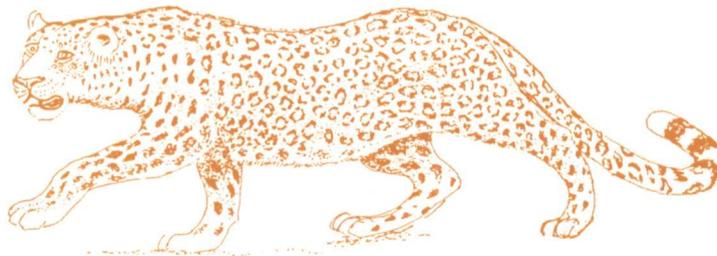
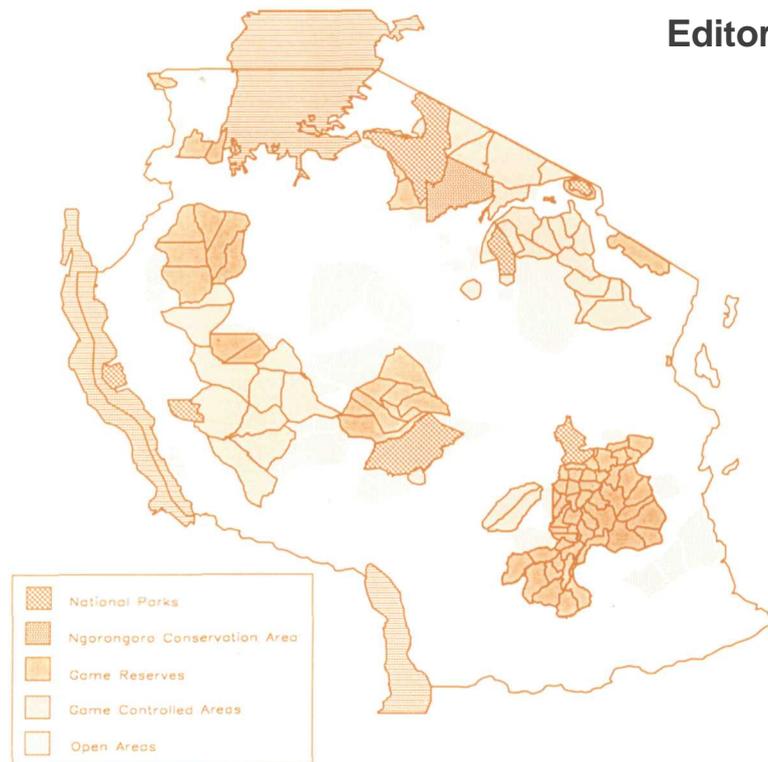


IUCN Species Survival Commission

Tourist Hunting in Tanzania

N. Leader-Williams, J. A. Kayera and G. L. Overton

Editors



Occasional Paper of the IUCN Species Survival Commission No. 14

Tourist Hunting in Tanzania



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Tourist Hunting in Tanzania

Proceedings of a Workshop held in July 1993

N. Leader-Williams, J. A. Kayera and G. L. Overtoil

Editors

Planning and Assessment for Wildlife Management

**Department of Wildlife
Dar es Salaam, Tanzania**

Occasional Paper of the IUCN Species Survival Commission (SSC) No. 14

**IUCN -The World Conservation Union
1996**

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PREFACE

Tanzania has long been recognised for its superb trophy hunting (also known variously as sport hunting or safari hunting). This reputation arises from the varied game found in Tanzania, from the high quality of its trophies, from the vast areas of wilderness and magnificent scenery, and from the calibre of its top professional hunters. Since the 1960s Tanzania has aimed to conserve its wildlife resources using strategies that include utilization for the benefit of the people of Tanzania. Because trophy hunting involves the off-take of mature males from populations managed through issuing low quotas, high quality trophy hunting has long been seen as a sustainable form of wildlife use. Trophy hunting by tourists has also long been recognised as an economically viable form of wildlife use that is consistent with promoting high quality, yet low density tourism. Therefore, trophy hunting by wealthy tourists can contribute significantly to government revenues. Furthermore, trophy hunting is an important way to utilize wildlife sustainably in remote areas that are not visited by game viewing tourists, and to provide benefits to local people from wildlife.

When developing its tourist hunting industry in the 1960s, Tanzania implemented the first block and quota system in Africa. This was followed by a period from 1973 to 1978 when hunting was closed in Tanzania. When hunting re-opened, the practice and regulation of the industry were vested in a single parastatal wildlife authority. Since 1988, the regulation of increasing numbers of private sector outfitters has been undertaken by the Government Department of Wildlife. As a result, Tanzania's tourist hunting industry has grown considerably in the last few years. These changes in the management of hunting in Tanzania are not dissimilar to those seen in other African countries, where hunting has been variously banned, restricted, reinstated, encouraged or discouraged by different governments. Hunting has always proved difficult to administer in Africa, for many reasons. Many of these difficulties arise because a lucrative industry providing for the recreation of a wealthy foreign elite is being practised in the context of African economies. A number of countries in central and southern Africa have been undertaking reforms of their hunting industries to attempt to circumvent these administrative difficulties, while also aiming to maximise earnings from the minimum quota utilization.

Tanzania has made a number of changes to its tourist hunting industry, and has begun the process of developing approaches that provide benefits from wildlife to local people. However, these changes had not been made according to any coherent policy guidelines. Furthermore, little information has been available to judge the scale and value of the tourist hunting industry in Tanzania. Indeed, the lack of policies and plans, and the lack of data, in Tanzania's wildlife sector was realised in 1990 when the Planning and Assessment for Wildlife Management (PAWM) project was initiated. PAWM was given very broad terms of reference. These included a brief to tackle the current key planning issues and to draw up national plans for the wildlife sector; and to organize a more efficient, workable system of information storage and retrieval. The goal of the overall programme of PAWM was to conserve the wildlife of Tanzania by promoting the sustainable economic development of the wildlife sector. A workshop on tourist hunting in Tanzania was designed as part of PAWM's programme of work, and was held in Dar es Salaam during July 1993. During its preparation and follow-up, the workshop developed a number of important objectives, among which were the following:

- to assess the extent and economic value of tourist hunting in Tanzania;
- to bring together expertise and stakeholders both from within and from outside Tanzania, to discuss issues of importance to the future management of tourist hunting in Tanzania; and,
- to prepare recommendations that would form the basis of a policy and management plan to assist the Department of Wildlife to better manage Tanzania's tourist hunting industry.

This volume provides a record of PAWM's efforts to work through these objectives. Readers interested in the subject of tourist hunting in East and southern Africa can find in the following pages the formal presentations that were made at the workshop, including papers from inside and outside Tanzania. This volume also provides a record of the recommendations that were made at the workshop by various working groups. The task of preparing a policy and management plan for tourist hunting was completed by PAWM following a later workshop on Community-based

Conservation. This workshop had important implications for the management of tourist hunting in areas occupied by both wildlife and rural communities. It is very pleasing to note that the *Policy and Management Plan for Tourist Hunting* received the initial approval of the then Minister of Tourism, Natural Resources and Environment in April 1995, but it now awaits formal approval of the new Government. This policy and management plan provide guidelines that will improve the performance of the tourist hunting industry and increase earnings for the Government. Moreover, the policy and plan provide mechanisms for sharing benefits from wildlife between local people and the Government.

The formal presentations in this workshop were divided into six main themes, as follows: Part 1: Perspectives on tourist hunting; Part 2: Administration and policy towards tourist hunting in East and southern Africa; Part 3: Setting quotas; Part 4: Safari volumes and returns from tourist hunting in East and southern Africa; Part 5 The involvement of local communities in tourist hunting; Part 6: The professional hunter. The proceedings of the workshop were greatly enriched by the presence of colleagues from Zimbabwe, Zambia, Botswana and the United States, who all presented papers of great interest that enlightened participants about practices elsewhere. When taken together with the new material from Tanzania, this collection of 21 chapters is perhaps the most complete to have been assembled on different aspects of tourist hunting in East and southern Africa. Indeed, some salient points emerge. For example, tourist hunting in Tanzania earns about the same amount as the industry in Zimbabwe, but Tanzania has about twice the land area available for hunting as Zimbabwe. Furthermore, Zimbabwe itself estimates that its industry is only operating at half its capacity in terms of earnings. Therefore, as an approximate rule of thumb, Tanzania's hunting industry has the capacity to expand its earnings by at least four times! The questions between formal presentations and the participation in working groups were greatly enlivened by the presence of Members of Parliament, who have shown increasing interest in the issue of tourist hunting at recent sittings of the Bunge.

N. Leader-Williams
Formerly *Chief Technical Advisor, PAWM*

J.A. Kayera
Project Manager, PAWM

ACKNOWLEDGEMENTS

The holding of a workshop as complex as this, and the task of compiling the information required can only be achieved with teamwork of a high order. PAWM is very grateful to the Minister of Tourism, Natural Resources and Environment for his gracious opening of the workshop. The Director of Wildlife provided much support during its preparation and chaired the workshop very ably. All PAWM staff worked hard for many months with Department of Wildlife staff to compile the information describing the extent and potential value of Tanzania's tourist hunting, and to map the hunting blocks. The resource people invited to present papers at the workshop have given us fascinating accounts of current practices and thoughts on possible future directions. The staff of the Agip Motel in Dar es Salaam made us comfortable and welcome, while the staff of PAWM helped greatly with logistics and photocopying.

Our donors and project managers deserve great thanks. PAWM is funded by USAID, and jointly managed by the African Wildlife Foundation and the Tanzania Office of World Wide Fund for Nature (WWF). The programme of work undertaken by PAWM has been impressive in its breadth and scale. Our donors and project managers are thanked for their foresight and vision in initiating and funding the programme of work undertaken by PAWM. These proceedings have already been printed and distributed locally in Tanzania, but this volume makes them available to an international audience. Our donors are thanked for agreeing to fund the international publication through the Species Survival Commission of IUCN - The World Conservation Union. The Institute of Zoology of the Zoological Society of London, and the Durrell Institute of Conservation and Ecology in the University of Kent provided a base for the senior editor to complete their production. Dr Leslie Smart very conscientiously sub-edited the proceedings, and staff of the Publications Services Unit of IUCN took great care in their production.

OPENING: TANZANIA'S TOURIST HUNTING WORKSHOP

Honourable Juma Hamad Omar, Minister for Tourism, Natural Resources and Environment

Mr Chairman
Distinguished Delegates

First and foremost, I would like to take this opportunity to express my sincere gratitude to the organizers for having invited me to officiate at this important Tourist Hunting Workshop.

Tanzania is renowned throughout the world for its varied wildlife heritage and wonderful network of protected areas. Our fauna includes a wide range of wildlife from plains game in northern Tanzania, including species like the lesser kudu, gerenuk, oryx and spectacular concentrations of wildebeest, to woodland-dwelling game in the south, including species like the greater kudu, roan and sable. Amongst all these are the species of more catholic habits, like the elephant and zebra. Throughout the north and south of Tanzania we of course have abundant predators like lion and leopard. Our fauna also includes a few species that only occur in Tanzania, such as Abbot's duiker.

Tanzania long ago recognised the importance of her wildlife heritage, both in terms of its conservation value and its potential benefit to the nation as a renewable natural resource. A notable milestone in the history of conservation in Tanzania, and indeed in Africa as a whole, was the Arusha Declaration of 1961. The Father of the Nation Mwalimu Julius K Nyerere stated:

The survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonder and inspiration but are an integral part of our natural resources and of our future livelihood and well being.

In accepting the trusteeship of our wildlife we solemnly declare that we will do everything in our power to make sure that our children's grand-children will be able to enjoy this rich and precious inheritance.

The conservation of wildlife and wild places calls for specialist knowledge, trained manpower, and money, and we look to other nations to co-operate with us in this important task-the success or failure of which not only affects the continent of Africa but the rest of the world as well.

Since then Tanzania has made considerable strides forward in its conservation efforts. We have gazetted large tracts of our country as protected areas. Around 5% of Tanzania's surface area comprises National Parks and the Ngorongoro Conservation Area, 10% comprises Game Reserves and 9% are Game Controlled Areas. In total, therefore, Tanzania has 15% of its surface area devoted to wildlife in areas where no permanent human settlement is allowed, that is to say national parks and game reserves, and 9% of its surface area to protected areas where wildlife cohabits with humans. Our efforts at protecting our wildlife heritage have been recognised by the international community through designating some of our protected areas as World Heritage Sites and Biosphere Reserves. As well as this, wildlife is still numerous in many open areas.

But as former President Nyerere so rightly noted back in 1961, conserving such large tracts of land is an expensive undertaking. It is an undertaking in which we require international assistance, given that our wildlife heritage is of both national and international importance. It is our common duty to see to it that our wildlife shares our country with us long into the future. But to achieve this objective, we should also increasingly regard conservation and protected areas as forms of activity and of land-use that should earn their keep against potentially competing claims such as agriculture, livestock and forestry.

Furthermore, we must realise the full potential value of our wildlife resources to the national economy, in order to assist Tanzania's Economic Recovery Programme. For example, a study conducted by the International Trade Centre and IUCN in 1988, and in which some guests present at this workshop participated, suggested our wildlife resource had a value of around US\$ 120

million per year. While many of the figures in this report were not based on hard information, this study showed clearly how much of a contribution wildlife did, and could, make to our national economy. That report also discussed several problems with the management of our wildlife resources, the most notable being the amount of illegal use, the lack of involvement of local people in managing the resource and the lack of funds to protect the resource. Accordingly, it was recognized that the wildlife sector needed to be developed with carefully laid plans and that the necessary planning capability should be built up within the wildlife institutions.

We have been brought here today because of this need to plan for our wildlife sector. As I am sure you are all aware, this workshop has the aim of developing Tanzania's tourist hunting policy and management plan. To the uninitiated, killing to conserve may seem hard to understand. But on deeper reflection, most of us are aware that hunters are among the best conservationists because trophy hunting would not otherwise survive. My Government fully recognises both the conservation and economic value of our tourist hunting industry. Indeed, many of our protected areas, particularly the game reserves and game controlled areas, would not survive without tourist hunting because many of them are too remote and too wooded to attract game viewing tourists. The world renowned Selous Game Reserve is just such an example. Selous is one of the largest areas devoted to wildlife in Africa and recognised as a World Heritage Site, and is managed primarily for its tourist hunting. Indeed, it is also often the case that areas devoted to hunting remain as more pristine wilderness areas than protected areas devoted to tourist game viewing.

Tanzania closed tourist hunting from 1973 to 1978. My Government does not intend for this to happen again, not least because this was when we lost most of our rhinos and elephants. While we wish tourist hunting to contribute to conservation efforts and the national economy, my Government also recognises the need for a policy and management plan for tourist hunting. This plan must ensure that hunting is an industry that will last long into the future. I believe the programme for this workshop will cover all the themes necessary for us to achieve our objective. You will be hearing the views of international hunting clients who visit Tanzania and of the way that tourist hunting is organized elsewhere. Later sessions will compare the administration of hunting in Southern Africa and in Tanzania. You will also hear of different methods of setting quotas and of safari volumes and returns in different countries. This topic is of great importance in view of the need to ensure that the industry is conducted in a sustainable manner. I commend you especially to consider how tourist hunting can help local communities to become increasingly involved in the conservation of wildlife, for so many of our hunting areas are located in areas where wildlife and local people must live in harmony. Tanzania is presently implementing the tenets of the World Conservation Strategy, and the involvement of local people is stressed as one of the most lasting ways to ensure the conservation of natural resources. Lastly, you will discuss the standards it is necessary for a professional hunter to achieve to conduct his chosen work and maintain the reputation of Tanzania as a tourist hunting destination.

After the formal presentations, I am told you will move to working groups that begin to formulate recommendations for the future conduct of tourist hunting. These working groups will be vital in assisting the Department of Wildlife to formulate its management plan. A wide range of expertise has been invited to attend the workshop in order to assist the Department of Wildlife in its deliberations. Among the participants are, for example, the Immigration Officer who welcomes our international tourist hunters at the border and the Policeman who registers his weapons; the Department of Tourism and the Tanzania Association of Tour Operators which have responsibility for tourism in its widest sense; representatives from the Bank of Tanzania and the Board of External Trade who wish to know that appropriate foreign exchange is earned. We also have a considerable representation from the tourist hunting industry itself, through inviting a number of private outfitters as well as our one Parastatal outfitter, the Tanzania Wildlife Corporation. We also have a representative from the resident hunters, from the Hunters' Association of Tanzania, because their interests must be considered and made compatible with the activities of tourist hunters.

We have also taken the somewhat unusual step of inviting a number of politicians to attend the full course of a technical workshop. During debates in our recent Budget Session of the Bunge,

Members of Parliament showed considerable interest in the tourist hunting industry. Accordingly we have invited a number of MPs from areas adjacent to or within our tourist hunting areas, in order to involve them in the planning process, in a bid to see how best the industry can be integrated with their constituencies to bring about the development of their people.

We are very fortunate also to have with us resource persons from overseas with considerable experience of the tourist hunting industry. I would personally like to thank our visitors from Zimbabwe, Zambia, Swaziland and the United States for sparing their valuable time to come and advise us and share their experience.

Finally, I would like to thank the sponsors of this workshop. As I mentioned earlier, conservation is an expensive undertaking requiring the assistance of donors, as well as our own dedication. We are indeed grateful to USAID and the African Wildlife Foundation and World Wide Fund For Nature (WWF) for having funded and managed jointly the Project on the Planning and Assessment for Wildlife Management Project. This project has the specific aim of assisting the Department of Wildlife to develop plans and policies for the wildlife sector, and this workshop is part of their long-term work programme within the Department of Wildlife. Previous highly successful workshops that have been run through this project have concentrated on other forms of wildlife utilization, for example the live bird trade, and on game reserve planning. It was my pleasure recently to formally endorse and approve a number of policies and management plans resulting from these efforts. I look forward to being able to do the same for a tourist hunting plan following the results of your deliberations over the next few days.

Mr Chairman
Distinguished Delegates

With these few words, may I wish you every success in your endeavours. I now formally declare the workshop open.

PART 1

PERSPECTIVES ON TOURIST HUNTING

1. AN INTERNATIONAL PERSPECTIVE ON TROPHY HUNTING

J.J. Jackson III

Safari Club International, Virginia, USA

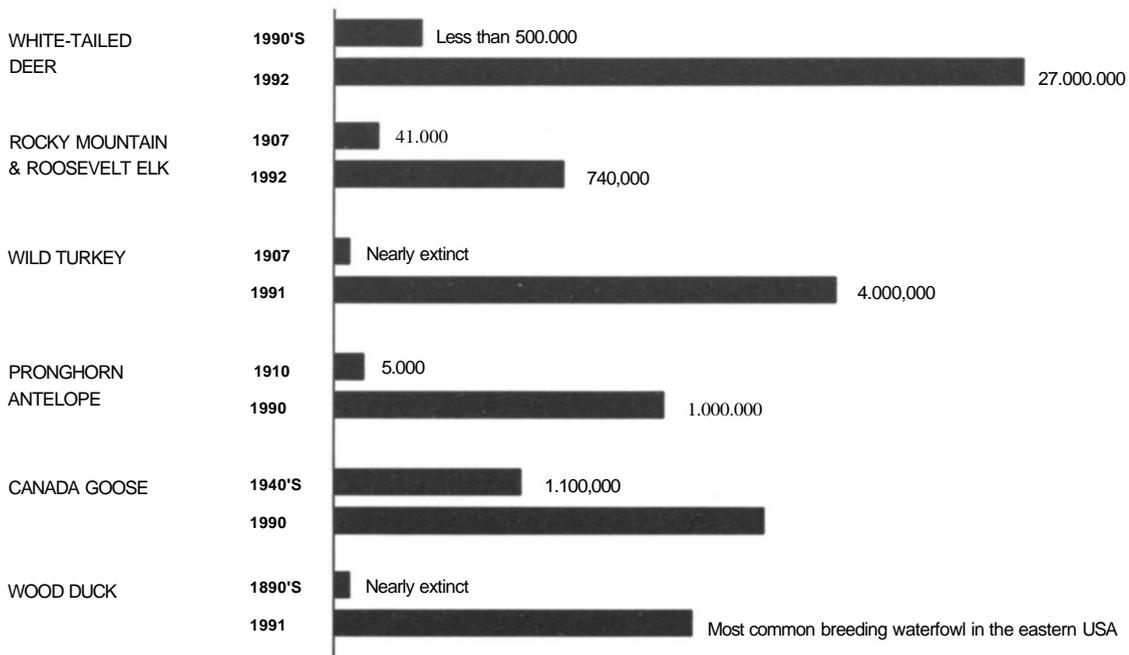
1. INTRODUCTION

There is a relationship between trophy hunting by tourists in Africa, and sport hunting in the homeland of those hunters. Sport hunters in North America provide the largest pool of hunters from which Africa draws, so this paper begins by examining hunting in North America. The paper then moves to consider various aspects of hunting in Africa.

2. TROPHY HUNTING IN NORTH AMERICA

Populations of game animals in North America have greatly increased due to conservation programmes funded by hunting. The regulatory designation of species as *game animals* has given them a status and value to 19 million game hunters. Licence fees, permits, tags, stamps and special excise taxes on American hunters have paid for most of the costs of conserving these species and the habitats that they occupy. Hunting and fishing generate more than US\$ 1 billion per year. Furthermore, hunters spend a further US\$ 1 billion leasing and acquiring habitat each year. Much of the revenue deriving from hunting is applied at the level of the State Game Departments, who are responsible for the conservation and management of game animals. Hence, most hunting revenue is applied to conservation rather than deposited in general treasuries. Indeed, more than 75% of all revenue devoted to conservation in North America derives from hunters and fishermen. Revenue from hunting has covered most of the costs of reintroducing, managing, and policing various species of game animals. These conservation measures have succeeded, as shown by increasing population sizes (Figure 1). Many populations of species once on the brink of extinction have been restored, together with their habitat, by wise use of revenue generated from hunters. Their restoration occurred well before the enactment of the US Endangered Species Act, or before the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) came into force.

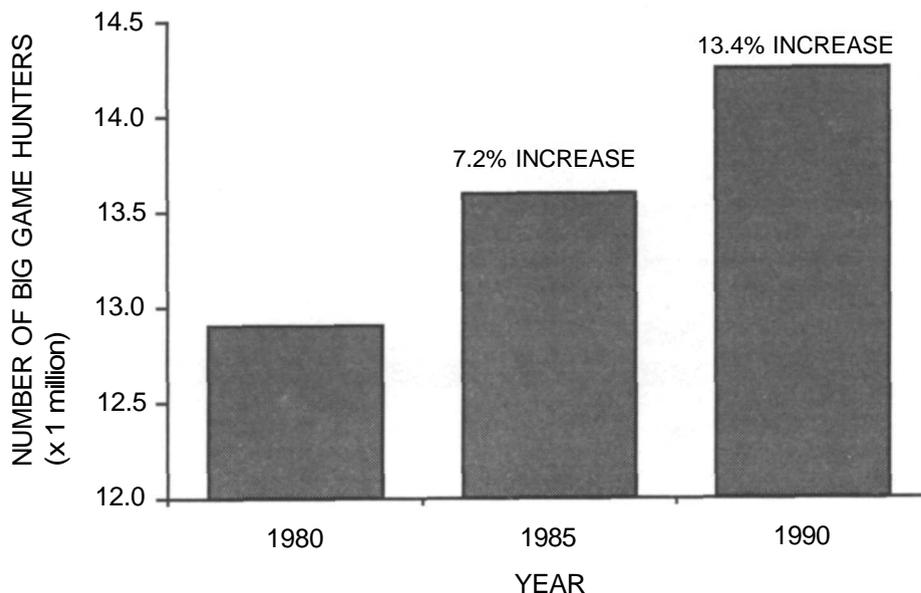
Figure 1: The increase in the game animals of North America



The increase in the abundance and availability of game animal populations in North America has stimulated more people to become big game hunters (Figure 2). A positive feedback cycle has generated more revenue for the Game Departments and resulted in more land being dedicated to wildlife conservation. The number of big game hunters in the USA has increased at a net rate of over 15,000 new hunters per month for several decades. Over 6 million new big game hunters have been recruited since 1965. The states of Texas, Michigan and Pennsylvania each now has over 1 million licensed hunters. In most states, hunters are residents, but this is not true everywhere. Most revenue in the western states, such as Colorado, Montana, Idaho and Alaska, derives from non-resident hunters who pay higher fees than residents and take fewer animals. Hunters have created 1.3 million jobs in the US market. Hunters alone directly spend US\$ 1.6 million per hour in the US. The total economic effect from hunting in 1991 was estimated to be US\$ 35 billion, and with multiplier effects it probably exceeds US\$ 100 billion per year.

An important consequence of having over 19 million hunters, 14 million of who are big game hunters (Figure 2), is that they spill over to finance programmes in Africa. The increasing wealth of Americans and the increasing numbers of big game hunters has resulted in more tourist hunters with the interest and financial means to hunt trophy animals in Africa. The interest of American hunters in Africa is growing, and the demand for tourist hunting within Africa will continue to increase. Furthermore, the market is less vulnerable to fluctuations from recessions and civil wars than is photographic tourism.

Figure 2: The increase in the number of big game hunters in the United States of America



3. ROLE OF SAFARI CLUB INTERNATIONAL

Safari Club International (SCI) is a conservation group for hunters. SCI is the largest organization for trophy hunters in the world, and is some 40 times larger than the next hunting organization of its kind. SCI is growing at the rate of 20% per annum, with 5000 new members each year, and has about 30,000 core members in over 160 chapters from Namibia to Moscow. SCI serves as the principle market place for trophy hunts, and its Las Vegas convention held every January is attended by 9000 hunters. One third of its core members goes to Africa every one to one and a half years. SCI follows the tradition that hunters pay for conservation, and is a mighty force for conservation. Consequently SCI has integrated the spending of millions of dollars contributed over-and-above the licence fees and expenditures spent during hunts, to special projects. The trophy hunting industry is strong world-wide, and is expected to continue to grow as the wealth of foreign hunters increases. SCI therefore sees hunting in Africa as a means of financing conservation programmes, and ensuring the future prosperity of rural people through the wise use of renewable natural resources.

4. TROPHY HUNTING IN AFRICA

As in the US, trophy hunting can create a market for wildlife in Africa so that it is valued and protected. In Africa, trophy hunting by tourists occurs on a small scale, but earns more than resident hunting. Thus, trophy hunting in Africa cannot yet be expected to support the same scale of conservation programmes as those within the US. Nevertheless, trophy hunting by tourists can play a very important role in Africa, where it is often the principle incentive to respect the species and its habitat. This is particularly true outside protected areas, because it is usually only tourist trophy hunters who provide any economic value for conserving species and habitats in such areas.

4.1. IMPACT ON WILDLIFE

Trophy hunting has the greatest *per capita* benefit, and the least negative impact, of any activity in the ecotourism industry. Indeed, hunters were the original ecotourist, and hunting requires very little infrastructure and leaves the habitat relatively undisturbed. The small numbers of animals collected by trophy hunters are usually biologically surplus males whose genes have already been dispersed. Far more males occur in a population than are needed for reproduction in most species, and the reduction in numbers of males makes room for others, and actually stimulates reproduction. Good management keeps populations below the carrying capacity of their habitat, thereby minimising habitat damage, disease, reduction in birth rate, vulnerability to drought, and fighting losses. Thus, the modern-day tourist hunter can fill an important niche in any scientifically based wildlife management plan governing the conservation and use of Africa's natural resources.

4.2. BENEFITS OF TOURIST HUNTING

In remote, undeveloped areas, trophy hunting can bring wealth to rural people by harnessing the very high economic value of wildlife, as compared with other forms of land use. Benefits include:

- **improvement of environment:** trophy hunting can provide economic incentives to rural villagers to regard wildlife as an asset rather than a liability. This encourages villagers to maintain their local wildlife within a pristine and natural environment. The presence of an active safari operator can stimulate wildlife and habitat preservation. Furthermore, hunting is an important source of government revenue for wildlife and habitat conservation;
- **provision of food:** trophy hunters often produce meat for local people, and can help reduce and control crop damage. Trophy hunting can create incentives that favour wild game over domestic animals. Wildlife withstands droughts and tsetse flies better than domestic animals, and is much less demanding on the ecosystem;
- **provision of water:** a safari hunting operator will establish a predictable and secure source of water in the most arid areas. This can mean drilling wells that rural people as well as wildlife can use. In some instances, safari licences provide the revenue used for drilling wells, as in some Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) areas in Zimbabwe;
- **alleviation of poverty and provision of employment:** trophy hunting can turn wildlife from a liability into an asset. It can maximise the benefits from wildlife that is under-utilized. Consequently, tourist hunting can have a profound effect on rural poverty. Tourist hunting directly employs many people who may not otherwise contribute to the local economy. Running a hunting safari requires many duties and tasks, ranging from camp construction to trophy preparation. Tourist hunting may be the primary source of income for a village, and the income of the local people can more than treble in relation to the average national income. Hunting requires little or no infrastructure, and no other activity has the same potential as trophy hunting to improve the quality of life of rural people;
- **enhanced role for women:** with the development of small businesses women can sell agricultural products, jewellery, pottery and other items. Indirectly, women benefit as men in the village come into a new position of contribution. Husbands and sons who play an important role in the hunt increase their self-esteem. This changes their relationship with their family;
- **health and medicine:** safari companies are usually the main provider of health care to rural people living in remote areas. A safari company can add decades to rural human life expectancy, particularly of children. Simple medications reduce a great deal of suffering caused by malaria, diarrhoea, eye infections, and so on;

- **small business enterprise:** many ancillary businesses can be built around the trophy hunting industry, such as: promotion of local arts and crafts, pottery, jewellery and clothing, entertainment, transportation, taxidermy, and road and bridge building; and,
- **agriculture:** tourist hunting can have a scarecrow effect on wildlife that is in conflict with man, and help to keep it off the fields. Hunting can also provide the revenue and incentive for rural people to tolerate and overcome the effects of crop damage. Hunting can reduce dependence upon crops, and rural people can derive income from the safari operator for the sale of agricultural products such as corn, vegetables and fruits.

In summary, the international hunting client sees hunting as the ideal way to return land to its natural state, and to let wildlife populations flourish. Hunting can provide the maximum value and most direct incentive for the sustainable use of wildlife. Thus, trophy hunting is a fundamental technique in conservation and vital to the well-being of rural people, who will ultimately determine the fate of their surrounding ecosystem. International hunters can be proud of their participation in Africa.

5. THREATS TO TROPHY HUNTING IN AFRICA

Tourist trophy hunting occurs at a very low volume and is directed at select members of the species. It is therefore unlikely to be detrimental to populations. Despite this, the home countries of tourist hunters visiting Africa have placed trade restrictions on the import of trophies. If hunters cannot take their trophies home they will be discouraged from trophy hunting in Africa. The problem occurs at two inter-related levels. The protectionist movement is having an effect upon the interpretation of international and domestic laws and regulations, and poses the greatest threat to conservation programmes today.

First, trophy imports are subject to international restrictions, particularly through CITES. Resolution Conference 2.11 gives importing nations the option of making a comprehensive examination of the status and management of species listed on Appendix I of CITES, before agreeing to the import of trophies into the home state. Countries like the US treat this as a mandatory obligation, along with proof of enhancement of conservation programmes. The US Office of the Scientific Authority (OSA) has even refused to recognise the trophy quotas agreed by CITES for elephant, cheetah, and leopard, until it makes its own determination, which was not the original intent of CITES. Furthermore, the EU is proposing this interpretation for species listed on Appendix II, as well as on Appendix I, before allowing the import of trophies. Australia has long had this requirement for species listed on both appendixes. Clearly, the trophy hunting industry would become totally impossible if every party to CITES made its own separate determinations. Ideally, the range state in which the species occurs is in the best position, and has the greatest interest, in making such determination. However, Third World nations may be unable to fund all the necessary studies and documentation. A lack of funds should not be allowed to prevent such nations from using a conservation tool like tourist hunting. If further listing of species continues, it is all the more important that tourist hunting is not treated like high volume commercial trade.

Second, range state nations may impose stricter domestic regulations, as a result of pressure by the protectionist movement. Resolving this issue requires a co-operative approach, because SCI cannot represent mutual interests without the help and assistance of countries with hunting industries. Tanzania is complemented for its opposition to the elephant trophy import guidelines that were first illegally adopted by the OSA of the US CITES Management Authority, and then more recently re-proposed. Never before has there been such organized opposition and alliance of interest against a proposed regulation by the US OSA. Unfortunately, such opposition has never been necessary before!

All interested parties need to co-operate on this problem. SCI has attempted resolution of this issue through lawsuits in court, the hiring of a full time lobbyist and by public education programmes documenting the role and value of tourist hunting. Party nations must introduce appropriate resolutions at CITES Conferences of the Parties. It is necessary to clarify that Resolution Conference 2.11 only provides for an optional, rather than a mandatory, examination and proof of enhancement on the part of the importing nations. Furthermore, the obligation rests with the

exporting nation to determine whether the taking of a species is detrimental to the survival of that species. It is not the intent of CITES that importing parties presume that the findings of the exporting nations are false. It is not possible for 113 importing nations to make their own individual determinations that the exporting nation is best suited to make.

6. CONCLUSION

The international hunting client sees hunting in Africa as the ultimate hunting experience. Furthermore, the hunting client believes that hunting provides a direct incentive for sustainable use of wildlife for otherwise impoverished rural people. International hunters can be proud of their participation in conservation in Africa. SCI will do everything in its power to stop any unnecessary interference with conservation options and intrusion upon sovereignty of range states. Range states must spend their money on more important activities than proving to other nations that low volume off-take such as tourist hunting is not detrimental. This issue needs co-operative work, and Tanzania is to be complemented on its stance thus far.

2. THE TROPHY HUNTING INDUSTRY: AN AFRICAN PERSPECTIVE

Price Waterhouse

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1. AFRICAN COUNTRIES IN WHICH TROPHY HUNTING IS UNDERTAKEN

Countries that offer hunting to the international hunter include:

Botswana	Burkina Faso
Cameroon	Central African Republic
Ethiopia	Mozambique
Namibia	Sudan
South Africa	Tanzania
Zambia	Zaire
Zimbabwe	West Africa

Countries that used to offer hunting but no longer do so, include the following:

Kenya	Malawi
Angola	Uganda
Somalia	

Within these countries, a broad range of species attracts the trophy hunter. These species occur in every conceivable habitat and this adds to the challenge and attraction of the hunt. Some hunting, such as plains game, is easy, whilst hunting in dense forest areas can be very difficult. The approximate number of species that can be hunted in different countries is as follows:

Tanzania	70 species
Ethiopia	72 species
Sudan	76 species
South Africa	37 species
Zambia	39 species
Zimbabwe	34 species

2. DYNAMICS AND FINANCES OF THE INDUSTRY

A number of important factors determine the dynamics and financing of the industry, as follows:

- the number and mix of species;
- the quota allocation;
- cost of animals;
- marketability of the hunt;
- international competitiveness;
- professional hunters' reputation and integrity;
- trophy quality and total cost of the safari;
- stability of the country; and,
- reputation of the hunting area.

3. PROFILE OF THE TROPHY HUNTING INDUSTRY

The trophy hunting industry commands a very high profile, for a number of reasons:

- attracts attention, both welcome and unwelcome;
- an emotive activity, both for hunter and anti-hunter;
- involves a large amount of money, particularly forex;
- lucrative industry, supporting a large number of companies;
- requires large capital investments;
- provides rural employment;
- supports economies in Africa and abroad (air charter, tanneries, curios);
- promotes wildlife utilization as a viable form of land use;
- promotes the country as a tourist destination; and,
- stimulates other tourist related activities (photographic, canoeing, rafting, walking).

4. PROBLEMS WITH ADMINISTRATION

All wildlife administrations have difficulties administrating trophy hunting, for a number of reasons:

- politicians either do not appreciate the value of hunting, or they do which promotes corruption;
- no transparent methods of allocating concessions;
- difficulties with setting quotas and prices;
- difficulties with managing operators, professional hunters and clients;
- difficulties with determining a fair return for producer and consumer;
- industry leads to mistrust between operator and government;
- attracts *the good, the bad and the ugly*,
- the demands of operators appear excessive, particularly with respect to exclusivity: large areas; bigger quotas; lower licence fees;
- governments find it difficult to justify large areas devoted to hunting; and,
- demands a high level of professional management: ecologists, economists, wildlife managers.

5. THE RESULTS

As a result of many of the above, hunting has been either:

- banned;
- restricted;
- reinstated;
- encouraged; or,
- discouraged

by various governments. Some governments see the industry as being more trouble than its worth, for example in Kenya and Malawi.

6. PURPOSE OF THIS WORKSHOP

This workshop has the purpose of examining some of these issues, particularly with respect to:

- attempting to establish a viable industry in Tanzania; and,
- establishing a win-win situation for both the producer and consumer.

7. THE MAJOR CHALLENGE

The greatest challenge is to market the safari effectively. The type of the safari determines the number of hunter days, for which the daily rate can be charged. This makes the money. A number of types of safari are available in southern Africa (Table 1).

Table 1: Types of safari available in southern Africa

Species	21-day	14-day	10-day	7-day
Elephant	x			
Lion	x	x		
Leopard	x	x		
Buffalo	x	x	x	
Plains game	x	x	x	x

In Tanzania, on a 21-day safari, the quota bag that is sold comprises:

- Elephant, Lion, Leopard, and Buffalo (3) = **21 days**

This can be made to grow as follows:

- Elephant and Buffalo (1) = 14 days;
- Leopard and Buffalo (1) = 14 days; and,
- Lion and Buffalo (1) = 14 days.
- Total = **42 days**

In summary, the industry should strive to **maximize the hunter days** from the **minimum quota utilization**. In this way, the country will be able to maximize its income. The Government must learn to base its assessment of the overall potential earning of the industry both on the hunter days and the trophy fees (Planning and Assessment for Wildlife Management, 1996).

REFERENCE

Planning and Assessment for Wildlife Management. 1996. Returns from tourist hunting in Tanzania. (This volume).

3. THE DEPARTMENT OF WILDLIFE'S PERSPECTIVE ON TOURIST HUNTING IN TANZANIA

M.A. Ndolanga

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1. GAME RESERVES AND GAME CONTROLLED AREAS IN TANZANIA

Large tracts of Tanzania outside the network of National Parks and Ngorongoro Conservation Area are devoted to wildlife conservation. Two other categories of conservation area are allowed under Tanzania's current enabling legislation, the Wildlife Conservation Act of 1974. These are Game Reserves and Game Controlled Areas. Game Reserves are devoted solely to wildlife conservation and prohibit any permanent human settlements or grazing of livestock. However, they can be utilized consumptively through the issuance of permits for hunting. In contrast, in Game Controlled Areas, human settlement and the grazing of livestock are unrestricted, but hunting of wildlife is only permitted under licence. The only exception is when wildlife threatens human life and property. However, given that settlement is unrestricted in Game Controlled Areas, the potential for conflict is likely to escalate as human populations increase, unless appropriate corrective measures are taken.

Around 10% of Tanzania's surface area is gazetted as Game Reserves, while 9% comprise Game Controlled Areas. Most Game Reserves are now under the central control of the Department of Wildlife, and receive their budget from Treasury via the Department. They are known as National Projects and have a Project Manager who is answerable to the Director of Wildlife. All National Project Game Reserves, except for Mkomazi Game Reserve, are devoted to tourist hunting. A few Game Reserves and all the Game Controlled Areas are under regional control and receive their budget through their respective region. Even though Regional Game Officers are not answerable directly to the Director of Wildlife, but to their Regional Development Director, these areas are mostly staffed by wildlife officers out-posted from the Department of Wildlife. Wildlife populations also survive in considerable numbers outside protected areas. These are also under the control of the Regional Game Officer. A licence is needed to shoot wildlife unless it is endangering human life and property. Therefore the management of tourist hunting falls under different authorities, depending on which category of protected area is involved.

2. HUNTING IN TANZANIA

Much of Tanzania's surface area is devoted to protected areas and wildlife still occurs in open areas. Hence, Tanzania has sought to find ways to utilize its wildlife that make a significant contribution to the national economy as well as achieving the objectives of conservation. Apart from the ban from 1973 to 1978, Tanzania has been involved with tourist hunting since the end of the 19th century. Since hunting re-opened in 1978, and in contrast to neighbouring Kenya and Uganda, Tanzania has sought to build up its tourist hunting industry. Within many Game Reserves and Game Controlled Areas, tourist hunting is the most economically rewarding form of land use. Hence, Tanzania believes that this form of wildlife utilization can make significant contributions to the future conservation of such areas as the Selous and Rungwa Game Reserves. When properly managed at sustainable offtake levels, tourist hunting has little impact on wildlife populations and provides high returns from a low-volume but exclusively priced market. The tourist hunting market has two further advantages over other forms of wildlife utilization. First, tourist hunting appears to be a reasonably stable and even growing market. In comparison, the high-volume tourist game viewing market is often fickle and prone to fluctuations arising from recessions, civil disturbance and the like. A second advantage is that tourist hunting can contribute to the economy of the local community. If local people receive direct benefits from their local wildlife they will probably wish to conserve it.

The Department of Wildlife aims to continue to promote tourist hunting within Tanzania. Tourist hunting is a vital way to gain funding for the infrastructure of Game Reserves. Treasury agreed last year to a retention scheme for the Selous Game Reserve that permits the reserve management to retain 50% of the game fees earned in Selous. This retention scheme could greatly increase the budget for Selous. In 1992 the Department plans to use the extra funding to employ extra staff. These will work on the rehabilitation project for black rhino populations. The Department is now negotiating with Treasury to extend the retention scheme to other National Project Game Reserves as a way also of boosting their operational budgets.

3. BENEFITS TO LOCAL COMMUNITIES

For tourist hunting conducted within Game Controlled Areas and open areas, the Department sees great potential for providing considerable benefits to local people and involving them more fully in conservation activities. Tanzania has begun to involve local communities in conservation within three of its major ecosystems. Through such projects as the Selous Conservation Project, the Serengeti Regional Conservation Strategy and the Ruaha Ecosystem Wildlife Management Project, communities receive tangible economic benefits from the legal utilization of wildlife. However, all these projects are at an early stage of development and major funds are not yet accruing to local communities from tourist hunting. Therefore, it is vital for Tanzania to develop clear policies for managing its tourist hunting industry, both to achieve conservation benefits and to provide rural communities living among wildlife with much needed income. This workshop is a vital first step in the development of such policies. The participants include individuals with much experience of the role of tourist hunting in providing benefits to rural communities.

4. COMPETITIVE BUSINESS

Tanzania's future as a tourist hunting destination for wealthy overseas clients will depend on its performance in a competitive market. Tanzania has certain advantages over its competitors in Africa. Tanzania can offer hunting clients a balanced package of species including gerenuk, lesser kudu and oryx that are less readily available elsewhere. Tanzania is also fortunate to possess some unbeatable safari destinations. However, despite such advantages Tanzania must strive to maintain its reputation as a country that can offer high class trophies. The demise of elephant populations in Tanzania as a result of illegal exploitation for their ivory is a case in point. This has led to few elephants of trophy size being available to tourist hunters and a considerable loss of potential revenue to our tourist hunting industry. Tanzania must also strive to provide impeccable service at all stages of the hunters' visit to our country, from his welcome at the airport to well-managed camps and well-maintained vehicles. This is expected by high paying clients. The Department encourages all other Government departments involved directly or indirectly with the tourist hunting to help to develop and maintain the standards necessary for this industry.

