SPORT HUNTING IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) REGION:

An overview

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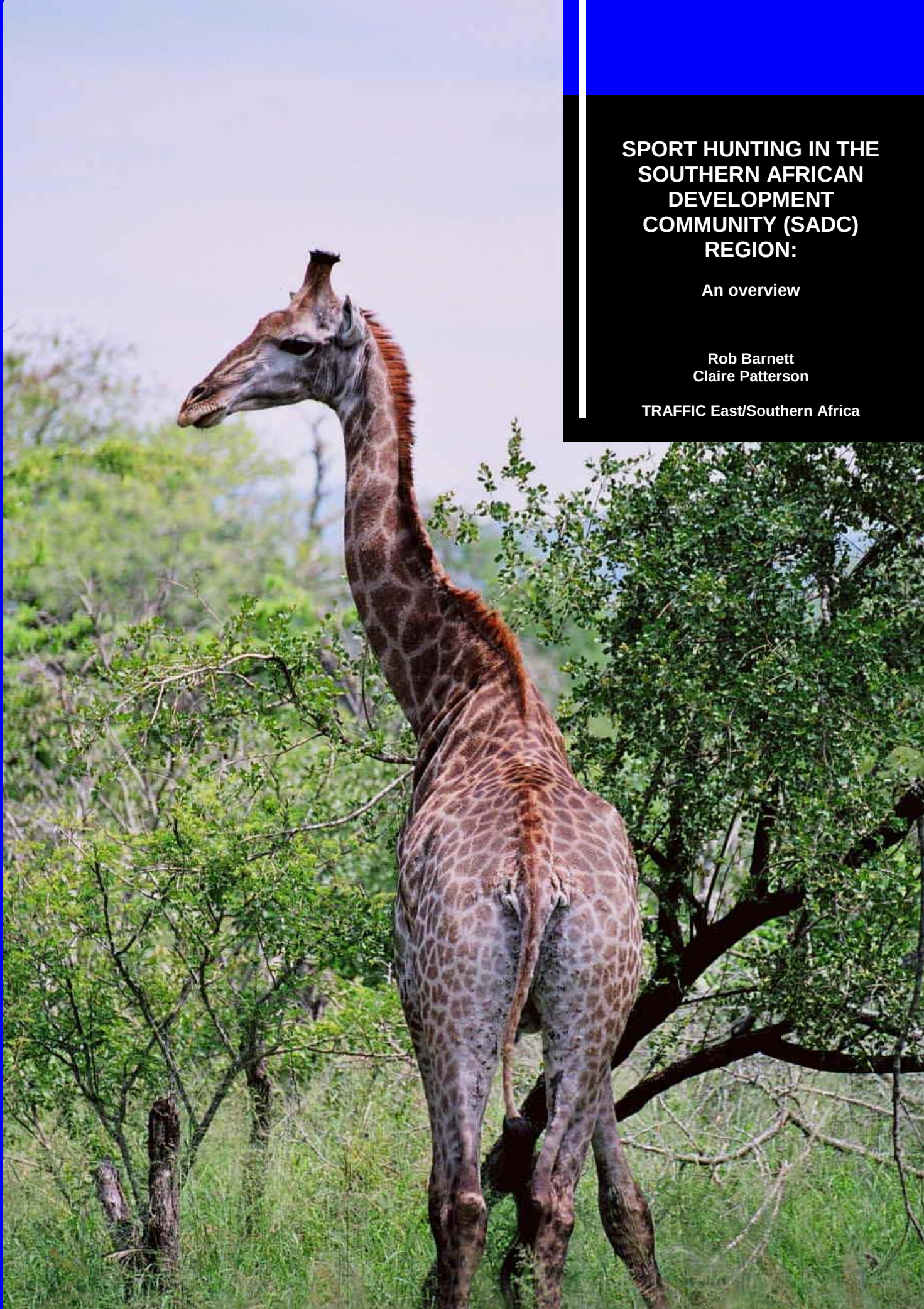
TRAFFIC East/Southern Africa



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AN OVERVIEW

Rob Barnett
Claire Patterson

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Preface

The research and information contained in this report was originally conducted by TRAFFIC East/Southern Africa in 1999-2000 under phase two of the Network and Capacity Building Initiative for Southern Africa (NETCAB) that was funded by the US Agency for International Development (USAID) through the IUCN Regional Office for Southern Africa. This component of the NETCAB programme assessed sport hunting policy, structures and management practices in five key countries in the SADC region, the results of which were originally published in 2001 with a limited regional distribution. Demand for the report, however, has superseded the original supply and TRAFFIC is responding by reissuing a slightly revised report with a large print run.

The ultimate aim of this exercise was to examine the region's sport hunting industries in detail and draw out a series of 'best practice' attributes that serve to promote not only good conservation policies and practices for wildlife in wild settings, but also to safeguard the economic viability and sustainable development potential of the industry in a world of competing interests and agendas. Whilst most cultures around the world have deep-rooted hunting traditions, certain contemporary notions about wild animals and animal rights give rise to a much more challenging global environment today. Consequently, hunting ethics are under scrutiny as never before and a high standard of 'best practices' over a broad spectrum is demanded to satisfy critical review. Sport hunting industries must not only demonstrate solid conservation and ethical credentials, but also exhibit good governance, transparency and accountability in terms of how they operate. Wherever possible, sport hunting must also play a positive role in creating a recognised national value for wildlife, its required habitat, and in supporting the livelihoods of Africa's rural poor.

While it needs to be appreciated that this report is a somewhat dated, time-based snapshot of key sport hunting industries in southern Africa in the late 1990s, it nonetheless offers a platform from which to draw out important lessons learned and 'best practices' that remain just as relevant today. While acknowledging that Africa's sport hunting industry is dynamic and ever-changing, reissuing this report now serves a very useful purpose in understanding a range of underlying policies and practices in SADC at a time when the adoption of a generic regional 'best practice' standard still remains an elusive goal. Readers need to be cautioned that individual circumstances have significantly changed in some countries, especially South Africa and Zimbabwe, where major policy changes and land reform initiatives have transpired in the interim. Still, the need for 'best practice' guidelines remains a paramount concern. Understanding from where the region's sport hunting industries have come is a necessary step in arriving at well-reasoned and credible solutions for future application. It is hoped that reissuing this study at this time will not only stimulate timely discussion, but also progress an agenda to develop and agree a regional 'best practice' standard as a positive contribution to sport hunting in the SADC region.

Tom Milliken
Director, TRAFFIC East/Southern Africa
15 September 2006

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EXECUTIVE SUMMARY

Most of the countries making up the South African Development Community (SADC) are classified as 'developing' nations and are characterised by high population growth, limited industrial and tertiary industry, high unemployment, and a Gross Domestic Product (GDP) per capita that is well below the poverty level. These countries are, however, blessed with an abundant natural resource base, including (in most cases) a dynamic wildlife sector. In fact, wildlife-based land use and industry offers real potential throughout the region as a viable development option, especially for rural communities with few other competitive advantages in today's globalised world.

Traditionally, Africa's natural resources were used to support the livelihoods of rural people throughout the region. Wildlife benefits accrued either directly in the form of meat and hides or, more recently, indirectly through eco-tourism ventures or photographic safaris. Unfortunately, the legacy of colonialism, which introduced socially unacceptable wildlife policy and land tenure regulations, still prevents many local people from benefiting from the natural resources around them, yet expects them to accept any negative consequences without question. Growing human populations and a host of development pressures, however, have resulted in many people resorting to methods considered illegal by the government when accessing the natural resource base around them.

Within the SADC region, governments have increasingly come to realise that without the support of local communities, conservation efforts are bound to fail. In the absence of benefits, people living in poverty are unwilling and unable to look after natural resources wisely. In some cases, governments have initiated processes to transfer ownership of wildlife, land use rights and decision-making responsibilities to local communities. The majority of such programmes have involved the integration of wildlife with other land use options, such as crop and livestock production. This strategy has allowed for multiple uses and the generation of maximum revenues. For example, the rights to utilize certain animals could firstly be 'sold' for photographic safaris or wildlife viewing, secondly to a hunter as a trophy or for *biltong* and, thirdly, its meat and/or hide could be sold or utilised by local communities. Significant successes have been achieved through such initiatives with multiplier effects, especially where sport hunting is a feature in the equation.

Sport hunting is the hunting of an animal, generally by a foreign tourist, for its trophy value. Throughout the region, such hunters typically come from the USA or Europe. As sport hunting is primarily motivated by the thrill of the hunt and the subsequent acquisition of a take-away trophy, it can be carried out on land that is less scenic than that demanded for wildlife tourism. Further, the standard of accommodation and other infrastructure offerings can usually be far more 'rustic' in keeping with the less intrusive requirements of a rugged 'bush' experience. This allows for a greater diversity of land to be set aside for wildlife-based industries. Consequently, in 2000, southern Africa offered some 420,000 km^2 of communal land, 188,000 km^2 of commercial land, and 420,089 km^2 of state land for sport hunting purposes. And finally, sport hunters are also less influenced by political events than other tourists, allowing for greater reliability in terms of sustaining constant revenue generation.

Although sport hunting has the potential to raise significant sums of foreign income for a country, like anything else that involves money, the industry can be subject to abuse, corruption and mismanagement. In Africa, the very low salaries paid to wildlife personnel and the lack of transparent and accountable oversight processes exacerbate this vulnerability. While individual countries strive to assume a competitive advantage and fulfil a unique niche in terms of the species on offer, competition within the industry can be intense. In fact, there are usually a large number of potential operators but a limited number of hunting concessions available. The demand for good quality trophies increases the pressure on hunting operators to secure productive hunting concessions. The methods used to secure such concessions and to hunt suitable trophy animals can go beyond what is considered ethical, for example so-called canned hunts have become common in South Africa raising concerns over the principle of fair-chase. Similarly the practice of breeding colour varieties, translocating game to areas outside of their natural distribution, and cross-breeding species is also practices by some game farm owners. On occasion, corrupt or unsustainable practices have led to the temporary or permanent closure of the industry in certain countries, for example Tanzania, Kenya and Zambia. Indeed, international and national critics of sport hunting, especially individuals or groups that are philosophically or fundamentally opposed to all forms of sport hunting, point to ethical lapses or corrupt practices to discredit the industry as a whole.

In 1999, TRAFFIC East/Southern Africa was contracted under the USAID-funded Network and Capacity Building Programme (NETCAB) to conduct an overview assessment of the sport hunting industry in the SADC region. The two-year project transpired at a time when many pressing issues were impacting on the industry, including the recent imposition of sport hunting bans in some countries, the withdrawal of predator quotas in others, experimentation with the transfer of management structures to community-based institutions, and continuing problems with monitoring, administration, quota setting and land tenure issues. The project aimed to document and assess the experiences of various countries with a view towards developing generic 'best practice' guidelines that could serve as a regional model to underpin and safeguard the industry in the future.

The project aims were achieved through a comprehensive assessment of the parameters, dynamics and status of the sport hunting industries in five SADC countries namely, Botswana, Namibia, South Africa, Tanzania and Zimbabwe. These five target nations constitute the main sport hunting countries in the region, and all have long, if not unique, histories in terms of sport hunting policy and management experience. The study was underpinned by a comprehensive review of available literature and in-country field research and consultation with key stakeholders throughout the region.

To present the principal findings of this assessment and to provide a forum with which to share the management experiences of various countries, TRAFFIC organised a "Sport Hunting in the SADC Region" workshop in 2001. Attended by key stakeholders from government, industry and conservation organisations in Botswana, Mozambique, Namibia, South Africa, Tanzania, Zimbabwe and Zambia, a first attempt to develop 'best practice' guidelines for the sport hunting industry was attempted. It is worth noting that Mozambique and Zambia were not part of the TRAFFIC assessment, but both countries are now engaged in the development of sport hunting industries. This effort clearly benefited from the experiences, successes, failures and lessons learned from key players throughout the SADC region. The outputs of the workshop included:

- a summary of the main issues and constraints facing each of the seven countries with sport hunting industries;
- a discussion of key management themes such as monitoring, administration and quota setting;
- the first-cut development of "best practice" guidelines; and,
- a strategy for catalysing the implementation of country-specific action orientated solutions.

The importance of the game industry to the economies of some countries is phenomenal, particularly when non-consumptive (i.e. wildlife viewing) and consumptive (sport hunting, licensed resident hunting) are taken into account. For example, in the latter 1990s, Zimbabwe raised some USD254 million through sport hunting, followed by South Africa at USD140 million and Tanzania at USD100 million (Barnes, 1996; ZTA, 2001). In some instances, this contributed significantly to the GDP of certain countries, for example, sport hunting revenue in Zimbabwe contributed some 8% to the country's GDP (ZCSO, 2000). In some countries, this income is expected to increase in the near future, possibly even double, even in the absence of government grants (Bond, 1997).

With annual revenues of USD29.9 million in Tanzania, USD28.4 million in South Africa, USD23.9 million in Zimbabwe, USD12.6 million in Botswana and USD11.5 million in Namibia during the late 1990s, sport hunting is responsible for a large component of economic growth. Initially, most sport hunting revenue accrued to government and private landowners, however, more recently, an increasing proportion of such revenues has been apportioned between these two sectors and local communities.

The anticipated growth of the sport hunting industry relies on several factors, namely the diversity of species on offer, the quality of trophy animals available and the quality of professional hunters and associated tourism services (Jackson, 1995). In 2001, South Africa was the only country that offered the 'big five' - elephant, rhino, buffalo, lion and leopard – as huntable species, but Tanzania was regarded as the most scenically beautiful destination with record-winning lion, leopard and buffalo trophies. Alternatively, Namibia offered the most cost-effective hunting of plains game and some unique endemic species, while Botswana and Zimbabwe consistently supplied the best quality elephant trophies. Accordingly, each country had something unique to market to potential hunters from around the world.

To remain lucrative, the management of the sport hunting industry should focus upon realising maximum conservation, economic and social benefits from the hunting resource, while ensuring good governance and accountability. Management protocols vary from country to country with differing emphasis on private, community and governmental management structures. The function of these structures is to ensure that standards are maintained, and that monitoring and administrative systems are robust and operative so that informed management decisions can be consistently made. The following 'best practice' guidelines are suggested:

1. Maintaining Quality and Standards of the Sport Hunting Industry

- Minimum trophy quality sizes and standards determined – The lack of long-term tenure security over many hunting concessions has prompted unsustainable over-hunting of certain lucrative species, resulting in inferior trophy quality animals, especially in State and communal land concession areas. Where they do not exist, trophy quality sizes and standards need to be established.
- Wildlife hunting regulations enacted and enforced – The ability of countries to enforce regulations developed to maintain the sustainability of hunting, and to set standards for ethical hunting, differs widely. The use of community based natural resource management (CBNRM) programs which provide incentive for community game scouts to accompany hunting safaris should be encouraged. Canned and put-and-take hunting practices should be condemned.

- Professional hunting associations formed – Each country should ensure that a national hunting association exists and is empowered to promote ethical hunting and professional standards of hunters in a standardised manner throughout the SADC region.
- Professional hunting training courses held – Sport hunting training courses should be a feature in each country to provide opportunities to citizen hunters to gain the experience necessary to become professional hunters and improve individual hunting skills.
- Professional hunter standards established – Conforming to a regional minimum standard, each country should establish professional hunter standards through comprehensive programmes offering both theoretical and practical examinations. Hunters that pass these examinations and successfully serve an apprenticeship should become registered with the national hunting association and government before being allowed to conduct hunts professionally.

2. Monitoring and Administration of the Sport Hunting Industry

- Monitoring systems developed and implemented – The information and data generated through sport hunting needs to be part of an active monitoring system. Such a system should feature routine and effective analysis of available data to ensure that subsequent management decisions are informed, as well as provide timely feedback for adaptive management purposes.
- Data collection forms standardised – To support the monitoring systems, data reporting formats should be simple, clear and streamlined to facilitate the collection of data from key stakeholders. These forms should include financial and biological information necessary for the effective management of the sport hunting industry at the national level. If possible, where different government departments have data collection requirements, an attempt should be made to streamline everything into a single, all encompassing form. Standardisation at the SADC level is an option that should be explored thoughtfully.
- Hunt return registers submitted – Hunt return forms are an essential component of any effective monitoring system by providing data on a range of important issues, such as effort vs. success rates, the quality of trophies and off-take rates. An effective means to ensure that hunt return information is regularly submitted is to require proof of submission as the basis for applications for trophy export permits. Similarly, compliance with hunt return regulations should form part of the requirement for renewing hunting permits and licences.

3. Quota Setting

- Quota setting processes and procedures established – The process and procedure for establishing annual hunting quotas should be clearly delineated, transparent and accountable. There may be different policies or procedures for different species or industry stakeholders (private landowners, communal land areas or government concessions), but in all cases quota setting requirements should be established according to a set procedure and under some kind of supervisory control by central government but involving key stakeholders.
- Compliance with CITES demonstrated – CITES is the world's leading policy instrument for international trade in wildlife. From time to time, through collaborative discussion and agreement at its Conference of Parties, quotas are established for certain species, including specific reference to sport hunted trophies. Compliance with these, and all other CITES requirements, should be implemented at the national level.
- Management capacity demonstrated – There is a need to ensure that viable and demonstrable management capacity exists for each hunting concession area. This requirement is especially important in instances whereby private sector concession owners are allowed to set and approve their own quotas for hunted animals and have ownership rights over their own resources.
- Information and data collected and analysed – To set quotas effectively, there is a need to use various sources of information and data, including indices such as population size, status and trends, sex ratios, frequency of sightings, problem animal control records, catch effort and trophy quality (i.e. size). Using information and data relevant to a specified hunting block or concession is a vital part of ensuring sustainability in the long-term, and realising critical engagement and buy-in from stakeholders.
- Information sources agreed and standardised – The type of information and information sources required for quota setting should be standardised to the extent possible. For example, aerial or ground surveys, catch effort and trophy quality data, and anecdotal information may all be used to triangulate the most reliable indication of population trends and then be used adaptively to determine the quota.
- Monitoring systems established – Monitoring systems should collate critical data and information necessary for effective quota setting. These data should include past hunting off-take records, aerial and/or ground population census data, trophy quality, and financial and biological indicators.
- Trophy quality data recorded and analysed – Trophy quality is an excellent indicator of population status. It should be a requirement in the quota setting process that such data is available, analysed and used proactively in the context of adaptive management practices.
- Quota approval necessary – Once management capacity is established, the responsibility to approve quotas should be clearly established. Where land use rights devolve wildlife management responsibilities to land holders in private and communal lands, government oversight and approval procedures need to be clearly established.

4. Maximising Economic and Social Benefits from the Sport Hunting Industry

- Transparent mechanism for allocation of hunting concessions adopted – Failure to adopt a transparent and fully accountable process for the allocation of hunting concessions in government or communal land areas inevitably invites allegations of corruption, cronyism or mismanagement. Concession tender processes should allow for a high degree of competition between safari operators and be designed to ensure maximum financial benefit to public landowners, foreclosing on any potential for 'back door' arrangements or deals that end up rewarding individuals rather than government and/or communal stakeholders. Open tender processes and public auctions have been used successfully in different countries in the region and should be encouraged.
- Screening criteria for hunting operators developed and used – To ensure that potential sport hunting operators are well-qualified to finance and conduct professional hunting operations, and that they will adhere to ethical hunting practices, a series of screening criteria should be applied to all applicants who seek allocation of a concession. Application of both technical and financial criteria would necessarily make certain players ineligible for consideration from time to time. Screening practices should ensure that individuals who have violated rules and regulations in the past no longer are eligible for licenses to operate.
- Annual reporting and accounting of revenues practised – Good governance practises should require that financial transactions, especially those involving government and communal landowners and which become part of public sector budgets, be subject to appropriate audit oversight and public scrutiny to ensure accountability.
- Hunting packages marketed effectively – The composition of species and the duration of each hunting package is instrumental in providing a balanced hunt that maximises revenues and client satisfaction.
- Government hunting fees revised periodically – Fees should be established according to the open market value of trophy animals and revised from time to time to ensure maximum revenue.
- Hunting tenures set – The length of time that individual hunting concessions are held and the security associated with such tenure has a direct bearing on the amount safari operators are willing to invest in the protection of the concession and the development of CBNRM programmes. Long-term tenure commitments should be encouraged to promote maximum investment in the resource base and local communities.
- Revenue retention – The allocation of revenues to those who own the hunting resource should be promoted with a requirement that a proportion of revenue should be banked in-country.

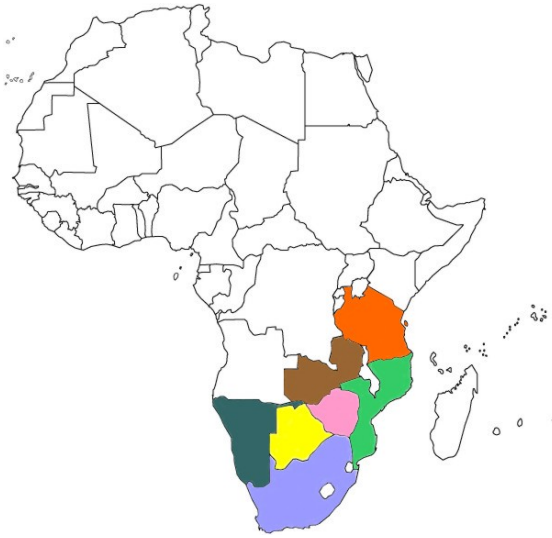
The region's sport hunting industry, and its ability to contribute to the development of local communities, is sensitive to a number of factors. For example, political instability, social unrest or crime can influence tourism negatively. In such situations, sport hunting suffers to a lesser extent than other forms of tourism, however, security concerns or debilitating annoyances such as chronic fuel shortages are nonetheless negative factors impacting on the industry. Events beyond the control of the region can also seriously impede the viability of sport hunting. For example, restrictive legislation in the country of residence of potential hunters can result in import bans on certain species, leading to major revenue losses in countries that offer the same species as part of managed sport hunting programme. Furthermore, adverse publicity from anti-hunting lobbies also affects the sport hunting industry and has the ability to retard the development of the industry.

