for suspicion concerns conservationists. The attitude is very understandable, for with little factual base the trade has been slandered from pillar to post. Firms of honourable men - merchants and artisans - have been deeply offended

by sweeping assertions such as those which equate them with criminals in the international drug scene. What is ironic is that few conservationists have ever tried to contact ivory dealers - most of whom are easy enough to find. Personal evidence of this irony came when the IUCN 'Traffic' Group's representative in Hong Kong - one Michael Webster Esq - the one man who should have been able to introduce me to the iniquities of Hong Kong's ivory trade, declined to meet me or give evidence for this survey! It was the only refusal in a project which encompassed several hundred contacts.

More serious than the gratuitous alienation of the trade by slanderous and ill-informed press comment is apprehension over IUCN. Perhaps this is best illustrated by a series of questions which I heard during the survey :

What is IUCN ?

To whom is it accountable ?

How does it get its funds ?

If it is a public body where are its accounts published ?

How does IUCN recruit its staff ? If by public advertisement, where ?

By what concessions and instruments do Governments ally themselves to it ?

Is it subject to any public control ?

One can see the grounds for this attitude. On the one hand IUCN has the prestige of a full UN body, on the other it seems to function as a rather mysterious private organisation. Obviously, there is need here for some explanation, if only to establish a base for co-operation. There is no such apprehension over the operation of CITES, for here opinion can be expressed and policy influenced through one's Government.

A further grouse with some founding is that summed in the question "What do zoologists know about business and enforcing the law?"

This incidentally, was not only heard from traders, but also from customs officials, and civil servants in several countries. The truth is that whereas 'pressure groups' may be a necessary element in the law-making processes of some countries, as with all do-gooders and those with causes to foist upon society - they are seldom popular. Righteousness is a bore to those who don't share it! While zeal in their field of interest automatically places zoologists in the van of conservation drives, it does not necessarily equip them to cope with the administrative routines or capacities to turn zeal into effective law or to obtain co-operation from society at large. The little (very bushy) tree of conservation too easily conceals the amorphous wood of human affairs in which it belongs!

These points are precisely what might be expected in circumstances where a free trade is suddenly overtaken by a welter of red tape and bureaucracy. The scepticism expressed by the traders contrasts strongly with the conservationists' crusading zeal, yet this is natural. From now on it is the traders and law enforcers who have to put rules into effect and modify their ways, while the crusaders sit back in the euphoria of self-congratulation! The hard work is ahead, not behind, and the discussion of problems shows that the issues are being taken seriously. In the circumstances, had I been met with affirmations of enthusiasm, claims that rules were just what was needed, I would have been suspicious. Had I received complaint only, I would have been pessimistic. However, the wholehearted co-operation I received demonstrated that there was a will in the trade to work toward sensible regulation of the ivory business. It will take time and diplomacy to obtain results from it and part of the process calls for the conservation groups to look to their own eyes for motives.

CITES is, *de facto*, the organ upon which control of the international trade in ivory devolves. It goes without saying that if it is inefficiently administered it will fail. If it can be demonstrated to Governments that the Convention is an

unreasonable hindrance to reasonable, legitimate trade without being of conservation value, it will only be a matter of time before it follows its precursor - the 1933 Brussels Convention.

I would like to draw attention to two cases: one of a failure in CITES and another of ineptitude. The first concerns the U.S.A. and is documented in the Department of the Interior's Fish and Wildlife Service circular FWS/WPO PRT 1-0 1978. Its crucial sections read :

*"As you may know, funding authorization for the Endangered Species Act and the Convention on International Trade in Endangered Species of Wild Fauna and Flora expired on September 30, 1978, and was not renewed by action of the Congress and President until November 10, 1978. The effect of this was that although the prohibition of the Act remained in effect, we could not administer the permit system."*

For five weeks the world's wealthiest nation was unable to administer the CITES permits. Such bureaucratic interruptions of international trade contain the seeds of failure. If this sort of thing becomes a feature of the Convention, there will be good cause for Governments to withdraw from it.

The second case concerns the CITES secretariat in Morges Switzerland. Parties to the Convention submit annual reports on their trade in listed animal and plant species. One of these concerned the United Kingdom and was forwarded to me through the IUCN African Elephant Survey. I was unable to determine whether a set of figures pertaining to ivory referred to weights or numbers of pieces. The Secretary General's reply relative to the question was :

*"The U.K. headings are, frankly, a mystery to me."*

I was referred to U.K. sources for enlightenment - but this is not the point. What is of concern is the CITES Secretariat - the body which should be *au fait* with all pertaining to CITES - circulated reports the contents of which it doesn't understand. This is bureaucracy at its worst - paper for paper's sake. I hope that this is an isolated case, for to find such laxity so early in the life of a bureaucratic institution gives no ground

for confidence in it achieving its objectives.

These two points bear on the need for CITES to be administered with at least the same efficiency as the trade it is set to regulate. With ivory in particular, the need for fast responses is imperative. Deals worth hundreds of thousands or millions of dollars cannot float in limbo at the mercy of a mal-administered permit office. And it is not a question of - well, that's tough - for wealth of this order will bypass the system if it has to. The administration of CITES should not, of its own, become an inducement to circumvent the law.

During the survey only Hong Kong showed an awareness of the need for its administration of CITES to keep pace with business. Even there the situation was not ideal, though applications for permits were processed in 4 days.

A final criticism of the functioning of CITES in relation to ivory relates to the manner in which the trade is recorded. Volume 4 of this report is eloquent testimony to the efficiency of the international Customs and Excise system of recording imports and exports in ivory. Now that the EEC countries no longer record ivory imports as a specific item, CITES must take up this role to at least the same efficiency if not greater. With special permit and licensing sections established to administer the convention there is no reason at all why far greater efficiency should not be achieved. This has not yet happened.

Some reconstruction is now in order. The hall-mark of efficiency is simplicity: the more simple permit systems are, the easier to administer and the more difficult to adjust they become. From observing some Indian traders, I learned to what confusing use duplicates, triplicates and photostats can be put. This is spectacularly successful when melded to several permit applications for the same amount of ivory on the same day! Within weeks of the commencement of treatment a permit issuing office can

be reduced to irreconcilable chaos. The message is - keep it simple - an original for the applicant and a duplicate for the issuer. No more.

The next step is keep it uniform. An international ivory permit system calls for an internationally uniform document. Currently permits come in so bewildering a variety that it is difficult to tell the genuine from the bogus. The classic illustration of this occurred in Hong Kong when the first permit for ivory issued by the Sudan which was worded to conform to CITES criteria resulted in the ivory being seized because the document did not resemble previous documents!

There must be uniformity in the manner in which documents are handled. It is logical that the original of a permit for international movement should move internationally. Thus Hong Kong and many other countries do not want duplicates or photocopies, but the genuine original to accompany incoming ivory. The U.S.A. confounds this requirement by retaining the original at the point of exit; from then on the ivory moves on duplicates which are always easier to 'fudge'.

Permits for so valuable a commodity as ivory must be more than a mere bit of paper. They must be a bit of paper which is difficult to forge. The matter of producing permits which are 'security' documents has been discussed at length with Sir Arthur Norman of London - an authority on the subject - and it is confirmed that the production of such documents is practical. For obvious reasons there is no call to go into the detail of what can and should be incorporated in these permits in a general report such as this. Suffice it they would contain an element requiring verification by financial authority (where exchange control laws exist) and have to bear a 'gazetted' signature.

Presently, signatures on permits complying with CITES, mean little, if anything, outside the country of origin. However if

each country complying with the Convention was to register a maximum of 3 authorised signatures with CITES - copies of which could be lodged with the ivory importing countries' Customs authorities, it would much reduce scope for false issuance of permits. By Government notification to CITES, signatures could be de-registered, and others substituted.