Two other factors are specially important to any future success. First is the calibre of the professional hunters working in Tanzania. This is important at every stage of the safari, from the initial booking to the trophy preparation. The Department intends to introduce a more stringent system of approval and licensing for our professional hunters. All applications for a professional hunter's licence will be closely scrutinized from the start of the next season. A questionnaire has already been sent to all professional hunters hunting, or intending to start hunting soon. The second factor is maintaining the improvement in the handling of trophies. Nothing can be more harmful to the reputation of a tourist hunting industry than the poor handling, poor quality control, poor packing, loss or delays in delivery of the trophies after a safari. Since private companies have entered the trophy handling market, the situation has improved greatly, but the Department wishes to encourage further improvement. The Department will do its utmost to expedite permitting requirements. However, all those involved in the preparation and export of trophies should help maintain recent improvements in this area.

As tourist hunting develops, the Department will aim to encourage the participation of locally owned and run companies in the industry. In doing so the Department sets standards for outfitters who want long-term tenure of their allocated blocks. The Department expects outfitters to utilize their quota more fully and at present has set a minimum target of 40% utilization. Outfitters will be expected to build up the infrastructure of their blocks and show long-term commitment to their areas through anti-poaching activities and so on. Outfitters will also be expected to involve rural people more fully in conservation activities related to the industry. The Cullman Reward and Benefits Scheme to the south of Maswa Game Reserve provides an example of the way that an outfitter took the initiative to provide employment, meat and benefits to rural people.

In stating that the Department wishes to promote tourist hunting, it is important to recognize that the interests of rural hunters are not being forgotten. Hunting by residents of Tanzania will remain a very important aspect of our future wildlife utilization policy. Equally, Tanzania must seek to balance the interests of different groups in a manner that is equally acceptable to all parties.

5. NEED FOR A POLICY

In conclusion, the Department of Wildlife believes it is vital to have a policy and management plan for the future tourist hunting industry. To achieve this the Department is hosting this workshop. This brings outside expertise together with the full range of stakeholders involved in the industry. The aim of the workshop is to lay the foundation of an improved industry. This will combine high standards of operation with sustainable offtake levels, for the benefit of conservation in Tanzania.

4. THE OUTFITTER'S PERSPECTIVE OF TOURIST HUNTING IN TANZANIA

Gerard Pasanisi

Chairman of TAHOA, Dar es Salaam, Tanzania

1. HISTORICAL BACKGROUND

In the early days, tourist hunting in Tanzania was undertaken by private companies, known as outfitters. Tanganyika Wildlife Development Company was formed in 1964 to supervise tourist hunting in Tanzania. In 1973, hunting was banned in Tanzania, as the newly emerging socialist state went into a period of isolation. However, hunting operations started again under the supervision of the Tanzania Wildlife Corporation (TAWICO) in 1978. In 1988 the Department of Wildlife took over the responsibility for the supervision of hunting.

These changes in the administration of hunting have affected the various outfitters in different ways. However, they have served the interests of Tanzania, without importing ideas from other countries. Hunting has prospered in the hands of those outfitters who have agreed with the various decisions made by the Government. The Tanzania Hunters' Association (TAHOA) hopes that this spirit continues and expects that this workshop will produce results that protect the long-term interests of Tanzania and of the outfitters. The workshop should encourage successful conservation and enforcement of appropriate regulations. Both Tanzania and the outfitters have a common interest in these goals. The tourist hunting industry must support conservation interests for present and future generations of Tanzanians, and for the rest of the world.

2. FUTURE NEEDS OF THE INDUSTRY

The wildlife resource now occurs mostly in areas that are unsuitable for agriculture or cattle. However, wildlife will quickly disappear from these areas without economic support or anti-poaching efforts. The outfitters wish to avoid a repeat of the disaster in the 1970s, when Tanzania lost most of its black rhinos and elephants.

The outfitters have always been conservationists. Our role is vital, as conservation without utilization will not guarantee a future for wildlife. Wildlife must contribute to the economy of Tanzania to ensure its survival. Equally, the outfitters must operate to high standards. TAHOA wishes outfitters to consider the following points carefully:

- outfitters must employ people who follow the principles of conservation;
- outfitters must operate according to ethical standards; and,
- outfitters must involve rural communities in conservation.

Clear directives must come from the Department of Wildlife, and form the basis for the operations of all outfitters hunting in Tanzania. When economic times are hard, as now, outfitters with no concern for the future of wildlife must be prevented from infiltrating the industry.

3. PARTICIPATION OF OUTFITTERS IN CONSERVATION AND ECONOMIC BENEFITS

Outfitters participate actively in conservation, because they wish to continue to benefit from wildlife through trophy hunting. In this role they work closely with the Department of Wildlife, and contribute towards, and effect, the following tasks:

- **maintaining roads in conservation areas:** these roads are used by outfitters during the hunting season, and by wildlife staff during the closed season. Good communication links are vital to keep poachers out of conservation areas;
- **supporting anti-poaching teams:** by providing fuel and vehicles to help follow up suspects, both during the hunting and closed seasons;
- **involving rural people in conservation:** by providing benefits from tourist hunting, outfitters encourage rural people to appreciate the value of wildlife, and to participate generally in anti-poaching activities. Rural people know their areas very well, and outfitters wish to work closely with them;
- **developing ways to provide benefits to rural people:** depending on the agreements made between outfitters and the villagers these can include: employment at hunting camps (and in

- some cases in our head office in town); helping to build schools and better village dispensaries; providing medicines and dried meat from hunting operations;
- **advertising conservation in Tanzania:** the presence of outfitters at international hunting conventions has in some cases led to increased donor interest and investment in conservation projects; and,
- **preventing poachers** from operating simply by being active in the area.

Outfitters also have strong economic motivations, and tourist hunting can make major contributions to economic and social development as follows:

- **outfitters bring foreign exchange to Tanzania:** most directly this is in the form of daily rates outfitters receive from clients and pay into local banks, and through the income tax paid on such earnings. Other foreign exchange comes through payment of game fees, hunting permit fees, observer fees, trophy handling fees, TALA licence fees, professional hunters' fees, work permit fees, fees for firearms, and airport tax;
- **outfitters help other businesses to flourish:** by providing a demand for fuel and spare parts for vehicles and equipment used in the camps, such as tents. Service industries also benefit, for example, clients use hotels when they arrive and leave the country, and air charters during their stay. Outfitters also provide employment so increasing GNP through paying salaries to employees; and,
- **outfitters raise the international profile of Tanzania:** through advertising wildlife and scenery, more tourist hunters and photographic safaris visit Tanzania. Furthermore, people abroad are educated and cured of misconceptions, for example, that Mount Kilimanjaro is in Kenya! When people realize Africa's highest mountain is in Tanzania more tourists will choose Tanzania as their destination within Africa.

4. CONCLUSION

Outfitters wish to continue tourist hunting while enhancing national conservation efforts. Hunting fosters an appreciation of the host country and creates a good interactive atmosphere where outfitters and clients originating from Europe and America can meet Tanzanian officials. TAHOA hope that this workshop will provide the basis for a policy that promotes conservation and improves the tourist hunting industry in Tanzania.

5. A TOURIST'S PERSPECTIVE OF TANZANIA'S HUNTING INDUSTRY

J.J. Jackson III

Safari Club International, Virginia, USA

1. INTRODUCTION

Tanzania is the premier tourist hunting country within Africa. This is due to a combination of factors, including:

- the international reputation of the professional hunters working in Tanzania;
- the great abundance of wildlife and diversity of species;
- the quality of the trophies and availability of enigmatic species such as the Big Four; and,
- the ambience of the bush, hunting camps and surrounding scenery.

This paper will analyse some of these factors in more depth. It will also examine some factors that dissuade tourist hunters from coming to Tanzania. The average tourist hunter coming to Tanzania has to spend around US\$ 45,000-50,000 per trip and is accompanied by a non-hunting companion so no mistakes are allowed!

2. REPUTATION AND IMAGE OF TANZANIA

The quality of a safari is to a large extent determined by the quality of the professional hunter. Tanzania has a reputation for having some of the best professional hunters in the industry. Tanzania would be well advised to retain these hunters, and to recruit others of similar stature.

The abundance, type and variety of species of game animals also determines how attractive a country is as a safari destination. Hunting is best described as a type of relationship with wildlife, and the greater the diversity and glamour of the species, the better the experience. Dangerous game attracts those who wish to test their skill and metal. Tanzania ranks high in this regard and, very importantly, has four of the Big Five. It could pave its streets with gold if black rhinos could still be hunted. Tanzania has more buffalo, lion and leopard than any other country. Furthermore, it has exotic and beautiful species like gerenuk, sable and zebra, an attraction for the collector and home decorator. Challenging species like the lesser kudu, that will not stand still or show itself, also appeal to every skilful hunter. Some animals fit into multiple categories in that they are dangerous, attractive, and difficult to reduce to possession.

A third closely related factor affecting the quality of a safari is the standard of the trophies that are acquired. Tanzania has a reputation for having the best-maned lion and the largest Cape buffalo of all the African countries.

3. PROBLEMS WORTHY OF BEING ADDRESSED

If Tanzania continues to have top of the line professional hunters and operators, and maintains its game animals and hunting habitat, it will continue to be the premier tourist hunting destination in Africa. However, it could address a number of problems to ensure it maintains this position. Among these are the following:

- **first impressions:** a shake-down and confiscation of a weapon upon arrival at the airport give the tourist hunter a poor first impression of Tanzania. Over-charging on excess baggage should also be avoided;
- **service:** as a wealthy elite, tourist hunters expect first class service throughout their stay in Tanzania. The top professional hunters have unparalleled reputations, but others working in Tanzania have very poor standards;
- **elephants:** tourist hunters would like more trophy quality elephants, which should not be allowed to go the same way as the black rhino. It is imperative that Tanzania takes a long-term view and controls poaching and excessive illegal trade in its policy towards elephant management. The prices that can be charged for hunting will continue to rise if elephants remain available;
- **re-investment of revenue in hunting:** tourist hunters wish to be assured that the taking of a trophy animal is going to help that species. Tourist hunters from the US know that money from their own domestic hunting programmes goes to State Game Departments. However, in Africa

such money usually goes to Central Treasury, and may not be re-invested in conservation. The Government may need to consider how it can change this situation;

- **benefits to rural people:** tourist hunters also hope that rural people have a positive view of conservation, and receive financial benefits from hunting. In situations where this is not happening, it may be appropriate to consider how this can be achieved; and,
- **long-term management of the industry:** most tourist hunters also wish to see the hunting industry take a long-term view. This requires development plans for each hunting block, and the adoption of a more business-like approach among the hunting operators.

4. CONCLUSION

This paper presents some ideas to encourage further tourist hunters to visit Tanzania. To ensure the future of tourist hunting Tanzania must maintain its strongest assets: its world class outfitters and glamorous and trophy class animals.

PART 2

ADMINISTRATION AND POLICY TOWARDS TOURIST HUNTING IN EAST AND SOUTHERN AFRICA

6. THE STRUCTURE OF TANZANIA'S TOURIST HUNTING INDUSTRY

Planning and Assessment for Wildlife Management

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1. INTRODUCTION

The tourist hunting industry emerged in something akin to its present structure in the 1960s (Nicholson, 1974). At this time hunting blocks, confined to areas classified as either Game Reserves (GRs), Game Controlled Areas (GCAs) or open areas (OAs), were allocated to private companies for varying lengths of time. This structure continued until tourist hunting was banned from 1973 to 1978. When tourist hunting re-opened under the management of the parastatal authority, the Tanzania Wildlife Corporation (TAWICO), private companies were initially discouraged. However, it soon became clear that TAWICO was not in a position to exploit all the hunting available. A limited amount of hunting was then sub-let by TAWICO to private companies. In 1984 this arrangement was relaxed and up to nine private companies were allocated hunting blocks for periods of up to 4 years. When the Department of Wildlife took over the management of the tourist hunting industry in 1988, the situation relaxed even further and the number of private companies has continued to increase. This paper will concentrate only on information on tourist hunting for the period 1988-92.

2. LAND DEVOTED TO TOURIST HUNTING

Tourist hunting is the primary form of consumptive wildlife utilization in Tanzania and takes place on three main categories of land as follows:

- Game Reserves, which are mostly under the direct management of the Department of Wildlife;
- Game Controlled Areas, which are under the management of regional authorities; and,
- Open Areas, which are also under the control of regional authorities.

The total area of land allocated to tourist hunting in 1992 can be summed only approximately for GRs and GCAs using data on their sizes at gazettelement (Table 1). However, the borders of OAs are too imprecisely defined to be able to estimate their areas except by guesswork. Accepting the latter guess on the basis of a map of tourist hunting blocks (Figure 1), Tanzania has around 180,000 sq km allocated to tourist hunting.

Table 1: Land allocated to Tourist Hunting in Tanzania in 1992 (Data from Wildlife Conservation Act of 1974)

Land classification	Area (sq km)	No of blocks
Game Reserves	95,000	67
Game Controlled Areas	56,000	34
Open Areas	[30,000]	30

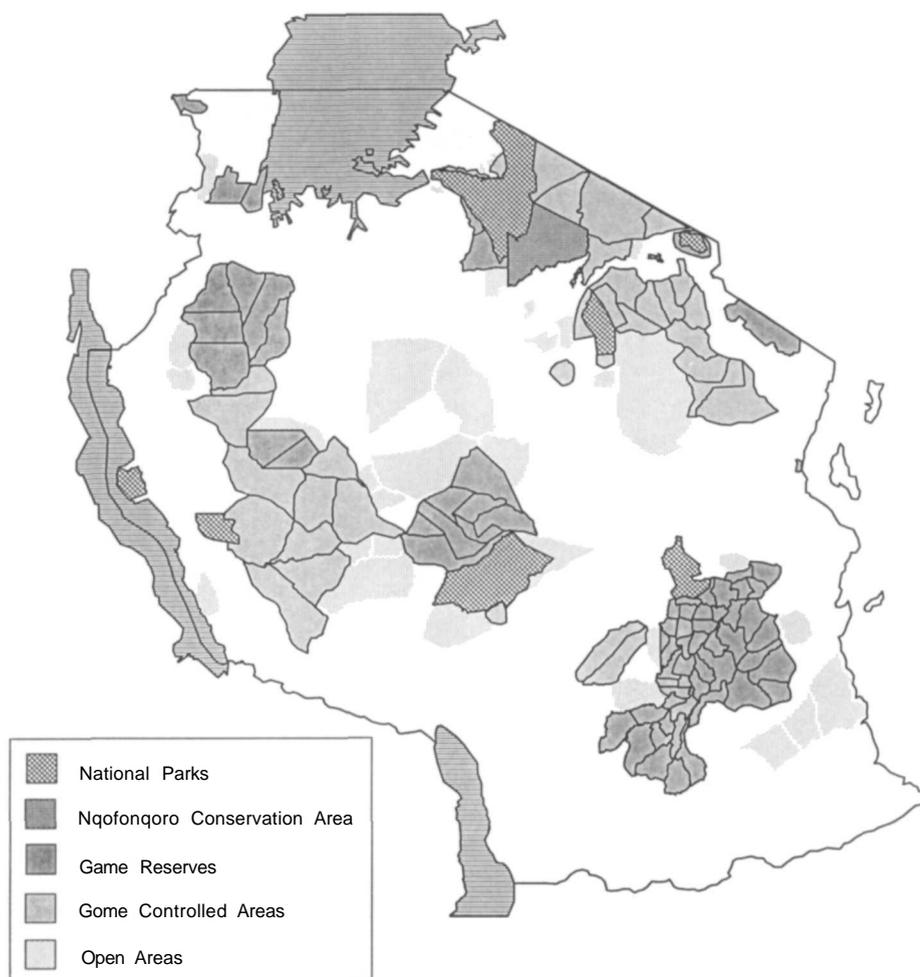
3. TOURIST HUNTING BLOCKS

The pattern of division of land allocated to tourist hunting into hunting blocks had its basis laid in the 1960s. The Selous GR was divided into 47 blocks (Nicholson, 1974). Though the map of these blocks prepared at that time has some considerable inaccuracies, the pattern of the blocks laid out on the basis of clear topographic features has not been changed to this day. However, the first accurate map of all the hunting blocks within Tanzania, including those of the Selous GR, is shown using a simple GIS package (Figure 1). This map shows a total of 131 hunting blocks devoted to tourist hunting throughout Tanzania in the 1992 season. From 1988, the basic pattern of hunting blocks has not changed greatly. A number of blocks are no longer allocated to tourist hunting, while a number of others have been divided. Hence, numbers of blocks have ranged between 128-131 from 1988 to 1992. The total number of tourist hunting blocks are almost equally divided between land under Department of Wildlife and under regional control (Table 1).

4. NUMBER OF OUTFITTERS

The number of outfitters in Tanzania has grown steadily from 21 in 1988, to 27 in 1992 (and to a total of 31 for 1993). All outfitters apart from TAWICO are private companies. During this period the number of new companies is actually greater than the 10 companies indicated by the

Figure 1. A map of the tourist hunting blocks of Tanzania in 1992. National Parks and the Ngorongoro Conservation Area are also shown on the map. Hunting blocks are shown with definite boundaries in Game Reserves (darker stipple) and Game Controlled Areas (medium stipple). Tourist hunting blocks in Open Areas (light stipple) are shown without precise boundaries and any divisions are shown with a white line.



difference between 31 and 21, because some companies have gone out of business (Table 2). The number of outfitters has increased, but the number of blocks has remained constant. Consequently, the number of blocks allocated to each outfitter has decreased from a median of 6 blocks per company in 1988, to 4 blocks per company in 1992 (Table 2).

Table 2: The numbers of outfitters, the numbers of blocks and the numbers of blocks per outfitter during 1988-1992

Parameter	1988	1989	1990	1991	1992	1993
No of outfitters	21	21	21	27	27	31
No of new outfitters		0	1	7	2	6
No outfitters dropping out		0	1	1	2	1
No of blocks allocated	126	127	122	124	124	
No of blocks not allocated	2	3	5	5	7	
Total no of blocks	126	130	129	129	131	
Median no blocks per outfitter	6	6	5	4	4	
Range	17-2	15-2	15-2	13-1	12-1	

After taking over the management of tourist hunting, the Department of Wildlife began to increase the period of tenure for which outfitters could hold blocks. However, a Departmental review was implemented to ensure their performance merited their continued tenure. In 1988, blocks were allocated for a period of 3 years and in 1991 the period of tenure was increased to 5 years. At this stage, there are only 5 years of data on which to assess the success of the tenure policy. Overall

the number of blocks per outfitter has decreased, but the success of outfitters varied at retaining their total number of blocks and/or the same blocks over the 5 year period. Of the 17 outfitters who have been allocated blocks throughout 1988-92, 4 acquired more blocks than they started with in 1988, 6 retained the same number of blocks, while 7 had fewer blocks (Table 3). Of these 17 outfitters, 7 held over two-thirds of the same blocks they started with throughout the 5 year period, 4 held from one-third to two-thirds of the same blocks, and 6 held from none to one-third of the same blocks (Table 3).

Table 3: The success of outfitters in retaining blocks from 1988-92

Outfitters in business from 1988-1992	Outfitters with more blocks	Outfitters with the same number of blocks	Outfitters with fewer blocks
17	4	6	7
	Outfitters holding over 67% of the same blocks	Outfitters holding from 34-66% of the same blocks	Outfitters holding from 0-33% of the same blocks
17	7	4	6

The same information can be examined in a different way. A total of 104 blocks was allocated each year for the period of 1988-1992, while a total of 10 blocks was allocated for 4 years of the same period (Table 4). Only 56 (or 49%) of these blocks have had only one outfitter hunting in them throughout 1988-92. In contrast, 45 (or 39%) have had two, and 13 (or 11%) have had three, different outfitters hunting in them (Table 4). Thus approximately half of outfitters have been successful in retaining tenure for the full five years.

Table 4: The numbers of different outfitters hunting in blocks allocated for 4 and 5 years between 1988-1992

Length of block allocation	No with 1 outfitter	No with 2 outfitters	No with 3 outfitters
5 years	54	38	12
4 years	2	7	1

5. TYPES OF SAFARI MARKETED

Tanzania possesses a varied range of species that can be shot by tourist hunters, comprising 70 species of big game (67 mammals, plus crocodile, ostrich and python), as well as a variety of game birds. Shooting of black rhinoceros, giraffe and wild dog is prohibited. Under TAWICO's management, Tanzania adopted a fairly rigid marketing strategy for its safaris and offered 21-day, 16-day and 7-day safaris. Since the Department of Wildlife took over the management of hunting, the marketing strategy has become somewhat more flexible. Now, 21-day, 16-day, 14-day and 7-day safaris are offered, depending on the species to be hunted (Table 5). Elephants, the two big cats and a variety of large antelope like both species of kudu, gerenuk, oryx, sitatunga and roan can only be shot on a 21-day safari. A recent development has been to allow lion to be shot on 16-day safari, together with sable and buffalo. Sable can also be shot on a 14-day safari and while a 7-day safari is solely for buffalo and a variety of plains game. While the safaris are marketed under these day lengths, clients are allowed to stay for longer than the actual designated safari length on payment of the appropriate daily rate and fees.

Table 5: Tanzania's present tourist hunting marketing strategy, showing the main species available on safaris of different lengths. Numbers in brackets are for 1993-94 season

Species	Safari Length			
	21-day	16-day	14-day	7-day
Elephant	1			
Lion	1	1		
Leopard	1			
Greater kudu	1			
Lesser kudu	1			
Gerenuk	1			
Oryx	1			
Sitatunga	1			
Sable	1	1	1	
Roan	1			
Buffalo	2(3)	2(3)	1(2)	1(2)
Plains game	Various	Various	Various	Various

6. FEES AND PAYMENTS

The primary objective of most hunting areas is to generate some form of sustainable income through the utilization of wildlife. Since 1988 the Department of Wildlife has offered a quota of animals for sale in foreign exchange to realize this objective. The Department has also levied a range of other fees on a pro rata basis. The services of an outfitter are used to sell the safari to the international hunting community for a rate in foreign exchange determined by the outfitter. Outfitters are then responsible for the running and conduct of the safari, though each hunt is scrutinized by a member of the Department of Wildlife's field staff. Outfitters are responsible for collecting and paying the appropriate fees to the Department of Wildlife on their clients' behalf. This section of the paper will first consider the scales of fees charged by the Department, followed by a consideration of the rates charged by the outfitters.

The basic fee charged by the Department of Wildlife is the game fee. This is levied according to a schedule for each species on the basis of each animal shot or wounded. Since 1988, all game fees have been levied in foreign exchange (see Appendix 1). There have been two main changes in relation to the game fees since 1988. The first main change was in 1991 when game fees for all species were raised by an average of 40%, though fees for certain key species, for example the elephant was raised by 60%. The second main change had no bearing upon the size of the game fees paid by the client. Instead, the final destination of various portions of the game fees was changed within Tanzania. Under the Wildlife Conservation Act, the Tanzania Wildlife Protection Fund (TWPF) was established in 1978, and TWPF is allowed to collect 25% of the proceeds of the sale of every animal and trophy. TWPF has the role of acting as fund for wildlife conservation projects throughout Tanzania. From 1988 to 1991, the game fees charged were apportioned according to the formula of 25% to TWPF and 75% to Treasury (Figure 2). In 1992, however, a retention fee was agreed for the Selous GR under which the Selous retains half of the game fee previously due to Treasury. Retention schemes have not been agreed for other GRs, but money is being retained on the same basis on the assumption that a retention scheme will be agreed for other areas. The Prime Minister then made directive in late 1992. This called for one-quarter of the money going for Treasury to be paid to District Councils in order to compensate local people living around conservation areas for the trouble caused by wildlife. A flow chart of the eventual destination of the game fees has been constructed. Under this scenario, District Councils will receive 9.4% of the game fee; TWPF will retain 25% as before; GRs will be due 37.5%; and, Treasury will be due 28.1% (Figure 2).

Further fees have been introduced by the Department of Wildlife from 1989 onwards. An observer fee of US\$ 100 per day was charged from 1989 and onwards. Conservation fees of US\$ 100 per day were charged from 1991 for the hunters only. Conservation fees were instituted because it was felt that the quality of different hunting blocks could not allow estimation of the value of the block. Permit fees and Trophy Handling Fees were also levied from 1991, at two rates depending on the length of the safari (Table 6). All of the Conservation, Permit and Trophy Handling fees are retained by TWPF (Figure 2).

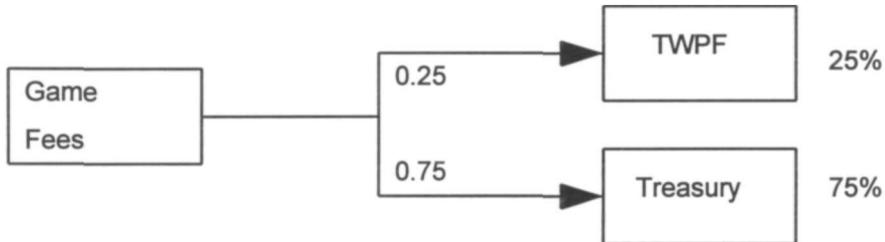
Table 6: Present fees charged by the Department of Wildlife for tourist hunting (all fees are in US\$).

Observer Fees	Conservation Fees	Permit Fees	Handling Fees
\$100/day	\$100/day for the hunters	7-day: \$450 over 14-day: \$600	7-day: \$200 over 14-day: \$300

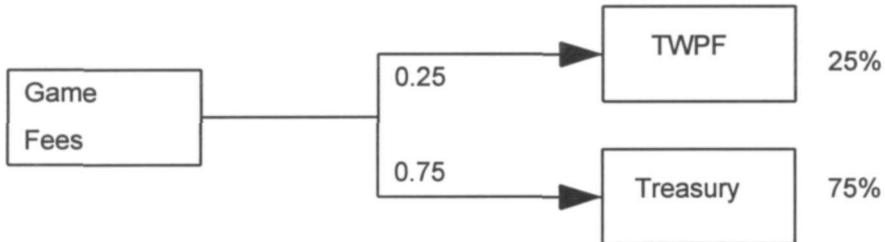
The daily rate charged by the outfitter for providing his service to the client is applied at rates that vary between outfitters and for safaris of different types. For example, one or two clients on one professional hunter attract different rates. Two recent regulations now apply to the daily rate. One in force since 1989 requires that all outfitters bank 55% of the daily rate they earn within Tanzania (see Table 7). The remaining money can of course come into Tanzania, but equally it can be used for other purposes (Table 7). A second regulation requires that all outfitters charge above a minimum rate of US\$ 850 per day. This rate has been used by TAWICO for some time, and it was felt that Tanzania's reputation was suffering as a result of undercut prices. An examination of a number of hunting brochures from outfitters working in Tanzania certainly shows a wide variation in fees charged and a number of different marketing strategies (Table 8). For example, some outfitters reduce their daily rate on longer safaris, while others increase it, and yet others retain a flat rate.

Figure 2: A flow chart of the different types of fee charged by the Department of Wildlife from 1988-92/93, and their destination in different years. The fractions within the diagrams are the actual splits at the time they are made. The percentages at the right side of the diagram show the actual proportions of the starting fee that ends up at each destination.

1988



1989 - 1990



1991

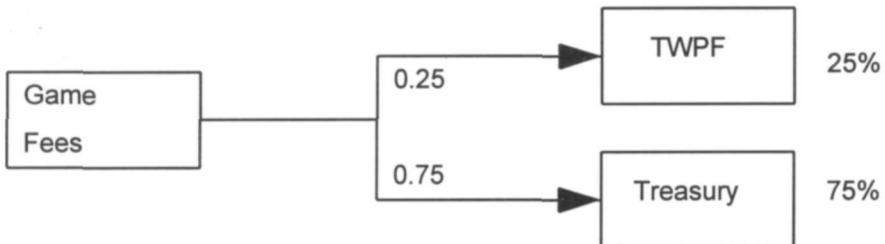


Figure 2 continued:

Selous GR, and possibly for other GRs

1992

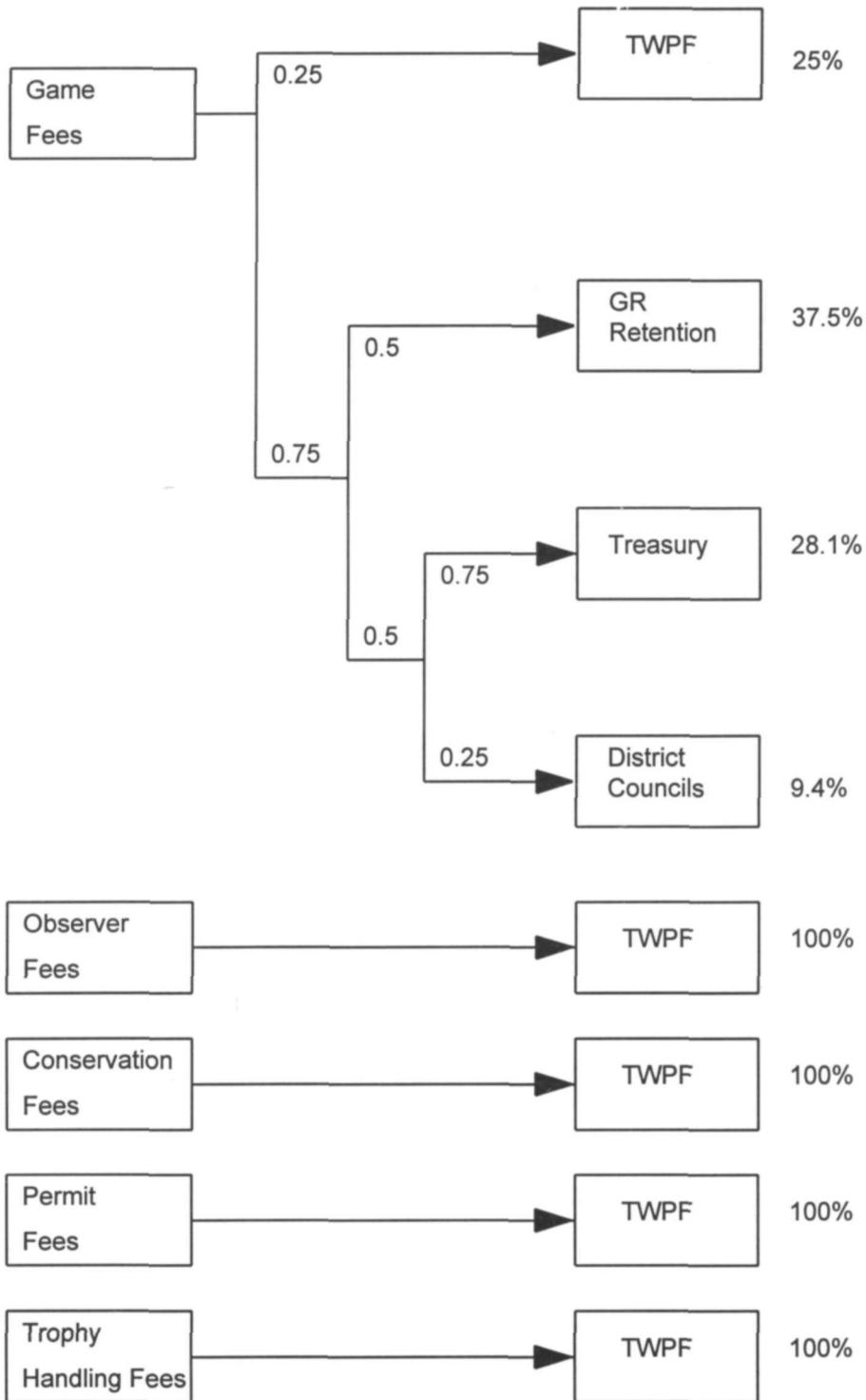


Table 7: Requirements for banking daily rates, effective 1 July 1989

55%	In Tanzania for local costs
20%	For payment of professional hunters
15%	For payment of agency fees
10%	For contingencies

Table 8: Daily rates in US\$ for a number of outfitters in Tanzania, taken from hunting brochures (Tourist hunters also have to pay a variety of other charges and fees that are not shown here, for example the costs of airlifts or a fee of US\$ 100 per weapon to register weapons with the police).

Outfitter	Year	Safari length	1 client 1 hunter	2 clients 2 hunters	2 clients 1 hunter	4 clients 2 hunters	Non- hunter fee
A.	1992		800		650		150
B.	1991	14	800	700	600	550	100
		16	750	650	550	500	
		21	700	600	500	450	
C.	1992	7	1100		950		160
		16	950		800		
		21	950		800		
D.	1990		750	700	650	600	200
E.	1991	21	1200	1050	950		200
		16	990		910		
		7	790		690		

7. CONCLUSION

Tanzania possesses a diverse tourist hunting industry in terms of the species available, the distribution and numbers of blocks and the marketing strategies and pricing of the different outfitters. However, as the industry grows and the number of companies wishing to become outfitters increases, the manner in which blocks are allocated will need careful consideration. This must be achieved in a manner that encourages long-term tenure of the blocks by particular companies that are performing. Furthermore, it must also encourage those companies that are not performing well in each block to improve.

REFERENCE

Nicholson, B. 1974. *Game Division National Projects: guidelines for long-term development in selected game areas with suggested management and development plans*. Report to the Game Division, Dar es Salaam, Tanzania.

Appendix 1: Trophy fees charged in Tanzania from 1988 to present

No	Species	Fourth Schedule 1/7/88 - 30/6/91				1991 Season 1/7/91 - 30/6/92				1992 Season 1/7/92 - 30/6/93			
		Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)
1	BIG GAME: Olive Baboon	64	21	85	70	20	90	35	55	90			
2	Yellow Baboon	64	21	85	70	20	90	35	55	90			
3	Buffalo (1st)	315	105	420	450	150	600	225	375	600			
3	Buffalo (2nd)						720	225	495	720			
3	Buffalo (3rd)						840	225	615	840			
4	Bushbuck	180	60	240	250	90	340	125	215	340			
5	Bushpig	101	34	135	140	50	190	70	120	190			
6	Caracal	37	13	50	50	20	70	25	45	70			
7	Civet	75	25	100	100	40	140	50	90	140			
8	Genet	98	32	130	130	50	180	65	115	180			
9	Serval Cat	98	32	130	130	50	180	65	115	180			
10	Wildcat	83	27	110	110	40	150	55	95	150			
11	Crocodile	450	150	600	630	210	840	315	525	840			
12	Dik Dik	90	30	120	130	40	170	65	105	170			
13	Abbott's Duiker	98	32	130				65	15	180			
14	Blue Duiker	98	32	130	130	50	180	65	115	180			
15	Duiker	98	32	130	130	50	180	65	115	180			
16	Red Duiker	98	32	130	130	50	180	65	115	180			
17	Eland	450	150	600	630	210	840	315	525	840			
18	Elephant	1875	625	2500	3000	1000	4000	1500	2500	4000			
19	Galago	75	25	100	110	40	150	55	95	150			
20	Bat-eared Fox	98	32	130	130	50	180	65	115	180			
21	Grant's Gazelle	116	39	155	160	60	220	80	140	220			
22	Thomson's Gazelle	98	32	130	140	50	190	70	120	190			

No	Species	Fourth Schedule 1/7/88 - 30/6/91				1991 Season 1/7/91 - 30/6/92				1992 Season 1/7/92 - 30/6/93			
		Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)
23	Gerenuk	690	230	920	1000	300	1300	500	800	1300			
24	African Hare	26	9	35	40	20	60	20	40	60			
25	Jumping Hare	26	9	35	40	20	60	20	40	60			
26	Coke's Hartebeest	195	65	260	280	90	370	140	230	370			
27	Lichtenstein's Hartebeest	195	65	260	280	90	370	140	230	370			
28	Hippo	450	150	600	630	210	840	315	525	840			
29	Hedgehog	37	13	50	60	20	80	30	50	80			
30	Giant Forest Hog	195	65	260	280	90	370	140	230	370			
31	Spotted Hyena	98	32	130	140	50	190	70	120	190			
32	Rock Hyrax	38	12	50	60	20	80	30	50	80			
33	Tree Hyrax	49	16	65	70	30	100	35	65	100			
34	Impala	124	41	165	180	60	240	90	150	240			
35	Golden Jackal	75	25	100	90	30	120	45	75	120			
36	Striped Jackal	75	25	100	90	30	120	45	75	120			
37	Silver-backed Jackal	75	25	100	90	30	120	45	75	120			
38	Klipspringer	383	127	510	540	180	720	270	450	720			
39	Greater Kudu	611	204	815	880	290	1170	440	730	1170			
40	Lesser Kudu	690	230	920	1000	300	1300	500	800	1300			
41	Leopard	1050	350	1400	1500	500	2000	750	1250	2000			
42	Lion	1050	350	1400	1500	500	2000	750	1250	2000			
43	Mongoose	26	9	35	40	20	60	20	40	60			
44	Monkey, Blue	56	19	75	90	30	120	45	75	120			
45	Monkey, Vervet	56	19	75	90	30	120	45	75	120			

No	Species	Fourth Schedule 1/7/88 - 30/6/91				1991 Season 1/7/91 - 30/6/92				1992 Season 1/7/92 - 30/6/93			
		Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)
46	Oribi	64	21	85	90	30	120	45	75	120			
47	Onyx	465	155	620	650	220	870	325	545	870			
48	Ostrich	390	130	520	550	190	740	275	465	740			
49	Otter	75	25	100	100	40	140	50	90	140			
50	Pygmy Antelope (Sumi)	64	21	85	100	30	130	50	80	130			
51	Porcupine	64	21	85	50	20	70	25	45	70			
52	Puku	116	39	155	160	60	220	80	140	220			
53	Python	158	52	210				110	190	300			
54	Ratel	38	12	50	50	20	70	25	45	70			
55	Bohor Reedbuck	150	50	200	220	70	290	110	180	290			
56	Mountain Reedbuck	150	50	200	220	70	290	110	180	290			
57	Southern Reedbuck	150	50	200	220	70	290	110	180	290			
58	Roan	465	155	620	650	220	870	325	545	870			
59	Sable	630	210	840	900	300	1200	450	750	1200			
60	Sharpe's Grysbok	75	25	100	110	40	150	55	95	150			
61	Sitatunga	465	155	620	670	230	900	335	565	900			
62	Steinbuck	75	25	100	110	40	150	55	95	150			
63	Topi	188	62	250	260	90	350	130	220	350			
64	Warthog	165	55	220	240	80	320	120	200	320			
65	Common Waterbuck	233	77	310	330	110	440	165	275	440			
66	Defassa Waterbuck	233	77	310	330	110	440	165	275	440			
67	Nyasa Wildebeest	165	55	220	240	80	320	120	200	320			

No	Species	Fourth Schedule 1/7/88 - 30/6/91				1991 Season 1/7/91 - 30/6/92				1992 Season 1/7/92 - 30/6/93			
		Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)	Treasury (US\$)	TWPF (US\$)	Total (US\$)
68	White-bearded Wildebeest	165	55	220	240	80	320	120	200	320			
69	Zebra	274	91	365	440	150	590	220	370	590			
70	Zorilla	75	25	100	70	30	100	35	65	100			

GAME BIRDS:

1	White-backed Duck	19	6	25	10	5	15	5	10	15		
2	African Pochard	19	6	25	10	5	15	5	10	15		
3	White-faced Duck	19	6	25	10	5	15	5	10	15		
4	Pigeons & Doves	19	6	25	8	2	10	4	6	10		
5	Spurwing Goose	19	6	25	10	5	15	5	10	15		
6	Knob-billed Goose	19	6	25	10	5	15	5	10	15		
7	Egyptian Goose	19	6	25	10	5	15	5	10	15		
8	Francolin	5	2	7	8	2	10	4	6	10		
9	Spurfowl	19	6	25	8	2	10	4	6	10		
10	Quails	19	6	25	8	2	10	4	6	10		
11	Guineafowl	19	6	25	10	5	15	5	10	15		
12	Painted Snipe	3	1	4	8	2	10	4	6	10		
13	Sandgrouse	19	6	25	8	2	10	4	6	10		
14	Bustards	19	6	25	10	5	15	5	10	15		

7. ADMINISTRATION OF HUNTING IN TANZANIA

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1. BACKGROUND

Tanzania has a long history of involvement in tourist hunting, dating back to the end of the 19th century. Tanzania has many world renowned hunting areas and many impressive trophies to its credit. The abundance and diversity of species occurring in these areas provide a further attraction for the hunter. The present structure of the hunting industry emerged in the 1960s. Hunting blocks were confined to areas classified as either Game Reserves, Game Controlled Areas or open areas (Planning and Assessment for Wildlife Management, 1996). These blocks were allocated to private companies for varying lengths of time. This structure continued until tourist hunting was banned from 1973 to 1978. The hunting ban was imposed by the Government in reaction to malpractices orchestrated and practised by outfitters. All safari outfitters were foreigners, and most of them practised without ethics, with regard to both conservation and finance. Among their malpractices were the hunting of more animals than granted on permits, and the under declaration of the number of clients, thereby depriving the nation of its fair share of revenue.

Upon re-opening in 1978, tourist hunting was managed by the Tanzania Wildlife Corporation (TAWICO), a parastatal organization that had been established in 1974 under Government Notice No 23 of 20 September 1974. TAWICO was charged with undertaking wildlife utilization in its broadest sense. Among its other functions is the following: *to hunt and capture animals and to buy, sell and otherwise deal in live animals and trophies, and to participate in or undertake, on a commercial basis, any enterprise related to or connected with wildlife.* The Wildlife Conservation Act of 1974 also recognized that TAWICO was a designated organization, allowed to formulate its own hunting and game utilization procedures and regulations. While TAWICO was vested with powers to oversee all tourist hunting activities, the Department of Wildlife was left to decide hunting quotas and collect game fees. Private companies were initially discouraged from operating in Tanzania, but it soon became clear that TAWICO was not in a position to exploit all the hunting that was available. TAWICO then sub-let a limited amount of hunting to private companies at a levy of 45% of the daily rates. In 1984, this arrangement was relaxed even further when up to nine private companies were allocated hunting blocks for periods of up to 4 years.

A decision was made by Cabinet in 1988 that relieved all parastatal organizations of regulatory functions and directed all their efforts towards production. Thus, the regulatory functions of the tourist hunting industry were moved from TAWICO to the Department of Wildlife, in the Ministry of Tourism, Natural Resources and Environment. TAWICO therefore lost its monopoly in the industry and had to compete for blocks like any other private outfitter. This remains the current situation.

2. ACTIVITIES UNDER THE MANAGEMENT OF THE WILDLIFE DEPARTMENT

In managing tourist hunting, the Department of Wildlife has sole responsibility for undertaking the following tasks.