In the 'best case' scenarios, sport hunting is an important industry that underpins the conservation of species and their habitats as viable land uses which contribute to the livelihoods of many people and the national economies of sport hunting countries. Benefits from this industry are increasingly being distributed to rural poor through CBNRM programmes and those communities are showing a greater commitment to the conservation of wildlife. On the other hand, the management of the industry is, in some cases, still poor and open to abuse and corruption. Transparency is needed in the allocation of concessions and in the setting of hunting quotas, and instances of unethical hunting practices need to be eliminated. In order to achieve effective, sustainable and lucrative hunting industries in the SADC region, considerable effort is still needed from both governmental and non-governmental stakeholders. Drawing upon the lessons from the region and implementing 'best practice' guidelines is an important step to ensure the long-term viability of the sport hunting industry at a time of increasing global oversight and accountability.

GLOSSARY

BLDC	Botswana Livestock Development corporation
BOCOBONET	Botswana Community-Based Organisation Network
BWMA	Botswana Wildlife Management Association
BWP	Botswana Pula
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBE	Community Based Tourism Enterprises
CBNRM	Community Based Natural Resource Management
CBO	Community Based Organisation
CCF	Community Conservation Fund
CFU	Commercial Farmers Union (Zimbabwe)
CHA	Controlled Hunting Area
CHASA	Confederation of Hunters Associations of South Africa
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMA	Community Management Area
DNPWLM	Department of National Parks and Wild Life Management (Zimbabwe)
DWNP	Department of Wildlife and National Parks (Botswana)
ECGMA	Eastern Cape Game Management Association
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GTZ	Gesellschaft für Technische Zusammenarbeint
IRDNC	Integrated Rural Development and Nature Conservation
IUCN	The World Conservation Union
LIFE	Living in a Finite Environment
LSCF	Large-Scale Commercial Farm
MET	Ministry of Environment and Tourism (Namibia)
MTNRE	Ministry of Tourism, Natural Resources and Environment (Tanzania)
NACOBTA	Namibian Community Based Tourism Association
NAD	Namibia Dollar
NAPHA	Namibia Professional Hunting Association
NDP 8	Botswana *National Development Plan VIII*
NEMA	*National Environmental Management Act 107 of 1998* (South Africa)
NETCAB	Network and Capacity Building Programme
NGO	Non-Governmental Organisation
NRMP	Natural Resource Management Programme
NSPCA	National Society for the Prevention of Cruelty to Animals (South Africa)
PAWM	Planning and Assessment for Wildlife Management (Tanzania)
PHASA	Professional Hunters Association of South Africa
RAD	Remote Area Dweller
RAO	Recommended Allowable Off-take
RDC	Rural District Council
SADC	South African Development Commission
SANParks	South African National Parks
SAPHCOM	South African Professional Hunting Committee
SCI	Safari Club International
TAHOA	Tanzanian Hunting Association
TAWICO	Tanzanian Wildlife Corporation
TWPF	Tanzania Wildlife Protection Fund
USAID	US Agency for International Development
USD	US Dollar
wBRC	Wildlife Biological Breeding Centre
WESSA	Wildlife and Environment Society of South Africa
WMA	Wildlife Management Area
WPA	Wildlife Producers Association
WWF	WWF, the conservation organisation
WWF-SARPO	WWF- Southern African Regional Programme Office
ZAR	South African Rand
ZWD	Zimbabwe Dollar

INTRODUCTION



Map of Africa showing the countries covered in this report

Courtesy of the General Libraries, The University of Texas at Austin

The African continent continues to face social problems resulting from increasing population growth that has seen a doubling of the continent's human population over the last two decades. At the same time, the continent continues to get poorer due to a limited industrial and tertiary industry base, and the ability to create formal wage employment. In the South African Development Community (SADC) region, outside of a few developed countries such as the Republic of South Africa, most countries are classified as 'developing' with a Gross Domestic Product (GDP) per capita well below the poverty level.

Within this socio-economic context, many SADC countries are endowed with abundant natural resources that have traditionally sustained the livelihoods of many of the region's people. Government has long recognized the importance of natural resources and wildlife populations in generating substantial revenues to the national economy through wildlife-based tourism. As human populations and poverty levels have grown, however, the interests of people struggling to eek out a living, and those of government, have increasingly come into conflict. In desperation, people have increasingly exploited a fast disappearing resource due to the absence of alternatives in the form of formal wage employment or informal micro-enterprise activities. In many cases this has been exacerbated by inappropriate wildlife policy and land tenure laws, which have alienated local people from the wildlife resource and its wise management.

Increasingly, over the past thirty years, governments throughout the region have begun to realise that without the support of local people, centrally motivated efforts to conserve wildlife are doomed to failure. Recognising that poor people need to obtain economic benefits from a resource before they become willing to expend time and effort into looking after it, governments have gradually begun to transfer wildlife ownership and user rights to land-owners and local communities. Such an enabling environment not only provides incentive by allowing land-owners and communities to obtain wildlife benefits directly, but also ensures security of ownership. This, in turn, has resulted in significant conservation successes throughout the region.

The central tenet of this approach has been to allow wildlife to compete economically with other land uses such as crop and livestock production. In a region that is almost three quarters comprised of infertile arid lands, wildlife, which has evolved under such harsh conditions, often stands a better chance of out competing other introduced land uses. As habitat loss, together with unsustainable exploitation, is one of the prime causes for wildlife declines, making wildlife economically viable as a land-use has been the approach of many countries in the SADC region to conserve its wildlife and promote development of its people.

As the most lucrative wildlife use option, it can be argued that sport hunting has been the steam engine for the implementation of this wildlife policy throughout the SADC region. Indeed, early research conducted during the 1960s in Zimbabwe and South Africa (two of the leading proponents of this conservation approach), clearly showed that using wildlife for say, meat and hide production alone, would not result in sufficient economic returns to out compete livestock or crop production even in semi-arid areas, where wildlife was thought to have the comparative advantage. It was not until the emergence of commercial wildlife viewing and sport hunting that more lucrative use options became available to land owners and wildlife began to economically out-compete alternative land uses.

One of the comparative advantages of wildlife over other land uses is that wildlife offers multiple use options. A wild animal can, firstly, be sold to a wildlife-viewing tourist for the privilege of photographing it, secondly, to a tourist sport hunter for the right to hunt it, and thirdly, its meat and hide can be sold after a hunter takes the trophy. When utilising the full range of uses, the economic returns achieved soon lead to large tracts of private and communal land throughout the region being made available to wildlife.

Sport hunting has played an integral role in this renaissance. Whilst non-consumptive wildlife viewing has certainly played a role in securing the future of wildlife, sport hunting, as a high-return, low-impact wildlife use, has been responsible for providing incentives to sustainably manage and conserve wildlife throughout larger, more remote, areas of the region. In general, wildlife viewing requires scenically beautiful wild areas uninhabited by people, the

availability of “big five” game species and a high level of services infrastructure. This is only available in a small percentage of the region’s remote wildlife areas.

Sport hunting, on the other hand, as an activity primarily motivated by the acquisition of trophies and the thrill of the hunt, is less concerned with the scenic beauty, services infrastructure and the availability of big game in uninhabited wild areas. Tourist sport hunters are interested in hundreds of species, and are not adverse to hunting in communal lands that are cohabited by wildlife and people. The result is that sport hunting by tourists is a highly lucrative use option, open to the majority of communal and private lands in the SADC region. In addition to being the primary incentive for conserving wildlife over large areas of the region, sport hunting tourists have also been shown to be less susceptible and concerned by political instability, which unfortunately remains a common occurrence in the region. Where an isolated riot in a neighbouring country may spark mass cancellations from the wildlife-viewing sector, sport hunting tourists remain “thick skinned” and are less inclined to cancel hunt bookings.

Whilst the advantages of sport hunting in the SADC region are clear, there also exists the potential for management abuse, resulting in the unsustainability of the sector. As a very lucrative industry occurring in poor developing countries, the potential for corruption and mismanagement is always apparent. This is especially so when considering the very low salaries offered to wildlife personnel charged with the regulation of an industry worth many millions of USA dollars.

The industry is also extremely competitive within the region, with considerable numbers of safari operators vying for a small and finite number of hunting concessions. The pressure to provide quality trophies to hunting clients who only have a few days to hunt in such a competitive environment often leads safari operators to step over the mark with regards to securing the better hunting concessions, and in ethically hunting trophy animals. Indeed, the industry has suffered in the past from such abuses and mismanagement, with Tanzania banning sport hunting between 1973 and 1977, Kenya banning the industry in 1978, and, more recently, Zambia imposing a moratorium on sport hunting in 2000.

METHODOLOGY

While the sport hunting industry has the potential to achieve both conservation and development goals, there is also the potential for abuse. TRAFFIC East/Southern Africa (TESA) was sub-contracted in 1999 under the US Agency for International Development (USAID) -funded Network and Capacity Building Programme (NETCAB) to conduct a two year assessment of the sport hunting industry in the SADC region. As the industry faced many pressing issues, such as recent bans, the withdrawal of predator quotas, the possible transference of management structures to community-based institutions, land tenure issues and continuing problems with monitoring, administration and quota setting, it was felt that the time was opportune to assess the industry from a regional perspective.

In many cases, because countries continued to work in isolation from each other in developing policies, processes and management systems for their sport hunting industries. the same mistakes would be repeated over and over again. Lessons learned from neighbouring countries were often ignored, and new policies and management systems were frequently developed in isolation from the tried and tested approaches of other SADC countries. Consequently, this project has aimed to document the experiences, successes, failures and lessons learned from the management of the sport hunting industry in the SADC region. It was hoped that new and emerging sport hunting countries such as Mozambique, or countries which had recently imposed a moratorium on hunting such as Zambia, could establish or improve their own policy or management frameworks by drawing upon the collective regional experience.

The project aimed to achieve this objective through assessing the parameters, dynamics and status of the sport hunting industries in five SADC target countries namely, Botswana, Namibia, South Africa, Tanzania and Zimbabwe. These countries constituted the main sport hunting countries in the region, with the longest histories in sport hunting policy and management experience. This phase of the project entailed the implementation of a regional literature search, and in-country field research and consultation with key stakeholders in the target countries.

In 2001, at the conclusion of the project, a "Sport Hunting in the SADC Region" workshop was hosted by TRAFFIC and attended by key stakeholders from the industry in the following seven SADC countries: Botswana, Namibia, South Africa, Tanzania and Zimbabwe. Mozambique and Zambia were included in the workshop because they had expressed a desire to develop a sustainable trophy hunting industry. The aim of the workshop was:

- to provide a synopsis of the region's sport hunting industries;
- to share the management experiences of these countries; and,
- to develop a 'best practices' guideline for the management of the sport hunting industry that draws upon the experiences, successes, failures and lessons learned from the region.

The workshop was structured around short presentations on the sport hunting industries in the seven SADC countries. Each presentation provided a synopsis of the current status and constraints of the industry, and suggested a way forward with regard to key management issues such as monitoring and administration, quota setting, maximizing economic returns, and community-based programmes. The workshop also made a cursory attempt to develop 'best practices' guidelines for key management themes identified during the workshop.

The outputs of the workshop included:

- a summary of the main issues and constraints facing each of the seven countries hunting industries;
- key management themes such as monitoring and administration and quota setting;
- the first-cut development of a "best practice" guideline; and,
- a strategy for catalyzing the implementation of country specific action orientated solutions.

The SADC regional sport hunting assessment for the five target countries are provided in the country accounts of this report. Following is the comparative analysis of the regional sport hunting industry, together with the outputs and recommendations of the workshop, and the "best practice" guidelines for key sport hunting management issues.

All prices were converted to USD at the appropriate exchange rate at the time the data were collected. For this, the foreign currency exchange website: http://www.oanda.com/convert.classic was used. In addition, the local currencies, the Botswana Pula, the Namibian Dollar, the South African Rand, the Tanzanian Shilling, and the Zimbabwe Dollar are listed next to the converted USD price where appropriate. It should be noted, however, that hunting outfitters and taxidermists usually advertise their prices in US Dollars.

This report was originally issued with a limited distribution in 2002, but popular demand rapidly outpaced the availability of the original report. To heed the numerous requests TRAFFIC has had for this report, a slightly revised version is now offered herewith.

SPORT HUNTING IN THE SADC REGION

All the countries assessed in this report allow both non-consumptive (i.e. wildlife viewing) and consumptive (i.e. licensed resident and tourist sport hunting, and the cropping and culling of game for meat production) uses of wildlife. These practices are fully incorporated into wildlife policy and legislation. The resulting economic values of such industries are substantial, with Zimbabwe leading the region with an estimated value of some USD254 million, followed by South Africa at USD140 million and Tanzania at USD100 million during the latter half of the 1990s (Barnes, 1996; ZTA, 2001).

The wildlife sector contributes significantly to the GDP of many countries, contributing some 8% in Zimbabwe and 2.7% in Namibia and, in most countries, is responsible for bringing in a considerable proportion of foreign currency earnings (ZCSO, 2000). In a region characterised by growing human populations, decreasing standards of living and limited tertiary industries and formal employment, the wildlife sector in many countries represents one of the few healthy and expanding industries (Jones, 1995).

In Tanzania, Zimbabwe, South Africa and Botswana, the wildlife sector has grown considerably during the past decade, whilst in Namibia, its importance to the national economy is expected to double over the next 10 years. Even more remarkable is the fact that the wildlife sector, in contrast to agriculture or livestock production, has been able to achieve this success even though it receives little in the way of government subsidies and grants (Bond, 1997). The importance of wildlife to both the local and national economies of the region is also set to increase, especially as other traditional sectors such as agriculture and livestock production experience reduced productivity as a result of range degradation and the eventual end of preferential access to the European domestic meat market under the *Lome Accord*.

Trophy hunting has been responsible in large part for the expansion and continued growth of the wildlife sector in the SADC region (NAPHA, 2000). In the target countries examined, direct annual sport hunting revenues were substantial at some USD29.9 million in Tanzania, USD28.4 million in South Africa, USD23.9 million in Zimbabwe, USD12.6 million in Botswana and USD11.5 million in Namibia during the later half of the 1990s (**Table 1**).

Table 1

Regional overview of sport hunting in the South African Development Community (SADC) region

Country	Annual value (USD millions)	No. of tourist hunting clients	Av. costs of 21-day hunt (USD)	No. animals sport hunted/quota	Key renowned trophy species
Namibia	11.5	3 674	7 745	17 791 hunted	Oryx, kudu, hartebeest, springbok
Botswana	12.6	339	23 100	2 505 hunted	Lion, elephant
South Africa	28.4	-	9 450	24 626 hunted	Plains game species, and 'big five'
Zimbabwe	23.9	450	16 800	10 112	Elephant
Tanzania	29.9	1 112	31 990	7 034	Buffalo, lion, leopard

Source: BWMA, 2001; DSS, 2001; Humavindu, 2001; PAWM, 1995a,c; WPA, 2000; ZTA, 2000; DNPWLM, 2001; DNPWLM/WWF NP9 Database, *in litt*., 2001; C. Hoogkamer, SAPHCOM, *in litt* to TRAFFIC East/Southern Africa, July 2001;
Note: Total value of sport hunting industry per year is for direct revenue generated and does not include multiplier induces.

Although contributing much less then the non-consumptive wildlife viewing sector, for example USD24 million verses USD202 million in Zimbabwe, most wildlife viewing revenues accrue to government in the protected areas sector, whilst a larger proportion of sport hunting revenues go directly to land owners in the private and communal sector (Jones, 1995). Indeed, sport hunting is often the only land use that actually benefits remote and under-developed rural areas, making it especially important as the economic engine for achieving social objectives and wildlife conservation in the region's communal areas.

The global demand for big game sport hunting is believed to be extensive, with the USA alone estimated to have some 11 million big game hunters in 1996 (USFWS, 1996). Such demand is also present in Europe where Anon (2005) reports the existence of 6.8 million registered big game hunters, of which 1.3 million are believed to hunt abroad at least occasionally.

Although the proportion that would like to hunt in Africa is unknown, it is likely that demand will never be a constraining factor to the growth of sport hunting in the region (Bond, 1997). Demand is such that safari operators buy each and every trophy animal offered in the region, leaving a healthy unfulfilled demand, which has caused a steady

increase in prices (Child, 1990a). Although there are believed to be 85 sport hunting countries in the world, which offer around 180 different game species, southern Africa region boasts a suite of renowned and sought after species making it one of the premier hunting destinations in the world.

The southern African region has some 420 000 km^2 of communal land, 188 000 km^2 of commercial land, and 420 089 km^2 of State land with wildlife potential for sport hunting. As sport hunting is the most lucrative wildlife use option, and requires lower wildlife densities than non-consumptive tourism, it is often the first revenue generating activity to be implemented. Consequently, the supply of sport hunting has gradually increased as well as the number of countries that now offer more sought after big game species, such as elephant, buffalo, lion, and leopard.

All of the countries assessed recognised that the future viability and growth of their sport hunting industries relies on the quality of trophy animals available, the diversity of species on offer and the quality of professional hunters and tourism services rendered (Jackson, 1995). Throughout the region, each sport hunting country seems to satisfy a niche with respect to the sport hunting offered and clientele they attract.

Tanzania is visited predominantly by North American clients and is regarded as the most expensive hunting destination in the region, maintaining a reputation for unspoilt scenically beautiful communal hunting areas where trophy record winning lion, leopard and buffalo are more easily found (Hurt and Ravn, 2000). At the other end of the spectrum is hunting on Namibia's private ranches and farms, where the cheapest and most cost-effective hunting of plains game species such as oryx, kudu and hartebeest is undertaken by mainly German nationals (Denker, 2001). Here more sought after species such as elephant and buffalo can only be hunted in the communal and state land hunting concessions in the north of the country, resulting in Namibia not being known for it's "big five" game hunting (Heger, 2000).

South Africa is the only country in the region that offers all of the "big five" namely elephant, Black Rhinoceros, buffalo, lion, and leopard for sport hunting in the private commercial farm sector (Patterson, 2001). Here the opportunity to hunt the most renowned trophy species, together with an excellent standard of professional hunters and tourism services offered, results in South Africa probably being regarded as the best value for money in terms of hunting destinations in the region (Davies, 2001).

Whilst both offering excellent hunting diversity in terms of species and locations, Botswana and Zimbabwe probably stand out the most as the two countries in the region that offer the best trophy quality and numbers of elephant for sport hunting by mainly North American hunting clients. In fact, elephant represent the mainstay of the sport hunting industries in both countries, providing some 50% and 64% of all hunting revenues in Botswana and Zimbabwe respectively (Chimuti *et al*., 2000; BWMA, 2001).

Such reliance on a few key charismatic trophy species is characteristic of the SADC region sport hunting industry, with elephant, buffalo, lion and leopard being responsible for generating the vast majority of the regions sport hunting revenue. As such, any political interventions that would restrict importation of any of these species trophies would have dire consequences for the future viability of the industry.

COUNTRY ACCOUNT: SPORT HUNTING IN BOTSWANA

I. Background

Map of Botswana

Courtesy of the General Libraries, The University of Texas at Austin

Geography: Botswana is a large landlocked country covering some 581 730 km^2 and is situated in the Kalahari basin of the southern African plateau. It shares boundaries with Zimbabwe, Zambia, Namibia and South Africa. Over 80% of the country is classified as desert, dominated by the Kalahari. The physical environment is harsh, with a low mean annual rainfall of only 450 mm, which is highly variable and erratic resulting in drought being endemic (BCSO, 2000). Rainfall becomes progressively less and more erratic to the west and south of the country. As such, the desert covers a major part of western and southern Botswana and consists of rolling sandy land with wide plains, depressions and pans (Traill-Thomson, 1998). The north and east of the country has more broken topography with occasional ranges of rocky hills and tree savannah.

Socio-economic: On attaining independence in 1966, the agricultural sector, especially livestock, provided the basis for economic activity and dominated Botswana's economy contributing over 40% to GDP. As such, human settlement patterns have historically been determined by the topography of the country. At this time, the majority of the population was predominantly rural, with only 4% located in urban areas (Silitshena, 1993). The discovery of large diamond, copper and nickel deposits in 1967, however, transformed the socio-economic development of the country. The sudden increase in foreign revenue earnings combined with a low human population of only 596 941 in 1971 resulted in rapid economic growth of about 9.2% per year between 1971 and 1998 (MFDP, 2001). By 2000, the mining sector represented some 33% of GDP in contrast to only 3% from the agricultural and livestock sector, 4% from manufacturing and less than 1% from wildlife-based tourism (BOBRD, 2001).

Such rapid economic growth, however, has been unevenly distributed among urban and rural households. Recurrent drought has also increased this rural to urban disparity, and has led to a high proportion of destitute rural communities accounting for about 14% of the population (BIDPA, 1997). The outcome has been one of the highest urbanization rates observed in Africa from 4% to 52% during the past quarter century. Those remaining in rural areas are typically the retired or unemployed Batswana (Harvey, pers. comm., 2001). Increases in per capita income have also resulted in a 3.5% annual population growth to some 1.7 million in 2001, which has exceeded the rate of growth for job creation. In 1996 over 18% of the population was unemployed (BCSO, 2001). Botswana has also suffered heavily from the AIDS pandemic with an estimated 69 000 children having lost their parents to AIDS by then end of 2001 (AVERT, 2004). These factors have resulted in a heavy dependence, especially in rural areas, on government support in the form of extensive development, poverty alleviation, AIDS orphan allowance programmes, and on a national pension fund, which provides approximately BWP250 to each person over the age of 65 (NDP, 2000). Likewise, reliance on the natural resource base in rural areas by destitute poor has also increased and is now considered a major concern.

Government, however, has tried to combat such reliance on the State by stimulating private enterprise through favourable export terms, low tax rates and by expending a considerable proportion of it's budget (25%) on education (BIDPA, 2001). The result has been the growth of the private manufacturing sector with Botswana now assembling and exporting a variety of products. Over the past quarter century, the balance of import to exports has come down from 70% to 40%, and the private manufacturing sector now employs some 300 000 people compared with only 25 000 in 1975 (NDP, 2000). Although in 1999, minerals still accounted for 74.5% of Botswana's export share, manufactured exports at 11% had overtaken meat exports at 2% (BOB, 2001). Such economic benefits have, however, been mostly realized in the towns and cities, with rural poor still having to rely extensively upon the natural resources (MFDP, 2001). Although the natural resource base through tourism and the commercial wildlife sector does not contribute significantly to GDP, it does play a critical role in maintaining the livelihoods of many rural communities in Botswana.