In the essence of simplicity the permit system should be confined to raw ivory. As pointed out in Volume 1 the sheer abundance of ivory artefacts would make permits for everything produced, a monstrous consumer of paper and little else.

To summarise permit requirements : they should be simple, internationally uniform, be security documents, signed by 'gazetted' signatures only and applied to the international movement of raw ivory. These measures would reduce abuse of permits, but not abolish it altogether.

As pointed out earlier in this chapter, traders were sceptical about the value of a permit system which, while the majority adhered to it, could be undermined by a minority who didn't. The sources of principal concern were speculators who did not regularly trade in ivory. Again this situation could be considerably ameliorated (but not rendered foolproof) by limiting the number of persons or firms allowed to import or export raw ivory from a country. The rationale behind such a procedure would be the undesirability of having too many people competing for a finite resource. It has parallel in the regulation of many civil aviation businesses in which it is reasoned that free-for-all competition for a finite market would jeopardise safety standards. In both cases any new operator entering the field has to (or with ivory would have to) show clearly that the supply of potential passengers or ivory warranted additional operators.

This sort of regulation would have to be operated at a national level. However there is no reason why it shouldn't

prove viable. The body responsible for authorising the number of licensed importers/exporters of raw ivory should incorporate elements of the trade, law enforcement (Customs?) as well as a conservation interest. By limiting the number of importers/exporters, speculators will be eliminated (at least in direct access) from this aspect of the trade. It would also have a stabilising effect on the business overall and give a base for a common influence on raw ivory prices.

In 1968 I enjoined a series of private discussions on the formation of an international ivory 'cartel' in the belief that if prices could be controlled, production could be manipulated. The idea has been discussed intermittently since then and has most recently surfaced as the subject of detailed academic study by the International Institute for Environment and Development. I believe the concept to be unworkable despite having been attracted by it in the past. The growth of cartels has invariably come about through business developments, and not through outside imposition. The traders themselves do not like the idea and successfully broke up an attempt by a firm of Indians to dominate the world price from Hong Kong. The ivory producer nations object to any cartel of external parties trying to control the price of their billion dollar resource. A producer cartel on the other hand would probably prove feasible to form on paper, but the heterogeneous circumstances of Africa give few grounds to believe it would work in practice.

The identification of ivory is of course a matter of some interest. Currently numbers are painted on, branded in with a hot iron, or hammered in with metal punches. All these markings can be removed with relative ease. However a less easily removed system which seemed appropriate for general adoption is that developed in the Kruger National Park. A hole is drilled through the tusk hollow on the inner side of the curve, some 10 cms from the tusk base. A metal disc with serial markings is then rivetted through the hole with a standard 'pop riveter'. It is difficult to remove and even when it is,

the hole remains. The discs can be designed to predetermined and changeable patterns to thwart forgery.

A further instrument to discourage corruption in Africa would be the sale of all Government ivory by open auction as in Malawi, and not through clandestine, secretive deals as are presently common.

Not one of these suggestions is foolproof and there is no panacea to poaching in Africa. Singly or in conjunction with one another the ideas put forward would make illicit trade just that much more difficult. They would be greatly enhanced if ivory traders cease to be vilified and legislated against, and are brought into the process of stabilising the flow of ivory. After all, there is no other legitimate business which is excluded from discussion and influence on its destiny. Attempts to regulate the trade so far have been as balanced as discussing sales of wheat in the absence of farmers.

One point overrides all and that is no international action on trade and no legislative process in the temperate zones can substitute for failure in the management of African Parks. The survival of elephants depends entirely on how Africans enforce their laws in their lands. The critical issue of today in this field is simple law enforcement on the spot.

To close this dissertation I shall take a brief look at the future. The dominant ecological trend in Africa in the present is human increase. Its end is nowhere in sight. In concert with this elephants will decline and, eventually, the continent's ivory production will be that from the national parks. If these contain 175,000 elephants, the eventual sustainable production will be about 57 tonnes a year from natural mortality. If the present game reserves become permanent sanctuaries and are added to the parks, this amount may double. If a balanced trade develops now the process of decline is likely to take decades, with traders leaving it one by one as the competition stiffens

and profits fall. Providing that the parks gain real sanctity this progressive decline is not critical to the survival of elephant as a species.

While there is general economic and political instability the price of ivory is likely to continue its upward climb. With the turmoil of the Middle East and prospect that OPEC will drive oil prices yet higher, monetary calm seems a long way off. The immediate calls on ivory are likely to rise and there is every prospect that the gradual trends hoped for in the preceding paragraphs will accelerate. These will be symptoms of the wider malaise from which "conservation" can obtain no independent solutions. Thus the survival of elephants does not depend upon trade and traders, but human affairs in a far broader sense. What we need is stability in man. With that the rest will come automatically.



VOLUME 3 (2) RECOMMENDATIONS

Deriving from the material and ideas presented in this report, I recommend that :

1. The focus of all external aid for fauna and flora conservation in Africa should be directed toward securing viable management of national parks.
2. The importance of recommendation 1. is such that aid outside the parks should not be considered until the national parks are viable management entities.
3. The most obvious necessity is for manpower to be raised to a level sufficient to achieve objectives and, in as far as manpower requirements are not understood, their determination should be the continent's overriding conservation research need, to the temporary exclusion if necessary of all other research.
4. A ban of the ivory trade would be impractical, unethical and should not be entertained.
5. The application of CITES should be restrained to what is practical and that the opinion of the law enforcement agencies responsible (namely Customs officials) should always be sought in determining what is practical.
6. Focus of control of the international movement of ivory should be, for practical reasons, on raw and not worked ivory.
7. A uniform permit system be developed for all CITES countries and that the quality of permits be that of security documents (e.g. bank cheques).
8. The signatures for any CITES country permits should be limited to 3 and that these be circulated among member countries.

9. The trade be consulted and invited to contribute to all future discussion concerning it, and to form a body to represent it.
10. Traders wishing to import or export raw ivory should be licensed to do so, that such licences be limited in any one country, that any move to increase this number **must** show how the trade and elephant conservation would **benefit** or not be harmed, and that existing licensees be **given** opportunity to lodge objection to further increase of licences.
11. Raw tusks leaving Africa should be identifiable through identification tags affixed by rivets.
12. Ivory sales by African Governments would, in their **own** interests, be best conducted through public auctions.

This dozen of recommendations may seem few upon the **volume** of this report, and the money and time which has been **spent** on it. Yet if these simple steps cannot be implemented there is no purpose in discussing other issues. If they are, **leagues** will have been gained. Many further recommendations could then be worth making.

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## APPENDIX NO. 1 TERMS OF REFERENCE

### TASKS TO BE PERFORMED UNDER THE CONSULTANCY

As Consultant for this study you will be responsible for ensuring that the following tasks are carried out within time and budget specified in the contract to which this Annex is attached.

The main task is to carry out a quantitative study into the international trade in elephant ivory, the objectives of which are :

1. To quantify the world wide trade in elephant ivory from various sources and to ascertain its distribution;
2. To estimate the world-wide investment in elephant ivory and its products;
3. To assess the role of elephant ivory as a currency equivalent and
4. To describe the component links in the economic chain of the ivory trade.

In pursuance of these tasks you are expected to :

1. Contact knowledgeable persons associated with the ivory trade and to utilize their information in establishing realistic statistics;
2. Ascertain sources of and collect information on existing official statistics including, but not limited to, identification of points of origin, trans-shipment, processing and re-export of elephant ivory.
3. To collect, where possible, data on actual prices, quantities and average tusk weights.
4. To describe existing world-wide regulations on the control of ivory both in the importing and exporting countries.
5. To identify public agencies responsible for enforcing these regulations and their legal authority and ability to do so.
6. To ascertain information on the ivory industry including, but not limited to, the number of trade organisations and associations and how the industry is organised.
7. To ascertain whether there is either the will or the ability within any portion of the trade or manufacturers to regulate trade in elephant ivory as may be necessary to secure the survival of elephants.