2.1. ALLOCATING BLOCKS TO OUTFITTERS

The allocation of blocks is undertaken before the beginning of the hunting season. The Department has decided to allocate blocks to outfitters for increasingly long periods. An outfitter can now have a block for a period of 5 years (Planning and Assessment for Wildlife Management, 1996). This aims to re-assure outfitters and provide a long time-frame in which to sell safaris. Outfitters also have time to benefit from any investments they make to develop blocks. An outfitter is eligible to be allocated hunting blocks after satisfying the following criteria:

- the company, or employees thereof, have experience in hunting;
- the professional hunters in the company are well-versed with knowledge of the Wildlife Conservation Act;
- the company possesses the necessary equipment to hunt, such as vehicles, radios, camping gear, and so on;
- the company is in possession of an office with communication facilities;

- the company is fully registered and has appropriate accounts within banks in Tanzania;
- the company has a programme aiming to integrate conservation activities with rural communities;
- the company vows to abide with conservation laws and tourist hunting bye-laws;
- the company has credible referees; and,
- the company has proof of client bookings and respective down-payments.

2.2. SETTING QUOTAS

The Department of Wildlife sets quotas for the hunting blocks. This is also undertaken before the beginning of the season, and is described in another paper (Severre, 1996).

2.3. SETTING AND COLLECTING FEES

The Department of Wildlife sets and collects fees. The Principle Legislation of the Wildlife Conservation Act of 1974 notes that the Minister may make regulations prescribing the forms and the fees for licences. A structure for game fees for tourist hunting was established on the appropriate schedule in US\$ effective from July 1988. Game fees were raised in 1991, and during the period that the Department has managed tourist hunting, several other fee structures have been introduced. These include observer fees, hunting permit fees, conservation fees and trophy handling fees (Planning and Assessment for Wildlife Management, 1996). Fees were increased to bring revenue to a level that is fair to the Government and within limits that clients, rather than outfitters, are willing to pay.

An amendment to the Principle Legislation in 1978 established the Tanzania Wildlife Protection Fund (TWPF). TWPF is allowed to collect 25% of the proceeds of the sale of every animal and trophy. The Department, through TWPF, collects all the fees derived from tourist hunting. It retains the share of fees it is due and passes the appropriate sums to Treasury (Planning and Assessment for Wildlife Management, 1996). The proceeds directed to TWPF are used to meet the costs of conservation activities that cannot be paid for by the meagre budgetary allocation given to the Department by the Treasury.

2.4. QUOTA UTILIZATION

The Department of Wildlife evaluates quota use at the end of the hunting season. A criterion of 40% of quota utilization is used, assessed as the total of game fees earned from key species as compared with those expected. Companies under-utilizing the quota may have their continued use of the assigned blocks withdrawn and allocated to more able companies.

2.5. FIVE-YEAR REVIEW OF BLOCKS

In line with its policy of assigning blocks for a long-term period of 5 years, the Department of Wildlife will undertake a detailed 5 year review. This will comprise an assessment of revenue earned, including an assessment of quota utilization as above. Further criteria will include the extent to which the outfitter has participated in the development of the blocks. Such development will include establishment and maintenance of roads, involvement in anti-poaching activities (including in the wet season), and involvement of rural communities in conservation activities.

2.6. IMPLEMENTATION OF LEGISLATION

The Department of Wildlife administers hunting in the field, through the Wildlife Conservation Act and its appropriate subsidiary legislation, notably the Wildlife Conservation Act of 1974 (Hunting of Animals) Regulations. The full range of responsibilities comprises:

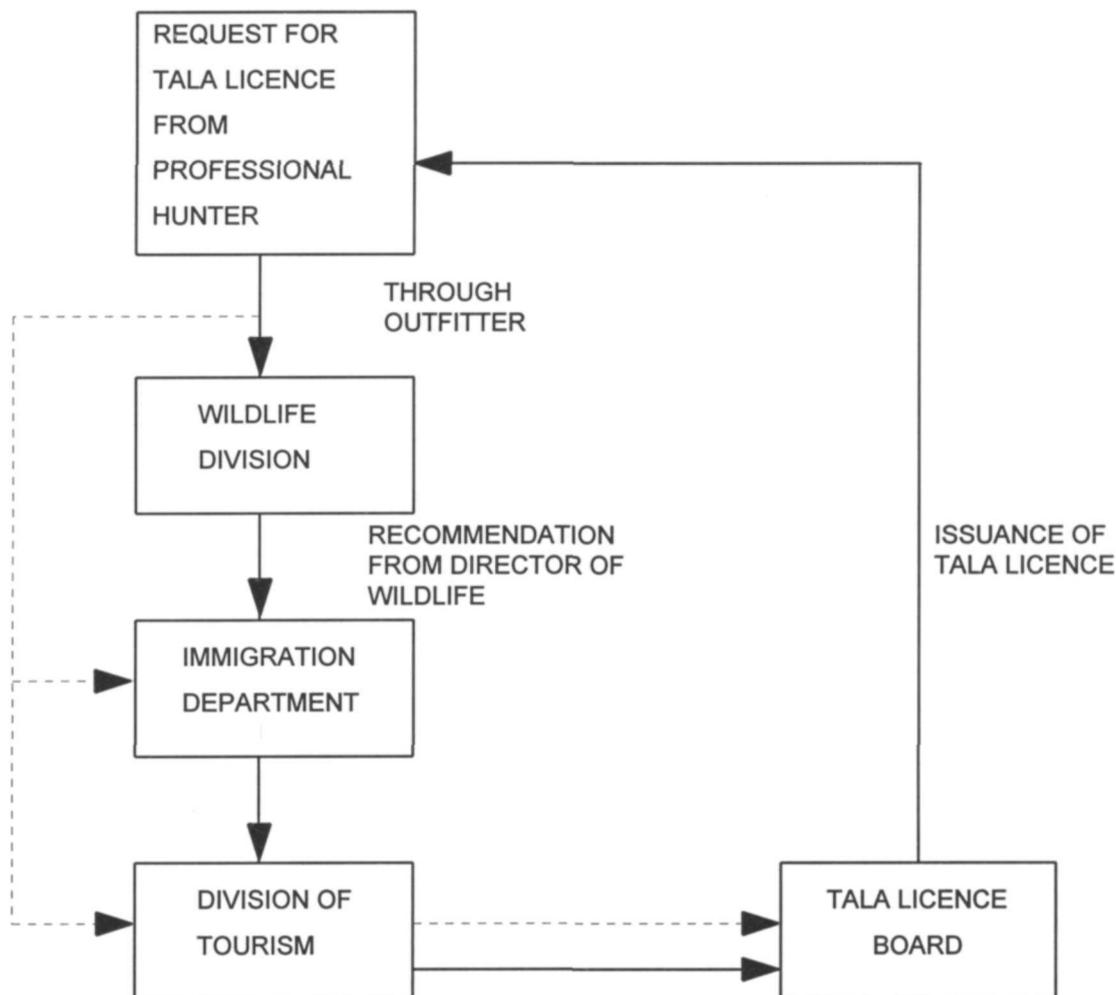
- the issuance of hunting permits for animals to be hunted in blocks allocated to the outfitter;
- accompanying each safari by seconding a member of the Department field staff. Staff verify that correct records of animals killed and wounded in each block are maintained, as these will all have to be paid for; and,
- issuing certificates of ownership for trophies by the appropriate officials in the Department of Wildlife. When ready for export, the office of the CITES Management Authority issues Trophy Export or CITES certificates, as appropriate.

3. ACTIVITIES UNDER THE PARTIAL MANAGEMENT OF THE DEPARTMENT OF WILDLIFE

3.1. LICENSING OF PROFESSIONAL HUNTERS

The Department of Wildlife is partially responsible for licensing Professional Hunters. This is achieved through recommendations sent from the Department to the Department of Tourism and the Department of Immigration for issuance of a Tourist Agency Licence (TALA) and a work permit. The final licensing is done by the Department of Tourism through TALA. This procedure has shortcomings, including issuance of TALA licences to professional hunters who do not qualify to hunt in Tanzania. This results from lack of proper co-operation between the Departments of Wildlife and Tourism. The professional hunters take advantage of the situation by deviating from proper channels for acquisition of the necessary permits (see Figure 1). The Department of Wildlife is developing further criteria for assessing the competence and calibre of professional hunters, as will be discussed elsewhere (Marenga, 1996).

Figure 1: Flow chart for issuance of a TALA licence. Dashed lines indicate possible routes to circumvent proper channels for obtaining a licence.



3.2. EXPORT OF TROPHIES

The Department of Wildlife is partially responsible for the export of trophies. This results from the requirements of the Wildlife Conservation Act and the Wildlife Conservation Act of 1974 (Dealing in Trophies) Regulations. The Department is responsible for the licensing of trophy dealers. Tourist hunters are free to export their trophies through any private trophy dealer licensed by the Wildlife Division. Trophies have to be exported with permission from the Bank of Tanzania, through the issuance of a CD3 form. Customs clearance for trophies is required at the final port of exit, following issuance of the appropriate Trophy Export or CITES certificates.

3.3. ADMINISTRATION OF FIRES ARMS AND AMMUNITION

The Department of Wildlife is partially responsible for ensuring that suitable weapons are used for tourist hunting (Table 1). The Wildlife Conservation Act No. 12 of 1974 Section 53 (1) (Suitable Weapons Order) stipulates what type and calibre of weapons shall be used to shoot different species of game. However, the Police are responsible, for registering the firearms brought in by tourist hunters, and collection of levy a fee of US\$ 100 per firearm brought in for use by tourist hunters. Outfitters do not accept ammunition that is brought in by the clients. Ammunition that is left over is also declared, and it is normally exported along with the firearm to the clients' destination.

Table 1: Suitable weapons for hunting, as prescribed by the Wildlife Conservation Act

Species or group	Suitable weapons	Remarks
Buffalo Elephant Lion	10x73 mm or .375 and above	Big game are hunted with large calibre guns
Medium-size antelopes Caracal Ostrich Leopard	6.5 mm or .240 and above	This group of animals can be hunted with medium size guns including heavy rifles.
Small sized antelopes Monkeys Small size cats Crocodile All other small animals including birds	6 mm or .22 or shot gun and above	

4. CONCLUSION

The Department of Wildlife is charged with a wide array of administrative and regulatory functions to support the tourist hunting industry in Tanzania. A number of problems surround these functions. One particular issue is perhaps of greatest importance. The professional hunter is perhaps the key to the tourist hunting industry (Jackson, 1996). However, an obvious loophole exists in the manner in which a professional hunter can obtain the necessary licence to hunt (Figure 1). This issue is clearly a priority for attention.

REFERENCES

- Jackson, J.J. 1996. A tourist hunter's perspective of Tanzania's hunting industry. (This volume).
- Marenga, P.K.N. 1996. Licensing of professional hunters in Tanzania. (This volume).
- Planning and Assessment for Wildlife Management. 1996. The structure of Tanzania's tourist hunting industry. (This volume).
- Severre, E.L.M. 1996. Setting quotas for tourist hunting in Tanzania. (This volume).

8. A COMPARISON BETWEEN HUNTING SYSTEMS IN SOME SOUTHERN AFRICAN COUNTRIES

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1. INTRODUCTION

Hunting plays a significant role in the use of wildlife resources in all African societies. This factor, more than any other, has perplexed wildlife management agencies in Africa, and abroad, in their attempt to manage the large and important wildlife estates. Furthermore, African wildlife agencies have had to contend with the many conflicting interests stemming from alternative land uses. These conflicts are intensifying as the human population increases.

In the early days, most governments saw wildlife in the context of crop destruction and damage that created the need for animal control hunting and vermin rewards. Game and Tsetse Control Departments were established to control wildlife so that land could be opened up for agricultural purposes. Enormous numbers of wildlife, particularly elephant, buffalo and black rhino were shot by these departments. Most commercial hunting exploited products such as ivory, hides and horn. Although trophy hunting developed early on in East Africa, it was extremely slow to develop in southern Africa.

By the late 1950s most of the southern African countries had established wildlife management agencies, and had developed policies, legislation and strategies to deal with hunting. Usually this involved the State assuming legal ownership of all wildlife and controlling hunting through complicated systems of permits, open seasons and licences. They also went further and designated vast areas as Controlled Hunting Areas in an attempt to stem the decline of wildlife through hunting outside the protected Game Reserves and National Parks. Nevertheless, trophy hunting was rapidly gaining in popularity, and wildlife agencies were hard-pressed to develop the administrative systems to deal with this issue. It was easy to move from a position of controlled hunting by the wildlife agencies to organized hunting by semi-professional hunters in the Controlled Hunting Areas.

Thereafter, a wide variety of systems evolved which later formed the foundation upon which most southern African countries have established their safari hunting systems. This paper aims to provide an overview of the hunting systems that are common to most southern African countries.

2. OVERVIEW OF VARIOUS HUNTING SYSTEMS

The overall responsibility for wildlife protection and conservation usually rests with the government. Various states in southern Africa apply differing degrees of control over how wildlife may be used. Countries that offer trophy hunting expect this form of land use to provide significant benefits to the national economy, and have set aside considerable areas of land for this purpose (Table 1). The level of control may be minimal, as in Zimbabwe, or extensive, as in Tanzania, where powers are conferred upon the wildlife agency to define hunting seasons, levels of offtake and hunting regulations.

Table 1: The area of land designated for trophy hunting in various southern African countries (* data for Mozambique refers to the minimum area of 16 hunting contadas, and excludes hunting that takes place on other land)

Country	Area in sq km
Botswana	115,511
Mozambique*	26,650
Zambia	138,070
Zimbabwe	189,600

In those countries where the state assumes ownership of wildlife, hunting systems have developed on state land that may be under the control of tribal authorities, or on reserved land. In these areas, state land has usually been categorized to cater for different types of user. In areas where land is privately owned, hunting systems have developed that allow the landowner more control over

wildlife use. This has prompted the enormous expansion of game farms and ranches in South Africa and Zimbabwe, and encouraged government-owned parastatals to develop wildlife-based activities.

The development of communally owned resources is the latest example of encouraging sustainable use of wildlife. Previous emphasis was placed on investing in elaborate controls that prevented rural communities from making decisions about wildlife. Instead, many governments now emphasise the economic benefits that can be derived by those communities from wildlife.

2.1. HUNTING SYSTEMS ON STATE LAND

To accommodate hunting on State Land, the various southern African countries have classified their trophy hunting areas as:

- Controlled Hunting Areas (CHAs);
- Game Management Areas (GMAs);
- Wildlife Management Areas (WMAs); and,
- Safari Areas (SAs)

The level of control in each of these areas depends on their status in terms of the respective land use legislation. Usually CHAs are afforded the lowest status of protection, while SAs are afforded the highest status.

2.1.1. Controlled Hunting Areas (CHAs): These are relatively large areas that evolved from the Tsetse Controlled Hunting era. They are usually sparsely populated and do not hold significant wildlife populations, primarily because they may encompass several alternative forms of land use. CHAs are a feature of the Botswana hunting system where annual hunting quotas are allocated allowing citizens to purchase licences to hunt a wide variety of animals. Altogether there are 167 CHAs in Botswana, of which 51 have been recognized as potentially suitable for game ranching or farming. The boundaries of these CHAs have recently been re-aligned so as to correspond to 11 Wildlife Management Areas (WMAs) that surround the National Parks. A closely related system operates in South Africa where a complex and confusing system of permits and licences controls the hunting of four categories of wildlife on private land.

2.1.2. Game Management Areas (GMAs): GMAs feature in the Zambian hunting system. GMAs are usually established to form a buffer between a National Park and heavier human settlements (Pullan, 1983, Saiwana, 1996). Recreational hunting takes place in 28 hunting blocks within GMAs in Zambia. These hunting blocks are classified into 5 categories on the basis of trophy animal densities, species diversity and distribution. The land is either Reserve Land or Trust Land or both, and is commonly owned by the tribes who reside on it. The consent of the chief or chiefs is required before the land can be designated as a Game Management Area, and hunting by residents, foreigners and non-residents is strictly controlled.

2.1.3. Wildlife Management Areas (WMAs): CHAs differ from GMAs or WMAs in that there is no control over non-hunting activities, such as cattle ranching or agriculture, even if these are detrimental to wildlife. Thus wildlife utilization is the primary form of land use in WMAs, whereas it is not regarded as a form of land use in CHAs. In Botswana, the concept of Wildlife Management Areas (WMAs) arose from Botswana's Tribal Grazing Land Policy (TGLP). The TGLP Paper directed that there would be three zoning categories for land:

- Commercial farming Area;
- Communal Grazing Area; and,
- Reserved Area.

The Reserved Areas were further divided into two categories: those reserved for future use by those who had few cattle; and, areas reserved for alternative land use such as wildlife, mining and cultivation. The WMAs can therefore be considered as a form of zoning of land for wildlife utilization within the Reserved Area category as differentiated by the TGLP. Extensive consultation took place with various Land Boards, District Councils and other appropriate bodies to deal with the concept and location of WMAs. Following this consultation, the boundaries of 9 approved WMAs

have been incorporated in the Third Schedule of the Wildlife Conservation and National Parks Bill, 1992. Furthermore, the legal status of a further 2 WMAs have yet to be established.

For each WMA the Department of Wildlife and National Parks (DWNP) in Botswana intends to develop and legislate appropriate regulations. A draft management plan will facilitate the implementation of a policy of sustained wildlife utilization that is centred on:

- community managed wildlife utilization;
- community managed wildlife utilization in livestock areas;
- commercial wildlife utilization (leasehold);
- non-hunting/photographic areas; and,
- multiple purpose areas.

WMAs will include hunting, game ranching and farming, live capture and venison production among their activities. WMAs will also encourage the development of non-consumptive tourism in areas where this is the most appropriate form of land use (Patterson, 1996).

2.1.4. Safari Areas (SAs): Safari Areas are a feature of the Zimbabwe National Parks and Wildlife hunting system, and evolved from Controlled Hunting Areas set up to act as buffer zones surrounding the National Parks Estate. SAs were established following the promulgation of the 1975 Parks and Wildlife Act, and are afforded the same level of protection as National Parks of Zimbabwe. The only difference is that SAs provide opportunities to the public for camping, hunting, fishing, photography, viewing of animals and other tourist-associated activities. Altogether there are some 18,960 sq km of the Parks and Wildlife Estate set aside in 15 safari areas for this purpose. However, the main demand for SAs has come from the safari industry because they are the prime source of big game. The DNPWLM allocates annual quotas for these areas and these are then leased to commercial safari operators on 3-5 year lease agreements.

2.2. HUNTING SYSTEMS ON OTHER LAND

Hunting systems that have developed on private and other land are usually under the control of the responsible wildlife agency, as applies to Zambia, Botswana and South Africa. The exception to this generalisation is Zimbabwe that has probably the most liberal legislation in this regard. Trophy hunting forms an integral part of Zimbabwe's conservation policy that encourages decentralization of responsibility and accountability for wildlife management to both private, parastatal (Forestry and Agricultural) and communal landowners.

2.2.1. Private Land: In Zimbabwe sport hunting on private land is controlled by the landowner, although the Government can rescind this authority if it determines that the landowner is not managing the wildlife in a sustainable manner. All revenues from sport hunting (concession and trophy fees) go directly to the landowner, and not to the Government. The DNPWLM does not require the landowners to monitor animal populations nor does it require landowners to pay any form of licence fee. Instead a regional network of ecologists attempts to provide technical assistance in matters relating to wildlife management.

In this regard, a Wildlife Producers' Association was formed in 1985 under the umbrella of the Commercial Farmers Union to promote the use of wildlife on private land as part of organized agriculture. This Association has 440 members of which 187 are actively involved in some form of wildlife utilization. The Association is funded by its membership through subscriptions, levies and commissions paid on live game sales, animals sold for venison, and animals sold to trophy hunters. In return the WPA offers an extension service in wildlife management techniques to its members.

In contrast, South Africa has approximately 8000 private game farms or ranches, and the viability of these properties largely depends on the tourist trade, and specifically on the safari hunting industry. However, four provincial administrations (i.e. Orange Free State, Transvaal, Cape Province and Natal) are responsible for preserving the flora and fauna, and the regulation and control of hunting game on these private properties. Each province has its own nature conservation ordinance containing extensive provisions relating to wildlife. The reason for this goes back to the

time when Jan Van Riebeck imposed restrictions on hunting in 1657 in the Cape, and Simon van der Stel introduced comprehensive controls over hunting in 1680. Since then, almost 100 individual statutes and ordinances have been passed for the conservation of wildlife.

These statutes and ordinances either directly or indirectly protect a specific wildlife species or offer protection to wildlife habitat, but do not generally protect wild animals. This philosophy assumes a modern approach to conservation that is to try and maintain biotic diversity by protecting entire ecosystems, and that protection of species cannot be effectively achieved without protecting their habitat. Under this system wild animals are classified in South Africa as *res nullius* and *res intra commercium*, that is as things that are not owned but capable of being owned. They are *res nullius* in their natural state, but become owned when they are "occupied", that is taken under effective control by occupation, reverting to *res nullius* once that control is lost. Their legal status is that of objects, not subjects of rights. Because of this, no private law remedies are available to protect wild animals from being disturbed, captured, injured or killed unless they are already the property of another (Du P Bothma and Glavovic, 1992). As a result, most wildlife in South Africa now occurs in protected areas or on private property. If the game escapes from a game farm, the farmer loses his ownership, and ownership of it may be gained by any person who captures or kills it.

2.2.2. Parastatal Land: The Forestry Commission is one of the largest parastatal land-holders in Zimbabwe, controlling approximately 9250 sq km of Forest Land mostly in western Matebeleland. The Forestry Commission regards itself as a multi-land use agency with emphasis on resource management, and operates the largest safari company in Zimbabwe conducting big game safaris from four permanent hunting camps.

Similarly the Agricultural Development Authority (ADA) and the Cold Storage Commission (CSC) have a number of commercial properties throughout Zimbabwe where the wildlife potential has been developed. Usually this involves negotiating the hunting rights with private operators or organizations such as the Zimbabwe Hunters' Association.

2.2.3. Communal Land and the CAMPFIRE Programme: The Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) has stimulated a wide variety of wildlife-related activities in Communal Lands since 1989 throughout southern Africa. In Zimbabwe this has been made possible by granting Appropriate Authority status to District Councils that have satisfied the Minister that they are capable of managing their wildlife resources. This allows the District Councils (DCs) to use the wildlife as they wish. Almost invariably, the right to hunt in Communal Lands is leased to safari operators as concessions, as this is the most lucrative option. Similar hunting systems based on the CAMPFIRE model have been developed in Zambia, Botswana and Tanzania.

A summary of the type of activities undertaken by DCs under the CAMPFIRE programme in Zimbabwe is given in Table 2. Most DCs have developed commercial hunting operations, and some are beginning to develop photographic tourism projects through joint venture arrangements with private sector entrepreneurs.

Table 2: Activities undertaken by District Councils under the CAMPFIRE programme in Zimbabwe, AA = Appropriate Authority status (Data from Child, 1991)

District	AA	Hunting	Photo-graphic	Culling	Capture	Fishing
Hurungwe	Yes	x				
Guruve	Yes	x				
Mazarabani	Yes	x	x			
Chipinge	Yes	x	x			
Kariba	Yes	x	x	x	x	x
Chizeya-Gokwe	Yes	x		x		
Binga	Yes	x	x			x
Tjolutjo	Yes	x				
Bulalima Mangwe	Yes	x				
Bietbridge	Yes	x				x
Gaza-Komanani	Yes	x	x			
Hlangabeza	No	x				
Nyanga	No		x			x
UMP Zvataida	No		x			

3. CONCLUSION

A wide variety of systems have evolved for trophy hunting in southern African countries. Trophy hunting areas on state land are classified in different ways, yet all are managed with the aim of encouraging sustainable use of wildlife. Trophy hunting also takes place on private land in several countries, notably in South Africa and Zimbabwe. The development of communally managed hunting industries is a recent management strategy in several countries. There will be interesting lessons for southern African countries in comparing the past and future development of their trophy hunting systems.

REFERENCES

- Child, B.A. 1991. Annual Report of the Campfire Programme. Cyclostyled report.
- Du P. Bothma, J. and Glavovic, P.D. 1992. Wild Animals. In: Fuggle, R.F. and Rabie, M.A. (Eds.), *Environmental Management in South Africa*, Juta & Co, Cape Town, pp. 250-276.
- Patterson, L. 1996. Botswana's hunting administration: an outline of block allocation. (This volume).
- Pullan, R.A. 1983. The use of wildlife in the development of Zambia. In: Ooi Jin B. (Ed.), *Natural Resources in Tropical Countries*, Singapore University Press, Singapore, pp. 267-325.
- Saiwana, L. 1996. Granting of safari hunting rights in Game Management Areas in Zambia. (This volume).

9. SPORT HUNTING: THE ZIMBABWE GOVERNMENT VIEWPOINT

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1. POLICY

The Zimbabwe Government's approach to sport hunting is clearly enunciated in the **WILDLIFE POLICY 1992**. Relevant excerpts from this policy statement are given in small print below and interpreted where necessary. The Policy begins with a high level **STATEMENT OF INTENT** and the following three paragraphs are from this preamble:

In accordance with its commitment to conservation and its resolve to promote enhanced sustainable rural prosperity and a more equitable apportionment of the benefits from the proper use of the nation's wildlife resources, the Government intends to:

A. *Maintain the Parks and Wildlife Estate (P&WLE) for the conservation of the nation's wild resources and biological diversity;*

C. *Encourage the conservation of wild animals and their habitats outside the Estate recognising that this is only likely to be successful if wildlife can be used profitably and the primary benefits accrue to people with wildlife on their land;*

G. *Transform land use in the remote communal lands of Zimbabwe through its Communal Areas Management Programme for Indigenous Resources (**CAMPFIRE**) under which rural peoples have the authority to manage their wildlife and other natural resources and benefit directly from so doing; and,*

H. *Ensure that wildlife is not undervalued to the people living with it by permitting them to use it sustainably for their own gain as they are able to do with other natural resources and agricultural products.*

At the outset, the Government's commitment to sustainable use coupled with an intention to secure the highest economic value for wildlife is evident. Furthermore, the decentralization of proprietorship for wildlife resources to land-holders is made clear. In the main **STATEMENT OF POLICY**, the following **FUNCTIONS OF THE DEPARTMENT** that relate to hunting on State land are defined:

12.5. Allocate leases, concessions and access for wildlife-based tourism and fisheries in the Estate according to a system which will allow competition and result in maximum financial or managerial benefits to the nation, taking into account historical rights which are likely to be prejudiced; and,

1.2.7. Allocate areas and quotas for sport hunting in the Estate and areas where hunting is legally restricted.

A paper on hunting in Zimbabwe (Price Waterhouse, 1996) shows there is still a long way to go before achieving the requirements of paragraph 1.2.5.

The **FUNCTIONS OF THE DEPARTMENT** outside the P&WLE are to:

1.2.11. Ensure the equitable and efficient allocation of opportunities for Zimbabwe citizens to participate in the wildlife industry;

1.2.15. Maintain a statistical database on all wildlife related activities including tourism, trade and sport hunting;

1.2.16. Undertake research in wildlife and co-ordinate the research activities of external wildlife researchers;

1.2.17. Carry out extension and public relations work outside the Estate in collaboration with other Government and non-government agencies;

1.2.18. Set standards and issue appropriate permits and licences to commercial wildlife operators including professional hunters, professional guides, and wildlife capture units; and

1.2.19. Encourage the establishment of representative associations to develop the wildlife industry in a manner that does not foster monopolies and which is consistent with paragraph 1.2.11.

Perhaps the important point to draw from these policy statements is that there is very little role for the Department of National Parks and Wildlife Management (DNPWLM) as a *regulating agency*

outside the P&WLE. Rather, DNPWLM is required to facilitate, carry out research and extension, and encourage and promote the wildlife industry.

When the policy goes into more detail on the P&WLE, it becomes clear that hunting is not a major objective. The only related statements among the **OBJECTIVES** for the Estate are to:

2.1.6. Encourage public use related to the enjoyment and appreciation of these areas; and,

2.1.7. Generate economic activity within the Estate and surrounding areas to enhance rural development.

In **MANAGEMENT OF THE ESTATE** the following statements are relevant:

Wildlife management is a complex subject in which many of the underlying ecological processes are poorly understood. For this reason the Department will adopt an adaptive management strategy in which research and monitoring are incorporated as integral components of management. Each act of management is designed as a trial, the outcome of which can be assessed scientifically and improved upon where necessary;

2.2.1. The P&WLE will be managed in terms of specific area plans that state the objectives for each area, the system of management, permitted forms and levels of public use, authorized development and internal zonation. Area plans will be subject to periodic revision; and

2.2.5. Where sport hunting is an objective in a protected area, quotas will be set to the maximum sustainable level at which trophy quality can be maintained and the hunting can be marketed.

The adaptive management theme is discussed in this volume in relation to quota setting (Martin, 1996). The statement that quotas will be set at maximum sustainable levels may deserve a second look. In the past, there has often been a conflict of interests in the person responsible for recommending quotas in any particular hunting area. On the one hand that person may recognise and accept that the area is designated for hunting but, on the other hand, may have a deep-rooted internal loathing for hunting and hunters. Given this, that person may well recommend the quota as the minimum number of animals necessary to keep the safari industry interested and viable. This is clearly at variance with the intentions of the Government to maximise returns from sustainable use and hence the policy directive!

The detailed policy for **PUBLIC USE OF THE ESTATE** makes provision for hunting. Furthermore, it requires that opportunities are provided for local citizens:

2.3.2. Recreational hunting will be encouraged in appropriate areas of the Estate and opportunities will be provided to ensure that indigenous Zimbabweans have access to hunting.

The policy does not prohibit hunting in National Parks. This is deliberate. Although, at present, the legislation precludes hunting in National Parks, the Government wishes to keep its options open on this question.

The policy for **WILDLIFE OUTSIDE THE PARKS AND WILDLIFE ESTATE** develops the Zimbabwean philosophy towards wildlife considerably further. Wildlife is not seen as a land use to be pursued as the last option for marginal lands. Rather it is a preferred option on most non-arable land.

3.1. The Government's policy for wildlife is an integral component of its overall land use policy.

3.2. Recognising that much of Zimbabwe does not consist of good arable land, the Government regards wildlife management in all its diverse forms as a legitimate land use that may be the most appropriate or highest-valued form of development in many areas.

3.4. The Government has no prejudice against any form of wildlife utilization provided it falls within society's accepted norms of animal treatment and within the relevant laws of the country.

3.5. *The Government wishes to ensure that the demonstrated benefits of wildlife proprietorship conferred on owners and occupiers of alienated land are extended to wildlife producers in communal and resettlement lands. Such proprietorship involves the right to benefit fully from, and to determine the distribution of wildlife income by producer communities. The Minister will continue to grant Appropriate Authority to Rural District Councils (DCs) who wish to manage their wildlife resources.*

The policy for **WILDLIFE TOURISM** incorporates some important principles on pricing and allocation of access. *Inter alia* DNPWLM will:

4.2. *Advise the national authority on the minimum standards to be required by all tourist services based on wildlife;*

4.3. *Provide a range of outdoor recreational opportunities within the Estate, compatible with the permissible uses and the management objectives of each area;*

4.4.3. *Receive on behalf of the Government an equitable share of the revenue generated by all tourism activities within the Estate;*

4.4.4. *Ensure that wildlife-based tourism in the Estate is priced so as not to undervalue the resource or to be subsidised, except in the case of facilities used by Zimbabwean residents, especially of low income, or where the tourism opportunities have a strong educational component for local people;*

4.4.5. *Seek partnerships with the local people of the region, in order to promote rural based tourism and tourist services. These will:*

- *enhance the returns from sustainable land use;*
- *increase the returns from sustainable land use; and*
- *prevent the flow of wealth from rural to urban areas.*

In so doing, the Department will seek an equitable balance between local, regional and national economic interests within a locally based planning process for each protected area or group of protected areas; and,

4.4.6. *Ensure that opportunities to offer commercial tourist services within the Estate are allocated on an equitable basis by limiting periods of tenure where appropriate.*

The policy document contains a specific section on **SPORT HUNTING**. This section is replicated in full because of its relevance to the workshop.

5. SPORT HUNTING

In the context of this policy, sport hunting means hunting of wildlife with a firearm or bow. Sport hunting largely involves the offtake of mature male animals and quotas are kept low to maintain a high trophy quality. There is no link between sport hunting and culling of overabundant wildlife populations. Such population reductions usually involve large numbers of female animals, often in national parks, and the Government does not view this type of offtake as an opportunity to increase hunting quotas.

This section was included to rectify a common misapprehension among both sport hunters and some government officials. Hence, if any culling operation is to be carried out, it will seldom provide an opportunity for increased sport hunting quotas. Culling operations involve a totally different sector of the population. One frequently hears sport hunters make the statement that through their activity they are *helping to control the levels of wildlife populations*. This is also not true in an African sport hunting environment. The management regime to produce high trophy quality involves such a restricted offtake that it has no effect whatsoever on population increase. The policy continues:

Recreational hunting is an economically and ecologically efficient use of wildlife consistent with policy for high quality and low density tourism. Recognising the substantial foreign exchange earnings which hunting generates, the Government will administer the industry for the maximum long-term benefit to the nation rather than for short-term profits to individuals.

5.1. *Sport hunting will not be permitted in National Parks.*

The merits of this ruling are always a subject of debate in Zimbabwe. The most recent Park Plan for Gonarezhou National Park proposes to permit sport hunting by rural communities in buffer

zones created within the Park boundaries. Furthermore, it may perhaps replace culling of certain species like impala within the main body of the park by traditional community hunts with large numbers of hunters for one or two days each year. A new Parks and Wildlife Act that is now under preparation. It is possible that there will be no law against sport hunting in National Parks. Rather it will be determined by individual Park Plans for each area.

5.2. Protected Species may not be hunted anywhere except in terms of a permit issued according to the laws of Zimbabwe.

This too is coming to be regarded as inappropriate. A growing body of conservationists in Zimbabwe have less and less faith in any legal protection for species. Even where such legislation exists, they do not believe that it should exclude sustainable use of any species. The existing list of Specially Protected Species in Zimbabwe is at present being reduced to only six mammals and six birds. Of those remaining on the schedule, both cheetah and white rhino are being hunted for sport under permit.

5.4. The Department will not entrench sport hunting in all Safari Areas in the Estate but will maintain a flexible approach based primarily on economic returns from land, provided that opportunities exist in the Estate for hunting by Zimbabwe citizens.

This is an important paragraph. It states that the Government will not necessarily keep sport hunting opportunities for international sport hunters if other forms of wildlife tourism (which are compatible with a high fee-paying, low density tourism policy) are economically more attractive. However, the Government may continue to provide subsidized sport hunting opportunities for Zimbabweans.

Recent studies in Zimbabwe suggest that international sport hunting may struggle to maintain its claim to large areas of the P&WLE based on economic returns. Compared to big game safaris, *up-market* ecotourism can produce higher returns per sq km with very little increase in tourism density.

5.5. No wild animal will be hunted in the Estate for less than the market value of its raw products.

This sets the limit of any subsidy to local Zimbabwean hunters. This policy statement is intended to remove the possibility that it might be profitable for a butchery to buy sport hunting licences to supply its customers with meat.

5.6. Appropriate Authorities will be responsible for the management of sport hunting on their land. However, the Department will approve hunting quotas in Communal Lands until such time as this becomes unnecessary.

Rural DCs are at present setting their own quotas and submitting them to the DNPWLM for approval. It is hoped to phase out the need for approval within the next one or two years. Strictly speaking in law, there is no reason why they should seek Government approval.

5.7. The Department will seek to improve the sport hunting industry and increase the participation of new entrepreneurs through:

5.7.1. An initial system of allocating hunting areas in the Estate which is intended to redress the existing imbalance without compromising existing high standards of professional operations or prejudicing the long-term return to the national economy;

5.7.2. An effective training programme for new entrepreneurs entering the sport hunting industry (this topic is discussed further below in relation to political considerations (see 4));

5.7.3. Setting hunting quotas on a scientific basis and monitoring wildlife populations which are hunted;

5.7.4. Enforcement of regulations designed to maintain high standards in the sport hunting industry;

5.7.5. Overseeing examinations for professional hunters to ensure their competence in protecting and providing the necessary services to hunting clients; and,

5.7.6. Separating clearly between quotas set for sport hunting and for wildlife population reductions for ecological reasons.

The only remaining sections within the Policy that are relevant to hunting are some of the individual species policies. In the case of black rhino, strategies that attach a high commercial value to the species are endorsed. In the most recent Zimbabwe Black Rhino Action Plan hunting is approved as a conservation strategy, provided the necessary public relations work is carried out within Zimbabwe prior to its inception. In the case of elephant, the species is not legally protected within the country and the decisions regarding sport hunting of the species rest with the individual land-holder.

2. LEGISLATION

Legislation should follow policy. In the case of Zimbabwe, the current legislation was in place before the latest national wildlife policy. However, with a restructuring of DNPWLM under way, new legislation is being developed at the moment and this will enable all aspects of policy to be enabled in law.

The important aspects of the present Parks and Wildlife Act, 1975 as amended in 1990 that relate to sport hunting are discussed briefly below.

- Wildlife in Zimbabwean law has the status *res nullius*. In other words, nobody owns wildlife. The law simply recognises the rights of land-holders, including the State, to use, manage and benefit from wildlife on their land. Hence, at the start of the Act (Para. 2), Appropriate Authorities for wildlife are defined for the various categories of land in the country. This has an important bearing on hunting. Only on State Land, where Government is the land-holder, is wildlife controlled by the Government.
- The Act prohibits sport hunting in National Parks and Sanctuaries (Paras. 15(1)(b) and 25(a)).
- The Act does not prohibit sport hunting of Specially Protected Species (Section 37). In terms of the final paragraph (g) of this section, the Minister may issue a permit to hunt a protected animal for "*any other purpose, which in the opinion of the Minister, is in the interests of the conservation of animals.*"
- Section 53 of the Act requires persons conducting hunting safaris to be holders of Professional Hunters' licences. Holding such licences they are entitled to conduct safaris on any category of land (Section 54). Provisions are made for Learner Professional Hunters to undertake hunting under guidance (Section 55).
- In Part XI of the Act (*Protection of Animals and Plants on Alienated Land*), provision is made for Conservation Committees consisting of local landowners to enforce restrictions on hunting within their farming districts. This is a significant piece of legislation, since it places the first level of regulation of hunting with the farming community itself. These powers are enhanced in Section 86 of the Act whereby owners of land have powers of search and seizure on their land.
- Part XIII of the Act deals with evidence and presumptions of wildlife-related offences. The relevant legislation is unusual in that it operates on the principle that, in respect of wildlife offences, a person is guilty until proved innocent! This legislation was introduced because of the extreme difficulty of convicting persons in the courts on many types of wildlife crimes. This section also grants law enforcement powers to officers of DNPWLM and gives them the right to impose "spot fines" of up to Z\$ 100 without bringing the culprits before the courts.
- Section 91 of the Act brings into play a principle that may be unique to Zimbabwe wildlife law. When any person is convicted of illegally hunting an animal, apart from the normal penalties imposed by the court, he is required to pay compensation to the Appropriate Authority for that animal in the same way as if it were a domestic animal such as an ox. DNPWLM maintains an updated schedule of the commercial values of each wildlife species and this is used by magistrates to decide the amount of compensation.
- In subsidiary legislation (Parks and Wildlife (General) Regulations, 1990) more detailed regulations relating to hunting on state land appear:
 - *unfair* methods of hunting are prohibited;
 - hunting within 400 metres of roads or development areas is prohibited;
 - hunting from vehicles is prohibited;
 - hunting at night, particularly with a spotlight, is prohibited;
 - certain mandatory returns from hunting are specified;
 - minimum calibres and types of weapons are specified for hunting various species; and,
 - conditions relating to professional hunters' licences are specified.

3. ADMINISTRATION OF HUNTING

In any wildlife department, sport hunting is one of the most difficult and problematic activities to administer. Zimbabwe may give the impression of being on top of its administrative responsibilities towards hunting but this is a cultivated illusion. In practice, sport hunting provides more headaches than any other aspect of wildlife management. Very often the time that is spent on a minor problem relating to sport hunting is out of all proportion to the conservation or financial importance of the issue. The problems of systems of allocation, length of tenure of concessions, pricing for hunting or setting quotas have never been totally solved.

Sport hunting is carried out on a total of 17,361 sq km of state land (34% of the P&WLE or 4.5% of the surface area of Zimbabwe) in 12 separate Safari Areas. A quota is set annually for each Safari Area by the Research Division of DNPWLM. Examples are shown in Martin and Thomas (1991). On top of this, sport hunting quotas submitted by 12 Rural DCs are scrutinized and approved (Department of National Parks and Wildlife Management, 1996).

An attempt has been made to reduce the administrative load entailed by sport hunting on state land. Hence, the annual quotas for all areas are set towards the end of the previous year, giving operators a reasonable amount of time to market their available quota. Once approved by the Director, these quotas remain unchanged. No applications are entertained for changes in the quota once the hunting year has started. If any one operator receives an extra animal, all the remaining operators are on the Director's doorstep the following morning demanding similar favours.

4. THE POLITICS OF HUNTING

Politically, the safari hunting industry is dominated by the white sector of the community. Even though there are several black safari operators and a number of qualified black professional hunters working in the industry, the balance is still considered to be too much in favour of whites. Each new Minister of the Environment has the unenviable task of trying to shift the balance to satisfy the expectations of parliament. However, as yet the capture and assimilation of the industry cannot be said to have happened. The issue is not simply racial. There are strong financial reasons driving black entrepreneurs who want to penetrate the industry. Every State concession is capable of providing a gross annual return of over Z\$ 1 million and many can generate even more. From the viewpoint of DNPWLM, it is obviously crucial that free and fair systems of allocating hunting are seen to be in place. This protects DNPWLM from accusations of favouritism. All entrants to the industry will have gone through a transparent process where all citizens have an opportunity to bid for the concession.

Apart from hunting concessions on State land there are now a number of sought after concessions in communal lands. These are allocated by the elected DCs in each area. These DCs are finding themselves under the same pressures as government departments. Very often high political figures put pressure on them to favour certain prospective operators. In the past few years, DCs have moved towards more and more transparent systems of allocating hunting: concession areas are publicly advertised and a large group of community leaders will evaluate the tender offers. They may even, as happened recently, call in professional consultants such as Price Waterhouse to assist them in assessing the tenders.

To a large extent, CAMPFIRE has reduced the problems perceived by the politicians regarding white domination of the sport hunting industry. Because the appointment of safari operators is carried out by local DCs who are eager to ensure the maximum returns for their constituencies, the process is becoming very competitive and market based. Some of the tender bids offer joint ventures between DCs and operators and these are becoming more and more popular.

There seems only one practical and equitable approach to shifting the racial composition of the safari hunting industry. This is for prospective new entrants to have the necessary capital and expertise to compete in the market place.

Another issue facing the politicians is the need for land. Zimbabwe has an expanding human population and a chronic shortage of arable land. To some extent, conservationists in Zimbabwe are fortunate that few areas of the P&WLE occupy good land. The colonialists quickly took the best land for agricultural purposes and left the Game Department with the worst marginal lands on the periphery of the country.