Land Tenure: There are three main categories of land tenure in Botswana, namely; communal land, free-hold land and State land (**Table 2**). Communal land, also called tribal land, comprises some 55% of the country and is held in trust by 12 Tribal Lands Boards who distribute it to Batswana accordingly (Cassidy, 2000). All Batswana are entitled to communal land for their own use. Although by law they have no perpetual or exclusive rights to the land, in reality the land stays in the family indefinitely as long as it is used for its intended and allocated purpose (BCSO, 2000). The majority of communal land has been divided into hunting blocks known as Controlled Hunting Areas (CHAs). The rights to hunt in CHAs are either leased to commercial safari operators, undertaken by citizens themselves, or provided

to the community who then decide whether to allocate it to citizen hunting, foreigner hunting or cropping for meat production (Broekhuis, 1997).

Free-hold land accounts for about 3% of the country located in the best agricultural areas mainly in the Tuli Block, Limpopo Valley and Molopo region in the south, and the Ghanzi Block in the west (Campbell, 1997). Owners of free-hold land are entitled to exclusive and perpetual rights, which include the natural resources with the exception of wildlife. Most free-hold land consists of cattle ranches, with sport hunting undertaken by owners or leased to safari operators occurring mainly in the Molopo region. State land comprises about 42% of the country and is mostly government land reserved for conservation purposes and land covered by quarantine ranches belonging to the Botswana Livestock Development Corporation (BLDC) (BCSO, 2000).

Table 2

Botswana land categories and area under wildlife management

Category of land tenure	Land area (km^2)	Percentage of country
Communal Land	318 997	54.8%
Free-hold Land	19 429	3.4%
State Land		
National Parks	45 900	7.9%
Game Reserves	60 558	10.4%
Forest Reserves	4 555	0.8%
WMAs	128 574	22.1%
BLDC Quarantine	3 717	0.6%
Total	**581 730**	**100%**

Source: BCSO, 2000

Natural Resource Base: Conservation areas make up the bulk of State land and account for some 30% of the country's total land area. These areas consist of national parks (7.6%), game reserves (10.3%), gazetted wildlife management areas (WMAs) (11.3%), and proposed wildlife management areas (10.6%). Non-consumptive tourism occurs within Botswana's national parks and game reserves, whereas hunting is regarded as a legitimate form of land-use in WMAs and CHAs. Wildlife utilization and management are recognized as the primary form of land use in WMAs that are usually located in areas that are agriculturally marginal. CHAs occur within some WMAs where hunting often results in higher economic return to government than some of the more conventional industries, such as agriculture (Cassidy and Jansen, 2000).

Botswana still retains a rich natural resource base that has to some extent been facilitated by limited human population densities. As shown in **Table 3**, estimates and aerial survey counts for the period 1987 to 1996 indicate that the majority of species inside and outside protected areas are stable or have shown a steady increase. Certain species such as elephant and Lechwe have shown impressive annual growth rates of some 6% and 7% respectively. However, others such as buffalo have declined considerably from 76 633 in 1987 to just 40 041 in 1996 (DWNP, 1997). Such declines in certain species have resulted from both natural and man-made occurrences.

Table 3

Estimates of national wildlife numbers inside and outside protected areas

Species	1987	1996	Annual Growth Rate (%)
Elephant	45 449	100 538	Increase 6%
Zebra	64 808	39 817	Decrease 4%
Hippo	2 014	1 299	Decrease 4%
Giraffe	9 217	14 050	Increase 4%
Eland	18 608	21 834	Increase 2%
Kudu	12 918	25 759	Increase 6%
Sitatunga	1 541	1 128	Decrease 3%
Gemsbok	113 222	131 950	Increase 2%
Roan	1 228	1 327	Stable
Sable	3 936	3 309	Stable
Lechwe	31 016	77 876	Increase 7%
Tsessebe	13 175	14 198	Stable
Hartebeest	56 048	31 593	Decrease 5%
Wildebeest	41 259	36 958	Stable
Impala	56 773	59 627	Stable
Springbok	122 350	73 833	Decrease 4%
Buffalo	76 633	40 041	Decrease 5%
Ostrich	57 740	37 171	Decrease 4%

Source: DWNP, 1997
Note: Estimates calculated from aerial surveys

Drought and the outbreak of diseases have affected wildlife numbers. For example, the Kalahari drought in the early 1980s and the Cattle Lung Disease outbreak in Ngamiland in the mid-1990s devastated not only cattle but also buffalo herds (Arntzen and Fidzani, 1997). Man-made impacts have, however, also adversely affected conservation in Botswana. Increased pressure from rapidly growing human populations and livestock development has resulted in loss of wildlife habitat. Declines in certain species have also resulted from reduced access to seasonal ranges with Botswana being essentially divided into two distinct systems with regard to animal movements - south-west and north-east - by a network of veterinary cordon fences for the prevention of Foot and Mouth Disease (Taolo, 1997). Uncontrolled and illegal sport and meat hunting is also believed to be responsible for the decline in some species (Thouless, 1997). The *Botswana National Conservation Strategy of 1990* recognises that illegal hunting, range degradation and depletion of wood resources are three of the main environmental issues facing the country (NCS, 1990).

II. Wildlife and Sport Hunting Policy, Process and Legislation

Wildlife and Sport Hunting Policy Process: Botswana still possesses a relatively rich natural resource base that has in part been due to government commitment to conserve wildlife as reflected by some 17% of Botswana's land area being allocated to national parks and game reserves since independence. Whilst the primary purpose of these areas has been total preservation of wildlife for heritage and aesthetic values, wildlife policy also clearly states that wildlife resources must be seen in terms of their potential contribution to the economic well-being of the nation. As such, Botswana also promotes the entire spectrum of wildlife utilization activities in free-hold land, State land and communal land outside of protected areas. These include non-sport hunting (subsistence hunting practised by "less well-to-do citizens"), sport hunting (practised by "non-residents, residents and some affluent citizens"), culling and cropping operations, and game ranching and farming.

In State and communal land, the ownership of wildlife is vested in the State on behalf of the people, although the right of ownership of animals in free-hold land is provided for any private landholder who has erected a game-proof fence around their property. The sustainable utilization of wildlife through ranching, farming and licensed hunting are supported in these game-proof fenced areas as a viable and sometimes preferable land use especially in agriculturally marginal areas.

In State and communal land where Batswana live with wildlife, government also recognises the income disparity between urban and rural population, and the role wildlife plays in sustaining the livelihoods of many rural poor and Remote Area Dwellers (RADs). In order to promote wildlife as a primary land use in these areas, the *Wildlife Conservation Policy of 1986* established WMAs. In contrast to CHAs, where licensed hunting is allowed for the benefit of the local populace, but no control exists over other activities that may be detrimental to wildlife populations (e.g. mining, livestock development), wildlife utilization in WMAs is regarded as the primary land-use. Other land uses in WMAs are only permitted if they are compatible with the conservation of wildlife populations (GOB, 1986).

When WMAs began to be gazetted in the 1990s, many CHAs fell within WMAs. As WMAs are State land as opposed to CHAs which are communal land, the establishment of WMAs resulted in an overall 24% increase in State land versus communal land with WMAs representing some 23% of the national land area by 1995 (BCSO, 2000). The creation of WMAs paved the way for rural communities to manage and benefit from wildlife directly through sustainable utilization, and community-based natural resource management programmes (CBNRM) were established in the early 1990s to facilitate this process (Cassidy and Tveden, 1999). WMAs also perform the role of acting as buffer zones for the parks and reserves and as migratory corridors for wildlife moving from one area to another (Broekhuis, 1997).

CREDIT: © WWF-Canon / Russell Douglas

Women and a member of DWNP (right) displaying tanned hides with and without fur

Wildlife policy supports the "right" rather than the "privilege" of Batswana to benefit from wildlife through sustainable use, and this forms an integral component of the country's poverty alleviation and development programs. The *Wildlife Conservation Policy of 1986* emphasises the role that wildlife utilization can play in the management of all land categories within the context of the *National Conservation Strategy*. This policy was formalised with the enactment of the *Wildlife Conservation and National Parks Act of 1992* and a detailed plan of action for implementation was included in Botswana's *National Development Plan VIII* (NDP 8) for the period 1997/98 to 2002/03.

Wildlife and Sport Hunting Legislation: As outlined in the *Wildlife Conservation Policy of 1986*, the NDP 8 calls for the full realisation of the economic potential of wildlife for the benefit of land holders in all land tenure systems through the sustainable application of tourism, hunting and culling/cropping wildlife uses. Specifically, greater support is offered to community-based wildlife management in WMAs, and commercial wildlife management in CHAs and free-hold land to "encourage the full sustainable utilization of the wildlife resource" (MFDP, 1997). Even though wildlife policy is well-defined and incorporated into Botswana's national development strategy, implementation has met problems especially with regard to conflicts with other government policies such as for fencing, settlement and livestock development (NDP, 2000).

Although some 30 community-based organisations now enjoy natural resource rights and obtain considerable economic benefits from their sustainable use, there is no single government CBNRM policy (Cassidy and Jansen, 2000). As such, the Department of Wildlife and National Parks (DWNP) has recently tried to consolidate its position by developing a draft CBNRM policy that outlines the general principles underlying natural resource rights, defines the shift to community-managed access regimes, and provides standards for its effective implementation (Chemonics Int.,

2000). Although supported as an important step, many regard the draft policy as being limited with respect to the true devolution of authority to manage wildlife (National CBNRM Forum in Botswana, 2000).

During the early 1990s, the *Fauna Conservation Act* and the *National Parks Act* were consolidated into a single statute, the *Wildlife Conservation and National Parks Act of 1992,* which is the principle legislation relating to licensed hunting. This Act regulates the harvest, possession, sale and trade in wildlife, and is supported by the *Unified Hunting Regulations of 1979* which outlines licensed hunting categories, fees and species allowed to be hunted (Traill-Thompson, 1998). Other supporting legislation includes the *Tribal Lands Act of 1968*, which makes provision for the Tribal Lands Board to grant user rights within WMAs and CHAs, although the power to grant rights to utilise wildlife within these areas lies with the DWNP.

III. Wildlife Utilization Industry

Botswana's wildlife policy and legislation allows for the full range of both consumptive and non-consumptive wildlife utilization options. These include licensed hunting, game ranching and farming, cropping and culling schemes and photographic tourism.

Although dated, FGU (1988) estimated that the wildlife sector in Botswana contributed some BWP21.55 million to GDP in 1986, of which photographic tourism contributed some BWP16.9 million and sport hunting some BWP6.35 million. Although a smaller overall contribution to GDP, Tlusty (1987) argued that in 1984, 15% of tourist expenditures were derived from safari hunters who occupied only 1% of bed-nights, thus making it one of the lowest impact, highest revenue earning wildlife uses available in Botswana. Earlier Fleming (1976) also stated that sport hunting was responsible for some three-quarters of total revenue collected by DWNP, reinforcing its role as an important engine for wildlife policy implementation (Barnes, 1998).

Though the national contribution of wildlife-generated revenues to GDP is negligible when compared to the mineral sector (1% verses 33%), to the many land holders and communities living in wildlife areas, it is of the utmost importance and constitutes an important livelihood and development option. For example, many private ranch owners and communal land communities from the Tuli Block of southern Botswana to the Okavango basin in northern Botswana rely extensively on the income generated by wildlife viewing and hunting (van der Jagt *et al.*, 2000).

In areas of relatively high biodiversity, photographic tourism results in the highest economic returns, whereas in the less biodiverse and higher human density areas consumptive uses, such as licensed hunting, result in the greatest economic return and are responsible in many cases for promoting conservation throughout large tracts of communal and free-hold land (Barnes, 1998). Consequently, and as one of the more profitable wildlife uses, sport hunting plays a critical role in ensuring the financial viability of Botswana's game ranches and community-based natural resource management projects.

IV. Development of Sport Hunting

The sport hunting industry began in the 1960s and its early development is described by FGU (1988) and White (1995). In 1962, East African safari companies were invited to set up sport hunting in Botswana. Three East African and one locally established-company signed agreements and were granted large hunting concession areas around the Okavango Delta and Chobe Game Reserve. Foreign sport hunters began to come to Botswana and, by 1965, some 300 sport hunters paid BWP73 816 for hunting licenses, a considerable increase over the BWP3212 collected in 1960 (White, 1995).

The growth of the industry was facilitated between 1961 and 1976 by the fact that non-resident foreign sport hunters could hunt alone and were not required to be accompanied by a professional hunter (Campbell, 1997). Safari companies which catered to these foreign clients paid significant hunting concession lease fees to the tribal treasuries on tribal land, and to central government revenues on 'crown' land. Such fees were significant with the North West District Council relying exclusively on hunting revenue until the mid-1970s (Murray, 1978).

After independence in 1966, the newly established Botswana government began to accord the wildlife resource greater importance, especially with regard to its potential revenue-earning role through photographic tourism and sport hunting. Accordingly, independent Botswana allocated some 17% of the country towards protected areas for tourism, and extensively revised the *Fauna Conservation Proclamation* in 1967. The major change introduced by the Act was that everyone, including Batswana citizens in tribal land, was now required to hunt by license (Tlusty, 1987). The only exception was made for "persons belonging to a community which is entirely dependent for it's living on hunting". The Act forced the introduction of tribal territory and State land hunting regulations, which were introduced in 1967 and 1968. The result was that all hunting by non-residents, residents and Batswana citizens was based on a license system. Batswana could now only hunt n tribal lands and had to obtain packaged licenses from district councils, which

varied as to species composition from district to district. Tribal licenses were sold and the revenue retained by District Councils, although quotas were set by the DWNP (White, 1995).

One of the main adverse impacts of the Act, and the government effort to instil greater regulation to hunting in Botswana, was that rural Batswana citizens had less access to the hunting resource for sustaining their livelihoods. Restricted license allocations, unsuitable species compositions of licenses packages and the cost of licenses resulted in an inequitable distribution of hunting privileges, with better off households undertaking most hunting in tribal lands. At the same time, there was widespread public concern over the activities of foreign sport hunters, some of whom abused their licenses, which led in 1976 to an administrative decision not to issue licenses directly to foreign hunters but only through safari companies and professional hunters. Public discontent, and a host of research undertaken by Murray, Lee, and von Richter during the 1960s and 1970s, which documented the critical role hunting played in sustaining much of the population, led to increased pressure to change the hunting licensing system to allow citizens to hunt throughout the country.

Such public discontent led to the amendment of the *Fauna Conservation Act* in 1979. As a result, licensing procedures were transferred to subsidiary legislation known as the *Unified Hunting Regulations of 1979* (Botswana Government, 1979a, 1979b). The concept of Batswana citizens hunting only in tribal land was abolished. Licenses were to be issued instead to citizens, residents, and non-residents. Citizens could now obtain licenses to hunt in any controlled hunting area, while non-residents were confined to safari concession areas, and residents to most other controlled hunting areas. Greater emphasis was placed on providing more access to the hunting resource for sustaining the livelihoods of Batswana citizens. Citizen license fees were set at very low prices and citizens were allocated the majority of the national hunting quota in 1980 and 1981. In addition, the Act required that rural citizens who "relied exclusively on hunting" should be provided with a free Special Game License to meet their needs. As such, the objective was to transfer more of the Botswana hunting resource away from lucrative foreign sport hunting to sustaining rural Batswana subsistence livelihoods.

The outcome, however, did not produce the desired change. In fact, the reverse occurred, in that rural citizens (who most depended on the hunting resource) now had to compete with urban citizens, most of whom were sport and recreational hunters. All urban citizens now had a right to hunt, which lead to a massive increase in the demand for hunting which far exceeded supply (White, 1995). In order to ration the limited supply of citizen licenses, a raffle system was introduced which made no distinction between local rural citizens and outsiders. In addition, licenses were very cheap and transferable which led to the emergence of a substantial "black" market. Urban citizen hunters who had no intention of hunting obtained licenses and then sold them for substantial profit to sport hunters who placed considerable value in hunting. The result was a decrease in the access of many rural Batswana to the hunting resource, with for example the amount of game meat made available from hunting in the Ghanzi and Kgalagadi Districts decreasing from 435 mt in 1979 to only 255 mt in 1989 (Hitchcock and Masilo, 1995).

Since the mid-1980s, a more efficient use of the hunting resource has again been supported, primarily through the *Wildlife Conservation Policy of 1986*. A community's ability to attain significant revenues, way in excess of subsistence values, through sport hunting joint venture agreements, has resulted in the gradual expansion of sport hunting in Botswana. From an estimated BWP6.35 million generated in 1986 (FGU, 1988), to the current estimate of BWP59.6 million (BWMA, 2001), sport hunting now represents a substantial industry in Botswana.

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Waterbuck *Kobus ellipsiprymnus*

V. Structure and Status of Sport Hunting

Botswana is probably the only country in Africa where hunting by citizens is a right and not a privilege (NRMP, 1994). The replacement of the tribal hunting regulations, which previously varied by district, with a "unified hunting system" under the centralized administration of DWNP, was undertaken to provide some means of controlling hunting quotas. It was further intended to promote the "use of the country's wildlife resources on a rational and fair basis for the benefit of all Batswana while ensuring that rural people dependent upon wildlife were not deprived of subsistence and income from the resource" (Hitchcock and Masilo, 1995).

Problems in the unified hunting system have arisen over the last two decades leading to the predominant outcome that Batswana received less, rather then more, from the hunting resource, whilst the growth of the lucrative foreign sport hunting industry was confined by limited quota allocations and the availability of hunting concession areas. In

recognition of these issues, the *Fauna Conservation Act* was repealed in 1992, and replaced with the *Wildlife Conservation and National Parks Act* (GoB, 1992). This created many new possibilities, especially with regard to allowing communities to manage their own wildlife quotas for citizen, resident and non-resident hunting, and for leasing greater areas in the newly established WMAs to private sport hunting companies.

Sport hunting by foreigners in community-managed areas and private concession areas is by far the most lucrative form of hunting in Botswana, with revenue obtained through citizen hunting hardly covering the cost of administering licenses by DWNP. BWMA (2001) estimated that the total value of foreign sport hunting in the Community-managed Areas (CMAs) and private concessions during 2000 was USD12.58 million. More importantly, a substantial proportion of this revenue goes to those who manage and ultimately own the hunting resource, stimulating the conservation of the hunting resource over large tracts of Botswana's State, communal and free-hold land.

Hunting in Botswana usually occurs between April and September and can be undertaken by citizens, residents and non-residents or foreign sport hunters (DWNP, 2001). Citizen and resident hunting attempts to provide recreational hunting to all Batswana, as well as subsistence hunting to the rural destitute poor (White, 1995). All hunting occurs in CHAs that may fall within State land, communal land and WMAs. Botswana has 68 designated CHAs, of which 21 are reserved for citizen hunting, 32 for community-managed areas and 15 for private sport hunting concessions in which sport hunting by foreigners is permitted. As sport hunting by foreigners is by far the most lucrative form of hunting, private and CMA concessions occur in the most bio-diverse areas such as the Chobe and Ngamiland districts which host key trophy species. Citizen hunting CHAs predominantly occur in the less bio-diverse arid districts such as Kgalagadi and Kweneng (Barnes, 1998).

To provide a framework for regulation, DWNP issues licenses under a quota system known as the Recommended Allowable Off-take (RAO) quota. Licenses are sold or issued to citizens, residents and non-residents under differentiated fee structures and quotas. There are four types of licenses, namely the Single Game License, Small Game License (citizens only), Bird License (citizen and non-resident) and the Special Game License (eligible citizens only). Hunting quotas and licenses are also provided to foreign sport hunting clients through safari operators, to land owners under the land-holder's privilege permit and directly to community-managed areas in selected WMAs.

As shown in **Table 4**, a total 16 401 animals were allocated in the 2001 RAO quota. Of these, some 10 337 animals or 63% were made available to foreign sport hunters in community-managed areas (5870) and private concession areas (4467). Although the total quota has almost halved since 1997, from around 30 000 animals to only 16 000 animals, the allocation of animals to citizen and foreign hunters has remained approximately the same at around 60% to 40% in favour of foreign sport hunting.

Table 4

Allocation of the recommended allowable off-take quota to citizen, community-managed areas and private concessions during the period 1997 to 2001

Category	1997	1998	1999	2000	2001
Concession	7 842	8 188	4 436	4 737	4 467
CMA	13 098	12 709	6 700	6 819	5 870
Citizen	9 637	9 326	4 943	5 063	6 064
Total	**30 577**	**30 223**	**16 079**	**16 619**	**16 401**

Source: DWNP Wildlife Utilization Department, 2001

The inter-relationship between hunting for subsistence, commercial gain, or for purely sporting and recreational purposes is often confused between both citizen and foreign hunters. Although this report focuses on the foreign sport hunting sector in the SADC region, overlaps between citizen and foreign hunting occur in many of Botswana's hunting license categories and hunting areas either informally or formally. Consequently, the following is a summary of the current status of hunting according to license type and category of hunter in Botswana.

***Single Game License*:** These licenses are issued to citizens and residents of Botswana on a single animal basis and allocated to a specific area. Licenses are awarded through an annual raffle that is held at each of the DWNP districts. As summarised in **Table 5**, Single Game License fees are very low, leading in the past to the emergence of a parallel black market in this type of license. For example, DWNP license fees for buffalo at USD3.56 are ridiculously low compared to the USD2500 in license and trophy fees offered by commercial safari operators. In the past, those lucky enough to obtain a license through raffle often re-sold it to commercial operators for substantial profit (Moemi, pers. comm., 2001). Extensive over-use of Single Game License also occurs through over hunting, which during the 1980s was reported to be over four times the allocated quota and was believed to be one of the causal factors for decreasing populations in Cape Buffalo and zebra in Chobe and the Okavango Delta (DWNP, 2001).

Due to the less lucrative nature of citizen and resident Single Game License hunting, most quotas tend to be restricted to less charismatic species that occur in less biodiverse areas. As shown in **Table 6**, for example, key trophy species such as buffalo (162), elephant (174) and lion (51) are mainly allocated to foreign hunters in CMAs and private concessions, with only 11 animals (10 buffalo, one lion) of the three species being allocated to citizen hunting. Citizen hunters are generally allocated more prolific species such as duiker (1585), Steenbok (1615) and kudu (495) for *biltong* and meat production.