8. To elicit the outlook of leading traders on the supply of and demand for ivory and their approach to the long-term future of the business.
9. To present to Iain Douglas-Hamilton for submission to IUCN within nine months after the commencement of the contract to which this Annex is attached an interim study report.
10. To present to Iain Douglas-Hamilton for submission to IUCN within twelve months after the commencement of the contract to which this Annex is attached a final study report covering all tasks assigned in this Annex and in particular the impact of the ivory trade upon the survival of wild elephant populations with recommendations for the regulation of that trade to lessen any adverse effects that the trade may have upon elephant survival.

APPENDIX 2 EVIDENCE OF THE ABYSSINIAN IVORY RAIDERS INTO MONGALLA AND BAHR-EL-GHAZAL PROVINCES 1916-1927, from Yardley (1931) and Nalder (1936)\*

Date	Perpetrators	Place	Action	Sudan Casualties	Raiders' Casualties	Comments
1916	200 Abyssinians - unarmed, 100 Abyssinian servants - unarmed. A few Baganda. Leader = Destor.	Lafit-Jebels	Nil	Nil	Nil	Alarmed at presence of troops near Torit - escape with ivory on donkeys, leaving horses and mules.
1916	15 Abyssinian poachers.	Within a day's march of Mongalla	Some elephant killed	Nil	1 Abyssinian captured	Poaching party scattered by herd of elephants.
1917	Abyssinian poachers together with Baluchi, Swahili and Baganda	12 miles west of Panyikwara	Ivory	Nil	1 man killed	Equatorial Battalion (16) and police (6) surprise poachers which escape. Entire camp with 23 tusks and ammunition captured.
1917	Over 100 Abyssinian poachers	Tibitib	Ivory	2 killed and two wounded	7 killed; wounded unknown	Party under British Officer rushes camp with bayonet and puts enemy to flight. 105 tusks, 14 donkeys and entire camp equipment captured.
1919	55 Abyssinians - armed, 20 porters - unarmed.	Latuka	Nil	Nil	1 Abyssinian speared by Didinga (local tribe)	Party reported poaching and trading arms and ammunition for ivory. It has 16 magazine and 49 Gras rifles. Leaves with all its property and goes east.
1919	Abyssinian poachers 15 armed, 50 porters unarmed.	Jebel Lafon	Ivory	Nil	3 porters killed. 4 Swahili killed. 1 Abyssinian died of wounds, one believed Ali Suleiman killed.	Inspector and another British Officer round up this party. 10 rifles and ammunition, 62 tusks, 16 head of cattle, 37 donkeys captured.
1920	4 Abyssinian Chiefs 90 men and a mountain gun.	Nil	Nil	Nil	Nil	Party warns local people that they do not recognise them as British Government subjects and threaten to return and attack them.
1920	4 armed Swahili poachers.		Nil	Nil	Nil	All captured.
1920	25 armed Abyssinians and Swahili.	Latuda Didinga District	Stole 6 zeribas	Nil	Nil	Object to raid natives of Lafon but warned of Police presences.
1921	7 Swahili poachers with .303 rifles.	Reja	Nil	Nil	Nil	Captured.
1921	2 Swahili elephant poachers. One = Juma-bin-Goz armed with .303	West of Nile	Nil	Nil	Nil	Captured.
1921	10 Abyssinian and 10 Swahili poachers guided by Taposa (locals)	Didinga	Took 2 or 8 zeribas	5 Didinga killed, 10 Didinga women captured.	Nil	Raid on Didinga.
1922	10 Abyssinian poachers	Boya and Lafit Hills	Nil	5 Dinka captured	Nil	Poachers capture Dinka - who escape and report.
1922	Abyssinian poachers	Lotelepey	Nil	Nil	1 poacher = Mukondo-bin-Musoro captured.	Force under British Officer attempt to round up poachers' camp; 22 donkeys, 78 cattle, 2 rifles (Gras), 1 revolver, 50 rounds small arm ammunition, 5 pieces of ivory, grain captured.
1922	Abyssinian poachers	Taposa	Nil	Nil	1 poacher killed.	Small force from Lochoreatrum come upon camp of poachers; one .303 (magazine) captured.
1922	Abyssinian poachers	Ndogir river	Nil	Nil	3 poachers killed.	Some stores and cattle captured by force of Equatorial Battalion.
1924	Abyssinian poachers (armed)	Latuka	Nil	Nil	Nil	1 poacher armed with .303 rifle and ammunition captured near Mongalla.
1925	Abyssinian and Swahili poachers led by Salih-bin-Ali (alias Akipi Karinga) all outlaws from Taposa	Near Morua-Kippi	Ivory	Nil	Most of band captured including Salih-bin-Ali who later escaped from prison.	British Consul at Maji captures this ivory caravan. Capture includes women and children taken by the band, 5 rifles 25 cartridges and 23 elephant tusks.
1927	11 Abyssinian poachers	Near Kapoeta	Nil	Nil	Nil	Reported moving east.
1927	Abyssinian poachers	Near Mongalla, near Mogiri and West of Nile	Ivory	Nil	Nil	3 distinct parties (1 numbering 25) of poachers, tracks followed without result. Remains of elephant found.
1929*	Abyssinian poachers from Mongalla	28 miles from Mongalla	Ivory	Nil	8 killed including Musa Jermani	All remainder of gang caught later.

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APPENDIX NO. 3 MONETARY CONVERSIONS

STERLING/DOLLAR

Year	\$/£	Ref.	£/\$	Ref.	Year	\$/£	Ref.	£/\$	Ref.
1823	4.70	1	0.213	1	1872	4.902	1	0.204	1
24	4.819	1	0.208	1	73	4.879	1	0.205	1
1825	4.749	1	0.211	1	74	4.900	1	0.204	1
26	4.861	1	0.206	1	1875	4.889	1	0.205	1
27	4.901	1	0.204	1	76	4.900	1	0.204	1
28	4.899	1	0.204	1	77	4.880	1	0.205	1
29	4.835	1	0.207	1	78	4.855	1	0.206	1
1830	4.746	1	0.201	1	79	4.868	1	0.205	1
31	4.836	1	0.207	1	1880	4.861	1	0.206	1
32	4.836	1	0.207	1	81	4.851	1	0.206	1
33	4.747	1	0.211	1	82	4.886	1	0.205	1
34	4.835	1	0.207	1	83	4.857	1	0.206	1
1835	4.696	1	0.213	1	84	4.866	1	0.206	1
36	4.948	1	0.202	1	1885	4.866	1	0.206	1
37	5.193	1	0.193	1	86	4.876	1	0.205	1
38	5.092	1	0.196	1	87	4.856	1	0.206	1
39	5.076	1	0.197	1	88	4.884	1	0.205	1
1840	5.040	1	0.198	1	89	4.880	1	0.205	1
41	5.019	1	0.199	1	1890	4.871	1	0.205	1
42	4.848	1	0.206	1	91	4.876	1	0.205	1
43	4.819	1	0.208	1	92	4.876	1	0.205	1
44	4.896	1	0.204	1	93	4.872	1	0.205	1
1845	4.915	1	0.203	1	94	4.881	1	0.205	1
46	4.904	1	0.204	1	1895	4.895	1	0.204	1
47	4.834	1	0.207	1	96	4.835	6		
48	4.971	1	0.201	1	97	4.815	6		
49	4.890	1	0.204	1	98	4.819	6		
1850	4.929	1	0.203	1	99	4.829	6		
51	4.978	1	0.201	1	1900	4.872	7		
52	4.952	1	0.202	1	01	4.879	7		
53	4.957	1	0.202	1	02	4.876	7		
54	4.940	1	0.202	1	03	4.868	7		
1855	4.935	1	0.203	1	04	4.872	7		
56	4.935	1	0.203	1	1905	4.866	7		
57	4.951	1	0.202	1	06	4.857	7		
58	4.882	1	0.205	1	07	4.867	7		
59	4.944	1	0.202	1	08	4.868	7		
1860	4.880	1	0.205	1	09	4.876	7		
61	4.804	1	0.208	1	1910	4.868	7		
62	4.948	1	0.202	1	11	4.866	7		
63	4.901	1	0.204	1	12	4.870	7		
64	4.958	1	0.202	1	13	4.868	7		
1865	4.930	1	0.203	1	14	4.8665	2c	0.205	2c
66	4.896	1	0.204	1	1915	4.7449	2c	0.211	2c
67	4.904	1	0.204	1	16	4.7693	2c	0.210	2c
68	4.910	1	0.204	1	17	4.745	2c	0.211	2c
69	4.891	1	0.204	1	18	4.721	2c	0.212	2c
1870	4.885	1	0.205	1	19	4.721	2c	0.246	2c
71	4.910	1	0.204	1	1920	3.309	2c	0.267	2c