Here, too, CAMPFIRE has gone a long way towards reducing potential pressure on the P&WLE. Many rural communities are managing their own wildlife and, in many areas, relying on an overspill of wildlife from state protected areas to provide them with animals for hunting. This has to a large extent defused the situation. In addition, DNPWLM is now developing new initiatives for joint management and revenue sharing between the P&WLE and neighbouring communities. This may further enhance the acceptability of state protected areas.

Another type of political problem is surfacing between Ministries with a responsibility for land. The very rapid development of wildlife as a land use over the past ten years has not yet been fully grasped by certain government agencies. Approximately one-third of the total land area of Zimbabwe is now under some form of wildlife management and the proportion continues to grow. Traditionally, the primary land use outside state protected areas has been agriculture and domestic livestock. Consequently the authority for land has been vested in the Ministry of Lands and Agriculture. Recent studies indicate that the majority of such land would be better devoted to wildlife management than cattle. In the areas where communities are managing their own wildlife, this is starting to happen without government planning. It is easy to see how this could lead to a clash between two Ministries both who see themselves with a responsibility for determining land use. However, it is now being recognised that no amount of government planning should affect the right of the land-holder to pursue the land use option that offers the highest return.

Wildlife management, and particularly sport hunting, is now being seen in Zimbabwe as the new bonanza. However, it is probably wise to add a note of caution to those of a political bent who would seek to alter the form of the industry too drastically. Sport hunting is a high risk industry. In some years the net returns may be very high, but there are other years where losses may dominate if only one or two hunts are cancelled.

Fortunately, hunting is far less vulnerable to political influences than non-consumptive tourism. During the liberation war in Zimbabwe (1970-1980), the safari hunting industry maintained a steady stream of overseas clients and very little hunting went unsold. The same could not be said of the game viewing tourism industry. During the war, local citizens were the only users of the National Parks. Even after Independence in 1980, a few isolated incidents of banditry were sufficient to label Zimbabwe as a risky tourism destination for several more years.

The difference lies largely in the nature of the two types of clients. Most hunting clients feel *macho* and secure because they carry weapons. Game-viewing tourists feel more vulnerable because they move in larger groups and do not carry weapons. A story originating in Zimbabwe during the late 1970s illustrates this point. Several incidents involving guerrillas had occurred in the Matetsi Safari Area and one local safari operator felt morally bound to warn a prospective hunting client of the insecure situation. On advising the client over the telephone that there had been several terrorist incidents in the area, there was a long pause before the client asked 'Did you say *terrorists?*'. An affirmative answer produced a further pause, followed by the response 'What the hell I have been married to one for twenty years I can't see any reason not to come on safari!'

REFERENCES

- Department of National Parks and Wildlife Management. 1996. The setting of communal area quotas in Zimbabwe. (This volume).
- Martin, R.B. 1996. A spreadsheet model for simulating large mammal population dynamics and evaluating the effects of hunting quotas. (This volume).
- Martin, R.B. and Thomas, S. 1991. *Quotas for sustainable wildlife utilisation in communal lands*. Zimbabwe Trust and Department of National Parks and Wildlife Management, Harare.
- Price Waterhouse. 1996. The hunting industry in Zimbabwe. (This volume).

10. GRANTING OF SAFARI HUNTING RIGHTS IN GAME MANAGEMENT AREAS IN ZAMBIA

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1. INTRODUCTION

Zambia adopted a safari hunting policy in 1992. This aims to utilize wildlife resources sustainably in Game Management Areas (GMAs). The policy ensures that right-to-use concession fees reflect the market values of wildlife, so maximising the revenues earned from safari hunting operations. With ever escalating costs of wildlife management, it is vital to raise adequate revenues from wildlife. These pay for some basic management costs and support rural community projects.

2. HISTORY OF HUNTING IN ZAMBIA

In Zambia hunting has long been considered an important tool in wildlife management. Recreational safari hunting in Zambia started in 1950, through a government-supported safari hunting scheme. Since then, hunting has been regarded as part of the tourist industry. Tourist hunting is the most important wildlife-based tourism activity in Zambia. The income generated per client is considerably higher than for any other form of utilization, yet it requires less investment in infrastructure. This makes it very attractive to investors and has created an unprecedented demand for tourist hunting rights.

Hunting has been conducted in hunting blocks that are essentially whole GMAs, or sub-divisions of GMAs. These GMAs are part of reserve or trust land that is communally owned and subject to control by their respective chiefs. Zambia has 33 GMAs, covering an area of more than 140,000 sq km. Tourist hunting companies offer three main types of hunting safaris:

- **Classical or Deluxe Safari.** This safari covers a minimum period of 14 days. The bag comprises one lion and/or one leopard, and an assortment of plains game. The average bag is ten;
- **Mini Safari.** This safari takes 7 days and includes 5 plains game excluding roan, sable and species of the specialized safari animal list; and,
- **Specialized Safari.** This form of safari takes 7 days and comprises the following species: black lechwe, Kafue lechwe, sitatunga and tsessebe.

From 1950 to 1978, the industry was dominated by one or two companies that did not have to pay safari hunting rights fees. They only had to pay licence fees. In 1978, two new tourist hunting companies were created by Zambians, and this was a significant development. From 1978 to 1983, the Ministry, in conjunction with National Parks and Wildlife Services (NPWS), allocated hunting blocks administratively. All animal fees and hunting rights concession fees were paid in local currency. From 1950 to 1983, two problems became apparent. First, NPWS was not accruing enough revenue. Second, rural communities living in the hunting areas were not directly benefiting from the offtake of wild animals from their areas.

3. WILDLIFE CONSERVATION REVOLVING FUND

The Wildlife Conservation Revolving Fund (WCRF) is a Government Parastatal that was established within NPWS in 1983. Its specific role is to engage in revenue-generating ventures, with a view to supplement government funding to NPWS. Before 1983, NPWS had relied solely on Central Government to meet wildlife management costs. Following the establishment of WCRF, it was decided that safari hunting companies should pay for Safari Hunting Rights. Consequently this formed a high proportion of the initial WCRF revenues and donations. At first, safari hunting companies paid hunting rights by donating vehicles to WCRF. Overseas hunting clients paid for hunting licences and permits in convertible foreign currency. Most safari companies in Zambia resented this arrangement. However, the Ministry took this action after a study revealed that safari hunting companies were greatly under-declaring their earnings of foreign currency. For every US\$ 1 brought into the country, US\$ 1 was kept outside the country. The Ministry remained unmoved by the protests of the safari hunting fraternity. Indeed, one safari hunting company was guilty of with-

holding large sums of foreign currency outside the country, and was banned from hunting in Zambia.

The idea of tendering Safari Hunting Rights was first introduced in 1985 when bids for Mulobezi GMA were invited. This approach was adopted after the WCRF had accepted an offer of US\$ 40,000 for the concession in Chanjuzi hunting block. For the first time the market value of Safari Hunting Rights for a given hunting block was established, and the tender was won at US\$ 40,000. In 1987, bids were invited for the concession in Lower Lupande, which was won at US\$ 30,000. To assist in the process of allocating safari hunting rights, GMAs were classified into five categories. This was on the basis of trophy animal densities, species density and distribution.

- Categories A to D indicated the density and species diversity of trophy animals in descending order.
- Category E was characterized by a limited number of trophy species such as black lechwe, Kafue lechwe, sitatunga and tsessebe, found mainly in wetland areas.

Attempts to formalize bidding as a regular mode of granting Safari Hunting Rights was later discontinued because of political interference. Instead, the Government opted for an administrative system of granting safari hunting rights.

4. METHODS OF GRANTING SAFARI HUNTING RIGHTS IN GMAS

Three methods for granting safari hunting rights have been proposed, namely administrative, auctioning and tendering.

4.1 ADMINISTRATIVE ALLOCATION

Most safari hunting companies were in favour of administrative allocation because they could use personal influence to secure hunting blocks. This system was in use in Zambia until 1983, and was then re-instituted from 1988 to 1991, due to political interference. This system had two stages. First, a committee of bureaucrats made initial allocations of the Safari Hunting Rights among the applicants. Second, the Minister reviewed the initial allocations, and made the final allocation of Safari Hunting Rights. The system did not allow open competition among the applicants and the true market value of the safari hunting rights was not established. It was also subject to bias and encouraged lobbying for support. Therefore, NPWS believes this method of allocation should be avoided.

4.2 ALLOCATION BY AUCTIONING

Interested parties bid for the hunting rights at public auction. As control over the public bidding for the hunting rights cannot be instituted, this method encourages a monopoly. Therefore, NPWS believes auctioning should be avoided.

4.3 ALLOCATION BY TENDER

Under a free system of market economy, tendering is probably the fairest and most competitive system of allocating Safari Hunting Rights. This system was used from 1983 to 1987, when it was discontinued. Upon its election, the new democratic Government adopted a privatization policy that phased out the parastatals and increased the number of safari hunting companies. Hence the demand for hunting rights was greatly in excess of the supply of hunting blocks. Zambia chose to grant Safari Hunting Rights by tender when adopting its new hunting policy in 1992. Concessions were granted to 21 safari hunting companies under a 1 year lease agreement that expired at the end of 1992. This was deliberate to allow the development of an objective approach to the granting of Safari Hunting Rights. Upon re-introduction of the tender system, the classification of GMAs was reviewed, and a more pragmatic classification was adopted. NPWS now has three categories as follows:

- regular hunting block;
- depleted hunting block; and,
- specialized hunting block.

The safari hunting fee structure has been reviewed to match the current demand and inflationary trends in the economy of the country.

5. LENGTH OF HUNTING LEASE AGREEMENTS

In the past leases have been granted for up to a maximum of three years. NPWS considers three years an ideal lease period. Over this period the investor has time to recover his investment and make a reasonable return. A longer period would allow inflation to affect the value of the concession. Consequently WCRF would not receive the full market value of the Safari Hunting Rights.

6. SAFARI HUNTING FEES

A Safari Hunting Rights Lease fee is paid by the safari hunting operator to the WCRF. This gives the operator the right to conduct safari hunts in hunting blocks. Each safari hunting company pays the concession fee that it bid, or indicated in its bid, for the hunting block per client or per classical safari. The recommended minimum tender fee for a Classical or Deluxe Safari is US\$ 3,000 per client in a regular hunting block, or US\$ 2000 per client in a depleted hunting block. For Mini and Specialized Safaris, the current hunting rights fee charged in respect of each animal also serves as the minimum tender fee.

WCRF has used the ADMADE formula to divide the revenue between the beneficiaries as follows:

- 40% goes towards the management of the wildlife resource in the GMA;
- 35% goes to the local community in the GMA;
- 25% goes to the WCRF for capital replacement and managing the ADMADE programme.

7. CONCLUSIONS

Zambia's evolving policy, and particularly the new 1992 policy, on safari hunting has followed a number of principles. First, that hunting blocks must attract right to use fees that are determined by market forces. Second, the money earned from the resource must contribute towards its management costs. Third, that money earned from the resource must provide direct benefit to local communities upon whose land the hunting takes place.

11. BOTSWANA'S HUNTING ADMINISTRATION: AN OUTLINE OF BLOCK ALLOCATION

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1. BACKGROUND

Botswana's land tenure system divides land into three categories: State Land, Tribal Land and Freehold Land. The last category comprises less than 5% of Botswana's surface area. This is either urban land or privately owned farms, situated in historically strategic blocks along the country's borders. The other two categories contain the major share of Botswana's surface area, with 20% as State Land and 75% as Tribal Land. These areas contain all the Protected Areas (PAs), comprising National Parks and Game Reserves, which make up approximately 17% of Botswana's surface area. The only difference between the two categories of PA is that NPs are situated on State Land, while GRs are sited on Tribal Land. For all practical purposes they are identical and afford full protected status.

The vast majority of the remaining land is divided for the purposes of hunting administration into approximately 40 Controlled Hunting Areas (CHAs) with a total area of around 110,000 sq km. CHAs have no formal conservation status. Fifteen of the better CHAs have been leased as concessions to tourist hunting companies for periods of 4 years. Some CHAs are quite large (between 1000 and 2500 sq km), and rentals have varied from between US\$ 7000 and 20,000 per annum. The remaining CHAs are reserved for citizen and resident hunters. Citizens may also hunt in CHAs, a situation that is causing persistent conflict.

The Department of Wildlife and National Parks (DWNP) allocates quotas annually. Concession areas have two quotas, one for tourists (non-residents) and one for citizens. Overall about 85% of the entire quota is taken up by citizens, although the 15% allocated to tourist hunters accounts for almost 95% of the revenue derived from licence fees. There is a vast difference in the cost of citizen and tourist licences.

The Botswana Government recently decided to review the hunting industry. The aim of the review is to achieve maximum sustainable benefits. These benefits should accrue to as many citizens as possible, but particularly to those living in remote rural areas. This philosophy is consistent with the principles embodied in the new National Conservation Strategy. It is empowered by two new government policies, the Wildlife Conservation Policy and the Tourist Policy.

2. THE NEW SYSTEM

The DWNP, in co-operation with the Landuse Planning Section of the Ministry of Local Government and Lands (MLGL), has designed a completely new set of CHAs. These will replace the existing ones. These are based on the results of a land use planning exercise, in which important wildlife areas have been designated as Wildlife Management Areas (WMAs). This exercise was itself based on a natural resources inventory and an ecological zoning procedure. Almost 100 new CHAs have been identified. Most of the CHAs in WMAs have been offered as concession areas. Most of these have been classified as Multiple Use Areas. This allows the area to be used throughout the year, so that benefits are maximised. Such areas may be used for any land use that is compatible with the conservation policies. They have been designed primarily to accommodate the burgeoning photographic tourist industry, and to reduce the impacts on NPs and GRs.

2.1. ALLOCATION OF CHAS

DWNP has prepared a set of guidelines and a draft lease agreement that is available to *bona fide* operators for a nominal administration fee. The guidelines contain brief descriptions of the available CHAs and their natural resources, as well as a prescription of acceptable developments and activities. In addition, the latest DWNP aerial census results are made available.

Operators are expected to submit a detailed Management Plan Proposal for each CHA. Each proposal should indicate the developments planned, together with detailed costs, the returns to be

expected and the benefits accruing to local communities through specified mechanisms. On the basis of the information provided, operators must provide DWNP with the appropriate quotas for the block.

The proposals, together with a separate Financial Bid for the CHA, are submitted to DWNP. The Financial Bid must have two components: a land rental fraction and a natural resources levy. An Allocation Committee considers each anonymously coded technical proposal and ranks them on merit. The Committee consists of representatives of DWNP, MLGL, Ministry of Finance, District Councillors, and co-opted specialists as appropriate. The identically coded financial bids are then opened. The operator who submits the highest ranked technical proposal is offered the CHA at the highest financial bid. These bids are anticipated to generate up to 10 times the previous concession fees set by DWNP, with bids expected of US\$ 50,000 to US\$ 120,000 per annum.

2.2. LEASE PERIODS AND LAND RENTALS

To encourage major investment, leases will be offered for a period of 15 years, with 5-yearly reviews. This will provide security of tenure. However, the natural resources levy will be calculated annually depending on utilization levels. These may be for consumptive activities such as hunting or capture quotas, or for non-consumptive activities such as photographic opportunities, walking, and canoeing, according to local conditions.

It is proposed that land rentals of Tribal Land should accrue directly to the Land Board of the respective District Council. In the case of State Land, which theoretically should not have any local residents, rentals should accrue to Central Government. The natural resources levy should be available for flexible disbursements to targeted beneficiaries, perhaps through central government agencies. Licence fees will be payable in addition to the concession fees, and will accrue as before to the Central Treasury.

2.3. ECOLOGICAL MONITORING

An important component of the management proposals is the provision for ecological monitoring of the CHAs. Considerable understanding of the principles and methods is involved in long-term monitoring of the environment and in the development of realistic programmes for the CHAs or WMAs jointly with neighbouring concessionaires.

3. CONCLUSIONS

The new system has yet to be fully implemented and tested, but it is anticipated that it will provide considerable economic and conservation benefits. The new system is expected to generate much greater revenue than the present system of fixed rentals. In addition, the long periods of tenure that will be offered should ensure better custodianship of the hunting concessions in Botswana.

PART 3

SETTING QUOTAS

12. SETTING QUOTAS FOR TOURIST HUNTING IN TANZANIA

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1. INTRODUCTION

Tanzania is an excellent place for tourist hunters. Its hunting areas are vast, covering some 22% of the land surface area, and a great abundance and diversity of species can be hunted. The abundance of wildlife is testimony to Tanzania's conservation policies, which promote their utilization on a sustainable basis. A number of different types of hunting are practised in Tanzania, including subsistence hunting and cropping. This paper will concentrate on trophy hunting. An attraction of trophy hunting is that it has minimal effect on the resource base, but maximises earnings from that resource. The trophy market, in terms of trophy type and quality influence the number of males shot. Hunting quotas should therefore barely influence wildlife population trends, providing all other factors, including predation, disease and illegal use, are well controlled.

2. DEVELOPING HUNTING QUOTAS IN TANZANIA

2.1. ORIGIN OF QUOTAS

Project Managers suggest quotas for Game Reserves, and Regional Game Officers suggest those for Game Controlled and Open Areas. These suggestions are based on the long-term knowledge and experience of wildlife officers working in the field. Data from aerial counts made by the Tanzania Wildlife Conservation Monitoring Programme, (as and where they are available), are also used. The suggestions are used in combination with past records on the use and uptake of quotas, and with suggestions from outfitters and professional hunters. A quota set by this procedure is very much a sound educated guess.

2.2. RESETTING OF QUOTAS

At the end of each hunting season quotas are reviewed. Specific requests and issues are accommodated whenever possible. Suggestions from wildlife officers and professional hunters working in different areas are also taken into account. For example, if professional hunters note that particular species are absent from an area or can not sustain further offtake, the quota is adjusted appropriately.

The criterion of 40% utilization of the quota is also used because hunting is expected to earn Tanzania a certain amount of foreign currency. Utilization below 40% could result from either a lack of animals or poor safari bookings. In the latter case, the block will be re-allocated to another company.

2.3. SHORTFALLS OF THE PRESENT SYSTEM

Quotas set by this present system have a number of shortfalls and problems:

- aerial surveys are very expensive. They cannot be carried out regularly on a countrywide basis, particularly in Game Controlled Areas and in open areas;
- the Systematic Reconnaissance Flights survey technique is commonly used to gather information on animal numbers and distribution. However, it only gives an indication of the status and trends for most species. It cannot give conclusive information on population sizes for many huntable species, for example, sable antelope, kudu, lion or leopard;
- the meagre resources allocated for conservation monitoring is inadequate to monitor all species throughout Tanzania. Different survey techniques are required for different species in their respective habitats. To cite one example, a survey of lions conducted in two small areas of Loliondo Game Controlled Area in 1992 cost Tsh 7,000,000, the equivalent of US\$ 24,000; and,
- an organized system of monitoring trophy and hunting success, has not yet been put in place. This would involve monitoring trophy quality, body weights, and other criteria of population performance and hunting success. Furthermore the use of computers necessary to store such data on computers is only in its early stages in Tanzania.

3. CONCLUSION

Tanzania recognises that it must apply a more scientific approach to the setting of hunting quotas. This is the purpose, among others, for conducting this workshop. The Department of Wildlife recognises that our deliberations will put Tanzania on a better course to more effectively manage and utilize its wildlife. Tanzania is particularly interested in adaptively managing quotas using data on trophy quality, and hunting success.

13. A SPREADSHEET MODEL FOR SIMULATING LARGE MAMMAL POPULATION DYNAMICS AND EVALUATING THE EFFECTS OF HUNTING QUOTAS

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1. INTRODUCTION

1.1. POPULATION MODELLING

A model that simulates harvesting from a population can be used to explore the limits to which different types of harvests can be pushed before management becomes unsustainable. The manager will then choose a level of exploitation that contains a sufficient safety margin for his purposes. Determining when a management scenario is unsustainable may involve more than simply noting whether or not a population collapses. Strongly skewed sex ratios or abnormally shaped age pyramids may be biologically undesirable because the population becomes vulnerable for demographic or genetic reasons.

1.2. SIMULATING AN UNEXPLOITED POPULATION

Very few data are needed to simulate the dynamics of an unharvested population, at least at a very crude level. The following are required:

- an initial cohort of males and females with numbers in each age class;
- an age-specific fecundity schedule for the females; and,
- an age-specific mortality schedule for both sexes.

Implicit in the above is knowledge of the longevity of the species, the age at first conception and decline in breeding performance with age.

A population defined by the above parameters can then be allowed to increase indefinitely in a computer, provided it has a positive growth rate at the start. As a real population approaches ecological carrying capacity for the habitat, several things will start to happen. For example, the fecundity of females will decrease and the mortality of animals will increase. This mortality may not effect all age classes equally. Young and old animals have a higher likelihood of dying than adults in middle age classes. To contain the modelled population in a similar way, some form of density-dependent mortality can be built into the model based on data collected from a real population.

Such data have been collected for very few species. Indeed, any existing data are probably only for one population at one time and place. Therefore, the data may not be fully representative of the population biology of the species. Moreover, population data are stochastic. Not all females will produce their first offspring on the appointed day, and not all individual males will die in the exact proportions predicted. Rather there will be a scatter of data points about the means that are implied in the above schedules. Thus, it is very difficult to use accurate data to model a specific population. Finally, this type of population modelling says very little about behaviour. For example, a simple model may overlook the fact that a species does not breed below a given density threshold.

However, fecundities and mortalities can be estimated by informed guesses. The density-dependent process can be simulated with any convenient negative feedback expression. The various complexities of the hunting process can be hypothesised. Sceptics might say that the exercise becomes less and less valuable the more the model depends on guesswork. Nevertheless it will have certain benefits if the estimates are not preposterous. Indeed, even without accurate data, modelling will allow the generation and testing of hypotheses.

The simulation can be a simple *birth-pulse* model such as is used in this paper. This type of model assumes that the processes of being born, dying and being hunted are all discrete events that happen to all the animals in the population on a given day and in a given sequence during the year. Such models can be run very quickly on a modern computer. In contrast, a high-fidelity model would update the population daily. The likelihood of each animal dying or giving birth on the day

concerned is drawn from a box of random numbers. However, such models are slow and tedious to run. Very often, under the law of averages, they produce results that differ very little from those obtained by considering mean values in a birth-pulse model.

1.3. INTRODUCING A HARVEST

The simulation of hunting from a population can be simple or complex. The simplest scenario would consider the offtake of a limited number of trophy males, far fewer than the maximum sustained yield of the population. A more complex scenario would model the effect of selectivity. For example, it could compare the effects of removing all the oldest males in the population with the effects of evenly distributing deaths between different cohorts of adults. An even more complex scenario would question whether killing older males compensates for animals that would have died naturally anyway. In addition, a degree of female hunting (as bait for large cats or for camp meat) can be added into the model. Indeed, females may be selected in a very different way from males. Further modifications could allow for an illegal offtake of animals of both sexes that imposes a very different type of selectivity on the population. In the following model, all the above scenarios have been considered.

1.4. COMPUTER TECHNIQUES

A mathematician will try to solve a population dynamics problem by deterministic methods. Mathematical series involving age classes can be elegantly summarized. Age-specific fecundities and survival values can all be applied using frugal mathematical expressions. The process becomes more messy and complicated when the modeller wishes to simulate effects specific to particular age classes, and phenomena that come into play at given population thresholds. At this stage, it is far easier to use the power of modern computers.

Computer simulation models for population dynamics are usually developed using standard programming techniques in computer languages such as BASIC. This allows the modeller to use FOR-NEXT loops to process all animals in a cohort and GOTO statements to complete an annual cycle. Programming is very simple, allows for considerable flexibility in dealing with a variety of management treatments, and the modeller has a range of options for structuring the programme.

As more and more people use modern PC computers with standard software, this type of programming has become less common. The major use of PCs by far is for word-processing and spreadsheet analysis. Modern spreadsheet software can be used for simulating population dynamics even if this is not necessarily the first application that springs to mind for those familiar with spreadsheets. However, it is not as simple and flexible as BASIC programming because the spreadsheet does not allow *branching* or *loop-within-loop* calculations in a single pass. Modern spreadsheets allow iteration and this can greatly speed up calculations.

The model developed in this paper makes no pretensions towards advanced mathematical theory. However, it allows a variety of effects of management practices to be tested on a large mammal population, and it often produces counterintuitive results. The model has been designed and executed using SUPERCALC 5 software on a 286 generation laptop computer.

2. A GENERALISED MODEL

2.1. APPLICABILITY

A model has been set up to investigate hunting of impala. At the outset, it is necessary to provide some estimates of biological parameters for the species, and to specify some details of its site of occurrence. Experimentation with different hunting regimes can then begin. The model is suitable for any large ungulate in African savannahs. For long-lived species such as elephants, as many as 60 age class cells can be added to each *vector*. However this could become tedious and might require very large amounts of computer memory.

2.2. SETTING UP THE MODEL - INITIAL DATA

2.2.1. Biological parameters: The model requires specification of a nominal schedule of age-specific fecundities and age-specific survival values for each age class. Fecundity (F) is expressed as the total number of offspring per female per year. Survival (S) is expressed as the total number

that sex and age cohort surviving per year. Age (A) is expressed in years. The following parameters apply to impala:

AGE	1	2	3	4	5	6	7	8	9	10
Fecundity	0	.5	1	1	1	1	.9	.7	.5	.2
Female survival	.8	.9	.95	.95	.95	.95	.9	.7	.5	.2
Male survival	.8	.85	.9	.9	.9	.9	.8	.6	.4	.1

2.2.2. Site parameters: The following data are needed:

- the initial size of the population;
- the size of area (sq km) in which it lives; and,
- the ceiling density (D_{max}) at ecological carrying capacity.

From these data, the spreadsheet calculates an initial population cohort of males and females as follows:

- the starting population is divided into two (equal numbers of males and females). Once the model is running, the sex ratio will be adjusted according to the different survival values for the sexes;
- the survival curves for males and females are computed from the age-specific survival values; and,
- the total number of males and females is subdivided into age classes. The numbers in each class are in proportion to the values of the survival curve.

Thus, for a population of 500 animals, 250 are assumed to be female. They are allocated to age classes as follows:

AGE	1	2	3	4	5	6	7	8	9	10
Female survival	.8	.9	.95	.95	.95	.95	.9	.7	.5	.2
Survival curve	0.80	0.72	0.68	0.65	0.62	0.59	0.53	0.37	0.19	0.04
Female numbers	38.54	34.68	32.76	31.31	29.87	28.42	25.53	17.82	9.15	1.93

2.2.3. Management parameters: The following parameters need to be input:

2.2.3.1. Female hunting

- quota (% of total population); and
- success rate (%): *the proportion of the allocated quota that is expected to be killed.*

The assumptions with female hunting are:

- females under 1 year of age are not hunted; and,
- all animals older than 1 year are selected for equally.

2.2.3.2. Male trophy hunting

- age at which males first enter the trophy category;
- quota (% of total population);
- success rate (%): *the proportion of the allocated quota that is expected to be killed;*
- selectivity (%): *When selectivity is zero all males reaching the trophy category age are selected for equally. When selectivity is 100% the trophy quota will be taken entirely from the oldest age classes progressively downwards. Intermediate selectivity values result in more males being taken from the older age classes than from the other age classes; and,*
- compensation (%): *Zero compensation means that all males hunted are additive over and above natural mortality. Compensation of 100% means that all males that would have died naturally can be deducted from the hunting quota or vice versa, depending on which is the larger number. Intermediate percentages mean partial compensation. For example, a value of 50% means that one half of the quota may be debited against natural mortality or vice versa, depending on which is the smaller number.*

2.2.3.3. Illegal hunting:

- percentage of total population: *With illegal hunting it is assumed that animals are selected equally from all age classes.*

2.2.4. Model parameters:

- α , a factor affecting fecundity; and,
- β , a factor adjusting survival.

The two parameters specified here ensure that the population limits itself through density-dependence. The first parameter (α) reduces fecundity as ecological carrying capacity is reached (the ceiling density specified under (b)(iii) above) through its effect in the following formula, where F_1 is fecundity at time 1:

$$F_1 = (2 - e^{\alpha \cdot D/D_{max}})$$

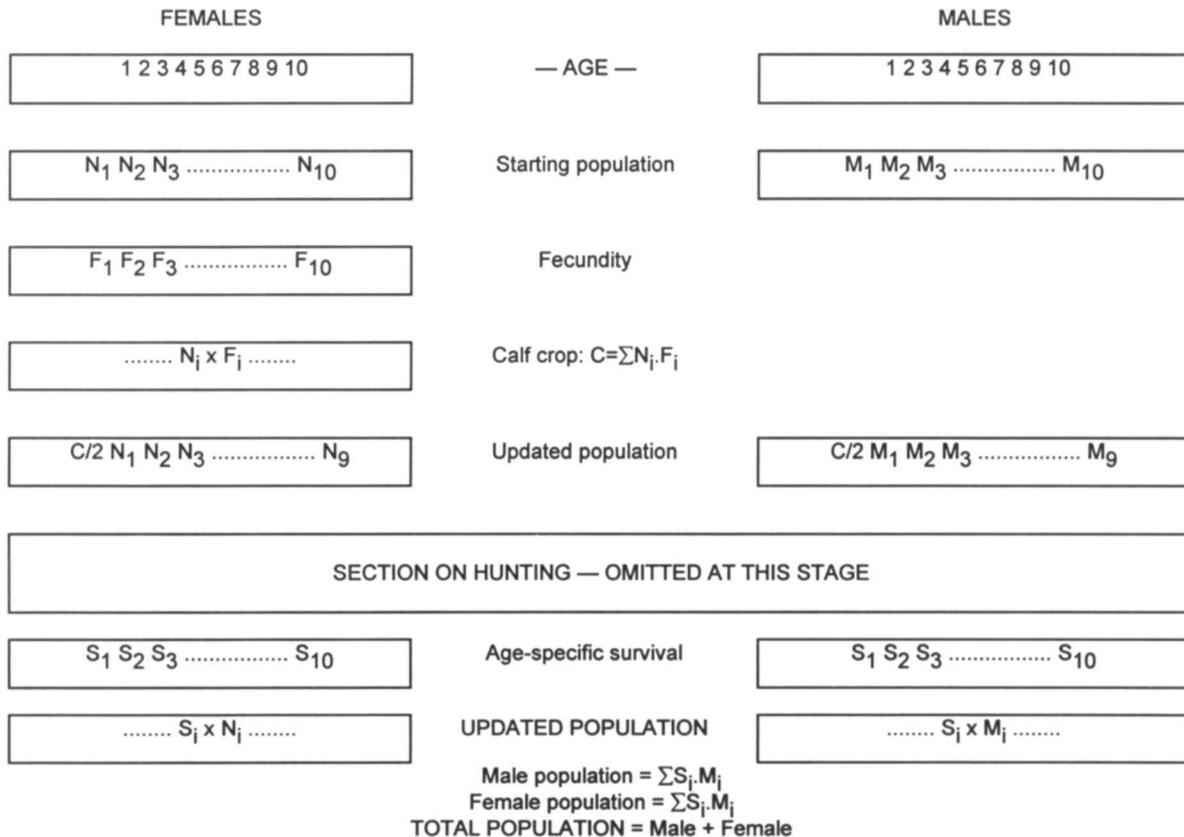
For small values of D (density) the value of F_1 is very close to unity. It will hardly change when multiplied by the given fecundity value. As D/D_{max} approaches unity the value of F_1 becomes less than 1 and reduces fecundity. For high values of α (0.5-0.67), the effect is not noticeable until the population is very close to its asymptote. For lower values, the factor has an effect further and further away from the asymptote. The problem with using too high a value for α is that the population may be inclined to oscillate as it reaches the asymptote.

The second factor, F_2 , is a multiplier for the age-specific survival values. At low densities it has a value close to unity and hence no effect. As carrying capacity is approached it has the overall effect of reducing survival coupled with a more severe effect on the lower and upper age classes.

$$F_2 = (1 - e^{-\beta(1-D/D_{max}) \cdot Age}) \cdot (1 - e^{-\beta(1-D/D_{max})(1+A_{max}-Age)})$$

2.3. HOW THE MODEL WORKS

2.3.1. Without hunting: First the model is considered without any hunting. This represents how the population builds up and self-regulates.

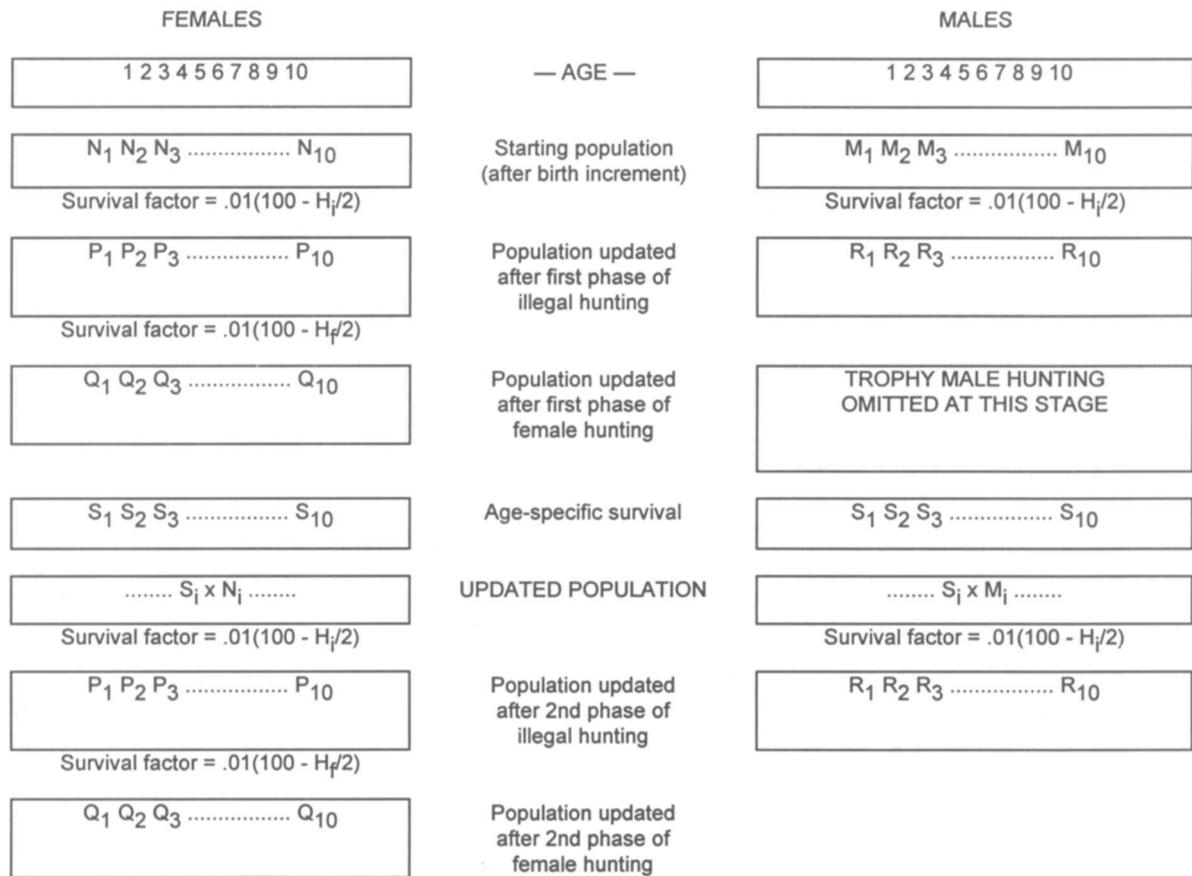


The final updated populations at the end of the table are transferred to the top of the table using circular cell references. At the end of each spreadsheet evaluation, the density is recalculated and

compared with the specified density for ecological carrying capacity. The density-related factors that modify the fecundity and survival are updated after each spreadsheet iteration. After a certain number of years (each spreadsheet iteration is effectively one annual cycle) the population should stabilize at ecological carrying capacity.

2.3.2. With illegal hunting and female hunting introduced: A classical problem in birth-pulse models is whether to apply natural mortality before or after applying hunting mortality. If natural mortality is applied before, then the hunting quota should be smaller (based on the percentage of the total population at the start). If it is applied afterwards, it will result in fewer animals appearing to die naturally. That is to say, hunting will automatically compensate for some deaths that would have occurred naturally.

To partially overcome this problem, illegal hunting and female hunting have each been split into two phases. One takes place before, and the other after, the survival calculation. This can be thought of as evaluating survival in the middle of the year and carrying out half the hunting before June and the other half after June.



As before, the final populations in the two bottom arrays (males and females) are transferred back to the starting population arrays at the top of the spreadsheet.

2.3.3. Male trophy hunting: More scenarios become manifest at this stage in the model. The effects of hunter success rate, selectivity for larger trophies (older animals) and compensation for natural mortality are all combined to approximate a real life situation. The steps involved are discussed one at a time.

- (i) The number of animals that will be killed is calculated as:

$$Q_n = .01 \times \text{Quota} \times .01 \times \text{Success rate} \times \text{Total population (at start of year)};$$

(ii) The number of animals expected to die naturally that can be used for compensation purposes is calculated as follows:

Population after 1st phase of illegal hunting	$R_1 R_2 R_3 \dots R_{10}$
Age-specific survival for males	$S_1 S_2 S_3 \dots S_{10}$
Nos. of males which can be used for compensation	$\dots C_i = .01 \times C_o \cdot R_i \cdot (1-S_i) \dots$

This gives an array that will be used further on in the spreadsheet to compensate for the quota. If the value of the Compensation Coefficient (C_o) is 0% all the cells of the array will be zero allowing no compensation. If (C_o) is 100% all the males that are expected to die naturally can be used for compensation.

(iii) An array is now calculated with the number of animals expected to survive natural mortality to which is added the animals from the compensation array above:

Population after 1st phase of illegal hunting	$R_1 R_2 R_3 \dots R_{10}$
Age-specific survival for males	$S_1 S_2 S_3 \dots S_{10}$
Nos. of males surviving plus compensation	$\dots M_i = R_i \cdot S_i + C_i \dots$

(iv) The next stage involves checking the selectivity. If selectivity is 0%, each age class of males will be hunted in equal proportions. Since trophy male hunting begins with the 3 year old age class, this sets the base line percentage at:

$$\text{Base line selectivity: } B_s = 100 / (A_{\max} - A_{\min} + 1)$$

B_s would be 12.5% in this case and we would expect to take this proportion from each age class to satisfy the quota. If the specified selectivity (S_s) is greater than zero an amount has to be added to the base line selectivity as follows:

$$\text{Selectivity factor: } K_s = .01 \times (B_s + (100-B_s) \cdot S_s / 100)$$

If S_s is 100% this will result in a factor of 1. Later, in assembling the quota, this value of K_s would result in the quota being made of all the animals in the oldest age classes.

(v) The final array from (iii) above is now multiplied by the selectivity factor to give a population of animals from which the hunting quota will be assembled.

Nos. of males surviving plus compensation	$\dots M_i = R_i \cdot S_i + C_i \dots$
Population from which quota will be drawn	$\dots P_i = K_s \cdot M_i \dots$

(vi) The quota is now assembled by drawing from the end cell (oldest age class) of this array and moving backwards down the array taking all the animals in a cell until the full quota has been satisfied. This is achieved with a set of IF statements in each cell.

Population from which quota will be drawn	$\dots P_i = K_s \cdot M_i \dots$
FINAL QUOTA drawn starting from end cell	$Q_1 Q_2 Q_3 \dots Q_{10}$

(vii) This quota is now multiplied by the compensation factor to give the proportion of it which can be debited against natural mortality:

FINAL QUOTA	$Q_1 Q_2 Q_3 \dots \dots \dots Q_{10}$
Portion of quota that is comperisable	$\dots D_i = C_o \cdot Q_i \dots$

(viii) The data in this array are compared with the data in the array derived in (ii) above. A new array is prepared which contains in each cell the value from (viii) or (ii) depending on which is the smaller.

NET COMPENSATION	$IF (D_i > C_i, C_i, D_i)$
------------------	----------------------------

(ix) The stage is now set to perform the normal survival operation on the starting male population in (ii) above. At the same time, the hunting quota (vii) is deducted from the animals surviving and the net compensation (viii) is added to the cell total:

Population after 1st phase of illegal hunting	$R_1 R_2 R_3 \dots \dots \dots R_{10}$
Age-specific survival for males	$S_1 S_2 S_3 \dots \dots \dots S_{10}$
Nos. of males surviving:	$\dots M_i = R_i \cdot S_i - Q_i + C_i \dots$

(x) The trophy hunting section of the spreadsheet is now complete. The number of males in each cell above is the final population at the end of the year. These values are transferred back to the starting population array appearing in section 2.3.1 through the use of circular references. The model will continue to iterate until the population has reached an equilibrium.

3. TESTS OF THE MANAGEMENT PARAMETERS

The biological parameters, site parameters and model parameters for a typical impala population were entered into the spreadsheet. A number of tests were then carried out to examine the sensitivity of the model to various management parameters, each of which is discussed below.

3.1. NO HUNTING

All the management parameters were set to zero (i.e. no harvesting) and the population was allowed to increase from a starting number of 500 animals until it stabilized at about 22,000 animals. This occurred at a density of 43.6 per sq km that is about 10% lower than the specified ecological carrying capacity. The reason for this is quite simple. The various factors and formulae used to impart negative feedback to the population are unidirectional. Therefore they do not allow the population to reach the asymptote. This is not seen as a serious defect in the model and the parameters were not adjusted for any of the tests that follow.

The population achieved a maximum growth rate of about 17.5% during its upward trajectory. Impala populations are reputed to grow at rates higher than 20%. It must be concluded that this can only occur with very low natural mortality. The time to reach stability was about 60 years. However, this is not a very meaningful statistic because a long period was spent in approaching the asymptote, after reaching about 95% of the final value in about 40 years.

3.2. ILLEGAL HUNTING

The effect of illegal hunting on the population was examined by keeping all other forms of hunting at zero. Under an illegal hunting regime the model allows both sexes and all age classes to be equally affected. This is probably not unrealistic if the main method of hunting is through snares. It was found that a maximum of about 15% of the total population could be taken annually before the population collapsed. An offtake of 10% was easily sustainable, resulting in a final population of about 19,000 animals at a density of 37.7 per sq km.

3.3. ADULT FEMALE HUNTING

The effect of hunting adult females was examined by keeping all other forms of hunting at zero. The hunting success rate was assumed to be 100%. One-year-old females were excluded from the offtake. This accounted for the considerable difference from the effects of illegal hunting. The population could withstand an offtake of up to 20%. This resulted in a low stable population of fewer than 1,000 animals. At a 15% offtake the population rose to 17,000 animals and a density of 34.2 per sq km.

3.4. ADULT MALE HUNTING

For all tests on male hunting the success rate was assumed to be 100%. This is not an important statistic for the analysis. A quota of 10% with a 50% success rate is equivalent to a quota of 5%.