Table 5

Department of Wildlife and National Parks hunting license fees for 1999

Type of license	Value of license (USD)
Single game license:	**One license, one animal**
Cape Buffalo	3.56
Kudu	1.78
Warthog	0.09
Impala	0.36
Small game license	1.78
Bird license	1.78
Special game license	1.78

Source: DWNP, 2000a

In an effort to continue providing Single Game License hunting to Batswana, DWNP often insists on private concession holders giving a proportion of their quota to Single Game License holders. In effect, however, such arrangements are informal and, where they do occur, only the excess and less charismatic species are offered at the end of the foreign sport hunting season. Such disparity between the species and hunting areas offered to Single Game License hunters compared to private concession foreign hunters often leads to dissatisfaction amongst citizen hunters (Modise, pers. comm., 2001).

Table 6

Recommended allowable off-take quota for licensed hunting in 2000

Species	Citizen hunting	Community-managed	Private commercial	Total
Baboon	170	110	150	430
Black-backed Jackal	-	5	75	80
Blue Wildebeest	26	40	116	182
Buffalo	10	54	98	162
Crocodile	1	8	10	19
Duiker	1 585	1 230	275	3 090
Eland	4	30	15	49
Elephant	-	90	84	174
Gemsbok	30	785	14	829
Hartebeest	35	50	-	85
Impala	402	293	656	1 351
Kudu	495	343	225	1 063
Lechwe	60	274	637	971
Leopard	2	39	55	96
Lion	1	20	30	51
Ostrich	209	309	36	554
Porcupine	-	-	75	75
Reedbuck	21	37	93	151
Sable	2	8	13	23
Scrub Hare / Cape Hare	-	-	300	300
Side-stripped Jackal	-	2	30	32
Sitatunga	1	1	8	10
Spotted Hyaena	170	125	135	430
Springbok	340	994	12	1 346
Steenbok	1 615	1 590	415	3 620
Tsessebe	35	115	329	479
Vervet Monkey	-	5	75	80
Warthog	135	211	335	681
Wild Cat	-	5	75	80
Burchell's Zebra	18	21	87	126
Total	**5 367**	**6 794**	**4 458**	**16 619**

Source: DWNP Wildlife Utilization Department, 2001

***Small Game License*:** Small Game Licenses are mainly issued to citizens in the south-western districts of Kgalagadi and Kweneng where they often play an important role in the livelihoods of many rural destitute poor. As such, license fees are low at a cost of USD1.78 (BWP5.00 at 2001 rates). Small species are usually included on the license, but this varies slightly between region and availability. In Maun, for example, five Cape Fox, Caracal, Monitor Lizard; 20 Bat-eared Fox, genet, Cape Hare, Springhare and African Wild Cat, and three South African Crested Porcupine are provided for on each Small Game License issued (Barnett, 2000).

***Bird License*:** Bird Licenses are available to all citizens, residents and non-residents although at differentiated fee structures. Citizens can purchase Bird Licenses for USD1.78 (BWP5.00 at 2001 rates), which are valid for one year. Prices rise for residents (USD26.70) and for non-residents (USD71.00) and the length of validity is limited to a maximum of three months for non-residents (*Statutory No.54 of 1988, Government of Botswana, 1988*). Most bird hunting is undertaken by Botswana citizens with, for example, 211 bird licenses issue to citizens, 86 to non-resident tourists and seven to residents in the Chobe District during 2000 (DWNP, 2001). Potential off-take is high with more than 10 birds allowed to be hunted each day for 11 species.

***Special Game License*:** Special Game Licenses are catered for under the *Unified Hunting Regulations*, which aim to effectively utilise Botswana's hunting resource for the betterment of the people. RADs specifically benefit from the issuance of free Special Game Licenses, which are intended to legitimise subsistence hunting by these traditional hunter/gatherer societies. The majority of Special Game Licenses are issued in the arid and less biodiverse districts of Kgalagdi, Kweneng and Ghanzi Districts (Hitchcock and Masilo, 1995). Each license allows the hunting of 30 duiker, two Gemsbok, 30 Steenbok, three Warthog, one kudu, four Springhare, 50 Bat-eared Fox, 50 African Wild Cat, 10 Cape Fox, 10 Caracal, four Monitor Lizard, and unlimited numbers of Black-backed Jackal (DWNP, 2001).

Since their introduction, however, Special Game Licenses have been open to abuse. Specifically, the subsidised nature of the subsistence license when compared to lucrative prices offered by recreational hunters for the same species has led to rampant misuse of the licenses. Although field officers of the Remote Area Development Programme are responsible for identifying eligible RADs for the issuance of Special Game Licenses by DWNP, regulation and enforcement on their use has been problematic. FGU (1988) reported that abuse of Special Game Licenses included overshooting and allowing other sport motivated hunters to shoot the license quota in return for meat or money. In addition, and as is further discussed under the "Sport Hunting Quota Setting" section of this chapter, one of the largest problems associated with Special Game Licenses was that it fell outside the RAO quota set by DWNP each year resulting in many situations where unsustainable off-take was occurring (Hitchcock and Masilo, 1995). For example, the national RAO for Gemsbok in 1997 was 1037 animals, but the total potential off-take was 2803 when including those animals allowed for under 883 Special Game Licenses issued that year (Barnett, 2000).

Community Wildlife Management Areas: Due to Special Game Licences not meeting their originally intended purpose, and concerns over sustainability, there has been a gradual shift from individual licensing to community management of an allocated quota (Cassidy, 2000). Such quotas fall within the RAO quota and are allocated in conjuncture with CBNRM that build the capacity of communities to effectively manage and benefit from the wildlife resource.

For an area to be allocated a community management wildlife quota it must have established a 'Trust' which is authorised to represent the community (Cassidy and Tveden, 1999). Once done, the Trust collectively decides on how best the quota can be used, either by undertaking joint ventures with sport hunting, photographic tourism or through cropping schemes to produce meat for residents of the area. Since the early 1990s, the move towards community management through the establishment of Community-based Organisations (CBO) has been steady, and the number of district communities still relying on Special Game Licenses is dwindling. For example, compared to the 883 Special Game Licenses issued in 1997, only 343 and 432 were issued in 1999 and 2000 respectively (DWNP, 2000a).

The first CMA was the Chobe Enclave Conservation Trust, which was registered in 1994, and was supported through a USAID-funded project of the Natural Resources Management Programme (NRMP) (NRMP, 1994). Although the process of achieving Trust status was initially time consuming, by 1995 there were three CBNRM districts and four CBOs. By 2000, this number had increased dramatically to some nine CBNRM districts and 36 registered CBOs (National CBNRM Forum in Botswana, 2000). Of the 45 CBOs registered in Botswana, only 15 are provided with annual wildlife quotas by DWNP. Of these, nine CBNRM districts have entered into commercial joint ventures with commercial sport hunting operators and six have undertaken subsistence hunting of the quota for meat and hide production. The remaining 36 CBOs without wildlife quotas rely on a whole range of natural resource income generating activities such as veld product crafts and wildlife viewing tourism (DWNP, 2000b).

Government commitment to CBNRM is clearly outlined in a number of key policy documents, such as the *Wildlife Conservation Policy of 1986*. Its desire to implement such plans of action is also well-defined in the NDP 8, where government makes provision for financial assistance to community initiatives to expand CBNRM efforts. The

Community Conservation Fund (CCF) has earmarked about BWP8.1 million during the NDP 8 period (1997-2001) to be administered by DWNP, and in part is responsible for the continued growth of Botswana's CBNRM programme. In addition, some 30% of revenues (approximately BWP3 million) realized through the CITES-approved once-off sale of Botswana's ivory has been allocated for community development projects within the elephant range (National CBNRM Forum in Botswana, 2000).

One of the great advantages of the CBNRM programme in Botswana is that it channels wildlife revenues directly to communities. Private community trusts are truly representative of the community and act as an effective vehicle for the equitable distribution of wildlife benefits (through development projects or cash income) to the lowest community denominator - the household (BOCOBONET, 2001). In a number of communities in Ngamiland, for example, less than 500 people have been earning over USD150 000 from the hunting wildlife resource. This approach has effectively overcome one of the greatest weaknesses of the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) programme in Zimbabwe, which has had to channel wildlife revenue through Rural District Councils (RDCs) resulting in the limited equitable distribution of revenue and hence a growing dissatisfaction among communities.

Wildlife through sport hunting has become the engine driving the economies of many remote rural areas, and the status of wildlife has improved dramatically (Gujadhur, 2000). However, in January 2001, such successes of the Botswana CBNRM programme were put into jeopardy by an internal memo from the Permanent Secretary of the Ministry of Local Government which instructed that all revenues earned by CBOs from wildlife should be handed over from private community trusts to RDCs. The main reason provided was that wildlife was a national asset and therefore should be shared by the nation and not just those communities who live with it. Many believe that such a policy will not be implemented for, if it is, those living with wildlife will no longer benefit from its sustainable use and will probably replace it with alternative means of livelihood such as cattle production (BOCOBONET, 2001).

Commercial Sport Hunting Concessions: Of the 68 CHAs in Botswana, 15 CHAs that are located in State land are allocated by DWNP through lease agreements to private safari operators. All 15 CHAs under private concession are mainly used for sport hunting by foreign clients, although DWNP does ask concession holders to allocate some of their less charismatic species to citizen and resident Single Game License hunters. In the few cases where this does occur, Batswana are required to pay additional charges to concession holders (Modise, pers. comm., 2001). Although DWNP are responsible for allocating safari operators the right to utilise wildlife and provide the quota of animals that can be hunted, it is the Lands Board under the Ministry of Lands and Housing that is responsible for establishing lease fees and entering into contractual agreements with operators.

Game Ranch Free-hold Land Holders Privilege Permit: The *Wildlife Conservation Policy of 1986* actively supports the establishment of a wildlife utilization sector in Botswana's free-hold land through the creation of game ranches. Such support is enacted in the *Wildlife Conservation and National Parks Act, 1992*, through the *Land Holders Privilege Act* (*Section 20*). This Act allows ranches that have erected a game-proof fence to benefit commercially from the consumptive utilization of wildlife on their land through the issuance of a long term Commercial Land Holders Privilege Permit issued by the Director of DWNP (Mathumo, 1997). Quotas are fixed and set on an annual basis. Ranch owners or leasees may use their quota for commercial profit through sport hunting (commercial privilege permit) or for the subsistence production of game meat (subsistence/not for profit privilege permit) (Conybeare and Rozemeijer, 1991). License fees for hunting under land holders privilege are the same as for citizen hunting and therefore negligible at, for example, BWP50 for eland and BWP5 for kudu and zebra (Traill-Thompson, 1998).

During 2000, there were approximately 25 registered game ranches in Botswana. Although likely to be a minimum value due to the occurrence of non-reporting by some ranches, DWNP reports that ranches undertaking sport hunting for profit in Botswana were allocated 7400 animals during 2000. Actual off-take was 1313 animals representing only 18% of the available quota. Such low utilization rates are due to the allocation of less renowned trophy species on ranch quotas with, for example, impala (4805), Warthog (954) and kudu (885) being provided in largest quantities (DWNP, 2001). As such, sport hunting in Botswana attracts mainly resident sport and *biltong* hunters, with more lucrative foreign sport hunters being enticed by the more charismatic species being offered in the CMAs and private concession controlled hunting areas.

Recently, however, discussions among policy makers have centred on merging the concession and ranch hunting sectors together, as is the case in Zimbabwe where, for example, clients hunt the more charismatic and dangerous game in State land concession areas, and then hunt plains game in the private ranch sector. The advantage of such an approach is that hunting in private ranch land attracts no government license fees and is therefore a cheaper alternative (BWMA, 2001). The drawbacks of such an approach in Botswana are that community-managed hunting areas suffer from a reduction in plains game hunting. In reality, however, the potential for game ranching through sport hunting is limited by the small proportion of free-hold land in the country, and the tendency for what areas that do exist to support only low value wildlife species (Conybeare and Rozemeijer, 1991). In addition, Barnes (1998) maintains that the

sector has not developed to its full potential due to a lack of management skills, poor market development, and bureaucratic and veterinary obstacles.

VI. Botswana's Sport Hunting Market

Sport Hunting Market: Of all animals allocated for licensed hunting within the RAO quota for Botswana, sport hunting accounts for some 73% of all animals. Although sport hunting is responsible for the majority of animals hunted under the RAO, it is characterised as a low volume, high paying industry (FGU, 1988; DWNP, 2000a). Indeed in 2000, only about 339 foreign clients were responsible for hunting an estimated 2505 animals and generating some USD12.6 million in revenue (BWMA, 2001). Each client spends approximately USD37 000 per hunting trip, which makes Botswana possibly the most expensive hunting destination in the SADC region.

One of the reasons for such high costs is that Botswana maintains a reputation for scenically beautiful unspoilt and unfenced landscapes and offers some of the largest key trophy species in Africa (Barnes, 1998). Elephant and lion are particularly renowned in Botswana for large Safari Club International (SCI) and Rowland Ward winning trophies, with an average 48 kg combined elephant trophy during 2000 and trophy weights of 90 kg being not uncommon (Peake, Botswana Wildlife Management Association, *in litt.* to TRAFFIC East/Southern Africa, 2001). The bulk of clients visiting the country are American followed by Europeans.

Species Hunted: Botswana offers 36 different sport hunting species to foreign clients, ranging from the common species such as duiker and Steenbok to the more renowned key trophy species such as buffalo, leopard and elephant. As shown in **Table 7**, total hunting quotas have declined substantially from some 55 752 animals in 1996 to 16 348 in 2001. Marked reductions in the number of animals allocated occurred between 1996/97 and 1998/99 and were due to recorded declines in wildlife populations caused by habitat destruction, veterinary cordon fences and unsustainable citizen hunting, especially under the Special Game License. Recorded declines in 1998/99 are, however, disputed by some in the industry who question the accuracy of this data, citing problems with DWNP aerial survey methodology such as inadequate sampling intensities and confidence intervals.

Those quotas most affected by declining populations during the period 1996 to 2001 have been the small game species such as impala, Steenbok and duikers. Of interest, however, is that elephant numbers have increased over the period and therefore safeguarded the financial viability of the industry due to their being responsible for over 50% of all income generation. A few other species such as Black-backed Jackal, African Wild Cat, and porcupine, which are problem animals, have had their quotas increased, but overall numbers of huntable species in Botswana have seen considerable declines. Of interest, however, is that the overall number of animals hunted by foreign sport hunters has remained relatively constant during the past decade at about 2500 animals, indicating that the value but not the size of the industry has increased.

Table 7

Recommended allowable off-take quotas for the period 1996 to 2001

Species	1996	1997	1998	1999	2000	2001	Quota Status
Baboon	390	215	265	370	430	420	Stable
Black-backed Jackal	100	47	80	80	80	75	Decrease 33%
Buffalo	380	163	163	128	162	164	Decline 56%
Cape Hare	20	150	150	150	150	150	Increase 650%
Crocodile	36	18	18	16	19	21	Stable
Duiker	10 870	6 085	5 535	3 025	3 090	2 980	Decrease 265%
Eland	74	37	38	33	49	52	Stable
Elephant	142	84	162	168	174	180	Stable
Gemsbok	1 764	1 047	1 043	828	829	842	Decrease 109%
Hartebeest	360	175	175	85	85	83	Decrease 334%
Hyena	410	225	225	420	430	430	Stable
Impala	5 020	2 715	2 720	1 262	1 351	1 353	Decrease 271%
Kudu	3 075	1 605	1 605	935	1 063	1 058	Decrease 191%
Lechwe	6 934	3 482	3 482	916	971	966	Decrease 618%
Leopard	160	71	83	84	96	78	Decrease 114%
Lion	30	17	17	27	51	0	Ban
Reedbuck	366	180	180	148	151	151	Decrease 142%
Sable	36	18	18	16	23	23	Decrease 56%
Sitatunga	24	9	9	10	10	11	Decrease 118%
Ostrich	1 314	710	641	551	554	530	Decrease 150%
Porcupine	20	75	75	60	75	75	Increase 275%
Scrub Hare	20	150	150	150	150	150	Increase 650%
Side-striped Jackal	8	32	30	28	32	32	Increase 300%
Springbok	5 475	2 995	2 995	1 320	1 346	1 283	Decrease 327%
Steenbok	14 410	8 040	8 040	3 790	3 620	3 620	Decrease 298%
Tsessebe	1 550	830	830	467	479	491	Decrease 216%
Vervet Monkey	100	80	75	75	80	70	Decrease 43%
Warthog	2 186	1 093	1 083	662	681	689	Decrease 217%
Wild Cat	10	80	80	75	80	75	Increase 650%
Blue Wildebeest	264	154	154	138	182	168	Decrease 57%
Burchell's Zebra	204	102	102	102	128	128	Decrease 59%
Total	**55 752**	**30 684**	**30 223**	**16 119**	**16 621**	**16 348**	

Source: DWNP, 2001

During the 2000 hunting season, all off-take quotas from five CHA concessions (CH8, CT3, NG16, NG29, NG30) in Chobe District, Botswana's premier sport hunting district, were analysed (**Table 8**). Although a small representative sample, it can be clearly seen that such renowned and sought after trophy species such as elephant (97%), buffalo (86%), lion (67%), leopard (82%) and sable (100%) have very high quota use rates (DWNP, 2001). In addition, these key trophy species are responsible for generating the majority of total revenue for the industry. In 2000, it was estimated that the license and trophy fees from elephant alone accounted for some 56% of total revenue, followed by leopard (7%), buffalo (6%) and lion (5%) (BWMA, 2001).

Table 8

Chobe District controlled hunting area quotas and numbers of animals hunted during 2000

Species	Chobe District controlled hunting area concessions quota and off-take (CH8, CT3, NG16, NG29, NG30) estimated national hunting off-take		
	Quota	Actual off-take	Percentage
Baboon	40	21	52.5%
Black-backed Jackal	15	6	40%
Buffalo	28	24	85.7%
Cape Hare	10	0	0%
Crocodile	1	1	100%
Duiker	31	0	0%
Eland	3	2	66.6%
Elephant	36	35	97.2%
Gemsbok	2	0	0%
Hartebeest	-	-	-
Hyena	40	17	42.5%
Impala	220	61	27.7%
Kudu	101	26	25.7%
Lechwe	200	33	16.5%
Leopard	17	14	82.3%
Lion	9	6	66.6%
Reedbuck	40	11	27.5%
Sable	4	4	100%
Scrub Hare	10	0	0%
Sitatunga	2	0	0%
Ostrich	14	2	14.3%
Porcupine	5	0	0%
Side-striped Jackal	6	1	16.6%
Springbok	2	1	50%
Steenbok	55	8	14.5%
Tsessebe	127	40	31.5%
Vervet Monkey	10	2	20%
Warthog	161	22	13.7%
Wild Cat	5	0	0%
Blue Wildebeest	34	29	85.3%
Burchell's Zebra	23	20	86.9%
Total	**1 251**	**386**	**30.8%**

Source: DWNP, 2001

As such, key trophy species are very important to the continued viability of the sport hunting sector in Botswana. In 1996, elephant were allowed to be hunted under CITES quota which drastically increased the overall value of the safari industry. In contrast, however, another key trophy species, lion. was withdrawn from the hunting quota in 2001. This decision was based on the belief that lion numbers in Botswana were declining due to an increase in problem animal control culling. During 2000, DWNP reported over 80 lions (two in Chobe, 13 in Ngamiland, 14 in Kweneng, 30 in Kgalagadi, four in Ghanzi, 17 in Central District) killed in defence of property and life, with 45 being killed directly by farmers (DWNP, 2000a).

Despite a high off-take, Peake (Botswana Wildlife Management Association, *in litt.* to TRAFFIC East/Southern Africa, 2001) maintains that lion populations remain healthy in hunting concession areas. Trophy quality monitoring data supports this view with lion trophy sizes consistently being within the 24 to 26 inch category between 1997 and 2000. The impact of the withdrawal of lion from the 2001 quota, a response to the suspected decline of lion numbers based on anecdotal information and not a scientific study, has been significant with the absence of 14-day lion hunts at daily rates of USD1200 per day resulting in an overall loss of approximately USD1.06 million to the industry (BWMA, 2001). The loss of lion has been especially hard for operators and communities in arid hunting concessions where elephant are not available. In such areas, lion represent the most important commercial species and their removal renders these areas non-viable for all species. Overall, the removal of lion has made it harder for operators to market hunts in competition with neighbouring sport hunting countries such as Namibia and Zimbabwe that still offer lions.

VII. Management of the Sport Hunting Industry

The main management objective of Botswana's sport hunting industry is to safeguard the overall integrity of the industry whilst maximising the revenue generated from a sustainable resource. Management structures are being developed to ensure that standards are maintained, and monitoring and administration systems put in place to allow for informed management decisions when establishing the quotas and fees of animals to be hunted.

i.) Sport Hunting Management Bodies

The DWNP, under the Ministry of Commerce and Industry is the primary government agency responsible for wildlife and sport hunting management. Although wildlife policy and legislation has promoted the utilisation of wildlife through game ranching/farming in free-hold land and CBNRM programmes in communal lands, DWNP still maintains ultimate decision making in all matters related to consumptive the use of wildlife resources. The ultimate responsibility and accountability to manage wildlife through, for example, the setting of quotas, still remains firmly in the hands of centrally-controlled government through the DWNP.

DWNP has, however, received considerable support from other governments, Non-Governmental Organisations (NGOs), and private sector management bodies in supporting a well-regulated sport hunting industry. The Botswana Wildlife Management Association (BWMA) represents the interests of commercial safari operators in Botswana, of which there were about 80 members in 2001. BWMA aims to promote a well-regulated, sustainable, but financially-viable sport hunting industry in State, communal and free-hold ranch land. Within State and free-hold ranch land, the BWMA is the main external body that supports DWNP in managing sport hunting, as free-hold ranch owners have not as yet organized themselves into an active wildlife producer association.

Most assistance has been directed towards CBNRM, and by default, sport hunting in communal lands of Botswana. In 1990, the USAID-funded Natural Resource Management Programme (NRMP) was set up to work with DWNP to initiate a community approach to wildlife management that relied extensively on the hunting resource. At its termination in 2000, the work of the NRMP project was handed over to the Community Services Division of the DWNP (National CBNRM Forum in Botswana, 2000). With over 45 registered CBOs by 2000, the Botswana Community-Based Organisation Network (BOCOBONET) was formed in 1999 to promote the interests of its CBO members by playing a mediating and advocating role between communities and service providers, including government, private sector, non-governmental organisations (NGOs) and training institutes.