STERLING/DOLLAR Ctd

Year	\$/£	Ref.	£/\$	Ref.	Year	\$/£	Ref.	£/\$	Ref.
1921	3.942	2c	0.254	2c	1972	£Floating	4	£ Floating	4
22	4.380	2c	0.228	2c	73	2.547	4	0.393	4
23	4.490	2c	0.223	2c	74	2.388	3	0.419	3
24	4.307	2c	0.232	2c	1975	2.254	3	0.444	3
1925	4.750	2c	0.211	2c	76	1.774	3	0.564	3
26	4.858	7			77	1.720	4	0.581	4
27	4.863	5	0.206	5	78	1.860	4	0.538	4
28	4.866	7							
29	4.857	7							
1930	4.862	7							
31	3.36	5	0.298	5					
32	3.21	5	0.312	5					
33									
34	5.00	2b	0.200	2b	Refs. 1.				
1935	5.00	2b	0.200	2b					
36	5.00	2b	0.200	2b					
37	4.944	7							
38	5.00	2a	0.200	2a					
39	4.03	2a	0.248	2a					
1940	4.03	7			2.				
41	4.03	7							
42	4.03	7							
43	4.03	7							
44	4.03	7							
1945	4.03	7			3.				
46	4.03	7							
47	4.03	4	0.248	4	4.				
48	4.03	4	0.248	4					
49	4.03	4	0.248	4	5.				
1950	2.80	4	0.357	4					
51	2.80	4	0.357	4					
52	2.80	4	0.357	4					
53	2.80	4	0.357	4	6.				
54	2.80	4	0.357	4					
1955	2.80	4	0.357	4	7.				
56	2.80	4	0.357	4					
57	2.80	4	0.357	4					
58	2.80	4	0.357	4					
59	2.80	4	0.357	4					
1960	2.80	4	0.357	4					
61	2.80	4	0.357	4					
62	2.80	4	0.357	4					
63	2.80	4	0.357	4					
64	2.80	4	0.357	4					
1965	2.80	4	0.357	4					
66	2.80	4	0.357	4					
67	2.40	4	0.417	4					
68	2.40	4	0.417	4					
69	2.40	4	0.417	4					
1970	2.40	4	0.417	4					
71	2.40	4	0.417	4					

Refs. 1. Davis L.E. & Huges  
J.R.T. Dollar Sterling  
Exchange 1803-1895.  
Econ.Hist.Rev. 1960-61  
Vol.13 p.52-78.

2. Feavearyear Sir A.  
The Pound Sterling.  
a p.378; b p.379;  
c p.383.

3. International Herald  
Tribune 1974-1976.

4. International Monetary  
Fund 1947-73; 1977-78.

5. Hirst, F.W. Money,  
Gold, Silver and Paper.  
p.212-215.

6. The Economist.

7. British Economy Key  
Statistics 1900-66.  
Times Newspapers Ltd,  
Annual averages.

FRENCH FRANCS

<u>Year</u>	<u>FF/£</u>	<u>Ref.</u>	
1799	25.0		
to	to	2a	
1914	25.2		
	<u>FF/\$</u>		
1926	49.319	1	
1931	25.543	2b	
32	25.524	2b	
33	20.101	2c	
38	36.784	1	
39	34.935	1	
1947	119.107	4	
1948			
to	420	4	No par value but exchange rate used by
1958			IMF for computations.
1959	493.706	4	
1960	4.937	4	New Franc
61	4.937	4	
62	4.937	4	
63	4.937	4	
64	4.937	4	
1965	4.937	4	
66	4.937	4	
67	4.937	4	
68	4.937	4	
69	4.937	4	
1970	5.554	4	
71	5.554	4	
72	4.451	4	
73	5.554	4	
74	4.830	3	
1975	3.999	3	
76	4.747	3	
77	4.919	4	
78	4.502	4	

- Refs. 1. British Naval Intelligence Division, France 1942. p.320.
2. Hirst, F.W. Money, Gold, Silver and Paper. p.198-290. 1934. New York. a p.198; b p.212-213; c p.290.
3. International Herald Tribune, 1974-1976.
4. International Monetary Fund 1947-73, 1977-78.

GERMAN MARKS

<u>Year</u>	<u>GM/£</u>	<u>Ref.</u>
1845	20.158	1a
to	little	
1914	change	2
	<u>GM/\$</u>	
1915	4.2	1a
1919	8.9	
to	to	1a
1922	493.2	
1935	4.4	1b
36	4.6	1b
37	4.8	1b
38	5.2	1b
39	9.43	1b
1940	19.85	1c
1953	4.2	4
to		
1960		
1961		
to	4.0	4
1969		
1970	3.66	4
71	3.66	4
72	3.499	4
73	3.220	4
74	2.543	3
1975	2.341	3
76	2.578	3
77	2.338	4
78	2.075	4

- Refs. 1. Great Britain Naval Intelligence Division, Germany 1939-1940. a p.5-6; b p.444-456; c p.458.
2. Hirst F.W. Money, Gold, Silver and Paper. 1934, New York. p.200.
3. International Herald Tribune, 1974-1976.
4. International Monetary Fund 1947-73; 1977-78.

DUTCH GUILDERS

<u>Year</u>	<u>DG/£</u>	<u>Ref.</u>
1727	10.376	5
1734	9.96	5
1740	10.00	5
1749	9.98	5
1753	10.00	5
1769	10.00	5
1863	11.82	1
	<u>DG/\$</u>	
1933	2.151	2
34	1.619	2
1935	1.458	2
36	1.450	2
37	1.792	2
38	1.796	2
39	2.115	2
1940	1.868	2
1947	2.653	4
48	2.653	4
49	2.653	4
1950 to 1960	3.800	4
1961 to 1971	3.620	4
1972	3.523	4
73	3.523	4
74	2.652	3
1975	2.430	3
76	2.735	3
77	2.473	4
78	2.233	4

- Refs. 1. Cameron R.E. France and the Economic Development of Europe 1800-1914. Princetown Univ. Press, N.J. 1961. p.183.
2. Great Britain Naval Intelligence Division, Netherlands. p.409.
3. International Herald Tribune.
4. International Monetary Fund, Annual report. 1946-73, 1977-78.
5. Postma Dutch Participation in African Slave Trade. PhD. Michigan State 1970. p.195.