3.4.1. With zero selectivity and zero compensation: this implies that the hunting is evenly spread over all adult male age classes above three years old and that the hunting mortality is additive to the natural mortality. The maximum offtake that the population could withstand was about 6%. At first sight, this might appear incongruous when female hunting permitted up to 20%! The critical factor here is that the huntable population of males (3-10 years old) is considerably smaller than the huntable population of females, that includes the 2-year old age class. The survival curve for this species makes most of the population belong to the 1-2 year old age classes. When a quota of more than 6% of the population is set for trophy males it results in a total loss of all adult males. From the large yearly crop of one and two year-olds shown by the spreadsheet, the population would appear to be surviving. However, these are not successful at breeding and the two year-olds are all eliminated as soon as they reach the age of 3 years. Thus some areas of the spreadsheet are inappropriate for predicting survival.

3.4.2. With zero selectivity and 100% compensation: full compensation for hunting mortality allows all animals that would have died naturally to be added onto the hunting quota. Surprisingly, this makes very little difference to the total sustainable offtake of trophy males. It raises the percentage derived in the previous exercise to about 7%. Examining the numbers in the cells of the spreadsheet carefully shows why. The total natural mortality is negligible compared with a large hunting quota and cannot compensate for very much.

3.4.3. Success, selectivity and compensation all set at 100%: under this scenario, the entire quota is taken from the oldest age classes, where natural mortality is assumed highest and where full compensation has its greatest effect. In all the cases examined the population reached the same ceiling of about 22,000 animals (a density of 43.5 per sq km). The results are extremely interesting and are presented below. The total population, the male population, and the population of adult males (3-10 years old) are shown followed by the numbers in the upper age classes. If the various parameters input to the model are in any sense realistic, the table suggests that quotas for adult males should not exceed 2-3% where there is a strong selection for older animals.

QUOTA % of pop.	QUOTA number	Total pop.	Male pop.	Ad male pop.	A ₄	A ₅	A ₆	A ₇	A ₈	A ₉	A ₁₀
0%	0	21,779	9,623	5,988	1,213	1,083	967	760	435	151	10
1%	299	21,961	9,743	6,220	1,440	1,218	979	678	340	0	0
2%	598	21,974	9,568	5,957	1,459	1,227	983	681	6	0	0
3%	919	22,011	8,893	5,185	1,508	1,346	788	0	0	0	0
4%	1,235	21,912	8,144	4,190	1,598	901	0	0	0	0	0
5%	1,552	21,778	7,404	3,197	1,374	0	0	0	0	0	0

3.5. A COMPOSITE SCENARIO

Combining all forms of hunting simultaneously, the following scenario is totally sustainable, resulting in a final population of about 20,000 animals, as follows:

- Illegal hunting: 5%
- Female hunting: 5% 100% success rate
- Male trophy hunting: 3% 90% success rate
50% selectivity
50% compensation

The system becomes unsustainable if illegal hunting rises to 10%.

4. CONCLUSIONS

4.1. ADAPTIVE MANAGEMENT

The experienced reader will recognise that there is a fair degree of creativity in this model, both in the assumptions governing the biological process and the actual data used to simulate them. However, this is not the most important aspect of the model. It is far more important to have a framework in which the effects of harvesting can be tested. The model should be regarded as an exercise in adaptive management. The biological data for most species (survival, fecundity and so on) will probably never be known. However, by regarding the system as a black box and applying the harvest treatments, there is a greater probability that the assumptions are valid if the response to the treatment is as predicted.

4.2. MONITORING

The importance of monitoring the appropriate parameters of offtake cannot be overstressed. Adaptive management is dependent on it. This model predicts that if the offtake of trophy males exceeds certain levels, the oldest animals in the population will be effectively eliminated. The only way to check this is by ageing the trophies or, if age corresponds closely to trophy size, by measuring the trophies. If monitoring is not carried out, an experimental opportunity is lost. The deleterious effects that hunting may have may not be detected until too late.

4.3. A CONSERVATIVE APPROACH TO UTILIZATION

All too often these days it is believed that extensive biological research must take place before wildlife is utilized. It is thought that the various parameters used in this model must be determined. This appears quite unnecessary under an adaptive management philosophy. The best approach is to make some hypotheses about the processes that are likely to govern management and then to set about management in a conservative manner. Start with low offtakes of animals and try to confirm some of the assumptions that were made at the outset. Very little damage is likely to result from this and a great deal might be learnt. Under an active adaptive management approach, deliberate over-exploitation of the population can be attempted later, to establish some of the data points at the limits of the exploitation process.

4.4. THE NEED TO ALLOW POPULATION RECOVERY

One important point emerges from testing all these various scenarios. In each case the management regimes have been imposed with a starting population of around 500 animals. Those regimes that are sustainable have shown a positive growth rate. Because quotas are based on a percentage of the total population, they remain sustainable until the population stabilizes at some level below ecological carrying capacity. Managers frequently feel that if a population has been severely depleted it must be rested until it recovers to some satisfactory threshold. This model suggests that such a moratorium on use is unnecessary. Provided the harvest comprises a sustainable proportion of the total population, it can be initiated at any population level.

PART 4

SAFARI VOLUMES AND RETURNS FROM TOURIST HUNTING IN EAST AND SOUTHERN AFRICA

14. RETURNS FROM TOURIST HUNTING IN TANZANIA

Planning and Assessment for Wildlife Management

Department of Wildlife, PO Box 63150, Dar es Salaam, Tanzania

1. INTRODUCTION

The tourist hunting industry has been through a period of change since it reopened in Tanzania in 1978. The Department of Wildlife now manages hunting, and has followed the earlier policy of the Tanzania Wildlife Corporation (TAWICO) to encourage private companies to take part in tourist hunting. Private companies now undertake most of the hunting, and TAWICO competes as if it were a private outfitter. The number of outfitters has grown from only one (TAWICO) in 1978, to nine in 1984, and to 31 in 1993. The Department of Wildlife has also taken steps to increase the revenue earned by the tourist hunting industry as it has grown. First, the Department has levied a variety of fees other than the game fee. Second, it has required outfitters to adopt minimum daily rates and bank a proportion of their money in Tanzania. This paper examines the performance of the tourist hunting industry from 1988 to 1992-93. It aims to provide some background information to aid effective planning of the industry. Such planning should ensure a sustainable level of hunting while maximising the economic return to Tanzania.

2. METHODS

The data in this paper derive from quotas and game hunting permits from the 1988 to 1992-93 hunting seasons. These data were compiled from a total of 6890 permits held by the Department of Wildlife in Dar es Salaam and Arusha (Table 1). A total of 236 game hunting permits that were issued for this period could not be found. A number of permits related to safaris that were cancelled. Therefore, the data used in this study represents minimum levels of offtake and potential revenue, based on a total of 5414 game hunting permits (Table 1).

Table 1: A breakdown of the data collected for this study for the 1988 to 1992-93 seasons (GHP = General hunting permit)

Factors	Numbers
Total No GHPs 1988 to 92-93	7126
Unaccounted for GHPs	236
Compiled GHPs	6890
GHPs relating to cancelled safaris	1476
Total GHPs used for the analysis	5414

These data have several disadvantages.

- i) Several permits can be issued for the same safari. In such cases the data from one safari was combined.
- ii) The permit is issued for the various blocks in which the client is expected to hunt. The number of animals shot or wounded is recorded on the permits, but the time each client spends in the different blocks is not recorded. This allowed the game fees to be attributed fairly precisely to individual blocks. However, other fees that are charged on a daily basis, such as the conservation fee and the daily rate charged by the outfitter, could not be attributed precisely to each block. Thus, the daily fees earned from each block were estimated by sharing out the daily fees among blocks in proportion to the game fees earned in the blocks. This is not perfect, but any other method would have been even more time-consuming.
- iii) The permit does not record whether an observer accompanies the hunter. This information is filed separately, and the completeness of these records varied between hunting offices. The more complete records showed that the observer fees paid in different blocks was related to the number of safari days spent in that block. The observer fees for incomplete records were estimated using this relationship with safari days.
- iv) The permits do not record the ratios of clients to professional hunters on any safari. Furthermore, the daily rates and additional items charged by outfitters vary considerably (Planning and Assessment for Wildlife Management, 1996). To calculate the amount earned by the outfitters it would have been necessary to gain access to the records of the outfitters, which was not possible. Therefore, the potential earnings of the outfitters were estimated very simply by applying

a flat daily rate of US\$ 850 (as charged by TAWICO), for all outfitters. Hence, only conservative estimates are presented of the potential revenue of the tourist hunting industry in Tanzania.

v) The data from game hunting permits only allows an estimate of the potential earnings of the tourist hunting industry. An assessment of the actual earnings would require access to accounts and receipts of the Government and outfitters.

3. SAFARI VOLUMES

3.1. NUMBERS AND TYPES OF SAFARIS

Tanzania offers safaris that vary in length from 7 to 21 days. The number of hunting safaris made by international visitors increased steadily from just over 200 in 1988 to around 500 in 1992-93 (Figure 1). The only noticeable drop was in 1991 (the year of the Gulf War), but safari numbers picked up again in 1992. The most popular safari was the 21-day safari, accounting for 71% of all safaris sold from 1988 to 1992-93 (Figure 1). Shorter safaris were less popular, with 7-day safaris accounting for 18% of sales, 14-day safaris for 4%, and 16-day safaris for 7% (Figure 1). Because most safaris were of 21-days, a large number of hunting days was spent in Tanzania. The total rose steadily from around 4000 hunting days in 1988 to 10,000 in 1992-93 (Table 2; Figure 2).

Table 2: The growth of tourist hunting in Tanzania expressed as the number of hunting days, the game and other fees earned, and the daily rate. These are summed to give the total potential earnings of the industry from 1988 to 1992-93. The estimates of the daily rate for 1988 are not divided: the requirement that 55% of the daily rate was banked in Tanzania only came into force in 1989.

Year	Hunting days	Game fees	Other Fees	Daily Rate (55%)	Daily Rate (45%)	Total Earnings
1988	4028	\$1,252,386	\$0	N/A	N/A	\$4,676,186
1989	9352	\$2,198,506	\$122,600	\$4,372,060	\$3,577,140	\$10,270,306
1990	8983	\$2,342,390	\$196,700	\$4,199,553	\$3,435,998	\$10,174,641
1991	6892	\$2,584,455	\$1,219,100	\$3,222,010	\$2,636,190	\$9,661,755
1992-93	10141	\$3,600,260	\$1,740,350	\$4,740,918	\$3,878,933	\$13,960,461

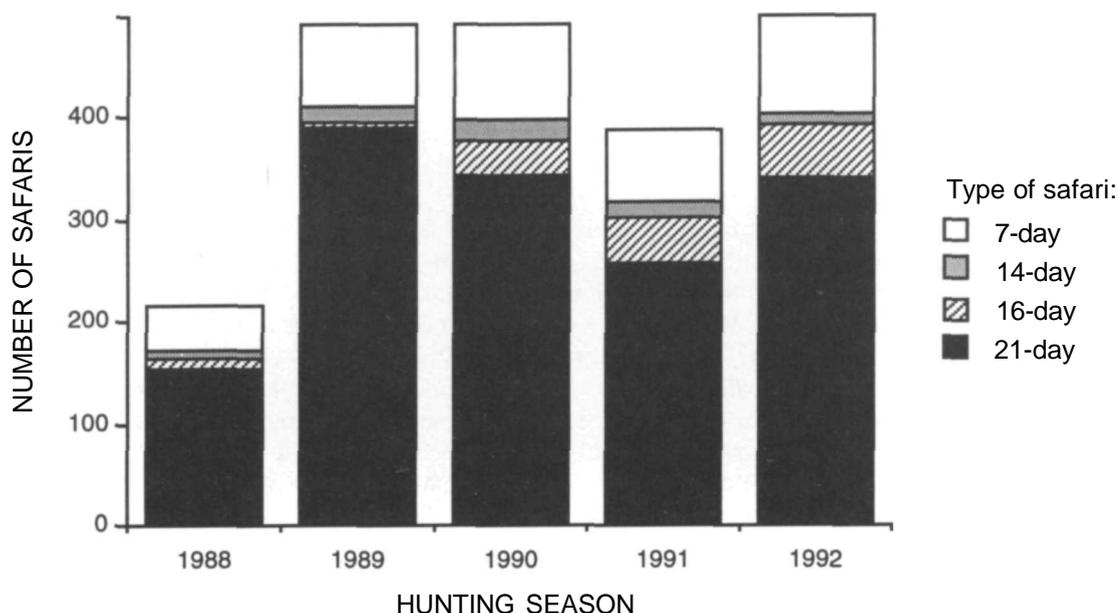


Figure 1: The number of tourist hunting safaris to Tanzania from 1988 to 1992-93, subdivided according to length of safari.

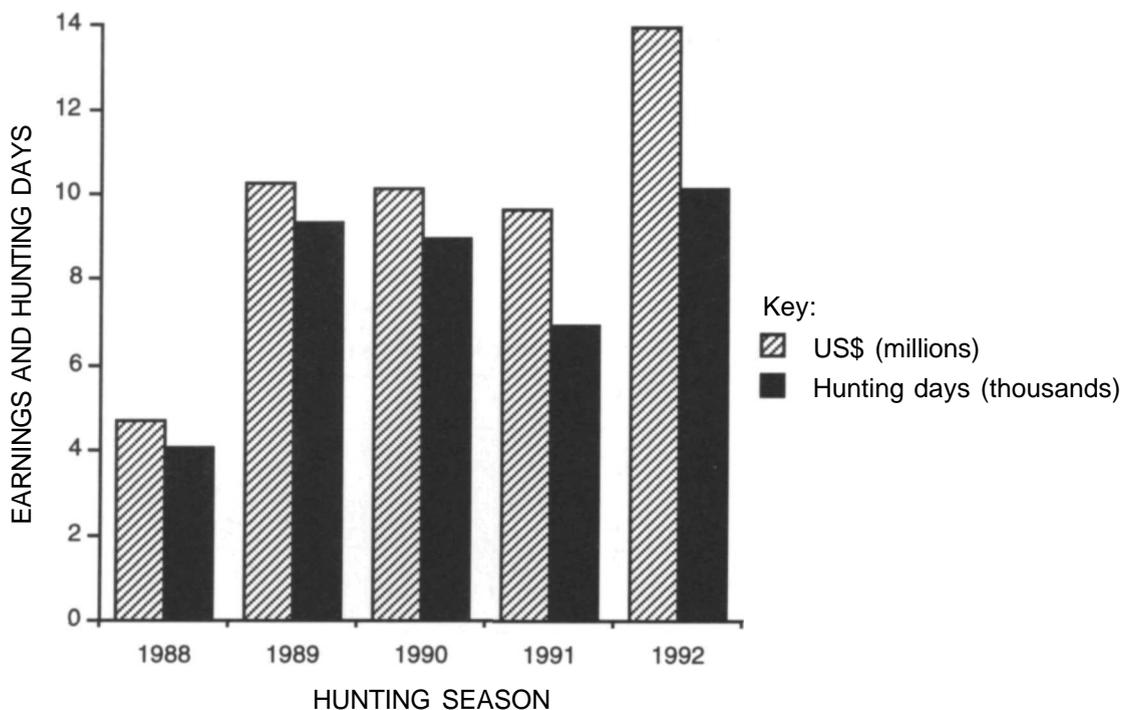


Figure 2: The growth of tourist hunting in Tanzania from 1988 to 1992-93, shown as the number of hunting days (in thousands) and the potential total earnings (in millions of US\$), based on data in Table 1.

3.2. ANIMALS KILLED BY TOURIST HUNTERS

The tourist hunter can choose from a wide range of species in Tanzania (Planning and Assessment for Wildlife Management, 1996). With more tourist hunters the numbers of animals killed have increased (Table 3). Elephants are an exception, because the number killed has declined. This is because their population size has decreased, and their age and sex structure have altered following the years of illegal exploitation for ivory. In numerical terms, the important species are those that typically attract a tourist hunter to Africa (for example, lion, leopard, buffalo and zebra). Smaller numbers are shot of the species that can be offered almost exclusively by Tanzania, (for example, gerenuk, lesser kudu and oryx).

Table 3: Total numbers of various species shot by tourist hunters throughout Tanzania from 1988 to 1992-93 ("The total number of animals refers to all animals shot including those not listed).

Species	1988	1989	1990	1991	1992-93
Elephant	59	50	15	12	18
Lion	106	204	210	165	222
Leopard	98	194	214	145	214
Greater kudu	55	80	94	67	87
Lesser kudu	33	44	55	53	80
Gerenuk	21	41	53	59	89
Oryx	49	72	83	71	111
Sable	86	127	141	126	127
Roan	37	45	52	60	61
Buffalo	269	502	544	459	736
Zebra	216	431	463	279	459
Total animals*	2865	5414	6051	7110	7034

The species shot by tourist hunters make varying contributions to the total game fees earned for Tanzania (Table 4). This depends both on the numbers of each species shot (Table 3), and on the size of the game fees for each species (Planning and Assessment for Wildlife, 1996). Large cats have made a very important and relatively constant contribution to the game fees earned (Table 4). Buffaloes and zebras have also made a very important and possibly increasing contribution. Furthermore, the relatively small contribution of gerenuk, lesser kudu and oryx may have increased. As expected, the contribution from elephants has decreased. The demand for different

species was assessed as the number of requests made by clients for that species. When compared with the numbers shot, this produces an estimate of the overall success rate at shooting the species (Table 5). The demand for most species is increasing, except for the elephant. Because elephants have declined in number and trophy size, it is predictable that requests for elephants were harder to fulfil than those for other species. Despite the increase in demand for the other species, clients still stand a good chance of obtaining a trophy. If trophies have been shot in the place declared (e.g. lions are not being attracted out of National Parks), and if trophy size and quality are not declining, then present harvest levels appear to be sustainable.

Table 4: The percentage of total game fees contributed by different species from 1988 to 1992-93.

Species	1988	1989	1990	1991	1992-93
Elephant	11%	6%	2%	2%	2%
Lion	12%	13%	13%	13%	12%
Leopard	11%	12%	13%	11%	12%
Greater kudu	4%	3%	3%	3%	3%
Lesser kudu	2%	2%	2%	3%	3%
Gerenuk	1.5%	1.7%	2%	3%	3%
Oryx	2%	1.8%	2%	2%	3%
Sable	6%	5%	5%	6%	4%
Roan	2%	1.2%	1.4%	2%	1.5%
Buffalo	9%	9%	10%	11%	12%
Zebra	6%	7%	7%	6%	8%

Table 5: The numbers of requests for certain key species and the overall percentage success at fulfilling those requests from 1988 to 1992-93

Species	1988	1989	1990	1991	1992-93
Elephant	117: 50%	215: 23%	63: 23%	49: 24%	63: 28%
Lion	102: 100%	366: 56%	366: 57%	344: 48%	464: 48%
Leopard	109:90%	372: 52%	374: 57%	325: 45%	426: 50%
Gerenuk	20: 100%	95: 43%	87:61%	75: 79%	114:78%
Oryx	33: 100%	119:60%	121:68%	98: 72%	145: 76%
Buffalo	287: 93%	852: 59%	811:67%	881:52%	1357:54%

Some areas of Tanzania may be providing most of the returns and absorbing most of the increase in the numbers of species shot. To identify these areas, blocks in which game fees were earned from 1988 to 1992-93 have been analysed geographically (Figures 3a, 3b). This analysis shows a high revenue earning density in 1988 in the south-east of the Selous GR, in Ikorongo & Grumeti GCA and Maswa GR and in some of the Masailand hunting blocks (Figure 3a). Revenue density has increased from 1988 to 1992-93. This increase is most evident in the south-east of Selous, in northern Masailand, in Loliondo GCA and Maswa GR, in Rungwa & Kizigo GRs and in parts of Moyowosi & Kigosi GRs (Figure 3b). This shows where most revenue is earned, and where there is potential for tourist hunting and community-based conservation schemes in the different areas.

4. REVENUE POTENTIAL OF TOURIST HUNTING

The revenue earned directly from tourist hunting derives from two main sources. First, the range of fees charged by the Department of Wildlife on behalf of the Government (Planning and Assessment for Wildlife Management, 1996). Second, the charges including the daily rate, collected by the outfitter for the services of his company and professional hunter. These fees will be considered in turn, to build up a picture of the revenue-earning potential of tourist hunting from 1988 to 1992-93.

4.1. FEES

Fees charged by the Department of Wildlife consist of game fees, observer fees, conservation fees, permit fees and trophy handling fees. The fees were introduced at different times during the period from 1988 to 1992. At the same time, game fees have also increased. Hence, the potential fees earned have increased as a result of this new fee structure. Fees totalled \$1.1 million in 1988, and reached \$5.3 million in 1992-93 (Figure 4). Despite the introduction of new fees, the game fee still contributed most to the total potential fees. For example, game fees had the potential to earn \$3.6 million or 67% of the total fees possible in 1992-93. The conservation fee was the next most important with a potential of \$1.0 million or 19% of the total. Permit, observer and trophy handling fees brought in smaller potential amounts, comprising 6%, 4% and 3% of the total (Table 6; Figure 4).

Table 6: An assessment of the potential revenue from tourist hunting from different fees. The distribution of such fees to different accounts.

Fee	1988	1989	1990	1991	1992-93
Conservation				\$689,200	\$1,014,100
Observer		\$122,600	\$196,700	\$199,100	\$239,600
Game	\$1,252,386	\$2,198,506	\$2,342,390	\$2,584,455	\$3,600,260
Trophy Handling Permit				\$109,100	\$160,100
				\$221,700	\$326,550
Total	\$1,252,386	\$2,321,106	\$2,539,090	\$3,803,555	\$5,340,610
Beneficiary	1988	1989	1990	1991	1992
Treasury	\$939,290	\$1,648,880	\$1,756,793	\$1,938,341	\$1,011,673
TWPF	\$313,097	\$672,227	\$782,298	\$1,865,214	\$2,640,415
Retention					\$1,350,098
District Councils					\$338,424

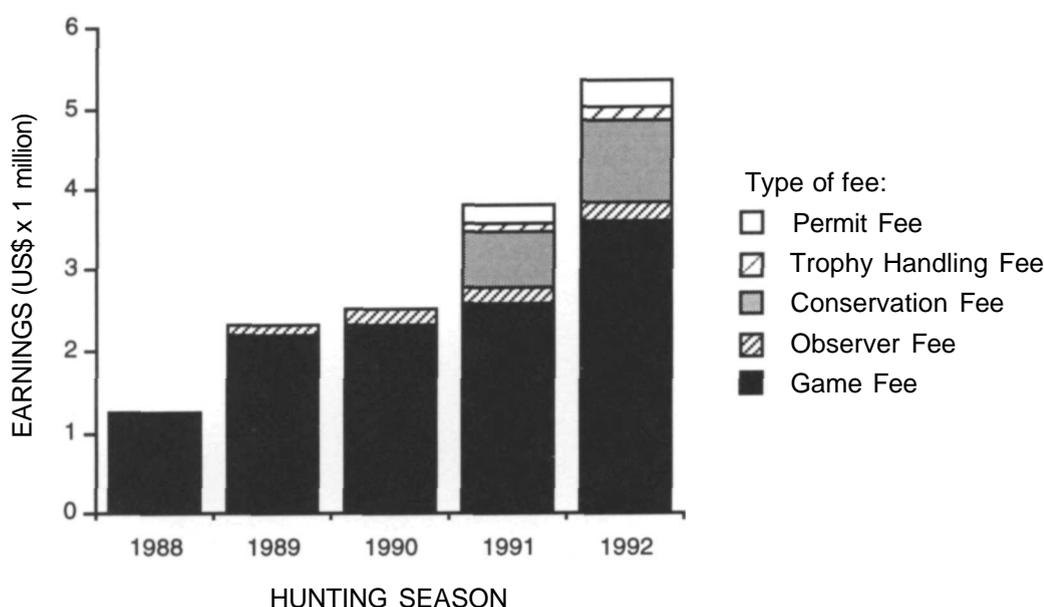


Figure 4: Potential fees earned from tourist hunting from 1988 to 1992-93, from the various fees charged by the Department of Wildlife.

The way that fees charged by the Department of Wildlife have been distributed has changed from 1988 to 1992-93. This change was in line with Government policies to provide Game Reserves with retention schemes and rural people with revenue from tourist hunting. From 1988 to 1991, the game fee was divided in a fixed proportion of 25% to the Tanzania Wildlife Protection Fund (TWPF) and 75% to Treasury. From the 1992-93 hunting season, the game fee was split four ways, (Planning and Assessment for Wildlife, 1996). TWPF still received 25% of the game fee, but 28.1% went to Treasury, and 37.5% was retained on behalf of the Game Reserve. At present only Selous has a formal agreement with Treasury to operate a retention scheme. However, a case is being made for other Game Reserves, and the same formula has been applied to all game fees for 1992-93 in this analysis. The full observer, conservation, permit and trophy handling fees have all accrued to TWPF since their introduction. Accordingly, TWPF has received an increasingly large share of the potential fees earned from tourist hunting. This amounted to \$2.6 million or 49% of the total fees possible, in the 1992 hunting season (Table 6; Figure 5). With a retention scheme, Game Reserves could have expected an allocation of around \$1.3 million or 25% of the total fees possible. Selous should have earned \$325,000 for game fees accrued within its hunting blocks is (Figure 6).

Figure 3: The game fees earned from 1988 to 1992-93, shown on a geographical basis within each block of Tanzania. Each dot represents US\$ 500. Figure 3a: 1988 hunting season

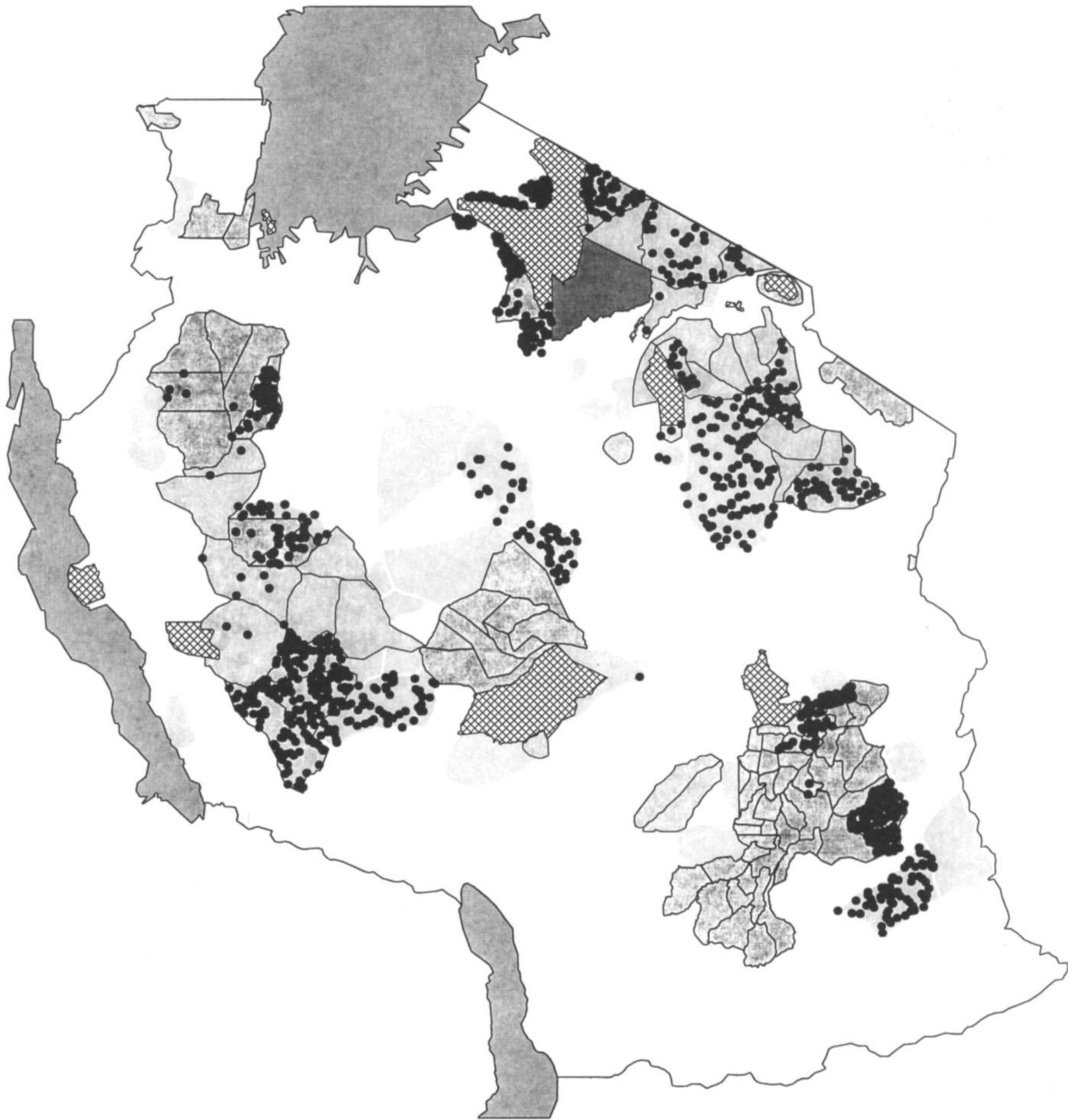
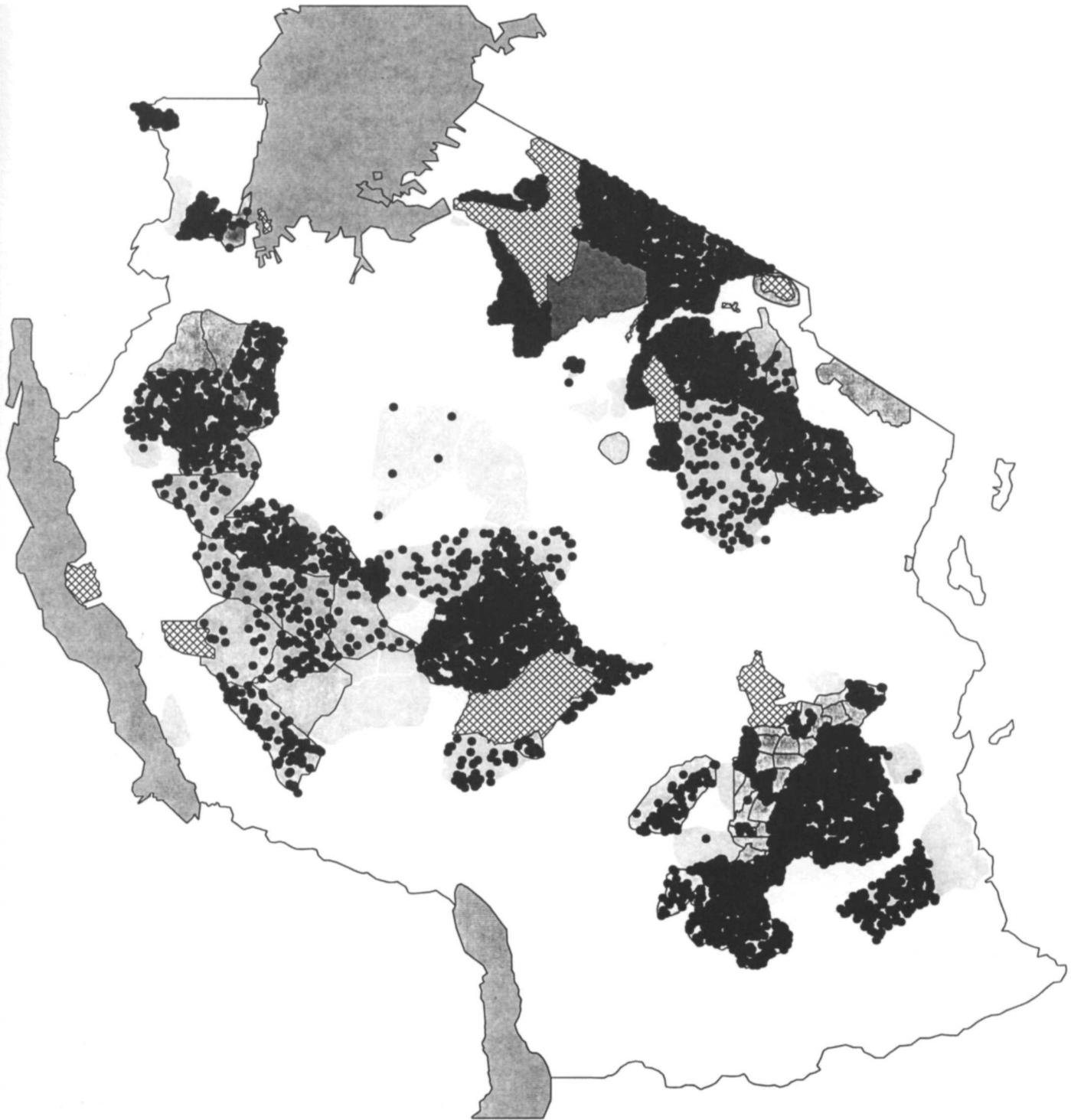


Figure 3b: 1992-93 hunting season



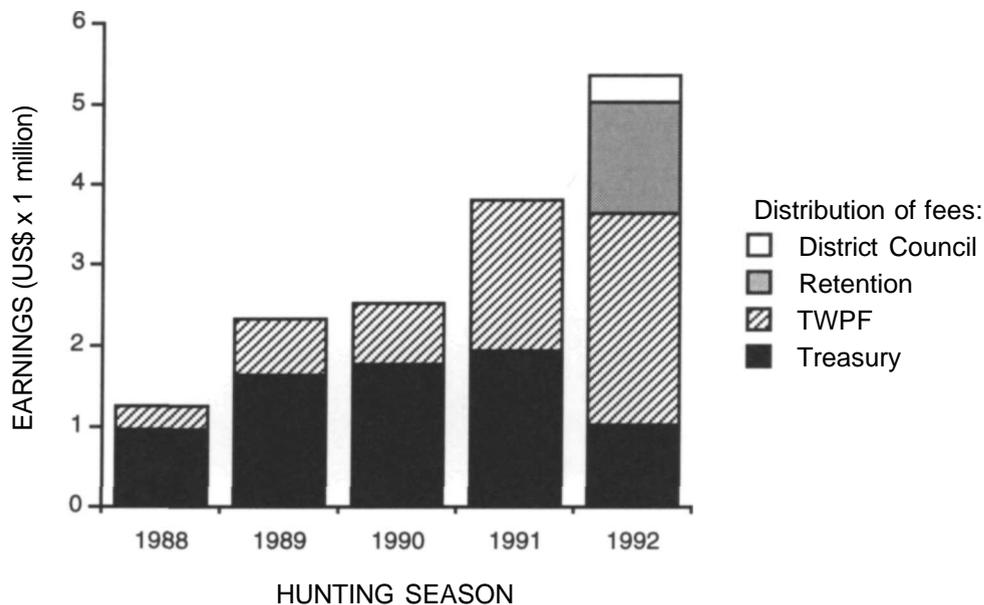


Figure 5: The distribution of the potential revenue earned from fees charged by the Department of Wildlife.

4.2. DAILY RATES

Outfitters are free to charge their own daily rate above a minimum of \$850 (a recently imposed restriction). Daily rates vary according to safari length and type (Planning and Assessment for Wildlife Management, 1996). Safari type is not recorded on hunting permits, and there are no other records of the rates charged. Hence, the total value of the tourist hunting industry was estimated with a single daily rate. On the basis of the number of hunting days, the potential earnings of the outfitters have increased from 1988 to 1992-93 (Table 2).

4.3. TOTAL POTENTIAL EARNINGS

A conservative estimate of the total value of Tanzania's tourist hunting industry has been derived by adding the potential fees and the estimated earnings of the outfitters (Table 2). The tourist hunting industry in Tanzania has shown a period of sustained economic growth. Its potential value has increased from US\$ 4.6 million in 1988 to US\$ 13.9 million in 1992-93 (Figure 2). The above figures include earnings that may not all be banked in Tanzania. Since 1989, outfitters have been required to bank 55% of the daily rate in Tanzania. This allows the potential earnings actually accruing to Tanzania to be estimated (Table 2). Hence, the tourist hunting industry should have banked increasing sums in Tanzania, ranging from US\$ 6.7 million in 1989 to US\$ 10.1 million in 1992-93.

These estimates are again conservative as they exclude various other fees, charges, and multiplier effects. Examples of other fees include: the police charge of \$100 for each weapon registered by a tourist hunter; and, the voluntary fees paid by tourist hunters participating in the Cullman Reward Scheme around Maswa Game Reserve and other hunting areas (Tanzania Game Tracker Safaris and Robin Hurt Safaris, 1996). The latter payments benefit rural people directly. Multiplier effects include: the custom brought by clients to non-hunting businesses, for example, international airlines and local air charter companies, hotels where clients stay at the beginning and end of their safari, souvenir manufacturers and staff who receive tips. Despite their incomplete nature, the figures provide a guide to the sustained growth shown by, and the potential value of, tourist hunting to the wildlife economy in Tanzania.

4.4. PERFORMANCE BY INDIVIDUAL OUTFITTERS

The total potential earnings made by the tourist hunting industry in Tanzania depend upon the performances of individual outfitters. Individual performance of outfitters has been assessed in terms of the mean game fees per block allocated since 1988 (Figure 7). Three outfitters were allocated blocks but have not succeeded in making any returns. Equally some companies have consistently brought in returns of \$40,000 per block allocated. The individual variation in terms of game fees earned per block are shown by the bars indicating standard deviations (Figure 7). Some outfitters are able to earn around \$100,000 in certain blocks in particular years.

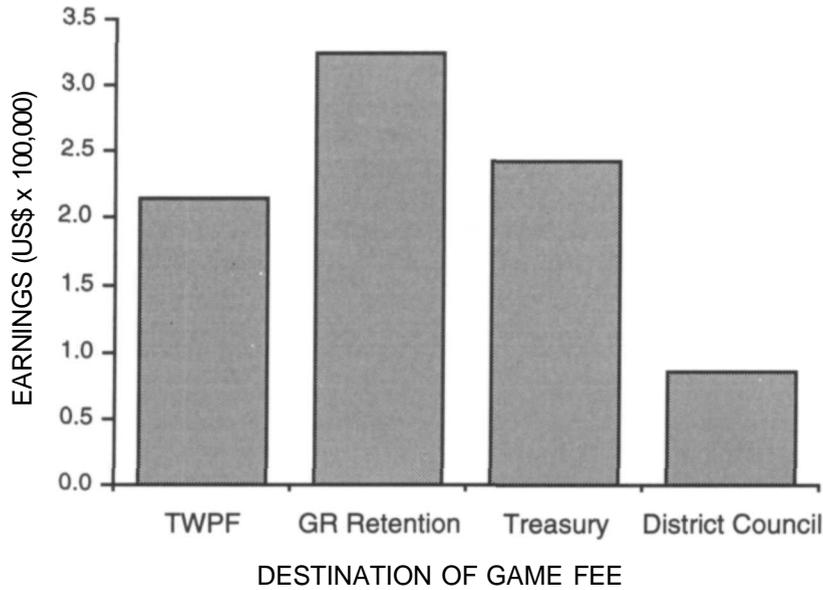


Figure 6: The distribution of the potential revenue earned from fees in the Selous Game Reserve in the 1992-93 hunting season.

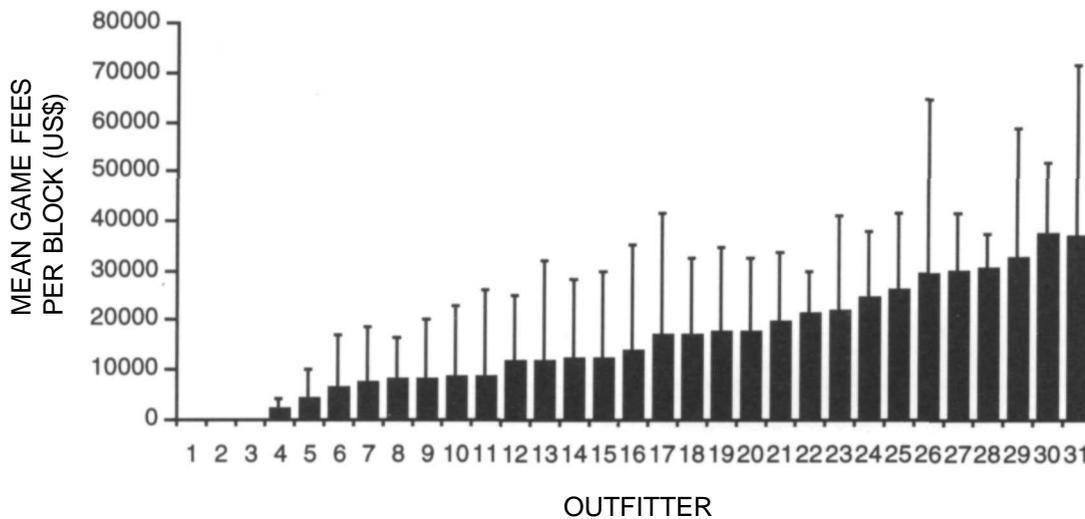


Figure 7: The mean and standard deviation of the game fees (in US\$) potentially earned by different outfitters across all the hunting blocks that they have been allocated from 1988 to 1992-93.

Companies have enjoyed differing success in holding blocks in two important regards. First, outfitters have held different numbers of blocks. Second, blocks have been held for different lengths of time within a 5-year period of tenure (Planning and Assessment for Wildlife Management, 1996). Individual performance must to some degree determine whether or not that outfitter should retain blocks. To date, the Department of Wildlife has followed a policy that requires outfitters to utilize 40% of the quota (Severre, 1996). This policy necessarily assumes that the quota has been set correctly and reflects what clients wish to shoot. However, performance may be better and more independently measured in terms of game fees (and indeed other fees earned). Interestingly, there is a direct relationship between the game fees earned per block and the mean utilization per block (Figure 8). Nevertheless, the 40% utilization criterion appears not to have fully determined which outfitters retain their blocks (Figure 9). This analysis shows the success of the 17 outfitters who have hunted since 1988 at retaining the same blocks and their mean quota utilization over the 5-year period. Some companies with good utilization are

not very successful at retaining the same blocks, while other outfitters with poor utilization are successful at retaining their blocks. This analysis suggests that improvements are necessary in recognising companies that perform well in terms of retaining the same blocks for long periods of tenure (Figure 9).