Key NGO players in supporting the CBO network and CBNRM programme in Botswana have been IUCN (The World Conservation Union), SNV/Netherlands Development Organisation and the Kalahari Conservation Society which have supported activities to build the capacity of CBOs, such as the CBNRM districts and trusts, to effectively manage wildlife resources. The BWMA has also initiated a Community Wildlife Monitoring Programme which focuses on training community members to monitor hunting resources and to develop resource management skills and decision making powers for the effective management of local resources (Gujadhur, 2000).

ii.) Maintaining Quality and Standards

Botswana maintains the quality of its low-impact, high-cost sport hunting industry by demanding a high standard of professional hunters and guides in the tourism service industry, and by imposing minimum trophy export sizes that help to protect Botswana's reputation as a quality trophy destination.

Professional and ethical sport hunting standards are maintained in Botswana through the administration of hunters and guides licenses. These licenses are categorised into three levels of proficiency, namely trainee hunter, assistant professional hunter and full professional hunter (Monyatsi, 1997). During 2000, there were a total of 125 professional hunters in Botswana, 86 being full professional hunters, 32 assistant professional hunters and seven trainee professional hunters. Only full professional hunters are allowed to become outfitters for foreign clients and assistant professional hunters can only become full professional hunters after three years experience (DWNP, 2001).

Obtaining a license requires considerable practical and theoretical training on ethical hunting behaviour, modalities of effective hunting, and tourism service provision. Under the new Licensing and Hunting Regulations, which came into effect during 2001, a pre-requisite for the hunters' theoretical exams will be attaining proficiency in a shooting marksmanship practical exam. Paying testament to the thoroughness of professional hunters standards in Botswana, is that of the 56 hunters taking the exams during 2000, 36, or 64%, failed (DWNP, 2001). Of major concern, is the fact that professional hunters who have been banned for unethical behaviour or other misdemeanours in neighbouring countries can still obtain licenses in Botswana, due to there being little regional communication between professional standards bodies.

Botswana's insistence on maintaining minimum trophy requirements and its fortune in having large numbers of key trophy species such as elephant and buffalo has safeguarded its reputation as a premier hunting destination. As seen in **Table 9**, trophy quality from a representative sample of eight species has remained constant or increased and hence the health of wildlife populations have remained healthy during the 1997 to 2000 period with hunters continuing to obtain SCI and Rowland Ward winning trophies (Peake, Botswana Wildlife Management Association, *in litt.* to TRAFFIC East/Southern Africa, 2001).

iii.) Monitoring and Administration

The monitoring and administration of sport hunting in Botswana is centrally controlled through the DWNP. Due to a lack of true devolution of management rights over the hunting resource, incentives for key stakeholders such as safari operators, communities and ranch owners to provide data to DWNP for monitoring and administration is often lacking.

DWNP maintains a database for the national RAO quotas and off-take rates for the period 1997 to 2001. Off-take rates, however, are not included due to a lack of hunting returns submitted from mainly citizen Single Game Licenses in private concessions and community-managed areas. The same holds true for hunting licenses such as the Small Game License, Special Game License and Land Holders Privilege Permits that are allocated outside of the national RAO quota. DWNP Headquarters does not control centrally the number of citizen licenses, nor the off-take rates. Consequently, very few citizen hunt returns are received.

The requirement for submitting hunting return forms within 30 days of hunting to DWNP is formalised in legislation (*Wildlife Conservation and National Parks Act, 1992*) and hunt return forms are included with every license issued. By law, each hunter in Botswana is issued with a hunting card that is used to record all particulars of hunting. Such a card is expected to be produced for inspection during hunting trips and when obtaining new licenses. Failure to do so could result in a BWP500 fine or six months imprisonment. In addition, DWNP are required by law to refuse new licenses to those who have not submitted returns. In general, foreign sports hunters abide closely to these rules, as trophies cannot be exported unless hunt return forms have been submitted (Monyatsi, 1997). In contrast, citizen hunters abide less by these rules, and the lack of a centrally collated hunt return database means that DWNP are unable to monitor the situation.

Consequently, DWNP are hampered by a lack of critical information such as how many animals are hunted in total when making management decisions, especially with regard to quota setting. The result is that very conservative quotas are set for the sport hunting industry, reducing the effective role hunting can play in providing incentive to sustainably manage and conserve the wildlife resource. In an effort to improve this and other management decisions, the private sector, through the BWMA, has instigated a trophy quality-monitoring programme.

Trophy quality is a good indicator of the population status of animals hunted. If trends in trophy quality are consistently high, it indicates that the status of the population is good, and hunting off-take (of all types) is sustainable. If the trend in trophy quality is consistently decreasing, it indicates that the status of the population is declining and off-take quotas should be reviewed (Peake, Botswana Wildlife Management Association, *in litt.* to TRAFFIC East/Southern Africa, 2001). Monitoring in Botswana commenced in 1997 and covered hunting areas in northern Botswana, Kalahari game ranches and southern Kgalagadi WMAs, representing some 90% of all sport hunted trophies. As indicated in **Table 9**, trophy quality of seven representative species has remained constant or increased during the 1997 to 2000 period indicating healthy populations. Such monitoring data for 23 species is analysed and sent to DWNP to assist in making sound management decisions in the allocation of quotas. Recognising the importance of such monitoring, DWNP has requested that a wildlife biologist also be trained to measure trophy quality to build capacity within the department itself.

Table 9

Trophy quality trends in certain species during 1997 to 2000

Species and trophy measurement category	Percentage in the quality measurement category			
	1997	1998	1999	2000
Buffalo (90-100" category)	36%	53.6%	60.2%	62%
Leopard (>14" category)	50%	49%	69%	65%
Spotted Hyena (>15" category)	100%	94%	100%	100%
Lion (>23" category)	100%	83%	100%	92%
Southern Greater Kudu (>120" category)	20%	26%	36%	29%
Red Lechwe (>58" category)	99%	95%	96%	98%
Common Reedbuck (>21" category)	93%	83%	96%	81%

Source: Peake, Botswana Wildlife Management Association, *in litt.* to TRAFFIC East/Southern Africa, 2001

Another monitoring programme directed at the communal districts was assessed by Goodman (1999) under the NRMP. It was realized that communal area quotas were entirely dependent on aerial census data and hence were unreliable for the majority of smaller species that could not be easily spotted from the air. The wildlife monitoring methodology

developed enables communities to inventory, assess economic and ecological land-use options, determine sustainable use and monitor the status of wildlife resources in the community CHAs (Goodman, 1999).

It was hoped that such information would be fed into the DWNP decision-making process and adaptive management principles, rather than "knee-jerk" reactions, used to modify decisions, especially with respect to quota levels (Cassidy and Tveden, 1999). Indeed, this process has been initiated in the Sankuyo Tshwaragano Management Trust NG34 community CHA under a BWMA monitoring programme where Community Escort Guides accompany hunters to record ecological and off-take data which is then analysed by community members and submitted to DWNP. Although this monitoring program is still in its initial stages, monitoring data obtained by communities in Sankuyo has proved useful in increasing the accuracy of quota setting (National CBNRM Forum in Botswana, 2000).

iv.) Sport Hunting Quota Setting

Each year the DWNP issues RAO quotas for all forms of consumptive wildlife utilization in the country (Hitchcock and Masilo, 1995). DWNP calculates quota estimates using biological off-take rates that relate to reproductive ability and are based on national aerial surveys that are conducted each year. As such, national population estimates and allocated quotas are accurate for those large species such as buffalo and elephant that can be accurately spotted and surveyed from the air (Goodman, 1999). The remaining predominantly smaller species such as kudu, duiker and lion cannot be accurately surveyed from the air, and consequently the RAO quota for these species are set using a more conservative "rule of thumb" approach (Cassidy and Tveden, 1999).

Quota setting in CHAs in State land and community-managed areas are developed and issued solely by DWNP. Although stakeholders are allowed to comment on the quota, little participation from operator and key community stakeholders on the ground occurs in setting the quota. Although, for example, the Sankuyo Tshwaragano Management Trust in CHA NG34 has developed management capacity to monitor wildlife populations and analyse data for quota setting through a BWMA supported programme, limited community decision-making is condoned by DWNP (Cassidy, 2000).

The same holds true in free-hold and lease-hold land ranches, where land holders are required to submit wildlife population estimates and their off-take quotas are then assessed and approved by DWNP, which sometimes involves ranch visits (DWNP, 2000b). DWNP are, however, aware of the shortfalls in the quota setting methodology that relies solely on aerial surveys for the smaller huntable species. As such, the Department has begun to support the notion of using trophy quality monitoring data from BWMAs programme as an additional data set for indicating population status (National CBNRM Forum in Botswana, 2000).

Table 10

Number of hunting licenses, permits and quotas issued by Department of Wildlife and National Parks during the 1997 hunting season

Category of hunting	Potential number of animals
Within RAO quota	
Private commercial sport hunting concessions	2 688 animals
Community-managed areas	5 850 animals
Single game licenses	7 726 animals
Total within RAO	**16,264 animals**
Outside RAO quota	
Special game license	176 000 animals (883 licences)
Bird license	15.9 million (3,946 licenses)
Small game license	43 852 animals (577 licenses)
Game ranches land holders (commercial) privilege permit	600 animals est. (20 registered ranches)
Total outside RAO	**220 452 animals (excluding birds)**

Source: Barnett, 2000

Animals hunted through the issuance of Single Game Licenses, Community-managed Hunting Quotas, and private sport hunting safari concessions are provided for under the RAO quota. Conversely, animals hunted under the Small Game License, Bird License, and Land Holders Privilege Permits do not fall under the RAO quota. These licenses and permits provide for an additional quota of animals that is set outside the RAO quota. Traill-Thompson (1998) reported that although the total RAO quota was 16 264 animals in 1997, when animals on the Small Game License and Land Holders Privilege Permit were included, the actual potential off-take could have been as high as 220 452 animals (**Table 10**). Although it is highly unlikely that all animals provided for on these licenses and permits are hunted, it does draw attention to the need for all licensed hunting to come under the RAO quota (Barnett, 2000).

As seen in **Table 8**, the total actual off-take rates of sport hunted species are low at only about 31% of RAO quotas. Indeed, of the 16 621 animals allocated on the 2000 RAO quota, it is estimated that only some 5100 animals were actually hunted. As such, quotas are believed to be set very conservatively in Botswana, safeguarding the overall

sustainability of the industry but limiting its overall profitability. Trophy quality monitoring data (**Table 9**) seems to substantiate this view with the majority of 23 species monitored showing constant or increasing trophy quality suggesting growing and healthy populations (Peake, Botswana Wildlife Management Association, *in litt.* to TRAFFIC East/Southern Africa, 2001).

v.) Maximising Economic and Social Benefits

The actual number of animals hunted by foreign clients in any one year is very limited, with only 2505 animals estimated to be killed during 2000. Representing only 22% of the quota available, the industry still managed to generate some USD12.6 million during 2000 (**Table 12**). This has been achieved by promoting a high-cost, low-impact industry, with each of the estimated 339 foreign clients thought to spend about USD37 000 on their hunting safari. The strategy by which such high costs are attained relies closely on the way hunts are packaged and charged. An assessment undertaken by BWMA (2001) on the economic value of the industry provides a useful insight into how the industry maximises revenue from such a small and finite resource.

Table 11

Quota for licensed hunting, estimated off-take, license and trophy income for the year 2000

Species	CMA/Comm quota	Estimated off-take	License fee per unit (USD)	Total (USD)	Trophy fee per unit (USD)	Total (USD)	Total income (USD)	Percentage Contribution
Baboon	260	52 (20%)	50	2 600	75	3 900	6 500	0.1%
Black-backed Jackal	80	40 (50%)	50	2 000	100	4 000	6 000	0.1%
Blue Wildebeest	156	94 (60%)	250	23 500	700	65 800	89 300	1.7%
Buffalo	152	137 (90%)	500	68 500	2 000	274 000	342 500	6.5%
Crocodile	18	16 (89%)	150	2 400	750	12 000	14 400	0.3%
Duiker	1 505	75 (5%)	50	3 750	50	3 750	7 500	0.1%
Eland	45	36 (80%)	400	14 400	1 500	54 000	68 400	1.3%
Elephant	174	157 (90%)	4 000	628 000	15 000	2 355 000	2 983 000	56.2%
Gemsbok	799	160 (20%)	200	32 000	1 000	160 000	192 000	3.6%
Hare	300	-	-					-
Hartebeest	50	40 (80%)	200	8 000	700	28 000	36 000	0.7%
Impala	949	190 (20%)	100	19 000	300	57 000	76 000	1.4%
Kudu	568	114 (20%)	200	22 800	1 100	125 400	148 200	2.8%
Lechwe	911	228 (25%)	200	45 600	700	159 600	205 200	3.9%
Leopard	94	85 (90%)	600	51 000	3 500	297 500	348 500	6.6%
Lion	50	45 (90%)	1 000	45 000	4 500	202 500	247 500	4.7%
Ostrich	345	138 (40%)	100	13 800	350	48 300	62 100	1.2%
Porcupine	75	30 (40%)	50	1 500	50	1 500	3 000	0.1%
Reedbuck	130	104 (80%)	250	26 000	400	41 600	67 600	1.3%
Sable	21	19 (90%)	700	13 300	2 500	47 500	60 800	1.1%
Sitatunga	9	8 (89%)	500	4 000	2 000	16 000	20 000	0.4%
Spotted Hyena	260	130 (50%)	200	26 000	300	39 000	65 000	1.2%
Side-striped Jackal	32	16 (50%)	50	800	100	1 600	2 400	0.0%
Springbok	1 006	151 (15%)	100	15 100	200	30 200	45 300	0.9%
Steenbok	2 005	80 (4%)	50	4 000	50	4 000	8 000	0.2%
Tsessebe	444	133 (30%)	300	39 900	500	66 500	106 400	2.0%
Vervet Monkey	80	16 (20%)	50	800	50	800	1 600	0.0%
Warthog	546	109 (20%)	100	10 900	200	21 800	32 700	0.6%
Wild Cat	80	48 (60%)	50	2 400	50	2 400	4 800	0.1%
Zebra	108	54 (50%)	300	16 200	700	37 800	54 000	1.0%
Total	**11 252**	**2 505**		**1 143 250**		**4 161 450**	**5 304 700**	**100%**

Source: BWMA, 2001

BWMA (2001) estimated the actual off-take of sport hunted animals in CMA and private concessions during the 2000 season by using a sample obtained from surveyed safari operators in these areas. Safari operators income through license fees and trophy fees were obtained from advertised rates and used to calculate fee income as outlined in **Table 11**. In general, license fees were charged to clients to cover those license fees charged by DWNP, although in reality

such "license" fees charged by the operator had very little relation to the actual cost of the DWNP license. By using the surveyed sample and extrapolating for the national quota it was found that trophy fees (the direct fee charged per species by operators) were responsible for the majority of total fee income realised. During 2000, operators license fees generated an estimated USD1.1 million compared to some USD4.2 million for trophy fees of a total USD5.3 million earned.

Table 12

Daily rates, license fee, trophy fee and national income estimates (USD) for elephant, lion and buffalo key trophy species hunted in Botswana during 2000

Species	No. hunts	Day per hunt	Daily rate per day (USD)	Total daily rate (USD)	License fee per animal (USD)	Total license fee (USD)	Trophy fee per animal (USD)	Total trophy fee (USD)	Total income (ISD)
Elephant	157	21	1 200	3 956 400	4 000	628 000	15,000	2 355 000	6 939 400
Lion	45	14	1 300	819 000	1 000	45 000	4,500	202 500	1 066 500
Buffalo	137	12	1 000	1 644 000	500	68 500	2,000	274 000	1 986 500
Total key species				**6 419 400**		**741 500**		**2 831 500**	**9 992 400**
All other Species	2 166					401 750		1 329 950	1 731 700
Total all species (30 Species)	**2 166**			**6 419 400**		**1 143 250**		**4 161 450**	**11 724 100**
Dip and Pack (dipping, packing, documentation and export of trophies)									270 750
Other (gun hire, ammunition costs, sale of curios, etc.)									586 205
Total									**12 581 055**

Source: BWMA, 2001

Other incomes generated by safari operators are daily fees, dip and pack (dipping, packing, documentation and export of trophies) and other income (gun hire, ammunition costs, sale of curios) (**Table 12**). In Botswana, daily fees are applied only to key species such as elephant, lion and buffalo. In order to maximise economic return from a limited number of animals, only one elephant may be hunted during a 21-day safari at a daily rate of USD1200, one lion on a 14-day hunt at USD1300 per day, and one buffalo on a 12-day hunt at USD1000 per day. Although other animals are included in the "bag" for hunting, only license and trophy fees are charged for these animals. As such, operators maximise revenue for all species on their quota by forcing clients to pay top daily rates if a key and charismatic trophy species is required (BWMA, 2001). The packaging of hunts according to key trophy species and length of hunt has resulted in daily fees for these species (USD6 419 400), accounting for some 51% of all revenue generated from the industry during 2000 (**Table 13**).

Table 13

Income category contribution to sport hunting industry during 2000

Category of income	Total (USD)	Percentage contribution
Daily Fee	6 419 400	51.0%
Trophy Fee	1 143 250	9.1%
License Fee	4 161 450	33.1%
Dip and Pack	270 750	2.2%
Other Income	586 205	4.7%
Total	**12 581 055**	**100%**

Source: BWMA, 2001

Although DWNP is largely responsible for the administration, monitoring and overall management of the sport hunting industry, it receives only about 3.4% of total revenues. This is due to disproportionately low DWNP license fees, especially from citizen licensed hunting which provided only 4% of total licenses fees as compared to 53% from CMAs and 43% from private concessions. Safari operators obtain about BWP5.4 million by over-charging their clients to cover DWNP license fees, although DWNP realise only about BWP2 million directly from operators (BWMA, 2001).

In addition, DWNP, receives little in the way of State land concession lease fees from safari operators, as such fees go directly to the Lands Board, Department of Lands under the Ministry of Lands and Housing (National CBNRM Forum in Botswana, 2000). Such disparities were rectified with the introduction of the new Hunting and Licensing Regulations in the 2002 season that markedly increase license fees, with DWNP expecting to realise some BWP7.3

million (BWMA, 2001). Such increased direct revenue to DWNP will provide greater incentive to protect the hunting industry, as well as provide critically-needed management revenue.

Overall, however, local and central government retain a considerable proportion of the total USD12.6 million generated by the industry. After incorporating direct expenses, levies and taxes, local and central government retained about 22.5% of total revenue. In addition, the proportion accruing to communities via CMAs is substantial at 15.1% resulting in a total public return of 37.6% from the sport hunting industry. This public return has increased significantly since 1990, when only about 11% of the gross incomes of safari operators accrued to the public sector (GoB, 1990). A number of factors have contributed to this change, namely the introduction of elephant onto the hunting quota in 1996 increased the ability of the hunting industry to "pay it's way", increases in land and community concession rents, and the introduction of a 4% resource royalty for RDCs, which is mainly used as a revenue re-distribution tool to ensure that people in the district who did not have access to the wildlife resource still were able to benefit from it (MFDP, 1997).

Table 14

Income (BWP) to community-managed areas in Botswana during the period 1997 to 2000

CBO Name and Main Revenue Activity	CHAs	Registered	1997	1998	1999	2000	Sport hunting revenue in 2000 (USD)	Other wildlife revenue in 2000 (USD)
Sport hunting								
CTT	NG4	1997	83 020	83 020	70 000	405 000	405 000	0
KCT	NG18, 19	1998	-	-	-	954 000	945 000	9 000
OCT	NG22, 23	1995	400 000	400 000	600 000	950 000	690 000	260 000
OKMCT	NG32	1995	90 000	620 000	750 000	1 100 000	900 000	200 000
STMT	NG34	1995	320 000	462 850	503 000	595 460	414 850	180 610
MZCT	NG41	1998	-	-	-	675 000	610 000	65 000
CECT	CH1, 2	1994	464 000	860 000	870 000	910 000	910 000	0
KCT	CH8	-	-	-	-	690 000	690 000	0
NKXT	KD1	1998	-	90 000	150 000	300 000	178 800	121 200
9 CBOs								
Sub total:			*1 357 020*	*2 515 870*	*2 943 000*	*6 579 460*	*5 743 650*	*835 810*
Subsistence hunting								
6 CBOs	-	-	-	-	-	-	-	-
Veld product crafts								
13 CBOs	-	-	-	-	-	1 345 715	0	1 345 715
Wildlife viewing								
4 CBOs	-	-	-	-	-	83 000	0	83 000
No. activities								
13 CBOs	-	-	-	-	-	-	-	-
Total								
45 CBOs:	**-**	**-**	**-**	**-**	**-**	**8 008 175**	**5 743 650**	**2 264 525**
Percentage:							**72%**	**28%**

Source: DWNP, 2000b; National CBNRM Forum in Botswana, 2000

Notes: Cgaecgae Tlhabololo Trust (CTT); Khwai Community Trust (KCT); Okavango Community Trust (OCT); Okavango Kopano Mokoro Community Trust (OKMCT); Sankuyo Tshwaragano Management Trust (STMT); Mababe Zukutsham Community Trust (MZCT); Chobe Enclave Conservation Trust (CECT); Kalepa Conservation Trust (KCT); and, Ngwaa Khobee Xeya Trust (NKXT).

An assessment of expenditure conducted by BWMA (2001) showed that 49.5% of revenue is expended in the local district, followed by 25.7% at the national level, and only 24.8% being paid overseas mainly in the form of agents commissions and profits. Compared with a 1992 photographic expenditure survey which showed only 27% of total revenue being retained within Botswana, sport hunting compares very favourably (Barnes 1998).

At the district level, local communities in CMAs have benefited considerably from the sport hunting sector. As seen in **Table 14**, sport hunting conducted predominantly by foreign clients is responsible for generating the significant proportion of revenue in CMAs. Joint ventures with sport hunting operators resulted in BWP5.7 million accruing directly to community trusts in nine CBNRM districts during 2000. This represented 72% of the total revenue generated by all 45 CBOs during the year, and reinforces the important role that sport hunting plays in supporting community-managed areas.

Communities have been able to generate such significant revenues from safari operators by encouraging competition through effectively marketing their hunting concessions and entering into formal joint venture agreements with operators. Government, DWNP, and supporting NGOs have supported this gradual decentralisation of resource management by building the capacity of communities through workshops, training seminars, and an adaptive management approach (van der Jagt *et al.*, 2000). This process has involved setting up technical committees consisting of members of District Councils, Land Boards, District Administration and DWNP, which oversees and guides the development and operation of community joint venture partnerships, and review committees made up of members of the community who decide on joint venture proposals (DWNP, 1999).