BELGIAN FRANCS

Year	BF/£	Ref.	Year	BF/\$	Ref.	\$/BF	Ref.
1888	25.65	3	1947	43.828	2	0.0228	6
1889	25.46	3	48	43.828	2	0.0228	6
1890	25.438	3	49	43.828	2	0.0220	6
1891	25.42	3	1950	50.000	2	0.0199	6
1892	25.30	3	51	50.000	2	0.0199	6
1893	25.36	3	52	50.000	2	0.0199	6
1894	25.275	3	53	50.000	2	0.0200	6
1895	25.26	4	54	50.000	2	0.0200	6
1896	25.26	4	1955	50.000	2	0.0199	6
1897	25.27	4	56	50.000	2	0.0200	6
1898	25.235	4	57	50.000	2	0.0199	6
1899	25.30	4	58	50.000	2	0.0200	6
1900	25.13	4	59	50.000	2	0.0200	6
1901	25.155	5	1960	50.000	2	0.0201	6
1902	25.155	4	1961				
1903	25.185	4	to	50.000	2		
1904	25.19	4	1971				
1905	25.17	4	1972	48.657	2		
1906	25.34	4	73	48.657	2		
1907	25.16	4	75	35.025	1		
1908	25.188	4	76	39.670	1		
1909	25.28	4	77	36.035	2		
1910	25.31	4	78	32.710	2		
1911	25.335	4					
1912	25.32	4					
1913	25.48	4					

\$/BF

1919	0.1277	5
1920	0.0738	5
1921	0.0745	5
1922	0.0768	5
1923	0.0522	5
1924	0.464	5
1925	0.0476	5
1926	0.0337	5
1927	0.0278	5
1928	0.0279	5
1929	0.0278	5
1930	0.0279	5
1931	0.0279	5
1932	0.0278	5
1933	0.0358	5
1934	0.0466	5
1935	0.0368	5
1936	0.0338	5
1937	0.0338	5
1938	0.0338	5
1939	0.0337	5
1940	0.0338	5

- Refs. 1. Financial Times June 29-30, 1974; June 26, 1975; June 29, 1976.
2. International Monetary Fund.
3. Course of exchange, Antwerp on London.
4. Foreign exchange rates, Brussels on London.
5. Banking and monetary statistics 1943. Federal System Board of Governors, U.S.A.
6. Supplement to Banking and Monetary Statistics, Sect. 15. International Statistics.

SPANISH PESETAS

<u>Year</u>	<u>Peseta/\$</u>	<u>Ref.</u>
1960	60.000	2
to		
1966		
1967	70.000	2
to		
1973		
1975	55.759	1
1976	67.926	1
1977	69.600	2
1978	78.812	2

- Refs. 1. Financial Times, June 26, 1975; June 29, 1976.  
2. International Monetary Fund.

ITALIAN LIRA

<u>Year</u>	<u>Lira/\$</u>	<u>Ref.</u>
1960		
to	625.000	2
1971		
1972	631.342	2
1973	579.150	2
1974	647.75	1
1975	627.80	1
1976	643.00	1
1977	884.775	2
1978	854.550	2

- Refs. 1. International Herald Tribune, 1974-1976.  
2. International Monetary Fund 1960-1973; 1977-1978.

SWISS FRANCS

<u>Year</u>	<u>SwF/\$</u>	<u>Ref.</u>
1960	4.292	1
61	4.309	1
62	4.315	1
63	4.310	1
64	4.306	1
1965	4.314	1
66	4.323	1
67	4.298	1
68	4.280	1
69	4.296	1
1970	4.304	1
71	4.134	1
72	3.819	1
73	3.167	1

Ref. 1. International Financial Statistics.

AUSTRIAN SCHILLINGS

<u>Year</u>	<u>Sch/\$</u>	<u>Ref.</u>
1953 to 1970	26.00	2
1971	25.38	2
1972	25.2971	2
1973	17.42	2
1976	18.470	1
1977	16.585	2
1978	14.975	2

Refs. 1. Financial Times, June 29, 1976.  
2. International Monetary Fund.

INDIAN RUPEES

<u>Year</u>	<u>Rs/£</u>	<u>Ref.</u>	<u>Year</u>	<u>Rs/\$</u>	<u>Ref.</u>
1862	10.03	1	1952	4.762	4
1871	10.43	2	1953	4.762	4
72	10.54	2	1954		
73	10.66	2	to	4.762	4
74	10.91	2	1966		
1875	11.91	2	1967	7.500	4
76	11.16	2	to		
77	11.71	2	1971		
78	11.57	2	1972	7.903	4
79	12.15	2	73	7.448	4
1880	12.0	2	74	8.102	7
81	12.0	2	1975	8.376	7
82	12.0	2	76	9.176	3
83	12.31	2			
84	12.31	2	77	8.836	4
1885	12.46	2	78	8.252	4
86	13.19	2			
87	13.79	2			
88	14.29	2			
89	14.72	2			
1890	14.55	2			
91	13.33	2			
92 )	14.37	2			
92 )	15.74	5			
93	16.11	2			
94	18.32	1			
1895	18.32	1			
96	16.61	1			
97	16.61	1			
98	15.00	1			
99	15.00	1			
1903	15.00				
to	to	1			
1912	14.18				
1914	15.12	6			
	<u>Rs/\$</u>				
1919	2.484	1			
1920	2.330	1			
21	3.663	1			
22	3.460	1			
23	3.265	1			
24	3.162	1			
1925	2.741	1			
1947	3.309	4			
48	3.309	4			
49	3.308	4			
1950	4.762	4			
51	4.762	4			

- Refs. 1. Anstey V. Economic Development India. Longmans, Green & Co. London, N.Y., Paris 1952. p.411
2. Dutt R. Economic History of India Victorian Era. Routledge & Kegan Paul Ltd. 1956. p.579-581.
3. Financial Times June 29, 1976.
4. International Monetary Fund. Annual report Par Values. 1947-73; 1977-78.
5. History of Malindi, p.66. Martin E.B. E.A. Lit. Bureau, 1973.
6. The Economist.
7. International Financial Stats.

HONG KONG DOLLARS

<u>Year</u>	<u>HK\$/US\$</u>	<u>Ref.</u>
1947	3.970	2
48	3.970	2
49	3.970	2
1950		
to	5.714	2
1966		
1967		
to	6.061	2
1973		
1974	4.98	4
75	4.979	1
76	4.940	
77	4.654	3
78	4.654	3

- Refs. 1. Financial Times June 26, 1975; June 29, 1976.  
2. International Monetary Fund 1947-73; 1977-78.  
3. International Herald Tribune. Sept. 13, 1977;  
June 30, 1978.  
4. Huxley, C.R. Dept. Agriculture & Fisheries,  
Hong Kong.

### JAPANESE YEN

<u>Year</u>	<u>JY/\$</u>	<u>Ref.</u>
1950	360.000	3
51	360.000	3
52	360.000	3
1953		
to	360.000	2
1971		
1972	334.400	2
73	265.050	2
74	285.225	3
1975	297.203	1
76	269.370	1
77	267.70	2
78	204.70	2

- Refs. 1. Financial Times June 26, 1975; June 29, 1976.  
2. International Monetary Fund 1953-73; 1977-78.  
3. Bank of Tokyo.

### SINGAPORE DOLLARS

<u>Year</u>	<u>S\$/US\$</u>	<u>Ref.</u>
1947	2.127	2
48	2.127	2
49	2.127	2
1950		
to	3.061	2
1972		
1973	2.326	2
74	2.4369	3
75	2.510	1
76	2.432	1
77	2.464	2
78	2.320	2

- Refs. 1. Financial Times June 26, 1975; June 29, 1976.  
2. International Monetary Funds 1947-73; 1977-78.  
3. International Financial Statistics.