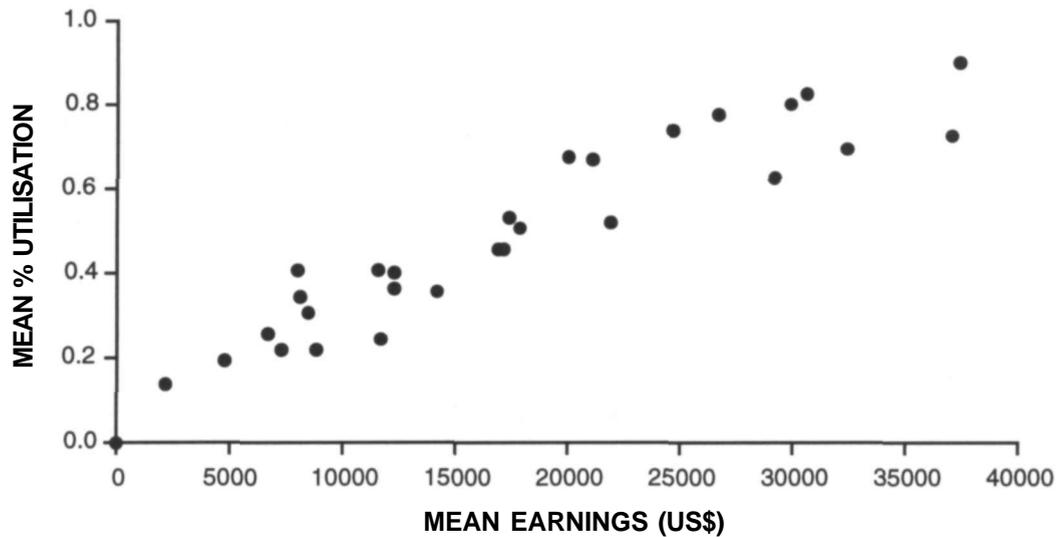


Figure 8: A comparison between the mean game fees earned per block by outfitters and the mean percentage utilization of all their blocks from 1988 to 1992-93. The percentage utilization has been arcsin transformed before calculating the mean, which is also presented as an arcsin value.

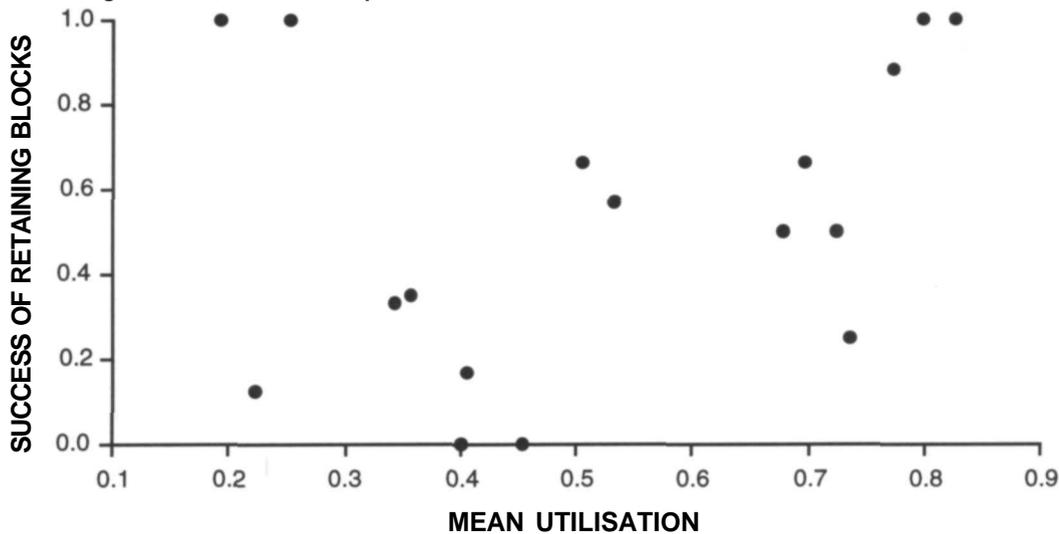


Figure 9: A comparison of the mean percentage utilization (shown as an arcsin value) of 17 outfitters that have hunted in Tanzania since 1988 and their success at retaining the same blocks throughout this period.

5. CONCLUSIONS

Tourist hunting is a growing industry that should be making good economic returns to Tanzania. Some of the parameters important to the operation and development of the Tanzanian tourist hunting industry have been presented. Some of the data necessary to the planning for its future have been discussed. This planning must include: determining offtake of animals, maximising earnings through different safari lengths; ensuring adequate economic returns are made to Tanzania; and, rewarding outfitters who perform well.

REFERENCES

- Planning and Assessment for Wildlife Management. 1996. Structure of Tanzania's tourist hunting industry. (This volume).
- Severre, E.L.M. 1996. Administration of hunting in Tanzania. (This volume).
- Tanzania Game Tracker Safaris and Robin Hurt Safaris. 1996. The Cullman Reward and Benefits Scheme. (This volume).

15. THE HUNTING INDUSTRY IN ZIMBABWE

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1. INTRODUCTION

This paper discusses the following topics: how hunting is administered in Zimbabwe; the financial returns from the industry; and, strategies to maximise these returns. The paper is divided into six sections.

- **Terminology:** explains the terms used throughout this paper.
- **Systems of hunting:** describes the various types of hunting operation and the methods of allocating and pricing concessions.
- **Returns from hunting:** presents the returns from the hunting industry.
- **Maximising returns from hunting:** considers the strategies available to maximise hunting returns.
- **Systems of allocating hunting:** discusses the advantages and disadvantages of the various systems of allocation concessions, which heavily influence the level of returns from hunting.
- **Principles of allocation and pricing:** summarizes the principles of allocation and pricing that should be applied in the hunting industry.

The Department of National Parks and Wildlife Management (DNPWLM) in Zimbabwe is currently undergoing a number of institutional changes. During 1992, all aspects of Government policy relating to wildlife conservation and management were reviewed. The organization may change from a Government Department, possibly to a parastatal. These changes will strengthen the organization, and ensure that it can fulfil its mandate. The hunting industry was an important part of this review. The methods of allocating and pricing the resources and services of DNPWLM were investigated. This included the hunting concessions in the Parks & Wild Life Estate (P&WLE).

2. TERMINOLOGY

The following terms appear throughout the paper and are explained here for clarity.

- **Commercial safari hunting:** hunting clients (largely foreign hunters) pay to take part in hunting safaris. Zimbabwean professional hunters guide and supervise clients.
- **Recreational hunting:** hunts are conducted by either Zimbabwean or foreign hunters, but not for commercial gain. The hunter is not usually guided by a professional hunter.
- **Concession fee:** a fee is paid by a commercial operator for the right to hunt on a given piece of land (usually in the P&WLE).
- **Government trophy fee:** a fee is paid by a hunter (recreational or commercial) for having shot an animal. In theory DNPWLM sets the trophy fees for animals in the P&WLE on a biannual basis.
- **Zimbabwe Hunters' Association (ZHA):** a non-profit-making group that represents recreational hunters in Zimbabwe. Membership of the ZHA is not compulsory.
- **Fixed Quota:** hunting quotas for areas of the P&WLE are frequently divided into fixed and optional (see below) quotas. The concessionaire must pay trophy fees for all animals on the fixed quota, whether or not they are shot.
- **Optional quota:** some concessions in the P&WLE also have an optional quota, comprising animals that the concessionaire is allowed to sell or shoot in addition to the fixed quota. In this case the concessionaire only pays for those that are shot.

3. SYSTEMS OF HUNTING

Various types of hunting take place on different types of land. Hunting rights are priced differentially, and the methods by which they are allocated vary considerably. Each method has been developed to meet the requirements of a particular situation, and has advantages and disadvantages, as discussed below.

3.1. TYPES OF HUNTING

Three types of hunting by different national groups take place in Zimbabwe:

- recreational hunting conducted by a Zimbabwean citizen, either on private or State land;

- hunting (either recreational or commercial) conducted by an international client on Zambezi Valley auction hunts; and,
- commercial hunting by an international client on a concession held by a Zimbabwean professional hunter.

Significant portions of the P&WLE are reserved for Zimbabwean recreational hunters. Government policy (and legislation) requires the use of the P&WLE for such purposes (Martin, 1996).

3.2. LAND CATEGORIES

Hunting takes place on private land (3.3); communal land (3.4), and, on three different types of state land:

- Agricultural Development Authority (ADA) land (3.5);
- Forestry Commission land (3.6); and,
- Parks & Wild Life Estate (3.7 and Figure 1).

3.3. HUNTING ON PRIVATE LAND

A number of privately owned ranches and farms in Zimbabwe offer hunting (both by rifle and bow), to both recreational and commercial safari hunters. Methods of allocating and pricing concessions vary enormously. Three primary methods are used.

- **Allocation by private treaty:** the price is agreed between the landowner and the hunter;
- **Allocation by tender:** tenders are taken for individual hunts, or for all the hunting on that particular piece of land; and,
- **Allocation by auction:** hunts may be auctioned individually or all together.

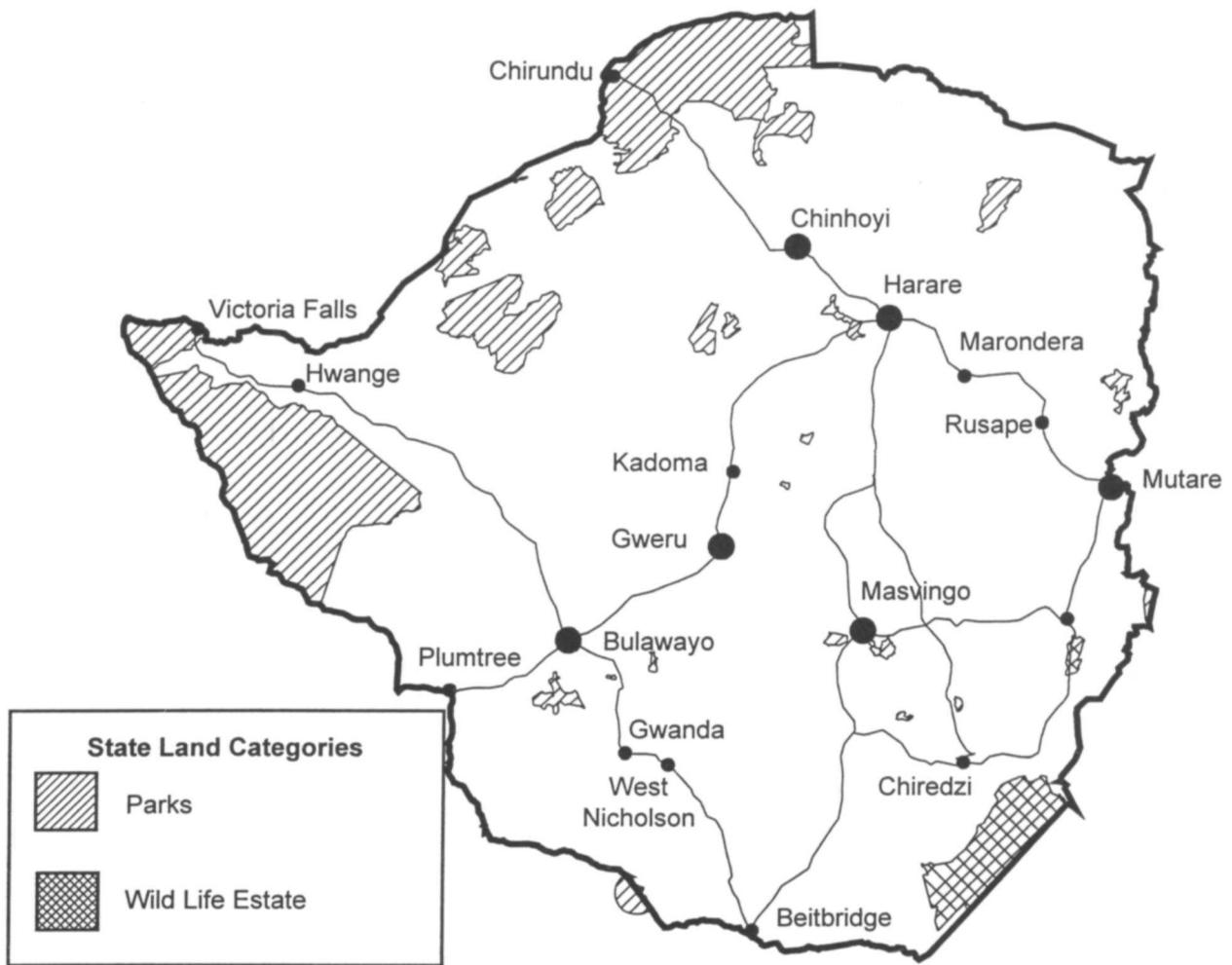


Figure 1: The Parks and Wildlife Estate in Zimbabwe

3.4. HUNTING ON COMMUNAL LAND

The communal lands in Zimbabwe support significant populations of wildlife. In some instances, this land is set aside specifically for wildlife. In other areas, wildlife lives among people and their domestic livestock. These wildlife populations support a number of hunting operations under the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) programme. Most hunting conducted on communal land is commercial safari hunting conducted under the auspices of a Zimbabwean professional hunter. Communal land residents are not permitted to hunt.

Once again, methods of allocation and pricing vary. Usually the hunting concession is put out to tender. Prospective operators then submit written tenders to the relevant District Council (DC). A panel, usually comprising members of the DC, evaluates the tenders. Elements of an auction are also sometimes evident in this system. Two pricing methods apply in the tender situation:

- the prospective operator offers a fixed amount for the right to hunt in the area, and for the animals on the quota; and,
- the prospective tenderer offers the lessor (the DC) a percentage of turnover from the concession, usually somewhere in the range of 20-25%. The tenderer usually guarantees to pay a guaranteed minimum amount to the lessor. In one case, a truly joint venture has been created (reference). The operator has a quota of animals from his own land. He has pooled these with the quota in the communal land area. He then pays the DC a percentage (15%) of the revenue generated from both hunting areas.

3.5. HUNTING CONDUCTED ON AGRICULTURAL DEVELOPMENT AUTHORITY LAND

The ADA is a parastatal charged with agricultural and rural development in Zimbabwe. ADA owns significant tracts of ranching land, some of which support wildlife populations. Both commercial safari and recreational hunting take place on ADA land. This is allocated by a mix of tender and private treaty. ZHA has secured a fair amount of this hunting for its members through private treaty with ADA.

3.6. HUNTING CONDUCTED ON FORESTRY COMMISSION LAND

The Forestry Commission owns a commercial subsidiary (Ngamo Safaris) that conducts the commercial safari operations on its land. Ngamo Safaris is considered to have an unfair advantage over its competitors within the private commercial safari operators. Therefore, Ngamo Safaris can offer hunting at a lower price than their competitors, and this has been relatively controversial.

3.7. HUNTING IN THE PARKS & WILD LIFE ESTATE

The P&WLE has 7 different types of concession or hunting operation within its land.

3.7.1. Zambezi Valley auction hunts conducted in the Sapi SA and Nyakasanga Section of Urungwe SA: Hunting in these two areas is divided into 10-day and 14-day hunts, with set bags. These hunts are sold individually by public auction. This allows the hunter to tailor his particular hunt. Registered professional safari operators are the only people not eligible to bid. A mixture of commercial safari and recreational hunters purchase these hunts. In 1991, only 20% were bought by Zimbabweans, compared with the 58% bought by South Africans, and 14% bought by American safari hunters.

3.7.2. Auctioned commercial concessions in Chete, Chewore and Chirisa SAs: These four concessions are sold by open public auction, with Chewore SA divided into Chewore North and Chewore South. The successful bidder holds the concession for 3-5 years. At present, three of these concessions are held by the same group of commercial safari operators. This situation is not necessarily undesirable for effective management of the concessions, but is not viewed favourably by the Government.

The present pricing of these concessions is complicated. The price bid at the public auction is effectively an upfront concession fee that secures the operator the right to hunt in the concession for the duration of the lease. The amount bid is paid in advance of the operator securing the concession, sometimes as much as a year in advance. In each year of operation, the operator pays the Government trophy fees for animals on the fixed quota, as well as for any animals shot on the optional quota. After the first year, an annual concession fee is also paid comprising 20% of the Government trophy fee for animals on the fixed quota.

3.7.3. Leased concessions in the Matetsi SA: The Matetsi SA is a block of formerly privately owned commercial ranch land that was appropriated by the Rhodesian Government in the early 1970s. Matetsi SA was divided into 7 units that were leased to concessionaires, many of who were the previous owners of the land. The present concessionaires now all hold 3-5-year leases. These were not allocated by tender or auction. The concessionaires pay an annual concession fee of US\$ 15,000, plus the Government trophy fee for the animals on fixed quota and any taken on the optional quota. The Matetsi concessionaires also have access to a pool of additional animals in the Deka SA that is contiguous to the Matetsi SA.

Two of the Matetsi units are allocated to Ngamo Safaris, the subsidiary hunting operation of the Forestry Commission. In lieu of a concession fee, Ngamo train certain DNPWLM staff. This has been extremely controversial for three reasons:

- Ngamo Safaris already have preferential access to hunting concessions on Forestry Commission land. The hunting industries believe that private sector operators could utilize this land to greater effect;
- DNPWLM does not need to have staff trained in commercial safari operation. It does not (and should not) conduct commercial safari operations; and,
- the cost of this training, in terms of the waived concession fee, is substantial.

All of the Matetsi concessions will be publicly auctioned in 1995, although it is not clear whether this includes those held by Ngamo Safaris. When the Matetsi concessions are auctioned in this way, they will become analogous to the previous category of concession.

3.7.4. CAMPFIRE Concessions: Malapati and Dande SA fall under CAMPFIRE, and it is widely believed that Chirisa SA should also be included. These areas were once called game reserves and fell under the control of the former Department of Internal Affairs. These areas now belong to the communities that live in neighbouring or surrounding areas. Through their DCs, these communities can select the operator to whom the concession will be awarded. Revenues from the operator go to the communities, rather than the State. Although DNPWLM receives no revenue from the areas, it retains responsibility for administration and management of the areas, and bears all the associated costs. This must be addressed in the not too distant future.

The Malapati SA concession was allocated by public tender, and was secured by the operator who offered the highest gross amount. The Dande SA concession was allocated following submission of tenders to the responsible DC. The successful operator pays the DC a percentage of his turnover from the operation, subject to a guaranteed minimum. This system is common in the communal land hunting concessions.

3.7.5. Zimbabwe Hunters' Association administered recreational hunting in Tuli and Doma SAs, and in Rifa Section of the Urungwe SA: The ZHA has been granted hunting rights for its members in three SAs. ZHA does not pay a concession fee and is granted a 25% discount on trophy fees. This is because ZHA offers subsidized recreational hunting to Zimbabwe citizens, and also assumes responsibility for much of the administration and management of the areas under its control. The ZHA also runs an education camp in one of its concessions.

Hunting in these areas is available to members of ZHA only. The hunting is allocated through a draw. ZHA members can buy as many tickets as they wish, but may only conduct one hunt per annum, and one elephant hunt every three years. If a member draws more hunts than allowed, these hunts must be forfeited. Members pay Government trophy fees to ZHA, plus a camp levy. The levy pays for ZHA to manage the hunting camps in these concession areas.

3.7.6. Citizen recreational hunting in the Charara SA: Citizen recreational hunters are allocated a package of hunts in the Charara SA and the Makuti Section of the Urungwe SA. Hunts are allocated through a draw. Tickets cost US\$ 3 and citizens may buy any number of tickets. The successful hunters pay Government trophy fees for animals shot on the hunt.

3.7.7. Dandawa impala hunts in the Urungwe SA: A number of week-long impala hunts are offered in the Nyakasanga Section of the Urungwe SA. These are allocated through public tender.

4. RETURNS FROM HUNTING

Up-to-date information on hunting returns in Zimbabwe is difficult to obtain, and the available data are of variable quality. This section first considers national data, followed by data from private, communal and P&WLE land.

4.1. NATIONAL LEVEL RETURNS

The number of hunter days, and the returns from the hunting industry have grown considerably over recent years. Estimates of the contribution that the hunting industry makes to the national economy have increased accordingly (Figure 2). This dramatic growth is a result of three factors:

- in 1975, Kenya banned all hunting, and former Kenyan clients turned to other countries such as Tanzania, Zimbabwe, South Africa, Botswana, Zambia and Namibia;
- Zimbabwe now has a reputation for quality hunting through the dramatic success of the Matetsi SA experiment; and,
- the 1975 Parks and Wild Life Act revolutionized the wildlife industry in Zimbabwe. The Act allowed the landowner, rather than the State, to own and control wildlife. When introduced, detractors predicted that all wildlife on private land would be over-exploited and eventually eradicated. In fact, wildlife populations on private land have grown dramatically. The Act was further amended in 1980, to allow ownership of wildlife on communal land to pass (via Appropriate Authority status) to DCs. The success of this amendment is widely appreciated.

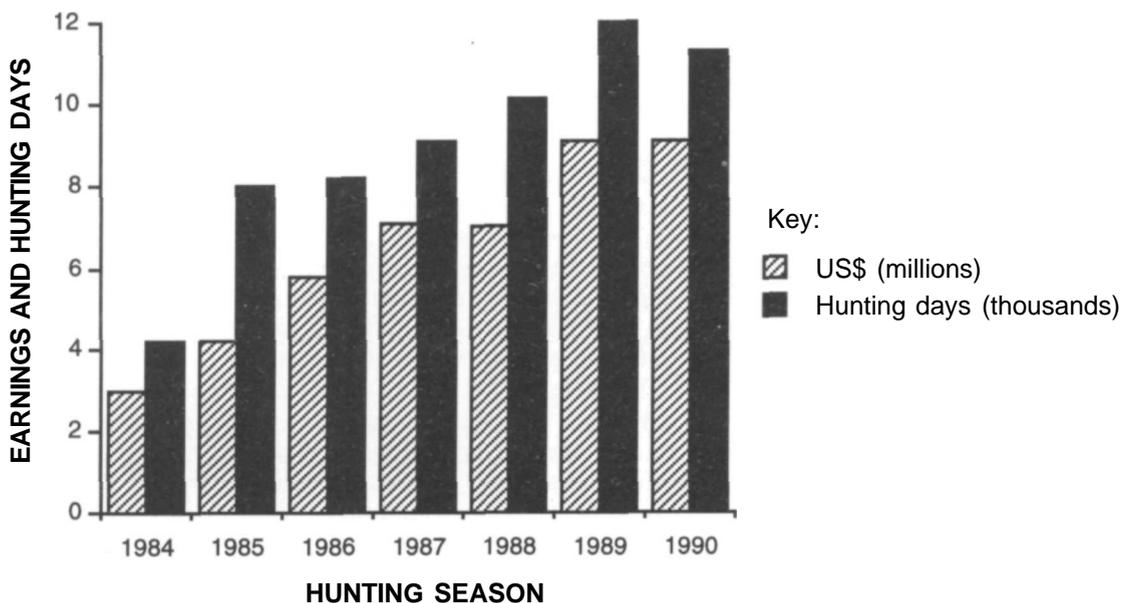


Figure 2: Growth of safari hunting in Zimbabwe, shown both as the number of hunting days (in thousands) and total earnings (in US\$ millions).

The growth of the hunting industry is also reflected in the increasing number of hunting operators. A total of 13 commercial hunting operators were registered in Zimbabwe before Independence in 1980. There were 55 operators by 1986, and over 150 are now estimated. Bow hunting was legalized in Zimbabwe approximately 2½ years ago. This new area in the Zimbabwean industry has been relatively slow in taking off, but recent favourable publicity may help in promotion. Bow hunting has significant potential, particularly on small farms or ranches that are stocked with wildlife.

Access to foreign currency has been a major limiting factor to the growth of the Zimbabwean economy. The hunting industry earns most of its revenue in foreign currency. Therefore, hunting is believed to be an important contributor to the national economy. Nevertheless, the Zimbabwe dollar is over-valued against the other major hard currencies. When this is taken into account, the industry is estimated to have contributed the equivalent of US\$ 12 million to the economy during the 1990-91 Government financial year. The proportion of trophy fees earned by the Government can be attributed to the various species hunted (Table 1), and to the different land categories in which they are hunted (Table 2).

Table 1: Proportion of total trophy fees attributable to the various species hunted (based on DNPWLM)

Species	Percentage
Elephant	33
Buffalo	13
Sable	10
Kudu	9
Leopard	7

Table 2: Analysis of trophy fees by species and by land tenure, 1990 (based on DNPWLM)

Species	Total	DNPWLM	Communal Areas	Commercial
Elephant	134	48%	52%	0%
Buffalo	503	54%	39%	7%
Sable	317	27%	8%	65%
Kudu	737	27%	12%	61%
Leopard	182	44%	45%	11%
Zebra	465	32%	10%	58%
Lion	88	39%	32%	29%
Waterbuck	244	46%	17%	37%
Eland	237	4%	9%	87%
Impala	1,517	48%	40%	12%
Wildebeest	279	0%	2%	98%
Warthog	728	29%	16%	55%
Tsessebe	147	0%	27%	73%
Reedbuck	1,860	14%	8%	78%
Trophy value (US\$ million)	\$3.905	\$1.361	\$1.098	\$1.446

4.2. PRIVATE LAND HUNTING RETURNS

No reliable data are available on the total economic contribution of hunting conducted on privately owned land. However, the value of trophy fees for wildlife hunted on private land in 1990 has been estimated at US\$ 1.45 million, equivalent to approximately 36% of the national trophy fees in that year (Table 2). Extrapolation to include concession and other fees, suggests that the contribution of hunting on private land was worth US\$ 3.3 million in 1990.

Private land has generally served to complement hunting concessions on other types of land, through holding a different set of species from communal or state hunting areas. In the past, many ranch hunting areas have held populations of soft-skinned or plains game, but small numbers of dangerous or large game. Conversely, many of the communal land hunting areas, and some of the P&WLE safari areas have populations of large and dangerous game, but poor populations of plains game. Therefore, many operators have secured private land hunting concessions to offer a full bag of species, but also to take proper advantage of the elephant trophies available.

Reliable data on the profitability of hunting on private land are limited. Nevertheless, there are some important economic explanations for the growth in ranch-based commercial hunting. A recent study on a private ranch in the south-east of Zimbabwe suggested that ranch-based hunting can generate revenues approximating US\$ 800 per sq km and earn returns on capital invested of 10% or more. In the arid and semi-arid areas of Zimbabwe, such returns are significantly higher than those possible under traditional cattle ranching activities (Price Waterhouse, 1993). In future, ranches re-stocked with large and dangerous game will offer self-contained hunting operations, and they will no longer need to serve only as a complement to communal area concessions.

4.3. COMMUNAL LAND HUNTING RETURNS

Very little reliable data are available on returns from communal land. The value of trophy fees for wildlife hunted on communal land in 1990 has been estimated at US\$ 1.10 million, equivalent to approximately 28% of the national trophy fees in that year (Table 2). Many communal areas have few natural resources to exploit apart from wildlife. Furthermore, many communal areas are unsuitable for game-viewing tourism, because of low wildlife populations, inadequate infrastructure and remoteness. However, many are suitable for hunting operations, which are rapidly becoming the most important economic activity for rural communities (Bond, 1994).

4.4. RETURNS FROM HUNTING IN THE PARKS & WILD LIFE ESTATE

Returns from hunting in the P&WLE show that the State is expected to earn a total of US\$ 1.36 million from hunting operations (Table 3). However, the fees earned were only 49% of the potential revenue that could be generated from these hunting operations. The difference is due to a number of factors, the most important of which are the methods of allocation and pricing of these hunting (see 5.1). The potential revenue was calculated as the market value of the trophies offered in these concessions, plus 10% of the trophy fees on the fixed quota (as a right to hunt fee). While the assumptions used in this estimation can be questioned, the estimates constitute a useful basis for comparison.

Most hunting concessions in the P&WLE (excluding the two CAMPFIRE concessions discussed in 3.7.4) earn between 30% and 55% of their estimated potential. However, there is wide variation, and the relative contributions of the different types of concession are discussed below:

4.4.1. The Sapi/Nyakasanga concessions: These are the highest earning concessions. Their revenues have increased from US\$ 0.21 million in 1988, to US\$ 0.35 million in 1991, and to US\$ 0.64 million in 1993. The potential revenue of these two concessions was estimated at US\$ 0.39 million. Therefore, the actual revenue generated was 155-170% of the potential in 1993. The reasons for this anomaly are probably threefold:

- the hunting in these two concessions is split for marketing into individual hunts and animals. This is probably a very efficient way of marketing the hunting;
- the auctions are open to foreigners, and therefore attract a substantially bigger market; and,
- individual hunters pay a very high price for a *one off* safari tailored to meet their needs.

4.4.2 The four auctioned concessions: These concessions will earn a total of US\$ 0.35 million, which is only 46% of their potential in 1993 (Table 3). Earnings might increase if auctions were opened to a larger market than just Zimbabweans. Alternatively, bids for concessions might be higher if they were payable in instalments over the lease period, rather than paid up front. In the latter situation, currency depreciation over time must be taken into account to maintain the value of the amount finally paid.

4.4.3. The Matetsi concessions: The State is expected to earn US\$ 0.24 million from the Matetsi concessions in 1993, equivalent to only 24% of its potential, or 34% excluding units 5 and 6 (Table 3). The concession for units 5 and 6 are granted to the Forestry Commission, in exchange for training of National Parks staff. These two concessions have an earning potential of approximately US\$ 0.26 million, which make it an extremely expensive, as well as unnecessary, training programme (see 3.5).

The revenues from the Matetsi concessions could be increased by:

- changing the method of allocation from lease to open auction (this will happen in 1995);
- opening the auction to foreigners; and,
- letting out Units 5 and 6 on a proper concession basis.

4.4.4. The CAMPFIRE concessions: The State bears all of the management costs in respect of these areas. However, all revenues are returned to the neighbouring DCs (see section 3.7.4, and this must be addressed.

4.4.5. Zimbabwe Hunters' Association concessions: These concessions will generate state revenues of US\$ 58,000, or 13% of their potential in 1993 (Table 3). The State is effectively subsidizing citizen hunting in these areas (see 3.1 and 3.7.5)

4.4.6. Makuti/Charara draws: These draws will generate revenues of US\$ 61,000, or 36% of their potential in 1993 (Table 3). Once again the State is subsidizing citizen hunting in these areas.

5. MAXIMISING RETURNS FROM HUNTING

The most important factors that affect national income from hunting are:

- the availability of concession areas and the size of their hunting quotas;
- the state of the international economy;
- political stability, either international or in the host country;

Table 3: Hunting concessions in Zimbabwean National Parks and Wildlife Estate (SA = Safari Area) (Data from Wildlife Economics, Inc., 1993)

Concession	Concessionaire	Allocation method	1993			Category average
			Expected revenue (US\$000's)	Potential revenue (US\$000's)	Actual % potential	
Urungwe SA- Nyakasanga Section Sapi SA	Open auction	Zambezi Valley auction	423	250	169%	162%
Chewore SA North	Open auction	Zambezi Valley auction	214	139	154%	
Chewore SA South	Commercial operator	Open auction	122	233	52%	
Chirisa SA	Commercial operator	Open auction	113	233	48%	46%
Chete SA	Commercial operator	Open auction	75	172	44%	
Dande SA	Commercial operator	Open auction	42	108	39%	
Malapati SA	Commercial operator	CAMPFIRE concession	to DC	to DC	N.A.	
Matetsi SA Unit 1	Commercial Operator	CAMPFIRE concession	to DC	to DC	N.A.	
Matetsi SA Unit 2	Commercial operator	Matetsi lease	52	157	33%	
Matetsi SA Unit 3	Commercial operator	Matetsi lease	47	140	34%	
Matetsi SA Unit 4	Commercial operator	Matetsi lease	47	139	34%	24%
Matetsi SA Unit 5	Commercial operator	Matetsi lease	53	150	35%	34%
Matetsi SA Unit 6	Forestry Commission	Granted	0	147	0%	
Matetsi SA Unit 7	Forestry Commission	Granted	0	122	0%	
Charara SA	Commercial Operator	Matetsi lease	44	126	35%	
Doma SA	Zimbabwe citizens	Makuti/Charara draw	61	169	36%	36%
Urungwe SA-Rifa Section	Zimbabwe Hunters' Assoc	Granted by DNPWLM	13	98	13%	
Tuli SA	Zimbabwe Hunters' Assoc	(ZHA allocated by draw)	27	212	13%	13%
Deka SA North	Zimbabwe Hunters' Assoc	Granted by DNPWLM	18	148	12%	
Deka SA Tail	Zimbabwe Hunters' Assoc	Granted by DNPWLM	0	0	N.A.	N.A.
Sibilobilo SA	Matetsi operators	Pool area	0	0	N.A.	N.A.
Chipinge "A" SA	Vacant	N.A.	0	0	N.A.	N.A.
Umfurudzi SA	Vacant	N.A.	0	0	N.A.	N.A.
Hartley "A" SA	Vacant	N.A.	0	0	N.A.	N.A.
TOTALS			1351	2743	49%	49%

- the reputation of the country and the concession. In turn, this depends on trophy quality and the effectiveness of the marketing. Quota quality is also a function of monitoring and management;
- appropriate institutional structure for management systems for attempting to maximise revenues;
- management and regulatory staff with appropriate incentives; and,
- methods of allocation and pricing of concessions.

Only the latter factor is of significance to the discussion presented in this paper.

6. SYSTEMS OF ALLOCATING HUNTING

The Zimbabwean P&WLE uses various methods to allocate and price concessions, which all have advantages and disadvantages. This section forms the basis of previous statements that State revenues from hunting in the P&WLE are 49% below their potential (Table 3). There are four main reasons for this:

- DNPWLM has no incentive to increase the revenues that it generates. At present, all revenues are channelled into Central Treasury funds. The amounts allocated to DNPWLM to manage P&WLE are not, in any way, related to the revenues generated. Furthermore DNPWLM staff are paid according to Central Government salary scales. No performance incentives of any kind can be built into staff contracts. Therefore, DNPWLM staff have a reverse incentive to minimize levels of public and commercial activity in the P&WLE;
- Central Government organizations have never seriously marketed hunting in Zimbabwe;
- the state significantly subsidizes recreational hunting by residents (and in the case of the Zambezi Valley auction hunts by foreign residents). This subsidized hunting is very important, and means that a public lobby always favours maintaining large areas of the country under DNPWLM control and management; and
- the Government structures responsible for management have not kept pace with developments in the wildlife industry, so that revenue generation always lags behind the private sector.

Under-pricing is associated with significant dangers:

- the P&WLE remains under-valued by Central Government, and DNPWLM receives a low budget for management;
- sections of P&WLE and their associated infrastructure have become run-down. As their reputation diminishes, law enforcement effort is reduced and wildlife populations are reduced through illegal hunting; and
- the P&WLE is not making a full contribution to the national economy, and changes in land use may result.

As important, the market is not cleared by the current systems of allocation. Prices are not set to balance supply with demand (except in a few cases). Hence, central bureaucracy makes allocations on the basis of arbitrary rationing. In turn, this leads to problems with the following:

- stimulating competition;
- ensuring that allocation is equitable; and,
- barring new entrants to the industry.

6.1. OPEN AUCTIONS FOR CONCESSIONS

The concept of holding open (certainly to all Zimbabweans) auctions for each P&WLE concession is gaining favour.

6.1.1. Advantages:

- the system is transparent, and no allegations of corruption can be made;
- the system clears the market if unrestricted access to the auction is given; and,
- revenues are maximised.

6.1.2. Disadvantages:

- the person or organization with the highest bid will not necessarily be the best concessionaire;
- DNPWLM has little flexibility to apply other management criteria when evaluating prospective tenders; and

- operators may have paid a high price for the concession, and may attempt to generate the maximum revenue from the concession. For example, operators may shoot all the animals on quota, but avoid investing in management activities or the local area.

6.1.3. Comments: This is the best system to use if the primary objective of managing the concession is to maximise revenues, and to ensure transparency. However, this is not the best system if the primary objective is to appoint a concessionaire with a good track record and a good reputation. Revenues can be maximised fully if foreigners as well as Zimbabweans are given access to the auctions. However this may raise objections from domestic operators, and lead to quality control problems.

6.2. CONCESSION TENDER PROCESS

To date, the tender process consists of tenderers submitting a secretly priced bid for a concession. It is important that this system is improved to provide more comprehensive tender documents. It should detail the background, experience and financial resources of the operator. The concession will be tendered on a basis similar to an international consultancy contract. Under this system, prospective tenderers are told what information to include in their tenders, and the criteria that will be used to evaluate tenders. An independent panel then evaluates the tenders, and grades each proposal based on pre-determined criteria, with tender price as one of these criteria. The tenderer scoring the highest points wins the concession.

6.2.1. Advantages:

- allows DNPWLM some flexibility in awarding tenders, and does not necessarily mean that the highest price wins;
- allows DNPWLM to award concessions on the basis of criteria other than financial; and
- the incentive for the operator to overexploit the concession is reduced (although not completely eliminated).

6.2.2. Disadvantages:

- the process is not transparent, and results in allegations of corruption; and
- revenues may not be as high as under the auction system.

6.2.3. Comments: A more refined system could require submission of separate technical and financial proposals. Under this system, the technical proposals would be opened first, and rated according to the predetermined criteria. Any tenderers not achieving the predetermined pass mark for technical proposals would then be eliminated. The financial proposals for the remaining tenderers would be opened second, and assigned a score. This would be added to the score for the technical proposal, and the highest score would win the tender.

6.3. CONCESSION AUCTION WITH QUALIFIED ACCESS

A combination of the previous two methods may be the most appropriate way of allocating hunting concessions. Under this system, the concession is auctioned, but access to this auction is restricted on the basis of technical tenders.

6.3.1. Advantages:

- non-financial criteria can be used to evaluate tenders;
- the end of the process is transparent and closed to allegations of corruption, although not quite so transparent as open auction;
- revenues are maximised, although perhaps not as much as in an open auction; and
- some quality control can be exercised over concessionaires.

6.3.2. Disadvantages:

- revenues are not as high as under open auctions; and
- process is not as transparent as an open auction.

6.4. THE SAPI/NYAKASANGA AUCTION SYSTEM

6.4.1. Advantage:

- revenues have been maximised to date. However, the high premiums paid for these hunts might not continue to be paid if all the hunting in the P&WLE was contracted under this system.

6.4.2. Disadvantages:

- management of a concession under this system is complicated, because different hunters are permanently entering and leaving the concession;
- the operator is not encouraged to take a long-term view of, nor invest in the concession, and
- it is likely that operators will use the full quota.

6.4.3. Comments: The Sapi/Nyakasanga auctions represent an unfortunate blend of citizen recreation hunting and commercial safari hunting. Zimbabweans may find it difficult to compete in an open market with foreigners who have considerable buying power. In 1992, only 20% of the hunts were secured by Zimbabweans. Therefore, it has been suggested that one concession should be made over to the ZHA as an exclusive hunting concession. The other area should then become a commercial concession along the lines of Chewore SA and other similarly managed areas. This approach will ensure that citizen participation increases in the area reserved for locals. At the same time another commercial concession would be created that would satisfy a huge demand. Probably the biggest disadvantage would be that revenues for the hunts reserved for Zimbabweans would decline. At present, DNPWLM cannot agree to the plan because the prices secured on these concessions are used for monitoring prices in the hunting industry at large. This may once have been the case. However, this argument is no longer valid, because the price paid is now a blend of recreational and commercial safari operations.

6.5. THE MAKUTI/CHARARA DRAW

6.5.1. Advantage:

- citizen participation is secured.

6.5.2. Disadvantages:

- revenues are lower than their potential;
- persons who can buy large numbers of tickets stand better chances of winning hunts; and
- no quality or safety control can be exercised on these hunts (on ZHA concessions, ZHA members train hunters before they are allowed to hunt on their own).

6.5.3. Comments: Some low-priced hunting must be available to secure public support for the P&WLE, and this is a good way of providing it. One of the disadvantages of this system could be eliminated by preventing people from purchasing more than one ticket for these draws.

6.6. ZIMBABWE HUNTER'S ASSOCIATION CONCESSIONS

6.6.1. Advantages:

- satisfies citizens requirement for recreational hunting; and
- ZHA takes a long-term view of the concession, and assumes many management responsibilities.

6.6.2. Disadvantage:

- revenues are lower than their potential.

6.7. PERCENTAGE OF TURN-OVER SYSTEM

This is a system widely used in the communal land concessions. The concessionaire pays the lessor an agreed percentage of his annual turnover from the concession. This is usually subject to a guaranteed minimum, to protect the lessor if the operator fails to sell the full quota. The lessor also usually guarantees a certain minimum quota for certain species, which provides reassurance that the operator will not be held to a minimum payment when the animals are not available through excessive illegal harvests and other similar factors.

6.7.1. Advantages:

- inflation in the domestic currency and changes in quota composition are automatically adjusted for;
- the lessor benefits from a profitable operation in good years and is protected from losses in bad years;

- the lessor has an incentive to manage properly the concession and its wildlife, so increasing quotas, and therefore increasing revenues;
- fees paid by the lessee are based on the animals shot, preventing any incentive to over shoot; and,
- the lessor is more involved in the operation than under a straight lease. This is particularly important in communal land hunting concessions.

6.7.2. Disadvantage:

- the only significant disadvantage is that the concessionaire has an incentive to under declare revenues. Nevertheless, this can be minimised by requiring an audit certificate. Furthermore, hunters in Zimbabwe are entitled to retain 50% of foreign currency revenues generated, which constitutes a substantial incentive to declare all revenues earned.

6.8. GENERAL COMMENTS

The split between concession and trophy fee in P&WLE is meaningless to lessor, operator and client. The total price of the concession and its animals is most meaningful to the operator, while the total price of the hunt itself is most important to the client. In addition, the trophy fee is set arbitrarily, although this is sometimes debated. In turn, this means that the concession fee effectively constitutes a balancing figure. Therefore, DNPWLM has been advised to lump the two together to sell the concession on the basis of one figure. This is effectively what happens under the communal land percentage of turnover system. The only problem is in adjusting the concession price for inflation, and changing the hunting quota in the concession. Both of these items are adjusted for in certain of the previous systems, particularly the percentage of turnover system.

7. PRINCIPLES OF ALLOCATION AND PRICING

Previous sections suggest that the following principles should be applied when devising systems for allocating access to hunting concessions, and when determining the price of these concessions:

- **systems should clear the market to the maximum extent;**
- **competition between operators should be fostered;**
- **systems should be practical and enforceable;**
- **systems should be transparent, and avoid any command allocation decision where possible;**
- **unfair competition between the State and the private sector should be avoided to the maximum extent possible;**
- **investment in, and development of, the industry should be encouraged; and**
- **revenues from hunting operations should be maximised, subject to environmental and ecological safeguards.**

Certain other principles have not been discussed, but are mentioned here for the sake of completeness:

- operators securing hunting concessions should be given some security of tenure. A long concession period encourages the concessionaire to take a long-term view of the concession, and to invest and develop where appropriate. This also means that the concession can be properly marketed by the concessionaire. However, State organizations are frequently uncomfortable with granting long-term tenure to outside organizations, particularly where a situation of mistrust exists between the State and the private sector. A concession period of 5 years is generally agreed as appropriate in Zimbabwe. It should be noted that renewal or reallocation of concessions should take place at least one year in advance, in order to allow the new concessionaire to conduct his marketing;
- the systems for regulating the industry must be appropriate, and conducive to further development of the industry. A principle of self-regulation has been suggested by the industry in Zimbabwe. Under this system, the best qualified people regulate themselves, while the State merely acts as overseer;
- an industry is more easily regulated by minimizing the rules and maximizing the penalties for contravention, than by creating a whole plethora of unenforceable rules; and

- if the identity of the lessor and background qualifications or experience are important, it is probably advisable to rule that already allocated concessions should not be transferred. In contrast, if a concessionaire wants to hand his lease over to another concessionaire, ideally this should be done on the basis under which the concession was originally allocated.