Such management support offered to communities during the learning and management capacity building process has generally resulted in the successful leasing of hunting rights and retention of revenues to communities. The overall result has been increased local level support and responsibility for sustainable wildlife and natural resource management. Some problems have, however, been encountered, with two CMAs being under contractual dispute in 2001, resulting in the loss of over USD1.6 million in community revenue (DWNP, 1999). In addition, safari operators are increasingly calling for longer joint venture agreement periods from just a few years to five or 15 years so that investments in the hunting areas and it's people can be justified. Although recognising such advantages in longer lease periods, communities are also aware that short lease periods allow competition amongst operators to increase lease fees paid and provides a regular opportunity for communities to air grievances (National CBNRM Forum in Botswana, 2000).

VIII. Discussion/Conclusion

Although Botswana is one of the wealthiest countries in the SADC region due to its extensive mineral deposits, wildlife viewing and sport hunting revenues are critically important in providing incentive and resources for conservation and management of the wildlife resource. Citizen hunting is a right and not a privilege resulting in one of the largest resident hunting sectors in the region. Sports hunting by foreigners, as a high-cost, low-impact industry, is one of the major land uses in many WMAs through out the country. Indeed, sport hunting is the engine that financially supports CBNRM programmes in many of Botswana's arid communal areas.

The industry, however, faces many pressing constraints that threaten the role it currently plays in conservation and development. A lack of true devolution of authority to manage the hunting resource to land holders has restricted effective management and regulation of the industry in many respects as shown clearly by government attempts to pass CBNRM revenues through RDCs rather then private community trusts. A lack of effective monitoring data has also reduced the effectiveness of many management decisions. Quotas, for example, continue to be set conservatively and in isolation from key stakeholders resulting in reduced economic incentives. For the industry to maintain its position, such management problems will have to be rectified, preferably through embracing a true devolution of wildlife benefits and management rights to those who rely on the wildlife resource.

COUNTRY ACCOUNT: SPORT HUNTING IN NAMIBIA

I. Background

Map of Namibia

Courtesy of the General Libraries, The University of Texas at Austin

Geography: Namibia is a large country (823 144 km^2) located in the south-western tip of Africa, and is bordered in the north by Angola, in the east by Botswana, in the south by South Africa, and in the west by the Atlantic ocean (NAPHA, 1994). In the north-east of the country, the Caprivi Strip reaches as far as Zimbabwe and Zambia. The country has the driest climate south of the Sahel, with rainfall increasing from the south-west to the north-east from about 50 mm to 700 mm (Ashley and Barnes, 1996).

Corresponding to rainfall, there are three major vegetation zones: desert in the west (16% of land area), savannah in the centre and south (64%), and dry woodland in the north-east (20%). There are only a few permanently flowing rivers in Namibia and only 8% of the country receives more than 500 mm per year, the minimum generally considered necessary for dry land cropping (Byers, 1997). As such, water constitutes the country's scarcest resource.

Socio-economic: The Namibian economy is inextricably linked to both the renewable and non-renewable natural resources with the mining, agricultural and fishing sectors contributing some 40% to GDP (Ashley, 1995). By far the largest contributor to GDP is from the mining sector (20% of GDP), followed by the marine fishery sector that is based on the productive, cold water up-wellings of the Benguela current (10% of GDP). Commercial livestock ranching (8% of GDP) and subsistence livestock production (largely unmeasured), form the main land use and are responsible for providing the livelihoods of the vast majority of people in the country (Corbett and Jones, 2000).

Namibia's arid climate is reflected in a low human population of some 1.6 million (growth rate 3.2%) at the low density of less than two people per kilometre squared. Two-thirds of these people live in rural areas and are directly dependent on the soil and other natural resources for their livelihoods. Most are involved in subsistence agriculture (dry land cropping or livestock production) and unemployment rates of 20% are common amongst rural populations (Byers, 1997).

In addition, a South African *apartheid* legacy has resulted in a dualistic economy in terms of access to land and income (Ashley and Barnes, 1996). Over a quarter of Namibia's total population lives in just over 1% of north-eastern Namibia, where population densities increase to some 100 per km^2. Income distribution is also highly skewed. A *per capita* income of USD1956 (one of the highest in the region) is due to only 10% of the population earning some 65% of national income, and the poorest 55% earning only 3% of national income (Corbett and Jones, 2000).

Land Tenure: Namibia is divided into three forms of land tenure, with approximately 45% in the south and centre of the country being privately-owned commercial farmland, 40% being State-owned communal land mainly in the north, with the remaining 15% being proclaimed State land designated mainly for conservation (national parks, nature reserves and protected areas) and mining (Byers, 1997). Unequal access to land and resources prevails. Although the size of area is similar, over 60% of Namibia's population live in communal areas verses under 1% who live in privately-owned commercial farmland.

Private commercial land is divided between 6,300 mainly white owned properties of about 7000 hectares each where livestock production is for commercial sale (Corbett and Jones, 2000). Communal farms consist of small property sizes where some dry land farming occurs in the north-east and subsistence livestock production on commonly managed or open access areas (Ashley *et al*., 1994). Although pressure for equitable land redistribution exists, commercial farmland is unsuitable for anything other then extensive livestock keeping, with between 10 and 25 hectares needed per large stock unit.

Natural Resource Base: Namibia has a rich and varied natural resource base although wildlife densities are often less then other African countries (NAPHA, 2001). Wildlife species correspond to the three main vegetation zones, with a few arid-adapted species (i.e. Springbok, Gemsbok) found in the desert, a slightly more diverse range of species in the central savannah, and the highest level of species diversity in the more biodiverse north-eastern area of the country. The country has some of the largest populations of large carnivores (lion, Cheetah, African Wild Dog, hyena), with Namibia hosting one of the last remaining viable populations of Cheetah (RASPECO, 1999).

Namibia has 21 proclaimed protected areas that total 13% of the country. Over 85% of these protected areas consist of three large desert parks in the Namib Desert along the coast, and the Etosha National Park. Another 2% of Namibia in the Namib Desert is protected through diamond mining exclusion laws. Although representing a large proportion of the country, the protected area network is representative of scenery and large game species, rather then biodiversity, with only 1% of the non-desert areas preserved (Byers, 1997). As seen in **Table 15**, the vast majority of wildlife occurs on commercial farms (73%) with only 14% occurring in State land and 14% in communal land (DSS, 2001).

Table 15

Estimated numbers of wildlife populations in Namibia during 2000

Species	Protected area	State land	Commercial farms	Total
Springbok	24 962	33 787	140 240	198 989
Gemsbok	11 615	26 501	98 571	136 687
Ostrich	5 634	11 868	48 507	66 009
Kudu	1 876	1 264	68 474	71 614
Hartebeest	951	103	31 615	32 669
Mountain Zebra	7 151	9 014	13 839	30 004
Warthog	241	17	19 046	19 304
Burchell's Zebra	14 147	0	4 622	18 769
Blue Wildebeest	4 032	103	8 393	12 528
Eland	1 579	0	9 294	10 873
Elephant	7 552	1 389	50	8 991
Giraffe	2 788	1 191	1 599	5 578
Black Wildebeest	0	0	5 351	5 351
Blesbok	0	0	3 474	3 474
Waterbuck	18	0	1 624	1 642
Black-faced Impala	1 469	0	1 000	2 469
Roan	490	0	510	1 000
Hippo	888	0	3	891
Buffalo	778	45	0	823
Sable	339	0	249	588
Impala	81	0	608	689
Lechwe	83	0	0	83
Reedbuck	34	0	0	34
Tsessebe	26	0	0	26
Total	**86 734**	**85 282**	**457 069**	**629 085**
% of Total	14%	14%	72%	100%

Source: DSS, 2001
Note: Estimates are based on results from aerial counts, ground monitoring and questionnaire surveys conducted by Directorate of Scientific Services, Ministry of Environment and Tourism.

Namibia's main environmental threats are related to range degradation that has been catalysed by the countries erratic and highly variable rainfall, as well as over grazing through intensive commercial and subsistence livestock production. However, Namibia's conservation record is good, with enabling wildlife policy and legislation resulting in a significant increase in wildlife population numbers in private lands since the late 1960s and more recently in the communal lands over the past decade (Barnes and de Jager, 1995).

Harsh arid climate, unequal access to land and income, and a tradition of livestock production have all affected and shaped the wildlife sector, and specifically the sport hunting industry in Namibia.

II. Wildlife and Sport Hunting Policy, Process and Legislation

Wildlife and Sport Hunting Policy Process: Prior to independence from South Africa in 1990, Namibia maintained a protectionist wildlife policy that effectively separated people from wildlife through the establishment of a protected area network. Policy was largely shaped by wildlife being owned by the State. Discriminatory legislation and heavy-handed law enforcement further alienated rural people from a resource that most relied heavily upon for maintaining their livelihoods (MET, 1998). People were often dispossessed from their land for the creation of protected areas with little or no consideration given to their needs for natural resources. Further marginalization also occurred through the restructuring of land and the creation of South African style "homelands" under the *Odendaal* Commission.

The overall result was that rural Namibians had little reason to conserve the "States" wildlife in communal areas, and numbers plummeted drastically during the 1960s due to illegal off-take for meat and trophies. At the same time, commercial farmers on private land also had little incentive to conserve wildlife, and numbers declined (MET, 1999). As over 80% of wildlife was known to occur outside of the protected area network, the government of the time began to realise that "island" conservation was not the answer. In an attempt to partially relieve the situation, the 1967 *SWA Wildlife Ordinance* gave commercial farmers on private land conditional rights to utilise game on their properties (Ashley *et al*., 1994).

Wildlife policy began to recognise that land owners needed to gain an economic benefit from the wildlife resource in order to be motivated to conserve it. Commercial farmers soon captialised on this development and began to realise considerable economic returns from wildlife, primarily through trophy and recreational *biltong* hunting that soon resulted in a multi-million dollar hunting industry and a rapid increase in wildlife numbers in commercial farmland (Barnes and de Jager, 1995).

Due to skewed development objectives of a colonial government, the same rights were not, however, extended to communal area farmers. Communal residents had no legal rights over wildlife on their land, and depended on government permits to hunt game which were almost impossible to obtain. For example, only 21 permits were issued to communal residents out of a total of some 27 000 issued during 1989 (Berry, 1990). Few ways existed for farmers to benefit from wildlife management, and most revenue from wildlife related activities went straight to the private sector or central government treasury. As such, habitat loss and illegal off-take in communal areas resulted in a continuing decline in wildlife numbers until the 1990s (MET, 2000a).

Consequently, at independence, not only did Namibia inherit a vast social debt because of *apartheid* polices and skewed development objectives, but also an environmental one. The commitment of the new government to address this environmental debt soon became apparent with the elevation of the wildlife authority to full ministerial status in 1992 (Brown, 1997). From the beginning, the Ministry of Environment and Tourism (MET) fully embraced the notion of sustainable use as the primary implementation tool for increasing wildlife management, and re-distributing access to natural resources amongst Namibia's rural population (MET, 1998). Indeed, Namibia's National Constitution proclaims at the highest level its commitment to wildlife conservation through the "utilization of living natural resources on a sustainable basis for the benefit of all Namibians" (*Article 95, Promotion of the Welfare of the People*).

During the early 1990s, MET, in collaboration with a number of non-governmental organisations (NGOs), undertook a series of participatory socio-ecological surveys with all stakeholders in Namibia. This exercise formed the basis for developing Namibia's *Conservancy Wildlife Policy of 1992*, and later Namibia's *Policy on Wildlife Management, Utilization and Tourism in Communal Areas (Circular No. 19 of 1995)*, and *the Community-based Tourism Development Policy (Circular No. 20 of 1995).* These policies were firmly embedded in the concept of sustainable use and recognized the need to involve local communities in conservation by devolving benefits and the incentive to manage wildlife populations (MET, 2000b).

Wildlife and Sport Hunting Legislation: Although policy effectively recognized the need for increasing communities ownership and responsibility for wildlife through devolving benefits, the formalization of such policy into legislation did not occur until 1996 when the National Assembly approved an amendment to the *Nature Conservation Ordinance No. 4 of 1975* known as the *Nature Conservation Amendment Act of 1996* (MET, 1998). The remaining hurdle to effectively transferring user rights was addressed through the *Communal Land Reform Act 2002 (Act No. 5 of 2002)*, which ensured secure tenure for communal area residents to the land they have long occupied (Corbett and Jones, 2000).

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Elderly woman in a San (Bushman) community in Namibia

The *Nature Conservation Amendment Act of 1996* enabled MET to devolve authority over wildlife to legally constituted conservancies in communal areas. As such, Communal Area Conservancies could begin to benefit directly from wildlife through a whole range of activities - much the same as commercial farms had been authorized to do some 30 years earlier (Brown and Jones, 1994). Such wildlife activities included wildlife viewing, but also importantly sport hunting from an annual MET-approved quota of animals. As sport hunting is one of the least capital intensive wildlife uses, many of the early communal conservancies such as Nyae Nyae, relied extensively on this wildlife use in their early development (Jones, 1995). More recently, the success of Communal Area Conservancies has resulted in a similar approach being adopted through policy and the draft *Forest Bill* in forest areas that are predominantly located in communal land in the north-east of the country (Corbett and Jones, 2000).

The importance attributed to sport hunting as a wildlife use option is emboldened in Namibia's *Policy Document on Trophy Hunting in Namibia of 2000.* This policy

clearly identifies a role for sport hunting in ensuring the economic viability of wildlife management in both commercial and communal lands, and outlines government's strategy to ensure a sustainable industry that continues to maximise benefits to land owners throughout the country (NAPHA, 2000).

The *Nature Conservation Ordinance No. 4 of 1975* is the most important piece of legislation in Namibia with regards to wildlife and licensed hunting (Corbett and Glazewski, 1997). The amended Ordinance is the principal legislation pertaining to the control and regulation of licensed hunting, and outlines the procedures for administering and monitoring licensed hunting for the sake of trophies or recreation, and provides schedules on what species constitute huntable, protected and specially protected game (GoN, 1975).

III. Wildlife Utilization Industry

Namibia embraces the full range of wildlife use options on its State, communal and commercial land that includes non-consumptive tourism (wildlife viewing), consumptive tourism (recreational hunting and fishing) and, consumptive use for meat skins and other products. Not only is the natural resource base responsible for providing the subsistence livelihoods of the majority of Namibians, it is also fast becoming a major contributor to GDP.

Barnes (1996) estimated that the total contribution of the wildlife sector to the Namibian economy in 1996 was NAD359 million. This equated to some 2.7% of GDP in 1996, the fourth largest contributor following mining (20%), livestock production (6%) and the commercial marine fisheries (4.4%). Currently, the wildlife sector is experiencing strong growth and is estimated to employ over 50 000 Namibians, and to earn the country nearly 12% of its export earnings (MET, 1999). Further, the importance of wildlife to Namibia's national economy is also expected by MET to double by the year 2010 with traditional sectors such as livestock production coming under increased pressure from reduced productivity due to range degradation and the eventual end of Namibia's preferential access to European domestic meat markets. The implementation of the General Agreement on Tariffs and Trade (GATT) would also probably reduce the prices of livestock products in Namibia.

In addition to the national economy, the wildlife sector will increasingly play a critical role in achieving government social objectives amongst Namibia's primarily rural population. Wildlife is often the only land use that actually benefits from remote and under developed areas, making it especially important as the economic engine for achieving social objectives in Namibia's communal areas (Jones, 1995).

As seen in **Table 16**, wildlife viewing tourism is the largest income earner, some NAD265.8 million in 1996, but it predominantly accrues to the protected areas sector, whereas the value of sport hunting, estimated at NAD20.9 million, accrues directly to land owners in commercial and communal areas. Similarly, non-tourism activities such as live game sales and venison predominantly occur on private commercial farmland, and hence sport hunting is a critical wildlife land use in communal areas. Although the wildlife viewing industry is increasing in commercial and communal areas, sport hunting for both trophies and *biltong* remains critically important in providing the financial incentive to sustainably use wildlife in these land categories.

Table 16

Estimates of national income from the wildlife sector in 1996

Wildlife use	Estimated national income (NAD '000)			
	Parks and resorts	Communal land	Private land	Total
Tourism Activities				
Viewing tourism[1]	244 633	6 329	14 818	265 780
Sport hunting[2]	990	3 134	16 813	20 937
Recreational hunting[3]	0	0	10 255	10 255
Shore and river angling[4]	15 599	421	0	16 020
Non-tourism activities				
Venison production[5]	0	111	5 976	6 087
Live game sales	637	212	1 741	2 590
Own game consumption[6]	0	130	18 299	18 429
Ostrich production	0	0	16 362	16 362
Crocodile production	0	0	1 221	1 221
Artisanal fishery[7]	0	1 583	0	1 583
Total	**261 859**	**11 920**	**85 485**	**359 264**

Source: Barnes, 1996

Notes: 1. All wildlife-related, non-consumptive tourism activities; 2. Sport hunting on private land (hunting farms and public land concessions); 3. "*Biltong* hunting" and "grants to family and friends" categories; 4. Surf and rock angling on coast and river angling in north-east; 5. Licensed under "night culling" and "shoot and sell" permits; 6. Non-market "subsistence use", "own use" and "use for rations" categories; 7. Subsistence and small-scale commercial fishing in river and flood plain systems.

IV. Structure and Status of the Sport Hunting Industry

The organisational structure of hunting in Namibia is clearly defined in the *National Conservation Ordinance No. 4 of 1975*, which maintains that any hunting must be undertaken in the presence of one of three types of qualified hunting guides. These are the *ordinary* hunting guides who may guide hunts on a guest farm in which he/she is registered, a *master* hunting guide who may guide hunts on up to three farms, and a *professional* hunter who may guide hunts anywhere in the country, including communal and State land (Barnes, 1996). During 2000, there were 458 professional hunters and guides, of whom 108 were professional hunters, 193 were master guides and 157 were ordinary guides (DSS, 2001).

Licensed hunting in Namibia includes trophy motivated sport hunting by foreign clients, *biltong* hunting which is mainly meat motivated and undertaken by residents and neighbouring South Africans and, land owners own hunting for game meat production and use. The declared sport hunting season is from 1st April to 31st March, whilst the *biltong* hunting season is usually through May to end August (four months) for commercial farms with registered game-proof fences, and June to July (two months) for farms with non-registered fences (MET, 1999).

A considerable variety of species can be hunted in Namibia. Although some species are classified as "Specially Protected Game" due to their scarcity, "Protected Game Species" due to their scarcity and usefulness, and "Huntable Game" due to their abundance, individually selected species from all categories can still be hunted under permit depending on their particular circumstances (NAPHA, 1994). For instance, specially protected species of elephant can still be hunted under quota according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), of which Namibia is a member.

Trophy motivated sport hunting is by far the most lucrative form of hunting in Namibia. As reflected in **Table 16**, sport hunting was estimated in 1996 to generate some NAD20.9 million compared to NAD10.2 million from *biltong* recreational hunting (Barnes, 1996). Although generating almost twice as much revenue, sport hunting utilised only 17 791 animals in 2000 compared to 23 567 animals for *biltong* hunting.

Recreational "Biltong" Hunting: Recreational *biltong* hunting involves only four of the most populous species (Greater Kudu, Gemsbok, Springbok and Warthog) which occur mainly in the central and southern areas of the country. The vast majority of this hunting is undertaken by residents and hunters from neighbouring South Africa and occurs predominantly in the commercial farmland sector. One permit per hunter is issued per hunting season and allows the holder to hunt three "small" game (i.e. Springbok and Warthog) and two "large game" (i.e. kudu and Gemsbok) during the season (Lindeque, pers. comm., 2001). During the 2000 *biltong* hunting season, a total 23 567 animals were hunted under this form of licensed hunting, this comprising 16 722 Springbok, 3990 Gemsbok, 2803 kudu and 52 Warthog (DSS, 2001).

Trophy Motivated Sport Hunting: Trophy motivated sport hunting involves 40 different species and represents by far the most lucrative hunting sector in Namibia. During 2000, Humavindu (2001) estimated that sport hunting contributed USD11 million (NAD80 million) in direct expenditures and as much USD21 million (NAD144 million) in total direct gross output. Although the majority of sport hunting occurs on farms due to the commercial area hosting some 80% of all huntable species, the most lucrative sport hunting occurs in the Communal Conservancy Areas and the State land hunting concession areas which host the largest populations of the most renowned trophy species such as elephant and buffalo (**Table 15**).

Table 17

Numbers of animals sport hunted per year during the period 1996 to 2000

Species	Numbers of Animals Sport Hunted				
	1996	1997	1998	1999	2000
Gemsbok	1 414	2 339	2 626	2 676	3 334
Kudu	692	1 584	2 230	2 152	2 067
Warthog	917	1 368	1 823	1 816	1 934
Springbok	611	1 254	1 443	1 629	1 985
Hartebeest	471	1 156	1 195	1 111	1 526
Steenbok	24	502	655	680	651
Mountain Zebra	200	364	398	543	524
Blesbok	265	503	505	538	924
Blue Wildebeest	128	265	323	333	489
Eland	134	217	347	325	365
Black Wildebeest	123	187	226	265	431
Common Impala	91	173	252	251	346
Duiker	47	105	188	166	138
Plain Zebra	63	126	155	143	202
Waterbuck	25	57	71	64	91
Cheetah	11	29	59	60	79
Leopard	15	38	36	52	58
Elephant	1	20	35	39	12
Ostrich	11	15	40	36	42
Klipspringer	5	22	64	33	36
Dik Dik	5	13	19	29	36
Giraffe	11	18	27	24	32
Black-faced Impala	8	29	16	21	43
Sable	6	2	18	14	6
Buffalo	1	40	12	12	0
Roan	3	14	15	10	5
Lion	2	4	3	10	2
Spotted Hyena	0	0	4	12	10
Nyala	2	0	2	4	3
Tsessebe	0	0	0	3	0
Hippo	0	0	3	2	0
Lechwe	0	0	4	2	23
White Rhino	0	0	1	1	0
Ground Squirrel	1	0	0	0	0
Bustard	1	0	0	0	0
Springhare	2	0	0	0	0
African Wild Cat	19	9	30	58	92
Baboon	170	166	225	231	227
Crocodile	1	0	2	0	1
Caracal	27	27	95	51	77
TOTAL	**5 507**	**10 646**	**13 147**	**13 396**	**15 791**

Source: DSS, 2001

The sport hunting sector has grown considerably during the past decade from an estimated value of NAD19.6 million in 1992 (Jones, 1995), to NAD20.9 million in 1996 (Barnes, 1996), and NAD80 million in 2000 (Humavindu, 2001). The number of professional hunters and hunting guides has almost doubled from 251 in 1991 to 458 in 2000 (Barnes, 1996; DSS, 2001). Likewise, and as is evident from **Table 17**, the number of animals sport hunted has increased substantially from 5507 animals in 1996 to 15 791 animals in 2000. The largest single increase during the period under review was between 1996 and 1997 when the total number of animals hunted jumped from 5507 to 10 646 due to the *National Conservation Ordinance Amendment of 1996* and the inclusion of Communal Area Conservancy sport hunting concessions for the first time in 1997.