### EGYPTIAN POUNDS

<u>Year</u>	<u>EE/£Stg</u>	<u>Ref.</u>
1912	0.975	3
	<u>EE/\$</u>	
1947	0.240	2
48	0.240	2
1949 to 1972	0.348	2
1973	0.392	2
1976	0.398	1
77	0.391	2
78	0.391	2

- Refs. 1. Financial Times, 1975-1976.  
2. International Monetary Fund, Annual Report 1947-73;  
1977-78.  
3. Tates Modern Cambist 1912 edition.

### SUDANESE POUNDS

<u>Year</u>	<u>Sud£/\$</u>	<u>Ref.</u>
1959 to 1973	0.348	2
1974	0.348	4
1975	0.348	4
1976	0.348	1
1977	0.348	2
1978	0.400	2

- Refs. 1. Financial Times 1976.  
2. International Monetary Fund Annual Report  
Par Values.  
3. International Monetary Fund 1945-65, Vol II, Table 4,  
p.116.  
4. International Financial Statistics.

BELGIAN FRANCS/ZAIRE

<u>Year</u>	<u>BF/\$</u>	<u>Ref.</u>
1960	50.00	1
	<u>Z/\$</u>	
1970	0.500	1
71	0.500	1
72	0.500	1
73	0.603	1
74	0.500	2
1975	0.500	2
76	0.807	2
77	0.859	1
78	0.808	1

- Refs. 1. International Monetary Fund 1960-1973; 1977-1978.  
2. International Financial Statistics.

CONGO CFA

<u>Year</u>	<u>CFA/\$</u>	<u>Ref.</u>
1971	277.710	1
72	277.710	1
73	277.710	1
1977	245.963	1
78	225.075	1

- Ref. 1. International Monetary Fund 1960-1973; 1977-78.

ZAMBIAN POUNDS/KWACHA

<u>Year</u>	<u>Z£/\$</u>	<u>Ref.</u>
1960	0.357	1
61	0.357	1
62	0.357	1
63	0.357	2
64	0.357	1
1965	0.357	1
66	0.357	1

	<u>Kw/\$</u>	
1967	0.714	1
68	0.714	1
69	0.714	1
1970	0.714	1
71	0.714	1
72	0.714	1
73	0.776	1
74	0.643	3
1975	0.643	3
76	0.713	3
77	0.792	1
78	0.789	1

- Refs. 1. International Monetary Fund Annual Report 1960-73;  
1977-78.
2. International Monetary Fund Vol. II Table 4, p.116.
3. Miss. S. Wells, London.

SOUTH AFRICAN POUNDS AND RAND

<u>Year</u>	<u>£/\$</u>	<u>Ref.</u>
1947	0.248	2
48	0.248	2
49	0.357	3
1950		
to	0.357	2
1959		
	<u>R/\$</u>	
1960		
to	0.714	2
1962		
1963	0.714	3
1964		
to	0.714	2
1971		
1972	0.814	2
73	0.850	2
1975	0.680	1
76	0.860	1
77	0.870	2
78	0.870	2

- Refs. 1. Financial Times 1975-1976.  
2. International Monetary Fund Annual Report 1947-73;  
1977-78.  
3. International Monetary Fund 1945-65 Vol. II Table 4  
p.116.

#### APPENDIX 4. ANNUAL CATCHES OF SPERM WHALES

Data by courtesy of Dr. R.M. Laws, Director, Sea Mammal Research Unit, Cambridge.

##### NOTES

1. From the available statistics it is not possible to divide the Southern Hemisphere pelagic catch into catches relating to the separate calendar years, hence these pelagic seasons are listed separately.
2. The main producing countries are Japan and the USSR for the Southern Hemisphere pelagic catch and the North Pacific pelagic and land station catches. With the cessation of whaling in Australia and South Africa, Peru is the next largest producer.
3. Catches have been divided where possible into males and females since it is assumed that the teeth of female whales are generally too small to form an important element in the use of teeth for scrimshaw work.
4. The weight of teeth per whale suitable for scrimshaw has been estimated as follows:-
  - a. Average length for all catches of males in 1977 and 1977/78 = 43 feet.
  - b. Average weight of first mandibular tooth of 43 feet male =  $3\frac{1}{2}$  ounces.
  - c. First mandibular tooth is usually the smallest in the series.  
Estimate the average weight of teeth of 43 feet male to be 7 ounces.
  - d. Average number of teeth in lower jaw = 46.

Weight of teeth estimated to be  $46 \times 7 = 322$  ounces = 20 pounds.

ANNUAL CATCHES OF SPERM WHALES - 10 SEASONS, 1968 AND 1968/69 TO 1977 AND 1977/78

Season	Southern Hemisphere Pelagic Whaling			Season	Southern Hemisphere Land Stations			North Pacific Pelagic & Land Stations			North Atlantic Land Stations				
	Total	Males	Females		Total	Males	Females	Total	Males	Females	Total	Males	Females		
1977/78	4537	3476	1061	1977	1448*	521	128	6343	3627	2716	110*	110	-		
1976/77	4075	3308	767	1976	2565*	662	342	7211	4200	3011	111*	111	-		
1975/76	7046	4022	3024	1975	3745	1569	1335	7859	4261	3598	275*	37	-		
1974/75	8930	5528	3402	1974	4305	1519	1370	8127	4419	3708	472	71	-		
1973/74	8315	5165	3150	1973	4381	1566	1086	8567	4605	3962	613	47	-		
1972/73	8741	5443	3298	1972	4546	1859	800	6323	4032	2291	691	120	-		
1971/72	7335	6319	1005	1971	4550	1817	1166	10701	8248	2438	831	205	-		
1970/71	6237	5217	957	1970	4405	1789	910	14833	11234	3581	649	139	-		
1969/70	5390	4919	475	1969	4307	1571	993	14946	11322	3611	640	219	-		
1968/69	3907	3642	216	1968	3521	1696	312	16373	12786	3571	498	82	-		
	<u>Countries:-</u> USSR Japan Norway 1969/70 and 1971/72				<u>Countries:-</u> Australia (ceased whaling 1978) South Africa (1968-1975 only) Peru Chile Brazil				<u>Countries:-</u> Japan USSR USA (1968-1971 only)				<u>Countries:-</u> Azores Madeira Spain Iceland Norway (1968-1971 only) Canada (1969-1972 only)		

\* Statistics incomplete for some countries.

- NB 1. Southern Hemisphere Pelagic Whaling and North Pacific Whaling - The males and females totals do not agree with the total catch figure in some seasons.
2. Southern Hemisphere Land Stations - Catches by sexes are not available for Peru and Chile.
3. North Atlantic Land Stations - Catches by sexes are not available for Azores, Madeira and Spain.

APPENDIX 5

National Park and Nature Reserve Areas used in the computation of Table 161. Data derived from 1973 U.N. list of National Parks and Equivalent Reserves No. 27. Items with an asterisk from Malawi or separate national sources.

These figures and areas are general indications only. The UN lists of parks and nature reserves compiled by IUCN are often at variance with data given by countries themselves.

1. Botswana

Central Kalahari Game Reserve	52,800 km <sup>2</sup>
Gemsbok N.P.	24,800 "
Chobe N.P.	10,360 "
Mkadigadi G.R.	3,900 "
Khutswe G.R.	2,500 "
Nxai Pan N.P.	2,100 "
Moremi Wildlife Reserve	1,813 "
Mabua Sehube G.R.	1,800 "
	<hr/>
Total	100,073 km <sup>2</sup>
or	16.7% of country

2. Congo

Odzala N.P.	1,100 km <sup>2</sup>
Lefini N.P.	?