8. CONCLUSION

A wide range of concession systems are used to promote hunting on different categories of land in Zimbabwe. A significant portion of hunting is allocated to Zimbabwe citizens, at net cost to the state in economic terms, but achieving considerable political benefits. In overall terms, the hunting industry in Zimbabwe earns considerable revenue for the national economy through trophy and concession fees. Nevertheless, the hunting industry in Zimbabwe earns well below its potential. Hence it is important that appropriate pricing and allocation mechanisms promote the full potential of the industry.

REFERENCES

- Bond, I. 1994. The importance of sport-hunted African elephants to CAMPFIRE in Zimbabwe. *TRAFFIC Bulletin* 14:117-119.
- Martin, R.B. 1996. Sport hunting: the Zimbabwe Government viewpoint. (This volume).
- Price Waterhouse. 1993. *The Lowveld Conservancies: An Explanation of, and Justification for, the Land Use Changes Involved*. Save, Bubiana, and Chiredzi River Conservancies, Harare.
- Price Waterhouse and Environmental Resources Limited. 1992. *Background Papers Volume 2: The Role of Wildlife in the Economy*. Wildlife Management and Environmental Conservation Project, Harare.
- Price Waterhouse and Environmental Resources Limited. 1992. *Background Papers Volume 4: The Role of the Parks and Wild Life Estate*. Wildlife Management and Environmental Conservation Project, Harare.
- Wildlife Economics, Inc. 1993. *Investigations and Recommendations on Access, Pricing and Control Over Resources and Services of Department of National Parks and Wild Life Management*. Wildlife Management and Environmental Conservation Project, Harare.

PART 5

THE INVOLVEMENT OF LOCAL COMMUNITIES IN TOURIST HUNTING

16. POTENTIAL BENEFITS FROM TOURIST HUNTING AVAILABLE FOR LOCAL COMMUNITIES IN TANZANIA

Planning and Assessment for Wildlife Management

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1. INTRODUCTION

It is widely accepted that rural communities should have legal ways of utilizing their local wildlife and the responsibility for managing and so conserving it. Tanzania has several projects under way that involve local people living in and around conservation areas. These include in Ngorongoro Conservation Area; around the Serengeti National Park; the Selous Game Reserve; and, the parks and game reserves of the Greater Ruaha ecosystem (Leader-Williams *et al.*, 1996). Such projects have made a very promising start to the concept of community conservation in Tanzania. Village land is being demarcated and title deeds for it claimed by the community. Quotas of animals are being issued to villagers to provide a legal supply of meat.

Tourist hunting is the most lucrative form of wildlife utilization practised outside protected areas. However, communities in Tanzania have not yet developed its full potential. In specific areas there are individual projects involved with tourist hunting. For example, the Cullman Reward and Benefits Scheme was started outside Maswa Game Reserve, and is now being extended elsewhere (Tanzania Game Tracker Safaris and Robin Hurt Safaris, 1996). This is a particularly good example because an outfitter started the scheme. This paper examines the potential benefits tourist hunting can bring to communities in Tanzania.

2. POTENTIAL OF TOURIST HUNTERS TO CONTRIBUTE TO LOCAL COMMUNITIES

2.1. DISTRIBUTION OF BLOCKS

Tourist hunting blocks in Tanzania are fairly evenly distributed between unoccupied Game Reserves and occupied Game Controlled Areas (GCAs) and open areas (OAs) (Planning and Assessment for Wildlife Management, 1996). In this situation, there are two ways to provide people with benefits from tourist hunting. For unoccupied protected areas local people living outside the area can be provided with a proportion of the money earned within that area. In occupied areas, people living within the area should share in the money earned within their area. This last way obviously requires that areas occupied by people can still provide a reasonable revenue from utilization, for example because wildlife populations are still reasonably high and there is sufficient land.

Many of the 60 hunting blocks in Tanzania occur in areas occupied by people (Figure 1 of Planning and Assessment for Wildlife Management, 1996a). Therefore tourist hunting would appear to have considerable potential to benefit local people. However, the returns available from tourist hunting in different areas depend on three factors.

2.2. RETURNS FROM HUNTING IN AREAS SETTLED BY HUMANS

The first factor is the proportion of tourist hunting trophies taken in occupied rather than unoccupied areas. More elephants are killed in Game Reserves than outside, and therefore elephants at present do not have the same potential for community conservation projects as they do in Zimbabwe, for example. However, many more gerenuk, lesser kudu and oryx are killed in GCAs and OAs than in Game Reserves. Overall, occupied areas provide similar totals of game fees as unoccupied Game Reserves (Table 1). This demonstrates that tourist hunting can contribute equally to the conservation of Game Reserves and to local communities in GCAs and OAs.

The next factor is the distribution of tourist hunting revenue across Tanzania. Do particular areas of the country have more potential than others? A geographic analysis has been undertaken of game fee densities in 1992, in relation to district boundaries (Figure 1). This suggests that there is potential at present for community conservation schemes involving tourist hunting in the following areas:

- Liwale OA;
- the southern Masailand GCA blocks of Ruvu Same, Ruvu Masai, Handeni, Kitwai, Sanya-Lelatema, Simanjiro, Lolkisale, Mkungunero and Burunge;

- the GCA blocks surrounding the Serengeti, Mto wa Mbu, Longido, Lake Natron and Loliondo to the east, and Ikorongo & Grumeti, and Makao OA to the west and,
- Yaeda *Chini*.

Table 1: Total numbers of game shot by tourist hunters in different land types from 1988 to 1992-93. The total game fees (in US\$) accrued in different categories of land in each year is also given.

Species	Game Reserve	GCA/OA
Elephant	138	16
Lion	450	457
Leopard	429	436
Greater kudu	234	149
Lesser kudu	5	260
Gerenuk	3	260
Oryx	5	381
Sable	399	208
Roan	129	126
Buffalo	1452	1058
Zebra	874	974
Year		
1988	\$613,611	\$638,775
1989	\$1,021,983	\$1,176,620
1990	\$1,165,770	\$1,176,620
1991	\$1,343,690	\$1,240,765
1992-93	\$1,758,205	\$1,842,055

This analysis is based only on game fees from the 1992-93 hunting season in individual hunting blocks. The earning potential of some areas could probably be improved with better management. There may be other areas with potential that have not been developed or managed for tourist hunting. For example, some areas may be allocated as blocks, but may not be fully utilized because they are so remote. Other suitable areas may not have been allocated as blocks.

The next factor is whether the possible areas for community conservation schemes have sufficient revenue earning potential. As shown previously, the value of tourist hunting comprises both game fees, the daily rate charged by the outfitter, and a range of other fees charged by the Department of Wildlife (Planning and Assessment for Wildlife Management, 1996b). Accordingly, data from three blocks from the current community conservation projects in Tanzania has been analysed. The areas are the Liwale OA within the project area of the Selous Conservation Project, Loliondo GCA within the Serengeti Regional Conservation Strategy and Ruaha OA within the ODA Ruaha Ecosystem Wildlife Management Project area. As noted elsewhere, an analysis of game hunting permits does not permit an assessment of the amount of time spent by a tourist hunter in a particular block (Planning and Assessment for Wildlife Management, 1996b). Therefore, game fees are a measure of how much an individual block is used. However, the other fees and the daily rate potentially earned by each block can only be estimated using the actual game fees.

Although not perfect, this approach at least gives some initial impression of the possible total revenue earned within Tanzania from tourist hunting in these particular areas. The analysis has been undertaken using 55% of the daily rate that should be banked in Tanzania rather than the full daily rate. The range of total potential earnings directly attributable to each block varied from US\$ 0.25 million to US\$ 1.25 million over the 1988 to 1992-93 hunting seasons. Hence, there appears to be scope for ensuring that in future people living in such areas at least obtain an equitable share of the total from tourist hunting in their areas.

2.3. MOVING MONEY EARNED IN GAME RESERVES TO PEOPLE LIVING OUTSIDE

The geographic analysis has already shown that earnings from tourist hunting are not evenly distributed across Tanzania (Figure 1). Many districts probably contain wildlife but do not yet attract tourist hunting. Furthermore, in several areas earnings derive chiefly from within Game Reserves. Accordingly the Government has already agreed a policy whereby District Councils will receive a proportion of game fees. For the 1992-93 season, this should amount to a total of US\$ 340,000 across the country.

2.4. INDIVIDUAL PROJECTS

Government measures to distribute revenue from tourist hunting to local people might include distribution of a proportion of Game Reserve fees or new policies concerning hunting blocks in GCAs and OAs. In addition there is considerable potential for outfitters to become involved in local conservation schemes. Outfitters are now required as part of the conditions of holding a block to become involved with local communities (Severre, 1996). Generating jobs locally rather than bringing employees from other areas and distributing surplus meat where possible are important aspects of promoting the tourist hunting industry among local people.

One outfitter has become involved in a more ambitious scheme, the Cullman Reward Scheme, outside Maswa Game Reserve (Tanzania Game Tracker Safaris and Robin Hurt Safaris, 1996). Under this scheme, clients volunteer to pay an extra 20% on top of their game fees into a fund. This is used for village development projects in Makao Open Area. Furthermore, jobs such as anti-poaching guards have been created locally for village scouts through the establishment of the Cullman Reward Scheme. This scheme also pays a reward for snares collected and poachers apprehended. The scheme is at a fairly early stage of development, having begun in the 1990 hunting season. However, the villagers are very happy with results to date and the scheme is in the process of being extended to other area. This points the way forward for other initiatives.

Table 2: An assessment of the total potential earnings of three selected tourist hunting blocks within existing community conservation project areas in Tanzania. Estimates of actual game fees were used to attribute an estimate of the other fees and the 55% of the daily rate that are attributable to the block.

Area and Year	Actual game fees (US\$)	Estimated other fees (US\$)	Estimated daily rate x 55% (US\$)
Liwale OA			
1988	34,460	-	-
1989	59,270	3305	117,827
1990	22,596	1897	40,511
1991	19,290	9099	24,049
1992	77,310	37,365	101,788
Total	212,926	51,666	284,175
Grand total			\$558,767
Loliondo GCA			
1988	27,795	-	-
1989	116,840	6515	232,354
1990	72,525	6090	130,026
1991	76,245	35,963	95,050
1992	168,385	81,396	221,733
Total	461,790	129,964	679,163
Grand total			\$1,270,917
Ruaha OA			
1988	620	-	-
1989	5685	317	9250
1990	16,055	1348	28,784
1991	15,660	7387	15,973
1992	42,760	20,655	56,275
Total	80,780	29,707	110,282
Grand total			\$220,769

3. CONCLUSION

Tanzania is at an early stage of developing community conservation projects, and has not yet realized the economic potential of tourist hunting for local people. The formulation of a policy on tourist hunting must include providing benefits to rural people in the many hunting blocks in GCAs and OAs.

REFERENCES

Leader-Williams, N., Kayera, J.A., and Overton, G.L. 1996. *Community-based Conservation in Tanzania*. IUCN, Gland and Cambridge.

Planning and Assessment for Wildlife Management. 1996a. The structure of Tanzania's tourist hunting industry. (This volume).

Planning and Assessment for Wildlife Management. 1996b. Returns from tourist hunting in Tanzania. (This volume).

Severre, E.L.M. 1996. Administration of hunting in Tanzania. (This volume).

Tanzania Game Tracker Safaris and Robin Hurt Safaris. 1996. The Cullman Rewards and Benefits Scheme. (This volume).

17. THE CULLMAN WILDLIFE REWARDS AND BENEFITS SCHEME

Tanzania Game Tracker Safaris and Robin Hurt Safaris

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1. RATIONALE

The Cullman Wildlife Rewards and Benefits Scheme was started in 1990 by Mr. Robin Hurt, then of Tanzania Game Tracker Safaris, and Mr. Joseph Cullman III, of USA, with the full and active support of the Director of Wildlife. The Scheme has three main aims:

- to show communities how conserving wildlife can benefit the people of Tanzania;
- to co-operate with and help the Wildlife Department in its conservation programme; and,
- to discourage the wasteful killing of wildlife through the use of snares.

2. OPERATIONS AND RESULTS

The Cullman Scheme has two main methods of operation. It receives voluntary payments from hunting clients and gives rewards for the capture of poachers and the recovery of snares. The scheme encourages the hunting clients of our two safari companies to contribute 20% over and above the government trophy fees to a fund. This money finances community projects for the villages in local hunting areas. For example the fund has already supplied a maize grinding mill and engine, and a pick-up. A tractor and plough unit will be delivered soon. In this way the scheme is showing rural people how conserving wildlife can benefit the community. The project also finances full-time anti-poaching teams from villages. The teams patrol wildlife areas with Game Assistants from the Department of Wildlife. In 1992, the scheme paid over Tsh 7 million (the equivalent of US\$ 30,000) to these teams in rewards, wages and other benefits.

The Cullman Scheme began in the villages of Makau and Sakasaka, in the Makau Open Area close to the Maswa Game Reserve. The scheme now includes other areas where the safari companies have hunting blocks, including Wembere, Ushirombo, Monduli, Ugalla and Kizigo. The Cullman Scheme is funded through the generosity of friends in the USA and in Europe, and through the American Friends of the Game Conservancy (AFGC). The results achieved to January 1993 are given (Table 1).

Table 1: A review of activity of the Cullman Wildlife Rewards and Benefits Scheme from 1990 to January 1993 (in US\$).

	1990	1991	1992	Totals
Donations received:				
Safari clients (based on game fees)	13,190	28,520	46,600	
Donations made to AFGC		98,000	97,450	
Total donations	13,190	126,520	144,050	283,760
Operating funds:				
Rewards, snares, vehicle maintenance, etc		25,000	20,843	
Total operating funds		25,000	20,843	45,843
Capital purchases by Cullman Scheme:				
Maize mill for Makau	13,190			
Pick-up for Sakasaka		16,092		
Pick-up for Cullman Scheme		15,512		
Pull-up Grader for boundary demarcation			7,783	
Tractor			41,469	
Brochures and publicity			5,000	
Pick-up for anti-poaching by DGO			5,990	
Total capital purchases	13,190	31,604	60,242	105,036
Total amounts paid by Cullman Scheme	13,190	56,604	81,085	150,879
Balance remaining to Cullman Scheme		69,916	62,965	132,881

3. CONCLUSIONS

The Cullman Rewards and Benefits Scheme was started by a safari hunting outfitter working in the private sector. The scheme was initiated to stop game being wasted through illegal snaring, and to give villagers a legal way of deriving benefit from wildlife. The scheme has been very successful in recovering snares, and securing arrests of offenders. In addition, villagers have started to receive benefits through employment (in anti-poaching teams), and through capital purchases. Our companies have begun the process of helping villagers realize a legal value for their wildlife.

18. THE SETTING OF COMMUNAL AREA QUOTAS IN ZIMBABWE

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1. INTRODUCTION

The *Communal Area Management Programme for Indigenous Resources* (CAMPFIRE) is a rural development programme that aims to improve community resource management. CAMPFIRE capitalizes on the high value of wildlife, particularly through safari hunting. *Appropriate Authority* status gives District Councils (DCs) the rights to utilize their wildlife resources and to retain all the proceeds from doing so. To date, 12 DCs have received *Appropriate Authority* status. A further 12 DCs are in the process of being gazetted.

The Department of National Parks and Wild Life Management (DNPWLM) reserves the right to control offtake rates by setting quotas. When communities have acquired the capacity to set quotas themselves, DNPWLM will relax its control. The quota setting exercise that is summarized in this paper is the first step towards achieving this goal. The paper is in part based on Child (1992).

2. THE CAMPFIRE PROGRAMME

CAMPFIRE has been implemented in four stages in individual districts.

- **Initial awareness:** DCs and their communities learn to understand and to accept the programme.
- **Earning money:** DCs learn the financial potential of their resources and market them effectively. The initial focus has been on wildlife. Maximizing revenues from wildlife has proved relatively simple, and depends on effective and competitive marketing strategies.
- **Spending money:** the present challenge of CAMPFIRE is to promote effective spending of communally earned money. The most successful process gives revenue to small rural communities, known as Village Development Committees, or VIDCOs. Thus, a community decides democratically how to allocate the revenue. For example, a community may decide to give households cash dividends, or to select projects for management and funding by the community. The devolution of responsibility for spending money has typically led to a rapid improvement in managerial capacity, accountability and attitudes towards wildlife at the community level. These indirect, intangible benefits often outweigh the direct financial benefits.
- **Improved management:** finally, communities with the appropriate incentives and institutions learn to develop the capacity to manage their resources more efficiently. The community must be capable in a wide range of subjects: financial control and accountability, effective institutions, marketing, land use planning, wildlife census and quota setting, controlling resource use, anti poaching), and reducing conflicts between wildlife and people.

2.1. THE PURPOSE OF QUOTA-SETTING

The long-term objective of DNPWLM is for rural communities to manage their own wildlife. To initiate this process, DNPWLM developed a manual giving the technical background to quota-setting (Martin and Thomas, 1991). DNPWLM circulated the manual to districts that supported safari hunting in 1992. Then, DNPWLM asked these districts to attempt to count their wildlife populations and set quotas. In addition, some implementing agencies gave training, but this was inadequate due to resource and manpower constraints. DCs were asked to complete and submit the relevant quota forms for approval. DNPWLM had to modify the first attempts at quotas, but this was fully accepted as part of the learning process. This paper summarizes how these returns were made, and presents the final outcome of the quota-setting process for the 1993 hunting season. Quotas, as approved by the Director of DNPWLM, are given separately (Child, 1992).

2.2. TRIAL QUOTA-SETTING EXERCISE

Seven VIDCO Wildlife Committees took part in a quota setting exercise in Chizeya and Gokwe Districts. First, the committees sketched a map of their village areas. Second, the committees estimated the number of elephants in these areas. This was achieved by marking the number of elephants seen in the week preceding the workshop on a map. Herds were identified by their size, sex, and other characteristics to avoid counting the same animals twice. Results were

encouraging, as estimates of elephant numbers were similar to those provided by aerial census. The communities also gave a fairly good description of the distribution of other species. Estimates were best when areas were clearly defined, and animals were counted over a single week.

The quota setting exercise was part of workshops held on the sustainable management of safari hunting. Members of wildlife committees also learned why offtake rates of wildlife are lower than those for livestock, why different species have differing offtake rates, and the wishes of clients. Population estimates and offtake rates were used to calculate hunting quotas and the expected revenue from hunting. This improves accountability by providing a link between wildlife populations and income levels. Communities also discover how to estimate the income they can expect from the DC, and how increasing wildlife numbers leads to bigger quotas and more benefits. The quota-setting trial showed that:

- most districts are eager to get involved in wildlife management, including quota-setting, but lack the necessary knowledge;
- quota setting is constrained by the lack of community-based techniques to census wildlife;
- resources are presently insufficient to develop techniques and teach communities to use them. However, the restructured WWF Multi-Species Animal Production Systems programme should address this issue;
- districts must set up systems to organize communities who count their wildlife and set quotas. For example, Gokwe recommended that each VIDCO Wildlife Committee should count the animals in its area over a one week period, repeating this exercise every three months. The VIDCO should then submit a summary report to the Ward and DC Wildlife Committees for collation;
- the quota-setting process, if done properly and with village and Ward participation, improves accountability. Communities work out the value of their quotas and develop a good idea of the revenue they should receive. Therefore, the quota-setting process is highly educational, and involves communities in wildlife management; and,
- there is a clear need for a second, and complementary, manual that teaches communities practical methods for counting wildlife and setting quotas. This should be more user-friendly than the technical manual.

Details of the approved quotas for communal areas for 1993 are given elsewhere (Child, 1992). These quotas cannot be changed for 1993. If changes are required for the 1994 season, the DC must submit a request outlining the changes before the next quota-setting exercise in October 1993. Changes in quotas must not reduce sustainability. The DC must present factual evidence such as survey results or data describing trophy quality to show that changes will not adversely affect wildlife populations. DCs have directions on how to explain changes in their quotas. DNPWLM provides procedures and rules relating to Problem Animal Control (PAC) and to non-trophy buffalo. DCs are responsible for ensuring that operators read the document giving approved quotas (Child, 1992).

The quota-setting document also serves to improve wildlife management in communal areas (Child, 1992). It is not merely a list of quotas, but provides recommendations for monitoring trophies and for improving quota-setting.

2.3. QUOTA-SETTING BY DISTRICTS

To encourage community institutions to develop skills to count animals and set quotas, DNPWLM requested all districts to submit their quota recommendations for approval. Most districts have made efforts to set quotas, and most have involved local communities in the process (Table 1). However, some districts did not submit a return, and must be encouraged to make every effort to develop their quota-setting skills in the future. Communities generally want to become involved in wildlife management, but lack appropriate skills and the technical support necessary to develop these skills. The CAMPFIRE Collaborative Group should therefore develop appropriate management techniques, and provide training to improve quota-setting.

Table 1: A summary of quota setting by Districts in 1993

District	Were quotas submitted to DNPWLM?	How did Wards participate in setting quotas?	How accurate was quota-setting?	What other information was provided (eg by safari operator)?
Beitbridge	Ward sheets sent	Not stated. Technical training required	Estimates far too high. DC knew this, but submitted actual ward results	Nil
Binge	Ward sheets sent	Yes, but lack technical basis: training required	Estimates far too high	Nil
Gaza Khomanani	Summary sheets only	No local participation. Technical training required	Accuracy reasonable, based on previous quotas	Malipati operator and both wardens provided recommendations
Gazaland	Only submitted in 1991	Only wildlife committee participated	Good	Good liaison between operator and wildlife committee
Gokwe	Ward sheets sent	Full participation of ward wildlife committee	Population estimates and quotas fair to good	WWF and DNPWLM used Gokwe as a pilot for developing quota setting. Results encouraging
Guruve	Ward sheets sent	Level of participation not stated. Need technical support and training	Estimates far too high, signifying poor understanding and participation	Both operators sent recommendations
Hurungwe	Ward sheets sent	Done at DC level.	Estimates good but based on old quotas	Good liaison between operator and DC
Hwange	Ward sheets sent	Some participation not stated. Need technical support and training	Estimates far too high	Good submission from operator
Nkayi	First year in CAMPFIRE			
Nzarabani	Sheets sent for Wilderness Area	Little participation	Good estimates	Good liaison between wildlife committee and nearby farmer
Rushinga	First year in CAMPFIRE			
Tsholotsho	No submission	No participation	No estimates	One of two operators provided recommendations
Plumtree	No submission	No participation	No estimates	Nil

2.4. MONITORING OF OFFTAKE BY DISTRICT COUNCILS

The Parks and Wild Life Act, 1975, makes DNPWLM ultimately responsible for all wildlife in Zimbabwe. Therefore it must monitor wildlife management under the CAMPFIRE programme until detailed monitoring is no longer necessary or beneficial. This section outlines the monitoring system that DNPWLM is establishing. The intention is to devolve as much responsibility to DCs as possible. DNPWLM should nevertheless maintain a full record of trophy offtakes to aid quota management and to support claims by Zimbabwe that sustainable utilization works as a conservation strategy. Communal area quotas are set as high as possible. To maintain trophy quality (and, ultimately, prices) DCs must monitor offtake. Monitoring is relatively simple and systems should be in place by the end of 1993. For every animal shot, DCs should request a hunt return form from the operator containing the following details:

- species;
- sex;
- exact location of each animal shot, preferably by VIDCO to facilitate the return of benefits;
- size of the trophy using Rowland Ward and SCI standards; and,
- any information that is relevant to the management of the wildlife populations.

At the end of the season the DC should include this information in its annual report, and return this to DNPWLM. Some DCs have supplied good records of the number of animals killed and location where shot (Table 2). It is critical that DCs record trophy size, but only two have done so.

Table 2: A summary of offtake monitoring as submitted by each District

District	Number of each species shot	Location of each animal shot	Trophy size	Summary and analysis presented
Beitbridge	Good records	Stated by Vidco and Ward	Nil	Nil
Binga	Records available but poorly presented	Not given	Nil	Nil
Gaza Khowanani	No records	Nil	Nil	Nil
Gazaland	No records	Nil	Nil	Nil
Gokwe	Good records	Stated by Vidco and Ward	Given for most animals	Summary presented but need to calculate averages
Curuve	Good records	Grid reference given	Summary provided by one of two operators	Summary presented but need to calculate averages
Hurungwe	No 1991 records available	Nil	Nil	Records for 1992 will be available
Hwange	No hunting			
Nkayi	No hunting			
Mzarabani	No records as yet, but first year of hunting not complete	Nil	Nil	Nil
Nyaminyami	Good records submitted to WWF	Submitted to WWF	Submitted to WWF	Excellent summaries, maps being produced
Rushinga	No hunting			
Tsholotsho	Very brief report given but only for elephant	Ward in which elephants shot given	No trophy measurements	Nil
Plumtree	No records submitted	Nil	Nil	Nil

Trophy offtake records provide information that is used to improve management. These records must therefore be summarized on a simple form in a useful and suitable way (Table 3).

Table 3: Example summary form for trophy offtake

Species (Sex)	Date shot	Location (Ward or Vidco)	Trophy size	Comment
Buffalo (M)	01/07/92	Malabe Vidco	43.5"	
Buffalo (M)	10/10/92	Malabe Vidco	42.0"	
Buffalo (M)	11/07/92	Pokwe Vidco	Wounded	
Buffalo (M)	22/07/92	Pokwe Vidco	39.0"	
Buffalo (M)	12/08/92	Pokwe Vidco	36.5"	Old wounds
Buffalo (M)	05/09/92	Mukwa Vidco	37.0"	
Buffalo (M)	10/10/92	Mukwa Vidco	39.5"	
Buffalo (M)	14/10/92	Huchu Vidco	40.0"	
Average size of buffalo trophies			39.6"	

The committee for each concession area should complete such a form (Table 3) for each species annually. A copy should be submitted to DNPWLM (CAMPFIRE Unit). To ensure adults rather than young animals are being killed trophies must be aged (using teeth). Therefore, DCs may need to keep lower jaws from trophies. The operator should also submit written notes on each species to assist quota setting.

Forms provide useful information for setting quotas (Table 3). Eight buffalos were shot in this district. Two large mature bulls were killed with trophy sizes of 43.5 and 42.0 inches, respectively. However, most were smaller, less than 40 inches, and the average trophy size was 39.6 inches. Since clients want to shoot a buffalo of at least 40 inches, this district should reduce its quota slightly so that clients do not become dissatisfied and the district does not get a bad reputation.

3. QUOTAS FOR 1993

The 1993 quotas for each district, and for each concession area within each District, are shown separately (Child, 1992). The quota is generally split into hunting and Problem Animal Control (PAC) components. Animals can be switched between these categories provided the total offtake is not increased. To do this, DCs must submit a written request to DNPWLM (CAMPFIRE Unit).

In some cases, especially in new CAMPFIRE districts, quotas are experimental and small. Operators may not be able to shoot all the animals on the quota. Districts must take this into account when negotiating agreements with safari operators. When DCs cannot guarantee that an animal will be available, it should be placed on an *optional* quota, and the operator will only pay if the animal is shot.

3.1. ELEPHANT HUNTING

Most districts have reduced the number of elephants killed on PAC in 1992. In several districts, the hunting quota has been increased in 1993, while the PAC quota has been reduced. This allows a district greater flexibility in utilizing animals and generates higher revenues. Elephant quotas were reduced in districts where the offtake of male elephant was not sustainable (i.e. where it exceeded 1% of the hunted population).

In some districts PAC quotas for female elephants have been introduced. In accordance with Government policy clients may not shoot these elephants. However the safari operator is permitted to conduct PAC on behalf of the DC.

3.2. BUFFALO HUNTING

Some Districts have a buffalo quota under the heading *Crop*. In future, DNPWLM will modify the form to include this category of buffalo. These animals are intended for hunting safaris and must be *Dagaa-boys*, that is:

- old bulls which are often single;
- bulls with worn or broken horns and teeth and a solid boss and,
- bulls with horns that measure less than 36 ins.

In the past this has been referred to as a non-trophy quota, but it now refers specifically to old buffalo. This means that the quota includes animals that are most likely to die of natural causes. Taking young animals with horns of less than 36 ins is an abuse of the quota. It is wasteful because these young animals would grow into the trophy category. The DC is responsible for ensuring that operators understand this categorization.

3.3. PROBLEM ANIMAL CONTROL

PAC is the responsibility of the DC. Fee-paying clients may buy PAC animals (with the exception of female elephants) to generate revenue. However, DCs must ensure that PAC hunting is done properly. If the system is abused it may be withdrawn. The conditions for hunting PAC animals with clients are as follows:

- animals must be on quota;
- PAC animals must be persistent crop raiders and have caused significant damage (for example, the same animal must cause significant crop damage at least three times within a short period);
- the animal shot must be the culprit. It should be shot in the field (using spotlights if necessary), or followed and killed within 1000 m from the field;
- DCs must tightly control the offtake of PAC animals. Operators must not kill animals without an official written request from the DC;
- DCs must submit records of PAC activities to DNPWLM with their annual report. These should also include cases where DCs did not act. Records must state:
 - date;
 - species;
 - locality (Ward or Vidco);
 - the extent of the damage;

- action taken (e.g. animal killed or harassed, no action taken, false report, and so on);
- full details of animal killed including trophy size, sex, age, and old wounds; and, general comments.
- any hint of abuse of this system will result in:
 - the immediate reduction of the trophy quota at the discretion of the Director, probably on a one-to-one basis; and,
 - the immediate cessation of PAC within the District by the safari operator.

A sample PAC hunting agreement between a DC and an operator can be provided on request. The trophy fee should vary depending on the size of the trophy. A suggested sliding scale is US\$ 200 per kg of ivory.

3.4. CONTROL OF PAC

As the *Appropriate Authority* for wildlife, the DC (having the same statutory rights as private land-holders) is responsible for controlling PAC on land within its jurisdiction. DNPWLM will only respond to official requests from the DC to conduct PAC. DCs should note that any animals killed (e.g. by the veterinary or wildlife departments, or by learner hunters) in the district must be subtracted from the quota.

4. TROPHY PRICES

DNPWLM provides a guideline price for each species in US\$ (Table 4). To convert to Z\$, multiply by the current exchange rate. This is the amount that the land-holder (i.e. the DC) should receive for each trophy, including both trophy and concession fees. DCs should scrutinize their 1993 quotas and adjust the payments made by their operators according to any change in quota. For animals shot on an *optional* quota, DCs should charge the prices given, rather than the gazetted government prices, because these are very low.

Table 4: Guide to trophy prices (US\$) for 1993

Species	Guideline Trophy Fee (in US\$)	Species	Guideline Trophy Fee (in US\$)
Elephant bull	10,000	Reedbuck	300
Elephant cow	3,000	Impala (M)	100
Elephant PAC	200/kg ivory	Impala (F)	75
Hippo	1,500	Impala (Bait)	75
Giraffe	1,000	Bushbuck	300
Buffalo (M)	1,500	Duiker	75
Buffalo (F)	1,000	Steenbok	75
Crocodile	1,500	Klipspringer	250
Eland	900	Grysbok	75
Zebra	600	Lion (M)	3,000
Waterbuck	800	Lion (F)	1,500
Kudu (M)	500	Hyena	200
Kudu (F)	300	Leopard	2,500
Sable	1,800	Cheetah	4,000
Wildebeest	500	Civet, serval, etc	100
Tsessebe	600	Springhare	10
Nyala	1,500	Baboon	20
Warthog	100	Birds	10
Bushpig	100		

5. CONCLUSION

CAMPFIRE is proving to be a successful development programme for both rural communities and wildlife in Zimbabwe. Further success is dependent on funding for training programmes to teach DCs how to set quotas, collaborate with safari operators and manage finances for the community. Ultimately, DNPWLM aims to allow independent communities to utilize their wildlife resources for profit in a sustainable manner.

REFERENCES

Child, B. 1992. *Communal Area Quotas for 1993*. Harare, Department of National Parks and Wild Life Management.

Martin, R.B. and Thomas, S.R. 1991. *Quotas for sustainable wildlife utilisation in communal lands*. Harare, Zimbabwe Trust and Department of National Parks and Wild Life Management.

PART 6

THE PROFESSIONAL HUNTER

19. LICENSING OF PROFESSIONAL HUNTERS IN TANZANIA

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1. BACKGROUND

Traditional hunting ethics ensured that hunters killed humanely and disturbed hunted populations as little as possible. Today, professional hunting must also adopt ethics that allow conservation of wildlife through protection and sustainable utilization. Wildlife laws enforce these ethics and hunting institutions have a duty to uphold them. To this end they have used various methods to select and license professional hunters. Tanzania aims to improve the methods it uses.

2. LICENSING OF PROFESSIONAL HUNTERS

2.1. BEFORE 1973

In 1973 tourist hunting in Tanzania stopped. Before then, the Game Department licensed professional hunters and they were empowered by the Fauna Conservation Ordinance of 1951 Section 15.

2.2. FROM 1978 TO 1988

When tourist hunting re-opened in 1978, the Wildlife Conservation Act of 1974 was in force. This act made no provision for the licensing of professional hunters. This allowed some unprofessional and unethical men to penetrate the industry, but this was not a major problem because the Tanzania Wildlife Co-operation (TAWICO) was managing the tourist hunting industry. TAWICO's professional hunters went out with clients on every hunting safari conducted by TAWICO or any other hunting company. Staff of the Wildlife Department also supervised each safari.

TAWICO's professional hunters trained as wildlife officers at the College of African Wildlife Management. Because TAWICO held all the responsibilities and powers of the professional hunters and monitored the industry so closely, there was no need to scrutinize those applying to become a professional hunter. Applicants simply requested permission to operate as a professional hunter by letter. Few requests were refused. The Department of Tourism licensed hunters as tourist agents specifically operating as professional hunters, as required under the Tourist Agents Licensing Act of 1969.

2.3. SINCE 1988

In 1988 the Department of Wildlife took over the management of hunting. TAWICO professional hunters no longer played their vital supervisory role. However, the system of application and licensing of professional hunters did not change. Each outfitter continued to hunt with its own professional hunters. These professional hunters took out their clients on safari, and many acted as agents to bring in clients. As a result, outfitters chose hunters for their skills in bringing in clients, rather than for their professionalism and ethical standards. Problems soon arose as a direct result of the lack of supervision and the accumulation of unprofessional and unethical characters in the industry.

3. FUTURE PLANS FOR A LICENSING SYSTEM

The Department of Wildlife has realized that the standards of certain professional hunters are unacceptable. It intends to improve the current method of application and licensing by screening applicants using application forms and interviews where necessary. Professional hunters will be classified according to their qualification and experience. At a later date the Department of Wildlife intends to introduce examinations, and to issue professional hunters who qualify through applications or examinations with the appropriate licences.

4. CONCLUSION

The professional hunters are key people in the tourist hunting industry. The continued success of the industry will depend to a large extent on their conduct. It is hoped that the workshop participants will be able to define exactly what should be the ethics of a professional hunter, their correct roles and obligations, and ultimately what is the best way of licensing them.

20. TRAINING OF PROFESSIONAL HUNTERS IN SOUTHERN AFRICA

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1. INTRODUCTION

Virtually all countries that permit commercial safari hunting require professional hunters and outfitters to register with, and be licensed by, the regulatory authority. In its early days the industry maintained excellent standards both in quality of service, and in the conduct of professional hunters and outfitters. In Kenya standards were particularly high and when hunting was banned there in 1975 many Kenyan hunters introduced these standards to other countries such as Zambia, Botswana and Zimbabwe.

In the last forty years the industry has grown and regulation procedures have changed. As a result the level of professionalism among professional hunters and outfitters has declined. Today in southern Africa (Zambia, Botswana, Mozambique, Malawi, Zimbabwe and South Africa) the government has assumed many of the responsibilities previously held by the Professional Hunters' Associations. Now the respective National Park officials issue Professional hunter licences. One way of encouraging professionalism among hunters and outfitters is to require applicants for Full Professional Hunter's Licences to complete a formal period of training. Only South Africa and Zimbabwe have such training and licensing systems. These are discussed below.

2. THE TRAINING OF PROFESSIONAL HUNTERS AND OUTFITTERS IN SOUTH AFRICA

In 1981, the four Provincial Nature Conservation (PNC) Departments (Cape, Natal, Orange Free State and Transvaal) introduced legislation to control the professional hunting and outfitting industries in their provinces. In 1988, Natal Parks Board announced that it required people who intended to escort overseas clients for reward to pass written examinations in theory and law. These were standard throughout the country, and were held four times a year. They covered topics such as general knowledge of game animals, their behaviour and breeding cycles; the preparation and care of trophies; the legal requirements for exporting trophies and trophy requirements for record books. The questions on hunting laws required a comprehensive knowledge of the hunting laws of the relevant province. In addition to the written exams, candidates had to pass a practical test conducted in the bush. Experienced PNC Officers supervised these. Subjects included: bush craft, animal behaviour, spoor identification, tracking ability, assessment of horn length, firearms, shooting and hunting ability, skinning, the preparation and care of trophies, and first aid. The PNC Departments issued a Full Professional Hunter's Licence when the candidate passed the practical test.

Candidates wishing to operate as an outfitter had to submit the facilities that they offered to clients for inspection. All facilities, for example hunting camps, trophy preparation facilities, vehicles and staff had to conform to set standards. PNC officials inspected publicity material before distribution, and carried out follow-up inspections regularly. The object of the legislation was to ensure hunting outfitters and professional hunters met and maintained professional standards. This protects the overseas client from unprofessional hunting practices.

In 1990, the four PNC Departments decided that in the future, hunters themselves, rather than the Parks Boards, would undertake the testing of professional hunters and outfitters. Henceforth prospective professional hunters and outfitters would register at professional hunting schools that would perform the necessary examinations. A National Professional Hunters' Committee is now responsible for the registration of professional hunter training schools in all four provinces. It also handles appeals for exemption from compulsory school attendance, and cases of professional misconduct referred by the Parks Boards. South Africa now has six registered professional hunter training schools. All offer a 12-day intensive training course. Although the ordinances for the four provinces differ, the schools have as close as possible to a standard curriculum. As an example, the Natal syllabus is discussed in more detail below.

2.1. NATAL SYLLABUS FOR THE PROFESSIONAL HUNTER TRAINING SCHOOL

The committee recommends, but does not insist, that candidates serve an apprenticeship before attending the schools. The course is intensive and candidates are required to have a sound knowledge of the natural history and uses of the flora and fauna of the province. They should know the names of the flora and fauna in Latin, English, Afrikaans and African. The topics covered by the syllabus include:

2.1.1. Firearms:

- sighting of firearms (telescopic and open sights);
- handling firearms;
- safety measures;
- client handling of firearms;
- repair and maintenance of firearms;
- shotguns and handguns;
- general knowledge of firearms; and,
- legislation related to firearms.

2.1.2. Hunting skills:

- tracking (art of tracking, identification, blood trail);
- determination of wind direction;
- use of cover;
- distance estimation;
- assistance to clients and back up;
- shot placement and dangerous game;
- communication (with client, driver of vehicle);
- use of binoculars/telescope;
- use of baits; and,
- use of hides.

2.1.3. Trophy assessment and measurement:

- assessment in the field; and,
- knowledge of records and various minimum entry qualifications.

2.1.4. Handling trophies:

- photography and traditions;
- loading and transportation of carcasses;
- skinning;
- treatment of trophies; and,
- dispatching trophies.

2.1.5. Bow hunting:

- technical data (types of bow, draw mass, parts, draw lengths);
- hunting methods; and,
- use of hides.

2.1.6. Bird hunting:

- types of weapons;
- use of dogs;
- hunting methods; and,
- handling and treatment of trophies.

2.1.7. Liaison and client relations:

- information to the client; and,
- relations with the client.

2.1.8. Marketing and advertising

2.1.9. Hunting ethics and traditions:

- local and overseas;
- improving the hunting experience;
- conduct after the hunt; and,
- unacceptable practices.

2.1.10. Administration:

- bookkeeping;
- registers;
- permits;
- licences; and,
- scientific data.

2.1.11. Legislation

2.1.12. Facilities:

- hunting vehicle;
- vehicle maintenance;
- accommodation; and,
- slaughtering facilities; and,
- catering.

2.1.13. First aid

2.1.14. General knowledge:

- flora and fauna;
- about South Africa;
- history;
- history of hunting;
- geology;
- astronomy;
- direction finding;
- local statistics; and,
- local traditions, tribes and languages.

3. TRAINING OF PROFESSIONAL HUNTERS AND GUIDES IN ZIMBABWE

The Department of National Parks and Wildlife Management (DNPWLM) is the licensing authority in Zimbabwe. It offers three licences: Learner Professional Hunter's Licence; Full Professional Hunter's Licence; and Guide Licence. If the hunter is inexperienced with dangerous game the Director of DNPWLM may issue a Restricted Licence to prevent the holder from operating in areas with dangerous game. A Professional Guide's Licence is equal to a Full Professional Hunter's Licence in that both a guide and a hunter are competent in dealing with dangerous game. However, a Guide does not have extensive experience of hunting. As a result, a professional hunter may conduct both hunting and walking safaris whereas the professional guide only conducts walking safaris.

3.1. THE LEARNER PROFESSIONAL HUNTER

Applicants for a Full Professional Licence must first obtain a Learner Professional Hunter's Licence by passing the Learner Hunter's Exams. Applicants must be a permanent resident of Zimbabwe, over the age of 18, and possess a First Aid Certificate. The exams comprise four written papers varying from 30 minutes to 2 hours and cover the following subjects:

- The National Parks and Wild Life Act;
- Development of Tourism Act;

- Firearms Act;
- habits and habitats of Zimbabwean fauna and flora; and,
- basic First Aid.

Successful candidates gain a Learner Professional Hunter's Licence. Then they must register with a fully qualified Professional Hunter or Guide in order to acquire the skills and experience of the hunting industry. This usually involves a period of not less than 2 years. Under the tutelage of the Professional Hunter, the Learner Hunter may conduct plain's game hunts. However, they must neither hunt dangerous game nor conduct a safari in an area that contains dangerous game unless accompanied by a professional hunter.

3.2. THE APPRENTICESHIP

During the 2-year apprenticeship, the Learner Hunter must gain experience in all aspects of the safari hunting industry. This will include:

- camp building, maintenance and provisioning;
- skinning and trophy preparation;
- administration and documentation;
- client relations;
- accompanying hunts (initially not conducting a hunt);
- improvement of personnel hunting experience, particularly the hunting of dangerous game;
- building blinds;
- vehicle maintenance;
- tracking and bush-craft skills;
- trophy measurements;
- firearm skills; and,
- general knowledge.

When the Learner Hunter has completed his apprenticeship, he may register for the Full Professional Hunter's Licence exam.

3.3. THE FULL PROFESSIONAL HUNTER

The Full Professional Hunter's examination is held once a year. It covers the same topics as the Learner Hunter's Exams, but in greater detail. It also includes a general paper that covers a broad range of topics associated with the safari industry. After passing this exam, the candidate must undergo a practical examination and proficiency test in the field.

3.4. THE PROFICIENCY TEST

The DNPWLM and the Zimbabwe Professional Hunter's and Guide's Association (ZPHGA) run the proficiency test jointly. It usually takes place over 7 days in the field. Normally only those candidates that have completed at least two year's apprenticeship and have hunted buffalo and elephant may take this test. The DNPWLM and the Professional Hunter's Association appoint the examiners. During the field test, the candidates must undertake the following practical tasks:

3.4.1. Set up a safari camp and cater for clients: This normally involves setting up a tented camp, including washing and catering facilities. Examiners test candidates on site selection, layout, hygiene and management.