Licensed hunting occurs on all land categories within Namibia, namely commercial farmland, communal lands and State lands, although the scale and dynamics of hunting on these land types differs markedly. Of the 15 791 animals sport hunted by predominantly foreign safari hunters, some 14 892 were hunted in commercial farms, 741 in Communal Area Conservancies and 158 in State land.

Commercial Farmland Hunting: Commercial farmland properties host the greatest proportion of all licensed hunting whether it be trophy motivated sport hunting or *biltong* hunting. The vast majority of 23 567 *biltong* hunted and 15 791 animals sport hunted in Namibia are hunted in commercial lands. Commercial properties have benefited for over 30 years (since the *1967 SWA Wildlife Ordinance*) from hunting on their properties and the right to retain any revenue from wildlife on their land. Land owners may undertake client hunting for trophies and game meat, or commission professional night culling teams for venison production or live capture for commercial gain, and are also allowed to benefit through subsistence use of venison for staff rations and their own consumption (Ashley *et al*., 1994).

The majority of Namibia's 6500 commercial farms utilise wildlife with MET estimating from a questionnaire survey that over two thirds of all animals shot are for commercial sale (half of these for hunting, and half for live sales or game meat sales). A small but active number of farms undertake hunting with some 196 registered for sport and *biltong* hunting during 2000 (DSS, 2001). Originally farms undertook wildlife use as a supplementary activity. More recently, however, and in line with decreasing productivity and number of domestic livestock animals in the commercial sector, a small but growing number are devoted purely to wildlife (Barnes and de Jager, 1995).

Although other supporting industries, such as live game sales (14 622 animals imported and 5630 exported during 2000) and game meat sales are important, by far the most lucrative form of wildlife use on commercial farms is sport hunting. Indeed, Erkana (2001) recognized the emergence of a "black market" in sport hunting in commercial farms where owners were selling sport hunting under the guise of *biltong* hunting. Trophies from non-*biltong* hunting species would then be "donated" to hunting clients by farm owners to facilitate their export. Recently, however, such a loophole has been reduced with MET restricting the number of "donated" trophies that can be exported (NAPHA, 2001).

The benefits derived from wildlife use, especially sport hunting, has had a dramatic effect on the status of wildlife populations within the commercial farmland sector. Barnes and de Jager (1995) compared wildlife population statistics for the year 1972 and 1992 and found that animals' numbers had increased by some 80% over the period. Likewise, total gross wildlife revenue (consumptive and non-consumptive uses) from private commercial farms had increased significantly from NAD30.6 million in 1972 to some NAD56 million in 1992 (Barnes and de Jager, 1995). Consequently wildlife, and lucrative uses such as hunting, have become the financial cornerstone of Namibia's commercial farming sector, resulting in considerable increases in wildlife numbers.

The emergence of conservancies in the commercial farm sector has catalysed these benefits. In the early 1990s many commercial farmers realized that due to most game species being free ranging, a co-operative and co-ordinated approach to game management and utilization was required (Matthaei, 2001). This led to the first conservancy being established in 1992; it consisted of a group of neighbouring farmers who agreed to pool their natural resources and undertake management collectively through a committee (de Jager, 1997). Advantages of such an approach are that greater resources can be made available towards managing a much larger area under a sustainable use approach. Sport hunting constitutes the main and most lucrative form of wildlife land use in the current 24 established conservancies, and safari hunters from abroad enjoy unparalleled access to huge tracts of hunting land.

Communal Areas Hunting: In contrast, Communal Area Conservancies have a shorter history and it was not until the *1996 Nature Conservation Ordinance Amendment* that Communal Area Conservancies could be formed and the full advantages of sustainable consumptive wildlife use realized (Jones, 1995). Since this time, however, sport hunting has played a key role in ensuring the success of many of Namibia's Communal Area Conservancies (NACSO, 2000).

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Gemsbok *Oryx gazella gazella*

Table 18

Sport hunting and Communal Area Conservancies in Namibia

Conservancy	Population	Area (km^2)	Status and potential for sport hunting in 2000
Established			
Doros !Nawas	1 037	4 073	Good sport hunting potential
Khaodi//Hoas	2 823	3 366	Currently undertakes sport hunting
Kwandu	5 982	190	Some potential for trophy motivated sport hunting
Mayuni	1 462	151	Some potential for limited elephant sport hunting
Nyae Nyae	2 631	9 003	Currently undertakes sport hunting
Purros	267	3 568	Good sport hunting potential
Salambala	7 066	930	Currently undertakes sport hunting
Torra	1 426	3 522	Currently Undertakes sport hunting
Uibasen	228	286	Limited sport hunting potential
Wuparo	4 278	148	Good sport hunting of elephant, lion and buffalo
Sub-total	*27 200*	*25 237*	
Emerging			
Mutc'iku-Bwabwata	-	5 000	Good sport hunting potential
Impalila	-	-	Some potential for limited elephant and buffalo sport hunting
Omuramba	-	3 000	Good sport hunting potential
Otjakavare	-	2 500	Good sport hunting potential
Marienfluss	-	10 000	Limited sport hunting potential
Mashi	-	600	Some potential for limited elephant sport hunting
Sub-total		*21 100*	

Source: NACSO, 2000; WWF/LIFE, 2000.

By 2000, a total of 10 Communal Area Conservancies had been gazetted, while a further six were in the advanced stages of being established (Davis, 2001). As indicated in **Table 18**, these 10 conservancies cover some 25 000 km^2 of communal land and affect the lives of some 27 000 people. Total cash income from wildlife-related activities have increased steadily from USD160 000 in 1995 to USD2.6 million in 2000 as more community-based tourism enterprises (CBEs), joint venture tourism and sport hunting concession leases have been established. During 2000, four conservancies (Nyae Nyae, Salambala, Khaodi/Hoas, and Torra) undertook sport hunting through lease agreements with safari operators (WWF/LIFE, 2000). Of the USD3.4 million earned by all conservancies, sport hunting contributes the third highest amount of USD398 533, or 12% of total income, following the CBEs and joint-venture wildlife viewing activities (**Table 19**).

Table 19

Sources of communal conservancy income during 2000

Income Activity	Amount (USD)	Percentage (%)
Community-based tourism enterprises	1 563 687	46%
Game donations to conservancies (Non Cash benefit)	796 200	23%
Sport hunting	398 533	12%
Joint venture tourism	373 750	11%
Craft production and sale	111 389	3%
Cultural tourism, game meat distribution, thatching grass sales and bank interest	152 000	4.5%
Other non-financial benefit	15 701	0.5%
Total	**3 411 260**	**100%**

Source: WWF/LIFE, 2000

Considering that game donations are a non-cash benefit (equivalent of USD796 200), sport hunting is a primary conservancy wildlife use that is especially critical during the start up phase. In contrast to wildlife viewing, CBEs, and joint ventures, which are capital intensive and may take several years to develop, sport hunting offers a substantial return within the first year or so for minimal conservancy investment. WWF/LIFE (2000) predicts that total conservancy revenue from wildlife will reach USD10 million by 2005. Revenues from sport hunting will rise from USD398 533 to USD2 million. As indicated in **Table 18**, the number of sport hunting conservancies are also likely to increase by at least six (and possibly nine) in the near future).

Indeed, an additional two conservancies (Doro !Nawas and Puros) were granted hunting quotas by the Directorate of Parks and Wildlife Management of MET for the period 2001 to 2003. The largest conservancy hunting concessions are Torra (416 animals), Khoadi/Hoas (146 animals) and Doro !Nawas (140 animals). Quotas for all six conservancies are provided in **Table 20** and indicate that only a potential of 836 animals may be hunted each year. As such, of all animals hunted in Namibia during the year, communal conservancies account for only a very small proportion (approximately 5.3%) when compared to the 15 791 animals sport hunted during 2000.

Regardless, lucrative returns are obtained from sport hunting clients who are attracted to the more charismatic and sought after trophy species such as elephant, leopard and Gemsbok on offer in the communal conservancy hunting concession areas (Beytell, 2001). Consequently, sport hunting by foreign clients is the predominant form of licensed hunting in Communal Area Conservancies.

Table 20

Communal Area Conservancy hunting quotas for the period 2001 to 2003

Species	Communal area conservancy annual hunting quotas for the period 2001 to 2003						Total
	Khoadi//Hoas	Torra	Nyae-Nyae	Salambala	Doros!Nawas	Puros	
Elephant	1	1	2	2	-	-	6
Kudu	20	10	2	-	8	-	40
Gemsbok	20	40	2	-	15	32	109
Leopard	1	-	2	-	-	-	3
Spotted Hyena	1	-	2	-	-	-	3
Mountain Zebra	8	10	-	-	12	-	30
Ostrich	1	10	-	-	30	-	41
Springbok	50	330	-	-	65	90	535
Steenbok	5	5	-	-	-	-	10
Baboon	20	10	-	-	10	-	40
Giraffe	2	-	-	-	-	-	2
Klipspringer	1	-	-	-	-	-	1
Black-backed Jackal	10	-	-	-	6	-	16
Birds	*200*	*1 220*	*3 000*	*5 060*	-	-	*9 480*
Total (excl. birds)	**140**	**416**	**10**	**2**	**146**	**122**	**836**

Source: Beytell, 2001

Namibia's CBNRM programme, and the establishment of conservancies which allow, through such uses as sport hunting, the true devolution of benefits to communal residents, has had a positive affect on wildlife populations similar to that experienced in the commercial farming sector (MET, 1998). From a situation of drastic declines in wildlife numbers, such as in the East Caprivi where the MET reported reductions in Lechwe from 13 000 in 1980 to less than 2000 in 1990, and the near extinction of wildlife species in such areas as the former Owambo region (Lindeque, 1991), wildlife has begun to recover in all conservancy areas (NACSO, 2000).

State Land Hunting: Before the establishment of Communal Area Conservancies, all hunting in these areas was administered by government and revenues realized from hunting concession leases went to the central government treasury. Since 1996, Communal Area Conservancies began to take over the right to manage and benefit from the hunting resource, and subsequently the number of MET-administered hunting concession areas has declined. Currently, there are 10 State land concession areas in proclaimed game parks that are predominantly situated in the north-east of Namibia.

Although informal, a number of these game reserves such as the West Caprivi host sizeable numbers of local residents. Uncertainty prevails as to the possibility of these communities actually benefiting directly from sport hunting income along the lines of their Communal Area Conservancy counterparts (WWF/LIFE, 2000). Currently, all revenues attained from sport hunting concession fees in these areas are deposited in a "Game Products Trust Fund" for CBNRM projects in communal areas and for the development of the game parks involved (Beytell, 2001).

Table 21

Annual quotas and action costs for State land hunting concessions in proclaimed game reserves during the period 2000 to 2003

Species	Annual Quotas in State land Hunting Concessions during the period 2000 to 2003										Total
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	
Elephant-bull	8	6	6	10	5	4	2	-	-	4	45
Leopard	4	4	1	1	2	2	-	-	-	-	14
Crocodile	2	-	1	1	-	-	-	-	-	-	4
Hippo	2	-	-	-	-	-	-	-	-	-	2
Hyena	2	2	-	-	2	2	-	-	-	4	12
Lion-male	2	2	-	-	2	-	-	-	-	2	8
Lion-female	4	-	-	-	2	-	-	-	-	-	6
Buffalo-bull	-	4	4	2	-	-	-	-	-	4	14
Buffalo-cow	-	2	2	-	-	-	-	-	-	-	4
Sable	-	2	-	3	-	-	2	-	-	-	7
Roan	-	1	-	1	2	-	2	-	-	-	6
Eland	-	1	-	-	-	4	2	-	-	-	7
Steenbok	-	2	-	-	2	2	-	-	-	-	6
Duiker	-	2	-	-	2	2	-	-	-	-	6
Kudu	-	-	2	2	-	-	-	-	-	-	4
Lechwe	-	-	-	2	-	-	-	-	-	-	2
Reedbuck	-	-	-	2	-	-	-	-	-	-	2
Blue Wildebeest	-	-	-	2	2	-	-	2	-	-	6
Impala	-	-	-	2	-	-	2	-	-	-	4
Gemsbok	-	-	-	-	2	-	-	2	2	-	6
Giraffe	-	-	-	-	-	-	2	-	-	-	2
Hartmann's Zebra	-	-	-	-	-	-	-	4	4	-	8
Springbok	-	-	-	-	-	-	-	-	4	-	4
Total animals on quota	**24**	**28**	**16**	**28**	**23**	**16**	**12**	**8**	**10**	**14**	**179**
Minimum reserve price (NAD '000) per year	**221**	**268**	**202**	**316**	**167**	**103**	**104**	**18**	**18**	**409**	**1 826**
Actual auction price (NAD '000) per year	**450**	**620**	**620**	**830**	**720**	**50**	**280**	**18**	**18**	**409**	**4 015**

Source: Beytell, 2001

Notes: C1: East and West Caprivi; C2: Bwabwata National Park East; C3: Buffalo Core Conservation Area; C4: Mahango Game Park; C5: Easter Kavanago; C6: Western Kavango and Mangetti Game Camp; C7: Waterberg Plateau Park; C8: Daan Villjoen Game Park; C9: Hardap Game Park; C10: Mamili National Park.

MET, through the Directorate of Parks and Wildlife Management, currently administers all concessions by allocating annual quotas on a three-year basis and selling these concessions to Namibian registered safari operators through auction. Previously, such hunting rights were sold through open tender, although in 1994 a public auction was held which appeared to be the most efficient way of selling concession and quota rights at market value (Barnes, 1996).

State land hunting quotas for seven concessions sold at NAD1.3 million for a total number of 123 animals during the period 1995 to 1997. As shown in **Table 21**, the number of concessions during 2000-2003 has now risen to 10. This is due to the inclusion of three hunting concessions (C1 East/West Caprivi, C2 Buffalo, C3 Mahango) following a moratorium on hunting in these areas brought about by concerns for the safety of foreign sport hunting clients in these areas due to insecurity and acts of terrorism along the Angola border (MET, 1999).

Although concession numbers have increased, the overall number of animals of 179 per year has remained surprisingly few. Still, total revenues attained are substantial at NAD4 million per year for the period 2000-2003, due mainly to the preponderance of sought after trophy species such as elephant (45), leopard (14), and buffalo (14), which make up over 40% of the high-value species. Total auction prices obtained for the concessions were much higher then expected with actual total auction prices of NAD4 million amounting to over double the minimum auction reserve price of NAD1.8 million. Prices for each concession's package of species was influenced by the ease with which the animals on quota could be found and hunted, and the likely quality of trophy that these animals would produce. This explains why auction prices for C6 (Western Kavango and Mangetti), which had a greater number and better composition of animals then C7 (Waterberg Plateau), were over five times the auction price of the latter concession (**Table 21**).

Table 22

Annual estimated number and reserve price for problem animals hunted by concession holders during period 2000 to 2003

Species	PAC price (USD)	Sport hunting price (USD)	Est. number per year	Total est. revenue per year (USD)
Elephant	10 000	20 000	15	150 000
Lion	3 000	6 000	10	30 000
Leopard	3 000	4 000	10	30 000
Hyena	200	500	10	2 000
Crocodile	3 000	4 000	10	30 000
Hippo	3 000	6 000	5	15 000
Buffalo	4 000	14 000	5	20 000
Total			**65**	**277 000**

Source: OPM, 2001

The Namibian Government obtains considerable revenues for managing proclaimed game reserves in north-eastern Namibia from sport hunting, as well as for implementing CBNRM projects with local communities. In addition, MET benefits from the sport hunting of problem animals in these areas (OPM, 2001). Concession holders are allowed to hunt problem animals only when they are in the act of destroying property or endangering lives. A set fee, which is under half the normal sport hunting fee, is agreed, and professional hunters and their clients may hunt such animals in addition to their concession quota (MET, 2000b). Such an approach has turned an expensive wildlife authority exercise into a revenue earning opportunity, whilst increasing the efficiency in which problem animals are dealt with. As indicated in **Table 22**, a potential of NAD277 000 could be earned by MET each year from the problem animal control of some 65 animals.

V. Namibia's Sport Hunting Market

Sport Hunting Market: As a former German colony, Namibia is a very popular hunting destination amongst German and European nationals (Denker, 2001). As indicated in **Table 23**, Europeans make up some 76% of all trophy motivated sport hunting clients visiting the country, with Germans followed by Americans and Austrians constituting the main countries of origin. The ability to hunt renowned trophy quality plains game species such as Gemsbok, kudu, hartebeest and Springbok in the extensive commercial farm land at reasonable rates draws many hunters, as well as the opportunity to hunt elephant in the north of the country. The number of such renowned species offered to visitors is, however, small, and consequently Namibia is not known for its trophy quality "big five" or more charismatic trophy species.

Table 23

Country of origin of sport hunting clients

Country	Total number clients	Professional Hunter clients	Master Hunter clients	Ordinary Hunter clients
Europe				
Germany	1 760	690	926	144
Austria	408	175	166	67
France	188	95	71	22
Denmark	115	84	27	4
Italy	59	35	6	18
Spain	56	45	6	5
Switzerland	43	20	9	14
Sweden	40	11	26	3
Remaining 7 countries	119	46	68	5
Sub-Total	*2 788 (76%)*	*1 201*	*1 305*	*282*
Eastern Europe				
Hungary	109	50	43	16
Slovakia	63	3	55	5
Slovenia	32	32	-	-
Poland	29	12	16	1
Czech Republic	17	7	10	-
Remaining 6 countries	30	30	-	-
Sub Total	*280 (8%)*	*134*	*124*	*22*
Other Countries				
USA	429	284	108	37
South Africa	48	19	9	20
Argentina	29	14	7	8
Russia	20	5	13	2
Mexico	8	8	-	-
Saudi Arabia	8	7	1	-
Remaining 9 countries	54	47	5	2
Sub Total	*596 (16%)*	*384*	*143*	*69*
Total	**3 664**	**1 719**	**1 572**	**373**

Source: Humavindu, 2001; DSS, 2001

Sport Hunting Species: Namibia's primarily arid habitat has given rise to species that can adapt well to the arid conditions of the Kalahari and Namib deserts. Springbok prevail in the generally open habitats of the south, with lesser, associated populations of Gemsbok and kudu. Kudu, Gemsbok and Warthog dominate in the savannahs of the north with other smaller populations of species such as hartebeest, eland, Springbok and Damara Dik-dik (Baker, 1997). Greater savannah species diversity is found in the northern savannahs with giraffe, plains zebra and certain re-introduced species being found there. Large predators such as leopard, Cheetah and hyena occur throughout the central and southern savannah together with more populous species of Steenbok, Klipspringer and Damara Dik-dik (Barnes and de Jager, 1995).

As such, plains game predominates throughout the commercial farmland sector in the southern and central area of Namibia. In the more biodiverse north-eastern area of the country, more charismatic and sought after species such as the "big five" can be found, and this has a direct effect on the different species composition and values of animals hunted for trophies on commercial, communal and State land.

According to Barnes (1996), hunting bags on commercial farms consist almost entirely of plains game. In addition to the 23 567 plains game hunted for *biltong* during 2000, it can be seen from **Table 17** that the majority of animals hunted for their trophy are also the more numerous plains game on commercial farms such as the Gemsbok (3334), kudu (2067) and Springbok (1985). In fact, of the sport hunted animals on commercial farms, only about 0.3% of trophies include any of the "big five" species (elephant, rhino, buffalo, lion and leopard). In contrast, the hunting bags offered in the Communal Area Conservancy and State land hunting concessions in the north east of the country consist of only 59% of plains game and some 41% of big game species such as elephant, buffalo, lion and leopard.

VI. Management of the Sport Hunting Industry

Namibia maintains one of the most well-regulated and managed sport hunting industries in the region. Management is focused on attaining maximum economic and social benefits from a finite hunting resource in all of the countries land tenure systems. This has been achieved through the establishment of private, non-governmental and governmental management structures that have ensured that standards are maintained, and monitoring and administration systems put in place so that informed management decisions can be made when, for example, quotas and fees of animals to be hunted are established and/or revised.

i.) Sport Hunting Management Bodies

The primary institution responsible for the management of the sport hunting industry is MET. MET achieves this through a number of directorates: the Directorate of Scientific Services is responsible for administering and monitoring the industry (DSS, 2001); the Directorate of Environmental Affairs conducts socio-economic surveys and research work to provide the necessary data and information for wildlife policy development; and, the Directorate for Parks and Wildlife Management takes much of this information and applies its effective implementation within hunting areas in State land, commercial land and communal land (Beytell, 2001).

Although the MET takes a direct management role in the State land hunting concession areas, its policy with regards to commercial and communal lands has been firmly committed to the gradual devolution of management responsibility to those who live with and benefit from the wildlife resource. The extent to which this has occurred has been directly related to when enabling legislation has been enacted, and the speed in which land owners have been able to develop their capacity to manage (MET, 2000a).

As such, commercial farmers in the private sector have benefited the most from an almost total devolution of management responsibility. Although representing the interests of all safari hunters in Namibia, the Namibia Professional Hunting Association (NAPHA) members are predominantly from the commercial farming sector. NAPHA works closely with MET, and has established a number of sub-committees such as the Disciplinary, Quality Control and Predator Sub-committees that strive to promote ethical hunting from a sustainable resource (Heger, 2000).