3. Ethiopia

Awash N.P.	880 km <sup>2</sup>
Lake Abiata-Shala N.P.	700 "
Nechissar N.P.	700 "
Omo-Mago-Tama N.P.	8,650 "
Simien Mts National Heritage	136 "
Yangudi-Rasa N.P.	5,400 "
Harar Sanctuary	4,000 "
Menagash N.P.	30 "
Gambela Wildlife Reserve	3,000 "
	<hr/>
Total	23,496 km <sup>2</sup>
or	1.9% of country

4. Gabon

Okanda N.P.	1,900 km <sup>2</sup>
Wonga Wongue N.P.	828 "
Ofoué N.R.	1,500 "
	<hr/>
Total	4,228 km <sup>2</sup>
or	1.6% of country

5. Ghana

Mole N.P.	4,662 km <sup>2</sup>
Digyah N.P.	3,124 "
Bui N.P.	1,544 "
* Nini Subien	100 "
Total	9,430 km <sup>2</sup>
or	4% of country

6. Ivory Coast

Komoe N.P.	11,500 km <sup>2</sup>
Tai Forest N.P.	3,500 "
Nimba Mt. N.R.	50 "
* Marahoe N.P.	1,000 "
* Assigni N.P.	300 "
Total	16,350 km <sup>2</sup>
or	5.1% of country

7. Kenya

(All data supplied by Ecosystems Ltd)

* Aberdare N.P.	766 km <sup>2</sup>
* Amboseli N.P.	392 "
* Arawake N.R.	533 "
* Bogoria N.R.	107 "
* Boni N.R.	1,339 "
* Dodori N.R.	877 "
* Elgon N.P.	169 "
* Lambwe Valley G.R.	308 "
* Losai N.R.	1,806 "
* Mara G.R.	1,672 "
* Maralal N.S.	174 "
* Marsabit G.R.	2,087 "
* Meru N.P.	870 "
* Mt. Kenya N.P.	3,353 "
* Mwea N.R.	68 "
* Nairobi N.P.	117 "
* Nakuru N.P.	60 "
* Ol Doiyo Sabuk N.P.	18.4 "
* Rahole and Kora N.P.	?
* Samburu-Buffalo Spring G.R.	564 "
* Saiwa Swamp N.P.	v. small
* Shaba N.R.	239 km <sup>2</sup>
* Shimba Hills G.R.	192 "
* Sibiloi N.P.	1,570 "
* Tana River Primate N.R.	169 "
* Tsavo East N.P.	11,747 "
* Tsavo West N.P.	9,065 "
Minimum	38,262.4 km <sup>2</sup>
or	6.6% of country

8. Malawi

Kasungu N.P.	2,048 km <sup>2</sup>
Nyika N.P.	3,044 "
Lengwe N.P.	907 "
Liwonde N.P.	586 "
Vwaza	1,037 "
Majete G.R.	640 "
Nkota Kota G.R.	1,749 "
Mwabvi G.R.	351 "

Total 10,362 km<sup>2</sup>  
or 11% of country

9. Niger

W N.P.	3,000 km <sup>2</sup>
--------	-----------------------

0.2% of country

10. Rhodesia

Wankie N.P.	14,432 km <sup>2</sup>
Victoria Falls N.P.	566 "
Ngesi N.P.	58 "
Mushandike N.P.	129 "
Chimanimani N.P.	139 "
Kyle Dam N.P.	180 "
Rhodes Inyanga N.P.	346 "
Rhodes Matopos N.P.	433 "
Chewore G.R.	2,828 "
Dande G.R.	544 "
Matusadona G.R.	2,101 "
Chirisa G.R.	1,711 "
Gona-re-Zhon G.R.	1,496 "
Malipati G.R.	181 "
Chizarira G.R.	1,454 "
Mana Pools G.R.	1,210 "
Chete G.R.	646 "

Total 28,457 km<sup>2</sup>  
or 7.3% of country

11. Senegal

Niakolo Koba N.P.	8,130 km <sup>2</sup>
Djoudj N.P.	110 "
Basse Casamance N.P.	35 "

Total 8,275 km<sup>2</sup>  
or 4.2% of country

12. Tanzania

Serengeti N.P.	12,950 km <sup>2</sup>
Ruaha N.P.	11,500 "
Tarangire N.P.	2,614 "
Mikumi N.P.	1,165 "
Gombe Stream N.P.	148 "
Arusha N.P.	129 "
Lake Manyara N.P.	855 "
* Kilimanjaro N.P.	802 "
Katavi N.P.	2,113 "

Total 32,276 km<sup>2</sup>  
or 3.4% of country

13. Upper Volta

W N.P.	3,300 km <sup>2</sup>
Arly Fauna R.	2,060 "
Deux Bale	<u>560 "</u>
Total	5,920 km <sup>2</sup>
or	2.2% of country

14. Zaire

Salonga N.P.	22,400 km <sup>2</sup>
Upemba N.P.	9,500 "
Virunga N.P.	8,000 "
Maiko N.P.	6,000 "
Garamba N.P.	4,920 "
Kundelunga N.P.	1,200 "
Kahuzi-Biega N.P.	<u>600 "</u>
Total	52,620 km <sup>2</sup>
or	2.2% of country

APPENDIX NO. 6 ON MANPOWER IN PARKS

Most game or park wardens in Africa will concede shortage of law-enforcement staff. However only in Malawi did I come across evidence that this was the subject of methodical analysis and research. This work has not reached the stage where findings have influenced policy, but the approach adopted is very cogent to the points made in this report, and I have obtained permission from the Malawi Government to publish my notes from discussions with the Senior Research Officer, Department of National Parks and Wildlife. The discussions related specifically to the Kasungu National Park.

The Government recognised two broad aspects of law enforcement concerning wildlife conservation legislation : namely the location and arrest of offenders in the field and the location and arrest of poachers in settlements and towns by normal police methods of investigation.

Police methods about the homesteads - searching for wildlife meat etc. is potentially more efficient in terms of outlay. To digress : this was demonstrated decisively during the anti-poaching campaign of 1956-57 in eastern Kenya. The essence of the programme was not on field patrols, but a comprehensive informer network - spies - followed by unannounced raids on villages by night. However, there are massive social objections to the method - and in truth, raids at 3 a.m., turning the populace out of bed, searching their houses etc. conflicts strongly with the concepts of decency and what should be expected from civilised police procedures. While the technique produced spectacular results over the short-term, I doubt that it is a method which has long-term application outside of dictatorships. On the basis of personal experience, I agree that the use of investigative methods outside parks create such social problems that, while they may have application in particular circumstances, they are not widely appropriate. (These comments apply strictly to the rural scene, and not to the detection of

'middlemen' in towns.) In consequence, law enforcement must mainly rely on patrol efficiency within the parks.

The Kasungu Park is c.2000 km<sup>2</sup> with a buffer zone about it which increases its *de facto* size to nearer 2500 km<sup>2</sup>. The Park is covered by dense *Brachystegia* woodlands intersected by streams lined by open grassland from 30 m to 1 km in width (Dambos). In the woodland visibility may be as low as 10-20 m. The Park and its buffer zone are surrounded by human settlement at densities of up to 24/km<sup>2</sup>. The Park complement of Game Scouts is 19, who are armed, but augmented by 9 porters who carry tentage, rations, etc. when on patrol. However these porters are not law-enforcers. The density of Scouts (19) is therefore 1 to c.132 km<sup>2</sup> of park.

Patrol groups usually consist of from 3-5 armed Scouts and 1-2 unarmed porters. While patrolling they walk in single file. Each patrol thus acts as a single unit with an effective sighting radius of less than 50 m - except when following Dambos when visibility will be the width of the Dambo.