3.4.2. Prepare for a hunting safari: Examiners test the candidate's ability to prepare for a hunting safari. This includes preparing vehicles and weapons, obtaining appropriate licences, interpreting maps preparing a first aid box, handling trophies and fulfilling the requirements of clients. Examiners check whether the candidate and his client are carrying the correct rifle and grade of ammunition for the particular hunt.

3.4.3. Conduct a hunt and, if required shoot an elephant or buffalo: This is usually the most important aspect of the proficiency test. The candidate must guide the examiners into a position

where he would recommend that the client shoot an elephant or buffalo. During this test, the examiners test the candidate's skill in the following: locating the trophy; his rapport with his tracker; his interpretation of bush signs; use of wind and ash bags; use of cover; and, the manner in which he handles the client during the stalk. His ability to judge trophies in the field is also examined. In some instances the candidate must kill an elephant or buffalo. He is then examined on the anatomy, shot placement, handling and recovery of the trophy.

3.4.4. Build leopard or lion blinds and set up a bait: The examiners test ability to read the movements of predators and select a site to construct a blind. Usually examiners question the candidate about his approach to setting a bait for either a leopard or lion.

3.4.5. Prepare trophies: The candidate must prepare various capes of shot animals. This may involve shoulder mounts, skull preparation, salting of the hide and disposal of the meat products.

3.4.6. Track and identify the spoor of a wide variety of animals: During the course of a hunt, the examiners will test the candidate's identification and understanding of spoor. The examiners will expect the candidate to be able to distinguish between different blood spoors.

3.4.7. Identify fauna and flora as required: The candidate must be able to identify mammals, birds, reptiles, amphibians and the vegetation in the area, describing their habits and uses where applicable.

3.4.8. First aid: Usually the examiners simulate an accident that will test the first aid skills of the candidates.

3.4.9. Other topics: In addition, the examiners will question the candidates at length on topics such as weapon safety, rifle maintenance and ballistics, vehicle maintenance and general knowledge of Zimbabwe. If the candidate passes this Proficiency Test he receives a Full Professional Hunter's Licence. He must renew this annually by payment of the appropriate licence fee.

3.5. PROPOSAL FOR TRAINING, EXAMINING AND LICENSING OF PROFESSIONAL HUNTERS AND GUIDES

The high quality of the safari operations, hunters and guides contributes in making Zimbabwe a popular and successful tourist destination in Africa. This has led to an increasing number of individuals entering the industry, and has placed the examining authority under increasing pressure to maintain and improve the levels of training and examination. The Zimbabwe Tour and Safari Operators Association (ZATSO) recognizes this threat to the industry and are currently developing a training programme in conjunction with DNPWLM and the ZPHGA. Under the new procedures, there will be three stages of training and examination: Learner Grade I, Learner Grade II and Full Licence.

3.5.1. Learner Grade I: A joint committee from DNPWLM, ZATSO and the Professional Hunters' Association will select applicants for the Learner Grade I training course. Trainees will receive a three week course. Those that pass the end of course examination will become apprentices in registered safari operators for a season. Learner Grade I guides can drive clients in a protected vehicle, but neither leave the vehicle nor permit clients to leave the vehicle. They may not conduct a hunt or a walking tour, but may accompany a qualified Professional Hunter. The Learner Grade I guide must keep a Log Book of all the tasks he undertakes during his apprenticeship. The syllabus for this course will cover the following topics:

- drill, turnout, dress and appearance;
- legislation of the safari industry;
- identification and description of flora and fauna;
- habits, habitat, and identification of game tracks;
- weapon training;
- tracking and bush craft;
- survival;

- hunting ethics;
- post-mortem and autopsy;
- field preparation of trophies;
- methods of measuring trophies;
- vehicle maintenance;
- safari camp layout and hygiene;
- elementary map reading;
- voice and radio procedure;
- basic photography;
- public relations; and,
- documentation and general administration.

3.5.2. Learner Grade II: At the end of the season, the Learner Grade I guide will attend a further course for in-depth instruction. He will continue as an apprentice to a qualified professional hunter for at least another year and will continue to maintain his Log Book. The Learner Grade II guide may conduct hunts or tours in areas where dangerous game does not occur. Furthermore, he may accompany hunts or tours in the company of a Professional Hunter in areas where dangerous game does occur.

3.5.3. Full Hunter and Guide Examination and Proficiency Test: Those Learner Grade II guides who wish to take the full professional exam must submit their Log Books for examination by a joint committee of DNPWLM, ZATSO and the Professional Hunters' Association. This committee will decide whether the candidate has sufficient experience to take the exam and proficiency test. The DNPWLM will issue successful candidates with a full Professional Licence.

3.6. SOME CONCERNS OF THE CURRENT PROFESSIONAL HUNTER LICENSING SYSTEM

The safari hunting industry is one of the fastest growing industries in Zimbabwe. This has caused significant administrative problems for the DNPWLM. Some of the more important issues include:

- *lack of skilled personnel to write examination papers.* Recent examination papers have been ambiguous and not pertinent to the safari industry;
- *lack of experienced trainers and examiners.* Initiating a training course is relatively simple, but maintaining its momentum and standards requires a high degree of commitment from the industry and from government;
- *learner hunters are not able to gain sufficient experience hunting dangerous game.* This is not an easy problem to resolve given the high number of learner hunters and the shortage of dangerous game animals;
- *lack of distinction between new and old professional hunters.* An anomaly exists in the current licensing system. A newly qualified professional hunter has the same grade as an experienced professional hunter. In some quarters people feel there should be a distinction between these two categories; and,
- *lack of cut off age beyond which a professional hunter should cease to hunt professionally.* This is a controversial issue, but there is concern regarding the efficiency of many of the old hunters in dealing with dangerous situations. There are many instances where dangerous game have killed experienced hunters because they have not been physically fit enough to escape.

4. CONCLUSION

We hope this discussion of the two systems of training and licensing presently available in South Africa will encourage the development and adoption of such systems throughout the country.

ACKNOWLEDGEMENTS

Thanks are due to the Zimbabwe Professional Hunter's Association, the Professional Hunter's Association of South Africa and to Mr Ian Goss of Goss Estates, South Africa. Also, to the Department of National Parks and Wild Life Management, Harare, Zimbabwe for supplying the data used in this report.

21. A CODE OF CONDUCT FOR PROFESSIONAL HUNTERS IN ZAMBIA

L. Saiwana

National Parks and Wildlife Service, Private Bag 1, Chilanga, Zambia

1. INTRODUCTION

As part of its efforts to reform its safari hunting industry, Zambia has adopted a code of conduct for professional hunters. This code is a vital part of Zambia's new policy for hunting.

2. THE CODE OF CONDUCT

The Code of Conduct for Professional Hunters is as follows:

1. All professional hunters shall give conservation of wildlife their top priority in all their activities and shall not do anything contrary to the generally accepted principles of conservation, whether or not these are covered in the law.
2. All professional hunters shall comply strictly with the provisions of the Wildlife Act at all times, and under all circumstances. No animal shall be shot before a licence is issued.
3. All professional hunters shall, in case of doubt, on anything, consult their management or nearest Wildlife Officer.
4. All professional hunters shall work in full co-operation with the local Wildlife Officers and Honorary Wildlife Rangers. To this end, every professional hunter shall, before entering the area of his assignment, report his presence to the Warden of that area. After his first visit he shall report to the local Wildlife Officer in charge of the area. The Wildlife Officer and members of the Professional Hunters Examining Committee shall check on the operations of professional hunters regularly.
5. All professional hunters shall adhere to the following procedures in the use of baits:
 - all animals shot for bait will have been paid for on a licence;
 - baits will be out of sight and smell from every hunting track;
 - bait will be removed immediately after the baited animal is shot. The carcasses will be destroyed and not left to be cleared by vultures or hyenas;
 - in the event of unsuccessful hunting, the baits will be removed and destroyed. The wire used to hang baits will also be removed from the site; and,
 - there will be no careless placement of baits.
6. Where professional hunters come across any baits put up by either citizens or residents, it shall be their duty in that area to bring to the attention of these non-residents and residents the code of conduct relating to baits. It shall be the duty of the professional hunters to report any hunter who contravenes this code on baits to Wildlife Officers.
7. Any professional hunter who violates the code on baits, shall have his professional hunter's licences and/or hunting licence cancelled immediately.
8. All professional hunters shall give respect and due regard to all the Wildlife Officers and other hunters operating in their areas. Under no circumstances shall professional hunters adopt the attitude of personalizing these areas as their own to the exclusion of others.
9. All professional hunters shall assist safari clients in interpreting the law correctly, and adhere to current methods of hunting. It is illegal, for example to shoot from or near a vehicle.
10. The normal working schedule of every professional hunter shall include, *inter alia*, anti-poaching patrols in his area of operation, and shall accord this exercise high priority by sparing time and resources to achieve this objective.

11. All professional hunters shall be required from time to time to complete some forms from Chilanga.

12. All professional hunters licensed to practise in this country shall be expected to display integrity and a commitment to conservation both in this country and when hunting in other countries. If the Department receives reports of any professional hunter breaking conservation laws, they shall not have their licences renewed in this country. Any malpractices connected with foreign exchange dealings, either in this or any other country, will cause the immediate cancellation of the professional hunter's licence.

13. Before any professional hunter applies for a licence, he shall:

- be required to pass examinations on Act No. 10 of 1991 and Act III of the Laws of Zambia, conducted by the Department of National Parks and Wildlife Service to ensure that the prospective professional hunter is fully versed with the laws under these Acts;
- be cleared by the Professional Hunter's Association of Zambia for a professional hunter's licence; and,
- have an offer of employment from a safari hunting company who has a valid lease agreement.

14. All professional hunters are required to give adequate surplus game meat to Wildlife Officers and the local people in order to maintain good human relations with the local communities.

15. All professional hunters shall ensure that bush fires set for hunting purposes in Game Management Areas are set before 31 July and do not stray into National Parks.

16. The following activities constitute a breach of hunting ethics and/or conduct for any professional hunter:

- shooting from a vehicle;
- hunting at night;
- giving a firearm to a minor;
- allowing the shooting of immature animals;
- failing to honour his obligations to his client or his company;
- when involved in under-invoicing, or when under-declaring or withholding information about the volume and status of animals hunted by his clients;
- using unlawful methods of hunting; and,
- any act that puts him in disrepute morally or otherwise with his client, company and/or the Government of Zambia.

PART 7

WORKING GROUP RECOMMENDATIONS

WORKING GROUP 1: ADMINISTRATION AND POLICY

1. MEMBERS:

Chairman: Director of Wildlife

Secretary: Mr C.J. Mdoe, Department of Wildlife

Mr L. Patterson, ODA Ruaha Ecosystem Wildlife Management Project

*Dr L. Saiwana, National Parks and Wildlife Services, Zambia

Hon. A. Mwinyimsa, MP for Sumbawanga

Hon. Lt Col K.C. Ngayaga, MP for Liwale

Mr W.J. Ngowo, Project Manager Rungwa

Mr C.M.K. Malima, RGO Tabora

Mr M. Abdallah, Hunters' Association of Tanzania

Mr N.L. Lilla, Tanzania Tourist Operators

Mr D. Ndagula, Department of Immigration

Mr C. Fox, Foxtreks

Mr T. Naivasha, Intercon

Mr P. Morris, USAID

Ms A.K. Starling, PAWM

2. TERMS OF REFERENCE:

General: The Working Group is provided with a list of topics upon which recommendations should be formulated. The Chairman is requested to focus and stimulate discussion and to ensure that all the relevant points are covered. There may well be areas of overlap between the discussions of working groups, but this is not problematic. The Secretary is requested to keep a record of the working group's recommendations, to report back to the full workshop upon conclusion of the working group session and to provide a written report for later use in formulating the policy and management plan.* The Resource Persons are requested to provide their advice and experience to their Tanzanian colleagues and help the Secretary to formulate recommendations, and to move between groups where necessary.

3. SPECIFIC POINTS:

- allocation of blocks, block tenure and numbers of outfitters;
- criteria to assess performance of outfitters and potential of new companies;
- licensing of outfitters and professional hunters;
- supervision of hunting in the field;
- export of trophies and its associated bureaucracy;
- general hunting permits, records and data collection requirements; and,
- achieving compatibility of resident and tourist hunting.

4. RECOMMENDATIONS:

4.1. ALLOCATION OF BLOCKS, BLOCK TENURE AND NUMBER OF OUTFITTERS:

- in the past the system of allocating blocks to outfitters was not transparent. Some companies were allocated many blocks whereas others were denied the blocks they hoped for. Furthermore, there are no clear criteria on which block allocations have been based. Therefore the group agreed to adopt a tender system in which outfitters will be required to bid for the blocks they require. A minimum number of five blocks may be awarded to one outfitter, but an outfitter can acquire as many blocks as he can bid for;
- the Department of Wildlife will be required to fix concession fees for the hunting blocks which will be categorized into Executive and Regular blocks;
- the group agreed that block tenure will be for a 5-year period, providing the outfitter conforms to the prevailing conditions. These will include management and development of the area, giving support to the local communities and so on. A committee to be set up within the Department will determine conditions and requirements for advertising the tenders by the State Attorney; and,
- the number of outfitters will be determined by the following regulations/conditions:
 - tenders shall be accepted only from reputable safari hunting companies incorporated in Tanzania;

- the tender fee must be given in US\$; and,
- the highest bidder may not necessarily win the tender.

4.2. CRITERIA TO ASSESS PERFORMANCE OF OUTFITTERS AND POTENTIAL OF NEW COMPANIES:

- the group agreed that an outfitter has to utilize 40% of the quota in order to continue hunting in the same block. New local indigenous companies will be given a grace period of three years; and,
- the concession fee payment should be effected before an outfitter begins hunting in the block at the start of the season.

4.3. LICENSING OF OUTFITTERS AND PROFESSIONAL HUNTERS:

- the group agreed that professional hunters shall be examined and licensed, and that licences can be renewed;
- the Department and Tanzania Hunters' Association will work out a syllabus and the standard requirements for the professional hunters;
- the group recommends that game trackers need to be fully licensed and reasonably paid. Trackers can also be fully licensed as professional hunters providing they attain the basic requirements for a professional hunter.

4.4 SUPERVISION OF HUNTING IN THE FIELD:

- the Department of Wildlife is responsible for sending a wildlife officer to supervise hunting activities in the bush.

4.5 EXPORT OF TROPHIES AND ITS ASSOCIATED BUREAUCRACY:

- the group believes that it is the duty of outfitters to understand the requirements of his clients and fulfil them in order to avoid embarrassment; and,
- the group believes that all trophies should be exported within three weeks of the date that the client leaves the country.

4.6 GENERAL HUNTING PERMITS, RECORDS AND DATA COLLECTION REQUIREMENTS:

- the group recommends that a comprehensive form be designed to encompass all trophy records and biological parameters.

4.7 ACHIEVING COMPATIBILITY OF RESIDENT AND TOURIST HUNTING:

- the group recommends that activities of resident and tourist hunting groups shall be restricted to specified open areas and reserved blocks only; and,
- residents who so wish should in future be allowed to hunt trophy animals within blocks reserved for resident hunters at a reduced price relative to tourist hunters.

Finally, the group examined a draft document on Conditions for Tender from Zambia and recommended appropriate changes to suit Tanzanian conditions.

WORKING GROUP 2: SETTING QUOTAS

1. MEMBERS:

Chairman: Mr E. Severre, Department of Wildlife

Secretary: Mr I. Swai, Project Manager Moyowosi

*Mr R.B. Martin, Department of National Parks and Wildlife Management, Zimbabwe

Hon. B. Losorutia, MP for Kiteto

Mr G.T. Masha, Department of Wildlife

Mr S.A. Okudo, Department of Wildlife

Mr H. Mbonde, TWEA

Mr L. Samaras, Luke Samaras

Dr R.H. Lamprey, PAWM

Mrs C. Esupu, PAWM

Mr J. Hellin, WWF

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3. SPECIFIC POINTS:

- appropriate methods for setting quotas and use of different types of quota;
- monitoring of success of quotas adopted;
- trophy monitoring and who should be responsible;
- management of the quota by outfitters;
- the biological basis of the 40% quota utilization criterion;
- assessment of the potential of blocks; and,
- ensuring quotas achieve conservation objectives.

4. PREAMBLE

- Quota setting is a very important parameter in the hunting industry where clients traditionally aim to select for prime males with large trophy size.
- Simulation models of hunting from a population can reflect the number of adult males available to be hunted. Models can be made very simple or complex depending on the resources available for their execution.
- Tanzania has budgetary limitations which requires that quota setting is achieved using basic, but cost-effective methods.
- Whatever method is used, a successful quota has to be sustainable and managed adaptively. Quotas should be set on the basis of field experience of the target population with respect to presence, absence and abundance of each species to be hunted in relation to quotas set for previous seasons.

5. RECOMMENDATIONS:

5.1 APPROPRIATE METHODS FOR SETTING QUOTAS:

Tanzania Wildlife Conservation Monitoring (TWCM) at present has responsibility for setting quotas. The group recommends that present quota setting methods should be improved by incorporating:

- available census data; and,
- questionnaires designed to collect:

- information from game scouts, who accompany hunting clients, on animal abundance, sightings, and hunting success. To complete questionnaires accurately game scouts may require a crash training course;
- information from outfitters, especially on trophy size; and,
- information from the communities living within hunting areas, in the case of Game Controlled Areas and open areas.

5.2 MONITORING OF TROPHIES AND SUCCESS OF QUOTA ADOPTED:

- the group recommends that a standard method of measuring trophy size as proposed by Safari Club International should be adopted within Tanzania. Quotas can be monitored by measuring trophy lengths and weights over time. A decrease in trophy size may signal a reduction in size of the quota to make it sustainable; and,
- in order to make data collection efficient, the hunting permit should be amended to provide space for measurements of trophy size.

5.3 MANAGEMENT OF QUOTA BY OUTFITTERS:

- the outfitters manage their quota by selling safaris of fixed lengths, each with a defined list of animals that can be hunted. Most clients take holidays of between two to three weeks. The group recommends that outfitters continue to manage the quota by selling safaris according to the set of animals stipulated on a 21-day, 16-day, 14-day and 7-day safaris; and,
- hunting can experience easy and difficult times like any other business. Currently an outfitter has to attain 40% quota utilization in order to retain a block. The group recommends the above condition should be amended to incorporate a provision which allows outfitters to pay the balance of game fees not realised to attain 40% utilization at the end of the hunting season, in order to retain the block.

5.4 BIOLOGICAL BASIS OF 40% UTILIZATION:

- after acquiring a quota which is biologically sustainable, the group believes that a 40% utilization is then also sustainable; and,
- the group recommends that, when taken alongside measures of trophy size, the 40% utilization is an alternate indicator of a biologically successful and sustainable quota.

5.5 ASSESSMENT OF THE POTENTIAL OF BLOCKS:

- block potential is directly related, among other things, to the quota issued. Clearly quotas vary for different blocks and should take account of species variety and abundance; and,
- the groups recommends that blocks should be graded of high and low potential for management purposes.

5.6 ENSURING QUOTAS ACHIEVE CONSERVATION OBJECTIVES:

- the group recommends that all Game Reserves should have a Management Plan which guides how to achieve conservation objectives; and,
- successful quota utilization clearly reflects performance of the outfitter. The group recommends that outfitters should employ local people and submit proposals for their intended inputs to conservation efforts within Game Controlled Area and Open Areas.

WORKING GROUP 3: SAFARI VOLUMES AND ECONOMIC RETURNS

1. MEMBERS:

Chairman: Dr N. Leader-Williams, PAWM
Secretary: Mr B.N. Andulege, Department of Wildlife
*Mr V.R. Booth, Price Waterhouse, Zimbabwe
Mr G. Pasanisi, Chairman Tanzania Hunters' Association
Hon. Semindu Pawa, MP for Morogoro South
Mr G.F. Mboye, Department of Wildlife
Mr B.M.N. Mvula, Department of Wildlife
Mr K.A.S. Ngomello, Tanzania Wildlife Protection Fund
Mr J.B. Kimaro, Bank of Tanzania
Mrs V. Mtefu, Board of External Trade
Mr G. Machunda, Tandala
Mr T. Schovsbo, Tanzania Game Tracker and Safaris
Mrs R.K. Tibanyenda, PAWM

2. TERMS OF REFERENCE:

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3. SPECIFIC POINTS:

- maximizing use of the quota and mixing of bags;
- marketing of safaris to increase volume;
- adoption of new safari systems;
- pricing structures, including game fees and other fee structures, and possible new fees; and,
- daily rates and their payment into Tanzania.

4. RECOMMENDATIONS:

4.1 MAXIMIZING USE OF QUOTA AND MIXING OF BAGS.

4.2 MARKETING OF SAFARIS TO INCREASE VOLUME.

The group considered the above two items together and made the following recommendations:

- Tanzania should aim at maximizing the number of hunter days from the quotas allocated. However, this should be achieved without jeopardizing Tanzania's wilderness experience or its reputation as a 21-day safari destination, nor the long-term future hunting industry of the country; and,
- operators are satisfied with the existing system of fixing the species of animals that can be shot on safaris of specified lengths. However, the group recognized that short safaris maximize hunter days and hence the revenue from the same quota allocation. Therefore, with a properly set quota, the system could change to a freer system of marketing, for example by shooting one key species on a shorter safari. In agreeing to this, however, the group recognised that it would be undesirable for Tanzania to become a supermarket for hunting safaris through marketing only short safaris.

4.3 ADOPTION OF NEW SAFARI SYSTEMS:

- the group agreed unanimously that there was no need to adopt a new safari system in order to spread utilization of blocks across the country. Instead the group recommended that the most pressing need was to allocate blocks to active companies.

4.4 PRICING STRUCTURES AND POSSIBLE NEW FEES:

- outfitters were requested to comment on the present price structure for tourist hunting in Tanzania. It was reported that clients have reservations on conservation fees and observer fees. An alternative pricing mechanism of using a right-to-use concession fee was then reviewed. The group recognised that this approach necessitates a valuation of hunting blocks for their potential and an appropriate classification, and they be allocated by tendering;
- the group also recognized that an advantage of concession fees was their potential to generate more revenue. A disadvantage of concession fees is for local companies operating from little capital, and therefore any move to concession fees may have some political implications. In contrast, the present system which operates on a pay-as-you-use basis has the advantage of accommodating operators with little capital, but was unsuitable because it generates minimum revenues and puts no onus on poor outfitters to use the block;
- there was a lack of consensus among the group, but eventually the majority recommended the use of up front right-to-use payments in the form of concession fees. Adoption of this system would require clear directives on:
 - methods of payment by instalment and whether foreign companies would pay in forex, while local companies could opt to pay the equivalent in Tshs.;
 - on lengths of long-term leases, preferably 5 years,
 - the abolition of the daily rate fees (conservation fee, observer fee), but the continuation of the game fees for animals shot; and,
 - upon introducing the system, delineating safeguards for those companies who have had and used the block effectively to retain first option on the block.

4.5 DAILY RATES AND THEIR PAYMENT IN TO TANZANIA:

- the group first discussed the present system regulating distribution of forex earned between the Government and outfitters. The present regulation operated by the Department of Wildlife was that 55% of the daily rate should be banked in Tanzania. The Bank of Tanzania (BOT) pointed out that it had made a recent regulation that 100% of forex earned by hunting companies belong to respective companies. The only condition is that the whole amount should be deposited in Commercial Banks operating in Tanzania, and account holders were then free to use it in all their various transactions;
- in order to ensure that sufficient foreign exchange is returned to Tanzania, the group recommended that the Department of Wildlife should make it a condition before renewal of licence that 55% of the revenue from daily rates is deposited in Foreign Currency Accounts in Tanzania. In order to ensure this works as an effective control mechanism, the applicant should submit a copy of bank statement when requesting licence renewal.

WORKING GROUP 4: LOCAL COMMUNITIES

1. MEMBERS

Chairman: Mr W.J. Mapunda: Serengeti Regional Conservation Strategy

Secretary: Mr I.F. Ndunguru: RGO Ruvuma

*Mr R.B. Martin, Department of National Parks and Wildlife Management, Zimbabwe

Mr S. Ng'itu, State House, Dar es Salaam

Hon. I.J.R. Iwvata, MP for Manyoni

Hon. J.J. Akukweti, MP for Tunduru

Hon. Lt Lepilall N. Ole-Mulloimet, MP for Monduli

Mr G. Bigurube, Project Manager Selous

Mr S.D. Kihale, Project Manager Maswa

Mr A. Hill, Robin Hurt Safaris

Mrs N. Mwina, PAWM

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3. SPECIFIC POINTS:

- control of allocation of hunting blocks in GCAs and OAs;
- benefits accruing to local people from tourist hunting, including fee payments through District Councils;
- involvement of local people in setting quotas;
- obligations of outfitters to local communities; and,
- responsibility of local people to outfitters using their blocks.

4. PREAMBLE

The group noted that, at present, all tourist hunting blocks are allocated by the Director of Wildlife. This is unsatisfactory and has created a lot of controversies in Game Controlled Areas and in Open Areas because they are used by villagers for other forms of land use. Furthermore, the local people have no right to manage and utilize wildlife in their areas.

In addition to Game Controlled Areas and Open Areas, two other categories of hunting area exist, namely Forestry Reserves and private land including land owned by parastatals.

5. RECOMMENDATIONS

5.1 CONTROL OF ALLOCATION OF HUNTING BLOCKS IN GAME CONTROLLED AREAS, OPEN AREAS AND ON PRIVATE LAND:

- the group agreed that enabling legislation should be drafted which gives local people the right to manage, control and receive direct benefit from wildlife. Amongst other things, this will enable local people to offer the tourist hunting rights to interested outfitters. The group believes that these rights would be liable to allocation by tender. On sale of the rights, a contract between the village and the outfitter will be made. Before this comes into operation, the boundaries of the hunting blocks must be determined by the Director of Wildlife in consultation with the local people.

5.2 BENEFITS:

At the present the local people receive no direct benefits from tourist hunting, except from one privately funded project (Cullman Rewards and Benefits Scheme). All the money from fees and

daily rates are retained by the Treasury and the outfitters, respectively. As a result the local people resent tourist hunting. The Government has decided recently that 25% of the game fees earned from animals killed in an area will accrue to the District Councils. The group queries giving the money to District Councils because it doubts that villagers will benefit from this arrangement. As an interim measure, the group recommends the 25% percent of game fees should go to the relevant villages. In the long run, the group recommends the following:

- use rights or ownership of wildlife in Game Controlled Areas, open areas and on private land should pass to the villages and landowners. In the case of Game Controlled Areas and open areas this ownership should be communal;
- local people living outside unoccupied protected areas (Game Reserves) should benefit directly, but to a lesser extent than those who live among wildlife;
- the villagers who live among wildlife should be allowed to manage and utilize the natural resource on a sustainable yield basis (balancing the ecological necessity and optimising the economic potential). The group firmly believes this will be to the ultimate benefit of conservation;
- all money earned from wildlife will be subject to normal taxation; and,
- the same concept should apply to private landowners.

5.3 INVOLVEMENT OF LOCAL PEOPLE IN SETTING QUOTAS:

Since the local people will have the right to manage and utilize wildlife sustainably it is assumed that they will take a long-term view. Accordingly, they will realize that, in order to continue earning from the resource, reckless utilization will be unwise and that it will be in their interest to save their wildlife for perpetuity. Therefore, the group recommends that following appropriate conservation education local people will be capable of deciding off takes that are sustainable. Initially, quotas made by local people should be checked and if necessary suggestions made to bring it into line with surrounding hunting blocks and wildlife populations, with assistance provided through the Director of Wildlife.

5.4 OBLIGATIONS OF OUTFITTERS TO LOCAL COMMUNITIES:

- the hunting rules and regulations as laid down by conservation legislation are to be observed at all times in local wildlife community areas, and private wildlife areas;
- any form of development of physical infrastructures in local community wildlife areas should be undertaken in collaboration with the local community concerned;
- all unskilled labour and, in the long run as much skilled manpower as possible, should be trained and employed from the surrounding villages. Notwithstanding the foregoing, the outfitter must retain the right to employ people he considers competent; and,
- surplus meat from hunting operations should be made available to the villagers.

5.5 RESPONSIBILITIES OF LOCAL PEOPLE TO OUTFITTERS USING THEIR BLOCKS:

- once the local community has agreed to the contract, villagers will ensure that the operator is allowed to hunt without interference;
- when the camps have been established the people should respect privacy of the outfitter and his clients;
- the local community wildlife committee will provide competent game scouts to supervise hunting operations; and,
- the outfitter should be granted access to such facilities as water, firewood and building materials in agreement with villagers.

WORKING GROUP 5: THE OUTFITTER AND PROFESSIONAL HUNTER

1. MEMBERS:

Chairman: Dr H. Mwangeni, Swaziland National Parks
Secretary: Mr P.K.N. Marenga, Department of Wildlife
*Dr L. Saiwana, National Parks and Wildlife Services, Zambia
Mr R.Y.N. Amasi, Acting Chief Preventive Officer
Ms M. Zacharia, Department of Wildlife
Mr D.A. Materu, RGO Kilimanjaro
Mr D. Kasunga, Department of Tourism
Mr D. Ndagula, Department of Immigration
Mr F. Wengert, Wengert Windrose
Mr E. Musanze, Flying Ibis
Mr J.A. Kayera, PAWM

2. TERMS OF REFERENCE:

General: The Working Group is provided with a list of topics upon which recommendations should be formulated. The Chairman is requested to focus and stimulate discussion and to ensure that all the relevant points are covered. There may well be areas of overlap between the discussions of working groups, but this is not problematic. The Secretary is requested to keep a record of the working group's recommendations, to report back to the full workshop upon conclusion of the working group session and to provide a written report for later use in formulating the policy and management plan.* The Resource Persons are requested to provide their advice and experience to their Tanzanian colleagues and help the Secretary to formulate recommendations, and to move between groups where necessary.

3. SPECIFIC POINTS:

- responsibilities of the outfitter;
- codes of conduct for the professional hunter;
- exams for the professional hunter;
- standards and ethics of the industry; and,
- balancing business and conservation.

4. RECOMMENDATIONS

4.1 RESPONSIBILITIES OF OUTFITTERS:

The group recommends that outfitters should be responsible for:

- marketing of safaris;
- creating a conducive hunting environment for their clients;
- observing all laws and regulations pertaining to conservation and hunting;
- participating fully in activities related to conservation of the resource, as laid down by the Department of Wildlife;
- facilitating the participation of, and accrual of benefits to, the local communities;
- maintaining the standards and ethics of the industry; and,
- recruiting and ensuring the good conduct and welfare of its employees.

4.2 CODE OF CONDUCT FOR PROFESSIONAL HUNTERS:

The group recommends that the code of conduct for professional hunters should be as follows:

- conservation of wildlife should be given top priority by all professional hunters in all their activities, and they shall not do anything contrary to the generally accepted principles of conservation whether or not covered by the law;
- all professional hunters shall comply strictly with all the provisions of the Wildlife Conservation Act, and the managerial regulations governing different sectors of wildlife management and conservation in this country;
- all professional hunters shall work in full co-operation with and show due respect to;
 - local wildlife officials: to this end, all professional hunters, shall before entering the area of his assignment; report his presence to the wildlife official responsible for the management of the area;

the other outfitters: to this end, all professional hunters shall strictly respect the boundaries of their hunting blocks relative to those of other outfitters and those of other types of land uses;

- the local communities living in or around the areas of their operation.
- all professional hunters shall assist safari clients in interpreting the law correctly and adhering to correct methods of hunting;
- all professional hunters shall first consult and seek permission of the management authority of their area before setting any bush fires or burning in hunting areas;
- professional hunters shall abide by existing regulations governing baiting, and shall use baits in a way that is not offensive to other users of the area; and,
- professional hunters will be deemed to have committed a breach of hunting ethics/or conduct if he contravenes any of the sections above. Breach of any of these sections may result in suspension and/or cancellation of the Professional Hunter's Licence or any other penalty as the Department of Wildlife considers fit. Records of any of the breach committed shall be kept by the Department for future reference.

4.3 EXAMS FOR PROFESSIONAL HUNTERS:

Professional hunters shall be registered and licensed by the Department of Wildlife once they have established their credentials with the Department. The group recommends that the following requirements should be fulfilled:

- applicants will complete application forms provided by the Department and portraying the following:
 - personal qualifications and certificates (as related to the tourist hunting industry); and,
 - evidence of not less than 3 years' appropriate field experience in African wildlife areas.
- if the qualifications of the applicant are formally accepted by the Department, the candidate will be required to sit for an examination comprising written, oral and practical sections. The setting and conduct of the examination will be undertaken by the Department of Wildlife in collaboration with relevant training institutions and the Tanzania Hunting Association, as the Department sees fit;
- newcomers wishing to join the profession, and who do not have previous experience or the necessary qualifications, shall be required to:
 - undergo in-service training with an approved outfitter registered and operating in this country; and,
 - undergo formal training to be conducted in places, times and institutions that the Department of Wildlife may direct before sitting for the examination, as in (ii) above.
- depending on the qualifications and experience of the applicant and the results of the examination, the Department will issue two types of Professional Hunters' Licences:
 - Full Professional Hunter's Licence: issued to those with extensive hunting experience and competent in dealing with dangerous game; and,
 - Learner Professional Hunter's Licence: a restricted licence issued to those not having sufficient hunting experience, particularly involving dangerous game; and finally,
- the group strongly recommends that the Department should investigate the possibilities of instituting formal training for professional hunters. The syllabus for the formal training shall be set by the Department in collaboration with the training institutions and the Tanzania Hunting Association.

4.4 STANDARDS AND ETHICS OF THE INDUSTRY:

The group recommends that those involved in the industry should adhere to the highest standards, especially with respect to the following:

- in the hiring of qualified personnel, particularly professional hunters, camp managers, cooks, trackers;
- in the use of equipment of high quality, particularly for use in communication and transport, and for camping;
- in the provision of excellent services, accommodation, catering, and health services; and,
- in adhering to high ethical standards and honesty, particularly for the following: payment of all bills, full and accurate records of all hunts and wounded animals, knowing and respecting block boundaries.

4.5 BALANCING BUSINESS AND CONSERVATION:

The group recognized that tourist hunting has two main aims: first, to promote the continued existence of the wildlife resource; second, to produce a sustainable offtake of trophies that provides economic benefits to the people of Tanzania. To enable the tourist hunting industry to run smoothly, the group recommends that:

- hunting quotas should be issued by November of each year and be adhered to by both parties;
- the Department should set quotas that have a biological basis and be ecologically sustainable. These should be based on the following:
 - intensive physical surveys by wildlife officials responsible for the management of the respective areas; and,
 - records of trophy size made by both by professional hunters and the Department and stored by the Department to monitor the population.
- blocks should be leased for 5 years renewable to enable outfitters to invest in conservation and development of their blocks;
- any change of block allocation should be notified to the outfitter with one year's notice;
- hunting species should cease in areas where the required trophy size is not being attained;
- the Department should examine the possibility of special bird shooting safaris; and,
- the group also recognises that the country obtains small financial return relative to the volume of the industry. Accordingly, the group recommends that the Department seeks the services of a resource economist to analyse the economics of the industry and to advise on appropriate fees and rates chargeable to different sources.

LIST OF ATTENDEES

Guest of Honour:

Hon. Juma Hamad Omar: Minister for Tourism, Natural Resources and Environment

Host and Chairman

Mr M.A. Ndolanga: Director of Wildlife

External and Internal Resource Persons

External

Mr V.R. Booth: Price Waterhouse Consultants, Zimbabwe

Mr R.B. Martin: Department of National Parks and Wildlife Management, Zimbabwe

Dr L. Saiwana: National Parks and Wildlife Services, Zambia

Mr L. Patterson: Ruaha Ecosystem Wildlife Management Project, ex Botswana

Mr J.J. Jackson: Safari Club International

Internal

Mr E.L.M. Severre: Department of Wildlife

Mr P.K.N. Marenga: Department of Wildlife

Mr G. Pasanisi: Chairman TAHOA

Visitors

Dr H. Mwageni: Swaziland National Parks

Mr S. Ng'itu: State House, DSM

Members of Parliament

Hon. Luten Kanali A.C. Ngayaga: MP for Liwale

Hon. Lt Lepilall N. Ole-Mulloimet: MP for Monduli

Hon. N.E.M. Kasaka: MP for Chunya

Hon. K.N. Mwiru: MP for Kilwa

Hon. S. Pawa: MP for Morogoro South

Hon. E.B. Manjale: MP for Bariadi

Hon. I.J.R. Iwata: MP for Manyoni

Hon. J.J. Akukweti: MP for Tunduru

Hon. A. Mwinyimsa: MP for Sumbawanga

Hon. B. Losorutia: MP for Kiteto

Wildlife Department Staff

Mr J.A. Kayera: PAWM

Mrs R.K. Tibanyenda: PAWM

Mrs C. Esupu: PAWM

Mrs N. Mwina: PAWM

Dr N. Leader-Williams: PAWM

Dr R.H. Lamprey: PAWM

Ms A.K. Starling: PAWM

Mr C. Masanja: PAWM

Mrs J. Abdullah: PAWM

Mr R.Y.N. Amasi: Acting Chief Preventive Officer

Ms M. Zacharia: Licensing

Mr B.N. Andulege: Tourist Hunting

Mr S.A. Okudo: Tourist Hunting

Mr G.F. Mboye: Tourist Hunting

Mr W.J. Mapunda: Serengeti Regional Conservation Strategy

Mr C.J. Mdoe: Finance and Administration

Mr G.T. Masha: Research Training and Extension

Mr B.M.N. Mvula: Research Training and Extension

Mr G.J. Bigurube: Project Manager of Selous Game Reserve

Mr W.J. Ngowo: Project Manager of Rungwa-Kizigo Game Reserve

Mr S.D. Kihale: Project Manager of Maswa Game Reserve
Mr I. Swai: Project Manager of Moyowosi Game Reserve
Mr C.M.K. Malima: RGO Tabora
Mr D.A. Materu: RGO Kilimanjaro
Mr I.F. Ndunguru: RGO Ruvuma
Mr F. Bwire: RGO Arusha
Mr K.A.S. Ngomello: Tanzania Wildlife Protection Fund

Government and Parastatal Organizations

Mr M. Abdallah: Chairman Hunters' Association of Tanzania
Mr N.L. Lilla: Executive Member, Tanzania Tourist Operators
Mr J.B. Kimaro: Bank of Tanzania
Mr H. Mbonde: Tanzania Wildlife Exporters Association
Mr D. Kasunga: Department of Tourism
Mrs V. Mtefu: Board of External Trade
Inspector General of Police
Mr D. Ndagula: Department of Immigration

Outfitters

Mr L. Samaras: Luke Samaras
Mr F. Wengert: Wengert Windrose
Mr C. Fox: Foxtreks
Mr G. Alexiou: Tanzania Bundu Safaris
Mr T. Naivasha: Intercon
Mr G. Machunda: Tandala
Mr E. Musanze: Flying Ibis
Mr T. Schovsbo: Tanzania Game Tracker and Safaris
Mr A. Hill: Robin Hurt Safaris

NGOs, Donors

Mr J. Hellin:WWF
Mr P. Morris: USAID
Mrs H. Mbuya: USAID

Occasional Papers of the IUCN Species Survival Commission

1. *Species Conservation Priorities in the Tropical Forests of Southeast Asia*. Edited by R.A. Mittermeier and W.R. Constant, 1985, 58pp. (Out of print)
2. *Priorités en matière de conservation des espèces à Madagascar*. Edited by R.A. Mittermeier, L.H. Rakotovo, V. Randrianasolo, E.J. Sterling and D. Devitre, 1987, 167pp. (Out of print)
3. *Biology and Conservation of River Dolphins*. Edited by W.F. Perrin, R.K. Brownell, Zhou Kaiya and Liu Jiankang, 1989, 173pp. (Out of print)
4. *Rodents. A World Survey of Species of Conservation Concern*. Edited by W.Z. Lidicker, Jr., 1989, 60pp.
5. *The Conservation Biology of Tortoises*. Edited by I.R. Swingland and M.W. Klemens, 1989, 202pp. (Out of print)
6. *Biodiversity in Sub-Saharan Africa and its Islands: Conservation, Management, and Sustainable Use*. Compiled by Simon N. Stuart and Richard J. Adams, with a contribution from Martin D. Jenkins, 1991, 242pp.
7. *Polar Bears: Proceedings of the Tenth Working Meeting of the IUCN/SSC Polar Bear Specialist Group, 1991*, 107pp.
8. *Conservation Biology of Lycaenidae (Butterflies)*. Edited by T.R. New, 1993, 173pp. (Out of print)
9. *The Conservation Biology of Molluscs: Proceedings of a Symposium held at the 9th International Malacological Congress, Edinburgh, Scotland, 1986*. Edited by Alison Kay. Including a Status Report on Molluscan Diversity, written by Alison Kay, 1995, 81pp.
10. *Polar Bears: Proceedings of the Eleventh Working Meeting of the IUCN/SSC Polar Bear Specialist Group, January 25-28 1993, Copenhagen, Denmark*. Compiled and edited by Oystein Wiig, Erik W. Born and Gerald W. Garner, 1995, 197pp.
11. *African Elephant Database 1995*. M.Y. Said, R.N. Chunge, G.C. Craig, C.R. Thouless, R.F.W. Barnes and H.T. Dublin, 1995, 225pp.
12. *Assessing the Sustainability of Uses of Wild Species: Case Studies and Initial Assessment Procedure*. Edited by Robert and Christine Prescott-Allen, 1996, 135pp.
13. *Técnicas para el Manejo del Guanaco* [Techniques for the Management of the Guanaco], edited by Sylvia Puig, Chair of the South American Camelid Specialist Group, 1995, 231pp.

IUCN Species Survival Commission

The Species Survival Commission (SSC) is one of six volunteer commissions of IUCN - The World Conservation Union, a union of sovereign states, government agencies and non-governmental organizations. IUCN has three basic conservation objectives: to secure the conservation of nature, and especially of biological diversity, as an essential foundation for the future; to ensure that where the earth's natural resources are used this is done in a wise, equitable and sustainable way; and to guide the development of human communities towards ways of life that are both of good quality and in enduring harmony with other components of the biosphere.

The SSC's mission is to conserve biological diversity by developing and executing programs to save, restore and wisely manage species and their habitats. A volunteer network comprised of nearly 7,000 scientists, field researchers, government officials and conservation leaders from 188 countries, the SSC membership is an unmatched source of information about biological diversity and its conservation. As such, SSC members provide technical and scientific counsel for conservation projects throughout the world and serve as resources to governments, international conventions and conservation organizations.

IUCN/SSC also publishes an Action Plan series that assesses the conservation status of species and their habitats, and specifies conservation priorities. The series is one of the world's most authoritative sources of species conservation information available to nature resource managers, conservationists and government officials around the world.

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