Certain signs of illegal activity can be detected - gunshots, vultures descending, smoke, wood chopping etc. Footprints can sometimes be followed. The detection radius of any of these signs is unlikely to be more than 5 km.

Patrol groups spend an average of 16 nights out a month, with part of this being spent in placement i.e. in non-productive patrolling. All things considered they average 13.0-13.5 days a month actually patrolling in the park. Walking at a mean speed of 3 km per hour, and 5 hours per day, the daily patrol distance is 15 km. From this, and the very limited visibility, Bell estimated that the actual area 'seen' per patrolling day was c.2.9 km<sup>2</sup>.

The Senior Research Officer then measured patrol efficiency as proportions of maximum possible efficiency (groups patrolling 12

hours a day 365 days a year at 3 km per hour). Results indicated that actual efficiency was 44.4% of possible days, 18.5% of possible hours and c.18.5% of possible area. However maximum possible efficiency is an impractical target - taking into account that one wouldn't walk 12 hours a day and that, as anyone else, game scouts are entitled to time off and have other duties etc. Taking these factors into account, actual efficiency had been judged as 75% of patrol days available, 47% of possible hours and 47% of possible area. However, because the Scouts have strong tendencies to concentrate on certain areas (likelihood of more poachers, easier going etc.) the actual area covered was far less than 47%. With relocation of patrol strategies it should be possible to cover c.74% of the park once a year.

It is possible to calculate the probability of an illegal entrant being encountered by a patrol. Through simple formulae it can be estimated that a poacher entering a 5 x 5 km square of the Park, had once chance in 14 of being in that square at the same time as a patrol. This does not mean that he will be seen - for visibility is c.50 m, but if he lets off a gunshot, there is a chance it will be heard. Another product of the same calculation was that if a poacher fired 3 shots a day, every day of the year, 26 would be heard by patrols! Looked at yet another way, if a patrol heard only 10 shots in a year, it could mean that 1.14 shots had been fired per day.

A further step was to estimate the probability of a poacher actually being seen by a patrol. The product of this was that if a poacher spent 8 hours a day moving about through the Park every day of the year, he would have an 83% chance of being seen once by a patrol in that year. Turned about - if patrols see 10 poachers in a year, it means that there must be an average of 12 poachers moving in the Park every day of the year.

The efficiency factor of the Anti-poaching unit is, of course, of paramount importance. With better training at junior level the efficiency of the rate of interception could

probably be increased by a factor of 5. The increased staff is, therefore, only one aspect. Higher output per staff member is more important. Increased cost of housing and logistic support, suggests that increased efficiency per man hour is a better immediate approach to the problem.

I have merely summarised discussion in this appendix, but the National Parks are talking from a base of hard data. In view of the importance of this particular aspect of research for African Parks as a whole, I believe that any aid available for extending and consolidating the progress already achieved would be best spent if directed towards Malawi. That is of course if this is agreeable to the Malawi Government. I believe it to be the most important research being done in any aspect of African wildlife.

## APPENDIX NO. 7 SOMALI POACHING IN KENYA

The Somalis are 4,000,000 Cushitic-speaking people spread across the Horn of Africa. The partition of the continent in the late 19th Century arbitrarily ran the borders of what are now Kenya and Ethiopia through the lands in which they dwelt. In consequence 1,000,000 of them are politically considered as Kenyans or Ethiopians, by the Governments of those countries. There is a strong nationalist sentiment within both Somalia itself and the Somalis living beyond its borders, that all the land inhabited by Somalis should be ceded by Kenya and Ethiopia to become part of a Greater Somalia. Recognition of this desire for unification led, in the 1920s, to taking a substantial part of Kenya from south of the Juba river and adding it to what was then Italian Somaliland. However this "final solution of the Somali problem" as it was termed, did not resolve the issue.

As Kenya approached independence, the Somalis again asked for a far larger secession - all the lands they occupied as a tribe in Kenya. Their demand was refused. After Kenya's independence in 1963, they tried to achieve their objective by launching a 5 year guerilla offensive. This petered out through the political mediation of President Kaundu of Zambia in 1968. However, the belief in "Greater Somalia" remained widespread and passionate.

In 1971, Somalia was assailed by drought of extreme severity which caused the loss of c.1,000,000 cattle, 5,750,000 sheep and goats and over 50,000 camels (I.M. Lewis, 1978). This deprived some 250,000 people of their livelihood. It caused a number of younger men to seek succour from their kin in Kenya and Ethiopia and the circumstances fuelled their belief in the need for more 'lebensraum'. As Somali tribes span the Kenya/Somalia border, it is not easy to differentiate between a "Kenya" Somali and a "Somali" Somali, making repatriation of immigrants difficult.

Those Somalis who entered Kenya to find new fortunes in the wake of their drought losses, turned to Africa's standby - ivory. With the high prices of 1973, shooting elephants was a quick way to make a lot of money. By 1973 they had passed beyond the bounds of what they claimed as Somalia (i.e. Kenya's Tana river) and were shooting in the Tsavo Parks. They were aggressive and were as inclined to fight as to run when encountered by the authorities. On the one hand they were recouping the drought losses, on the other they were asserting the Somali cause. Their morale rose steeply when Somalia's army embarked on open warfare attempting to take the Ogaden from Ethiopia. Likewise it declined when Russian and Cuban troops threw them out of Ethiopia. Since then the Somali 'poachers' have again become more active in Kenya. On occasion they have launched attacks on civilian and government targets.

The Galana Game and Ranching Company lease c.2,000 square miles east of and contiguous to the Tsavo East National Park. At any one time the Ranch used to hold between 3,000 and 5,000 elephants. In 1977 the Ranch's wildlife manager was killed in a clash with Somali 'poachers'. In August-November 1978, the Ranch management estimated that there were c.200 Somalis on the Ranch, 40 of whom were armed, shooting 300-400 elephants a month. One man apprehended revealed a cache of 55 tusks - the proceeds of the previous 2 weeks' hunting. This man later bought his freedom from arrest for c.\$2,500 (Kenya Sh 20,000). Government were either reluctant or powerless to do anything about the situation.

The salient issue is that the Somali 'poachers' who have assailed Kenya's parks and game lands and taken large quantities of ivory are only poachers in part. They also see it as an aspect of their cause toward a unified country. They have already lifted anti-poaching work to the realm of outright military tactics. In this respect the situation is similar to the Abyssinian poaching detailed in Appendix 2.

The ultimate solution of the issue must be political in the broadest sense and is beyond the limited pale of wildlife interests. This has not been made clear in media reports on the problem. Be it noted, however, that there may be good political reasons for not publicising the situation. If this be so (and it is beyond the requirements of this report to discuss the issue in depth), then conservationist comment with its very narrow perspectives may be both embarrassing and counter-productive in the long term.

Lewis, I.M. 1978. Somalia - Recent History in Africa  
South of the Sahara 1977-78. Europa Publications.  
London.

APPENDIX NO. 8    PROJECT ACCOUNTS  
 In Four Quarterly sections

<u>Fee</u> \$	<u>Secretarial</u> \$	<u>Travel &amp; COLA</u> \$	<u>Administration</u> \$	<u>Total</u> \$
4,000.00	59.06	3,328.79	140.58	7,528.43
4,000.00	1,271.94	3,787.41	739.34	9,798.69
4,000.00	1,164.60	1,905.13	1,258.65	8,328.38
*8,000.00	5,180.07	2,667.55	3,447.98	19,295.60
				<u>44,951.10</u>
				Refunded to I. Douglas-Hamilton
				<u>48.90</u>
				<u>45,000.00</u>
				Total survey costs
				44,951.10
				Air fares donated by
				Botswana Game Industries
				<u>1,166.70</u>
				<u>46,117.80</u>

\* Not yet received.