More recently in the communal lands, MET has begun to gradually devolve wildlife management responsibility to conservancies that have established a representative Conservancy Committee, developed a constitution and management plan, as well as a plan for the distribution of benefits (NACSO, 2000). As communities have been alienated from the wildlife resource for so long due to skewed development objectives of former government powers, Communal Area Conservancies have obtained considerable assistance from NGOs in developing their capacity to manage the wildlife resource. The USAID-funded, WWF-managed, Living in a Finite Environment (LIFE) programme was established in 1993 to meet this need, and since then has spent USD27.8 million on building the capacity of communities to manage wildlife more effectively (WWF/LIFE, 2000).

A clear strategy exists in terms of building the capacity of Namibian institutions and NGOs to take over the management of the national CBNRM programme. As planned, the main sponsor, WWF, exited from the project in 2002, at which stage the steering committee of nine Namibian partner organisations took over the running of the country's CBNRM programme in close collaboration with MET. Of these, the Namibia Nature Foundation is responsible for grant management, the Rossing Foundation for CBNRM training, the Integrated Rural Development and Nature Conservation (IRDNC) for capacity building, and the Namibia Community Based Tourism Association (NACOBTA) for developing tourism enterprises (Gujadhur, 2000).

ii.) Maintaining Quality and Standards

Namibia realises that if it is to maintain wildlife-based tourism as an integral component of its GDP, it has to maintain the standards and the quality of the tourism experience. This is especially the case within the sport hunting industry. As laid out in the *Nature Conservation Ordinance No. 4 of 1975*, hunting farms, guest farms and professional hunters in concession areas all have to meet exacting standards with regards to accommodation, food and transport (GoN, 1975). Government inspectors regularly inspect sport hunting establishments to ensure that these standards are maintained, and this is one of the primary reasons why hunting in Namibia is an expanding industry (Erb, 2001).

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Springbok *Antidorcas marsupialis*

The *Nature Conservation Ordinance No. 4 of 1975* also clearly outlines the qualifications and expected standards of ordinary hunting guides, master hunting guides, and professional hunters. In brief, these require that an ordinary hunter be tested, both practically and theoretically. After two years experience and a minimum of 12 sport hunting excursions, the hunter may apply and be tested for master hunter. Similarly, professional hunters need two years experience as a master hunter and must again be tested in theory and practice on all aspects pertaining to sport hunting.

The qualifications of professional hunters in Namibia are regarded as one of the highest in the SADC region, as testified in part by the reportedly high examination failure rates (Beytell, 2001). Interestingly, MET regards the unethical behaviour of some Namibian professional hunters as a major issue affecting the future of the industry (Erkana, 2001). NAPHA also takes this issue seriously, and has established a Disciplinary Sub-Committee, which addresses unethical hunting behaviour of its members (some 400 members in 2001), and also advises government on disciplinary cases of non-members. NAPHA insist that members hunt according to the ethical principles stipulated in its Hunting Code (Heger, 2000).

As with all sport hunting countries, Namibia's popularity as a hunting destination is also based on its reputation for producing quality trophies. Subsequently, MET maintains a minimum trophy quality size requirement when hunting and exporting trophies out of Namibia (GoN, 1975). MET is again assisted by the Quality Control Sub-Committee of NAPHA to audit the quality of trophies leaving the country (NAPHA, 2000). This helps to ensure that only mature animals are hunted and Namibia maintains its reputation abroad as a quality hunting destination.

iii.) Monitoring and Administration

Namibia maintains one of the most effective and well-run monitoring and administration systems for the sport hunting industry in the SADC region. The Permit Licensing Department under the Directorate of Scientific Services is responsible for establishing and maintaining these systems (DSS, 2001). One of the main reasons for their success, is that all stakeholders (hunters, commercial and communal land owners) who are required to feed information into these systems have "bought into" their usefulness for making informed management decisions. This "buy in" has been achieved through METs effective use of such information for making better decisions especially with regard to quotas.

The permit office maintains open files on all of the 458 registered hunters in Namibia, and has accurate data on trophies hunted and revenues generated throughout the country for *biltong* and trophy motivated sport hunting (Erb, 2001). The *Nature Conservation Ordinance No. 4 of 1975* outlines the monitoring system in place in Namibia, which requires that each hunter submit returns by November of each year. Failure to do so results in the hunter being banned from hunting in the following year (GoN, 1975). As the Permit Office adheres strictly to this regulation, non-returns from hunters are a very rare occurrence. Hunting return forms are well designed, and request important off-take, financial and biological data. During the 2000 hunting season, some 3922 hunting permits were issued, and nearly all hunting returns were obtained.

Although hunt return forms are obtained from the commercial farm sector, little additional monitoring by MET occurs. Since 1967 commercial farmers have undertaken their own monitoring, all too aware of protecting what is fast becoming the commercial sectors primary means of livelihood (MET, 1998). In the communal areas, MET's policy is also to facilitate direct management by land owners, and hence, with the support of the private sector and NGOs has instigated monitoring training programmes (NACSO, 2000). Such monitoring programmes were first established in the Kunene region by IRDNC who developed the Community Game Guard Monitoring System in the early 1980s. This system began the process of devolving some wildlife benefits to communities, and importantly stressed the importance of maintaining community-based monitoring systems.

Within each Communal Area Conservancy constitution and management plan is the requirement to establish a monitoring system for recording wildlife numbers and the impacts of management actions and utilization on these populations. These systems also include the monitoring and recording of other biological data such as on rainfall, vegetation, as well as on financial data such as income and expenditure (MET, 2000b). Although the degree to which such monitoring systems have been implemented in each conservancy is variable, the financial and biological data obtained has proved invaluable for those conservancy committees using adaptive management to sustainably use the wildlife resource whilst maximising economic returns. Margules (1999) reports that efforts are underway to formalise such community-based monitoring systems into a national biodiversity planning and monitoring programme.

iv.) Sport Hunting Quota Setting

Even though MET has devolved wildlife benefits and the responsibility to manage wildlife to land owners on commercial and communal lands, it still retains ownership of wildlife and hence is responsible for determining the number of animals to be hunted. As such, government transfers the "rights to use" rather then the true ownership of the hunting resource (Corbett and Jones, 2000). MET, through the Directorate of Parks and Wildlife Management, establishes the quota of animals to be hunted on communal lands and in the State land proclaimed game reserve hunting concession areas. Quotas are conservatively developed from monitoring data that includes aerial counts, ground monitoring, questionnaires, and off-take rates obtained from the Permit Office (DSS, 2001).

As the State land and communal area hunting concessions occur predominantly in the north of the country, MET maintains relatively good aerial census coverage of this area, with the last comprehensive aerial census occurring during the 1996/97 season (Margules, 1999). Such data enables the development of accurate quotas for the larger trophy species such as elephant and buffalo, but is less useful for smaller, harder to observe, species. Consequently, other sources of information, such as Communal Area Conservancy monitoring data and hunting off-take rates are used, and conservative quotas set to ensure sustainability. In general, the larger the species, the lower its sustainable off-take rate. MET usually maintains quotas of about 5%. Specifically, for most antelope species the off-take rate is usually about 3% of the total population, while for larger species, such as elephant, the rate is only some 0.7% of the total population (Barnes, 1996).

In the commercial farm sector, land owners apply to MET each year for a quota of animals that they would like to hunt or otherwise use consumptively. MET believes that farmers will not wilfully endanger the future viability of their hunting operations by utilizing too many animals in any one year. To be safe, however, the Directorate of Parks and Wildlife Management is also mandated with the task of undertaking visits to selected farms to verify game populations and requested quotas (Erb, 2001). The degree of self-regulation, however, especially with regard to quota setting, is far more decentralised in the commercial farming sector then in the communal areas, reflecting to some extent the capacity of land owners to effectively manage wildlife resources. As Communal Area Conservancies capacity to manage increases, it will be critical to also decentralise the quota setting process to ensure the true devolution of wildlife benefits and the incentive to manage.

v.) Maximising Economic and Social Benefits

The sport hunting industry in Namibia generates direct total revenues of some USD11.5 million that not only contributes significantly to GDP, but also towards motivating wildlife management and conservation in the country's State, communal and commercial lands. The industry not only maximises revenue through the efficient application of trophy fees, daily rates and concession fees, but also strives to ensure that such revenues are earned by those who own and live with the hunting resource. As previously described, the conservation benefits in terms of increased numbers of valued wildlife resources, and the social benefits in relation to increased livelihoods, have been substantial throughout Namibia's commercial, communal and State lands.

In Namibia, first round economic revenue from the sport hunting industry primarily comprises of income to safari operators from the sale of trophies hunted (trophy fees) and daily rates (accommodation, subsistence, etc.), which amounted to USD11.5 million during 2000. Other direct expenditure incurred by hunting clients, such as taxidermy costs, trophy export fees, flights, accommodation in urban hotels, craft and curio purchases, could increase the total gross revenue to as much as USD18-21 million. MET (1997) estimated that visitors spend on average a further 60-80% of their direct costs (trophy fees and daily rates) with safari operators. Analysis of the full economic impacts (direct and induced effects) resulting from the income multiplier would further add to this total value (Humavindu, 2001). Second round expenditure from this revenue includes income to government from the sale of hunting permits, and income to land owners in communal and State land from the sale of hunting concession leases or the right to hunt which amounted to approximately USD0.9 million (**Table 24**).

Table 24

Sport hunting income during the 2000 hunting season

Income	Total value (USD)
First Round	
Trophy fees	7 648 913
Daily rates	3 892 392
Sub-Total	*11 541 305*
Second Round	
Government hunting permits	14 355
Communal area conservancy concession lease fee	398 533
State land concession lease fee	527 964
Sub-Total	*940 852*

Source: Humavindu, 2001

First Round Income: As indicated in **Table 24**, trophy income is by far the largest contributor to first round income at USD7.6 million (66%) in comparison to daily rate fees which are USD3.8 million (34%). During the 2000 hunting season, some 13 306 animals were hunted by about 3644 clients (approximately four animals per client). **Table 25** shows that a total of 15 446 days were spent hunting, with clients spending on average 4.2 days in the country. On average each client spent around USD3167 on a four-day safari that involved the hunting of four animals, making Namibia one of the cheapest sport hunting destinations in the SADC region, if not the world.

Trophy fees, at an average of USD575 per animal and daily rates at an average of USD252 per day, are much cheaper then found in nearby countries such as Botswana and Zimbabwe. Such reasonable costs are due to Namibia's predominantly plains game hunting bags on offer, especially in the commercial farming sector, as well as its reputation for offering animals of smaller trophy size which are harder to come by in the expansive arid habitats of the central and southern savannahs.

An analysis of trophy fees from 18 key trophy species, and daily rates charged by some 400 members of NAPHA, revealed, as expected, that ordinary hunters (usually farm owners who are authorised to hunt on just one property) had the lowest fees at USD181 per day and USD761 per trophy, as compared to master hunters (commercial hunters who can hunt on three properties) of USD268 per day and USD802 per trophy and professional hunters (commercial safari operators who can hunt anywhere) at USD308 per day and USD839 per trophy. Accordingly, professional hunters contribute the greatest trophy and daily rate revenues to the industry, followed by master guides and then ordinary guides (**Table 25**).

Table 25

Sport hunting dynamics during 2000

Category	Av. daily rate (USD)	Av. trophy fee (USD)	No. of clients	Total days stayed	No. animals hunted	Total daily rate	Total trophy fee
Ordinary Hunter	252	536	374	1 217	1 131	306 684	606 764
Master Hunter	252	546	1 545	6 135	4 987	1 546 020	2 722 768
Professional Hunter	252	601	1 725	8 094	7 188	2 039 688	4 319 381
Total	**252 (Av.)**	**561 (Av.)**	**3 644**	**15 446**	**13 306**	**3 892 392**	**7 648 913**

Source: Humavindu, 2001
Note: Total days stayed in the country is likely to be an under-estimate as the days of arrival and departure are not explicitly recorded in the hunting return sheets.

Differences in fees charged can be attributed to the guide or operators ability to take a client hunting in a number of different locations. Barnes (1996) maintained that the ability of a guide or operator to, for instance, hunt plains game at a reasonable cost on a farm in central or southern Namibia, and then move on to a communal or State land concession in the north-east of the country to hunt more renowned trophy species such as elephant, at higher costs, resulted in realising the maximum benefit from the country's finite hunting resource.

Surprisingly, **Table 26** shows that the top 15 trophy-fee earning species are predominantly the plains game species with, for example, kudu, Gemsbok and hartebeest contributing some USD3.4 million or 45% of the total trophy fee realized by the entire sport hunting industry. This reflects the predominant dynamic of plains game hunting in the commercial farm sector, with the "big five" trophy species contributing minimal revenue, which is a marked difference to neighbouring countries such as Zimbabwe and Botswana where elephant alone is responsible for the majority of the national sport hunting revenues generated.

Table 26

Highest ranking species in terms of trophy fee contribution to total revenue during 2000

Species	Professional hunters	Master hunters	Ordinary hunters	Total animals hunted	Average trophy fee (USD)	Total trophy revenue (USD)
Greater Kudu	911	769	179	1 859	680	1 264 120
Gemsbok	1 328	1 138	232	2 698	539	1 454 222
Red Hartebeest	670	569	100	1 339	540	723 060
Springbok	1 030	561	139	1 730	344	595 120
Warthog	729	685	171	1 585	351	556 335
Cape Eland	196	102	23	321	1 396	448 116
Blue Wildebeest	290	101	36	427	925	394 975
Zebra	400	181	--	581	672	390 432
Black Wildebeest	186	105	12	303	1 162	352 086
Blessbok	468	255	53	776	431	334 456
Impala	228	110	16	354	517	183 018
Waterbuck	59	18	--	77	2 000	154 000
Cheetah	34	22	8	64	2 147	137 408
Leopard	40	12	3	55	2 472	135 960
Elephant	15	--	--	15	7 500	112 500

Source: Humavindu, 2001

Second Round Income: As important as the total value of the sport hunting industry is the issue of who obtains such income. By calculating the total number of animals hunted and revenue realised through trophy fees and daily rates it can be estimated that safari operators generated some USD416 905 (USD371 797 trophy fees and USD45 108 daily fees) and USD875 822 (USD665 150 trophy fees and USD210 672) per annum in the four Communal Area Conservancies and the 10 State land hunting concessions respectively during 2000. As Communal Area Conservancies obtained about USD398 533 in concession lease fees (**Table 24**), they therefore retained approximately 89% of the total value of the hunting resource. Similarly, MET retained through lease concession fees about 76% or USD665 150 of the total value of USD875 822 made by safari operators in the State land hunting concessions (**Table 27**).

Table 27

Sport hunting revenue retained by land owners in State and communal land in 2000

Species	Av. trophy fee (USD)	State Land Hunting		Communal Conservancy Hunting	
		No. Animals	Total trophy revenue (USD)	No. Animals	Total trophy revenue (USD)
Elephant	7 500	45	337 500	6	45 000
Leopard	2 472	14	34 608	3	7 416
Crocodile	1 000	4	4 000	-	-
Hippo	5 000	2	10 000	-	-
Hyena	50	12	600	3	150
Lion	6 500	14	91 000	-	-
Buffalo	4 000 (est.)	18	72 000	-	-
Sable	5 500	7	38 500	-	-
Roan	6 300	6	37 800	-	-
Eland	1 396	7	9 772	-	-
Steenbok	233	6	1 398	10	2 330
Duiker	208	6	1 248	-	-
Kudu	680	4	2 720	40	27 200
Lechwe	1 600	2	3 200	-	-
Baboon	50	-	-	40	2 000
Reedbuck	200 (est.)	2	400	-	-
B/wildebeest	925	6	5 550	-	-
Impala	517	4	2 068	-	-
Gemsbok	539	6	3 234	109	58 751
Giraffe	1 400	2	2 800	2	2 800
Zebra	672	8	5 376	30	20 160
Ostrich	450	-		41	18 450
Springbok	344	4	1 376	535	184 040
Klipspringer	300	-	-	1	300
B/backed Jackal	200 (est.)	-	-	16	3 200
Total		**179**	**665 150**	**836**	**371 797**

Source: NAPHA, 2001; Humavindu, 2001

Compared to other countries in the SADC region, the proportion of total value retained by land owners is substantial and is achieved by conservancies and MET embracing competitive tendering and auction practices when selling hunting rights on their land. Specifically, conservancies have received considerable support through capacity building initiatives to improve the ability of local committees to obtain market prices for hunting concessions (Davis, 2001).

Success in increasing competition amongst safari operators through a well-advertised and managed open tender system has resulted in increased prices. By using a competitive tender process, the Nyae Nyae Conservancy, for example, was recently able to double the amount of income it received from sport hunting from USD115 000 to USD265 000 per year (WWF/LIFE, 2000). The success of this approach has resulted in the Torra Conservancy becoming the first to be financially self-sustaining and to cover 100% of its expenses from self-generated funds (NACSO, 2000).

In addition to increasing revenue retained, conservancies also ensure the equitable distribution of such revenue to land owners. Before being registered, conservancies have to develop a "benefits distribution plan" that clearly outlines the mechanisms in which the local committee should distribute revenue to land owners (MET, 2000a). Revenue is distributed as cash benefits directly to households (i.e. Nyae Nyae Conservancy) or through community projects (i.e. Torra Conservancy). Jones (2000) found that income was effectively distributed in five conservancies through direct cash handouts or community projects, although harder to confirm was whether the link between this income and resource conservation was being made by local residents. What's unique, however, is that no portion of revenue from hunting or tourism is required to be sent to MET or the central government, with all income remaining within the conservancy (Jones and Mosimane, 2000).

Outside of the State land hunting concessions, MET retains very little in the way of sport hunting revenue, with only USD14 355 earned during 2000 for the issuance of some 3922 hunting permits (Humavindu, 2001). This amount hardly covers even the cost of issuing the permits, let alone activities associated with the METs role in administering, monitoring and regulating the sport hunting industry in Namibia. In the commercial farming sector during 1991, for example, of the total estimated turnover of NAD13 million, it was believed that MET obtained only about 2% or NAD220 000 (Barnes, 1996). Correspondingly, MET maintains a low wildlife management presence within the commercial farming sector, preferring to allocate all responsibility and accountability to private farm owners. Similarly, MET received little, if any, revenue from sport hunting in the Communal Area Conservancies, and similarly is in the process of building capacity for these conservancies to manage their own wildlife resources with little interference from MET.

VII. Discussion/Conclusion

Sport hunting forms an integral component of Namibia's strategy to conserve wildlife. Since 1967, the enactment of enabling legislation that resulted in the growth of sport hunting in commercial farmland and the more recent transference of such rights in 1996 to communal land residents, sport hunting has been the steam engine responsible for stimulating increased wildlife management and in ensuring the financial viability of many wildlife enterprises and conservancies in Namibia's commercial and communal lands. In combination with the significant income and increased wildlife management attained in State land hunting concession areas, sport hunting has contributed greatly to observed increases in wildlife populations in all of Namibia's land categories.

COUNTRY ACCOUNT: SPORT HUNTING IN SOUTH AFRICA

I. Background

Map of South Africa

Courtesy of the General Libraries, The University of Texas at Austin

Geography: South Africa is bordered in the east by Mozambique and Swaziland, in the north by Zimbabwe and Botswana and in the west by Namibia. The country Lesotho is located within the borders of South Africa. The majority of the country has a summer rainfall except for Western Cape Province, which has a predominantly winter rainfall. Mean annual rainfall varies greatly across the country with a quarter of the country receiving less than 250 mm per year and only 8% receiving more than 750 mm (Schulze, 1997). Seven biomes fall inside South Africa and vegetation varies from savanna in the east, to karoo scrubland in the west, with coastal forest occurring along the southern and eastern coast and fynbos along the south-western coast (Acocks, 1988; Anon., undated a).

South Africa comprises nine provinces, each with its own administration system and legislation. Prior to the provincial restructuring process which took place in 1994, South Africa consisted of four provinces: Transvaal which has since been divided up into Gauteng, North West, Limpopo (Northern) Province and Mpumalanga; Natal which was renamed KwaZulu-Natal; Orange Free State which was renamed Free State; and, Cape which has since been divided up into Eastern Cape, Northern Cape and Western Cape. Not all the divisions exactly followed the old provincial lines, for example, parts of the Transvaal now fall into the Northern Cape and North West Province.

Socio-economic: South Africa's population statistics are characteristic of those of other developing countries in Africa in terms of growth. The population census carried out in 1996 showed the population to be 37.9 million. The growth rate was estimated to be 2.17%, with 37.3% of the population being under 15 years of age. 55% of the population lives in urban areas. The former homeland and self-governing territories are largely degraded as a result of *donga* and sheet erosion stemming from over use and inappropriate farming techniques (Hilton-Barber, 1998). As a result, these areas are unable to effectively support rural populations.

The tourism industry has been widely promoted both within South Africa and overseas. As a result, tourism figures have increased in South Africa since 1993.

Land Tenure: Land tenure in South Africa remains unbalanced with landlessness and poverty a source of insecurity among the majority of the black population. This is currently being addressed by the Land Reform Programme through restitution, redistribution and tenure reform. Joint venture projects have been set up as part of the redistribution programme and are found mainly in agricultural areas. Claims submitted to the restitution programme have predominantly concerned urban areas but two interesting cases involve wildlife areas:

- Makuleke (Limpopo Province) – the Makuleke claim was for land in the Kruger National Park. The claim was settled and saw the Makuleke community (comprising 10 000 people) regain ownership over 25 000 hectares of land in the Kruger National Park. In terms of the agreement, the community will manage the land with South African National Parks (SANParks) and all income accrued from this area will be for the community's benefit. The community will not move onto the land; and,
- 'Khomani San & Mier Communities (Northern Cape) – these two communities received a total of 130 000 hectares of land, 50 000 of which is in the Kalahari Gemsbok National Park and will be run as a contractual park. This land will be divided between the two communities (Anon., undated b).

Land is predominantly privately owned in South Africa and accounts for 73% of the area under wildlife. This is followed by communal land (13%) (Damm, 2002) with the remaining 14% owned either by the State, provincial or municipal authorities.

Natural Resources Base: South Africa's economy has traditionally been rooted in its mineral wealth of diamonds and gold. By 1971, however, the value of manufacturing output was 27.1% of the GDP compared to 11.7% for mining and 9.5% for agriculture. Agriculture remains one of the most important sectors of the South African economy even though it provides a relatively small proportion of the GDP (6% in 1988). Its importance results from its contribution to exports (Enderwitz, 1994). Agriculture (including game farming) has grown at an average rate of 10.3% over the past few years, a higher rate than other markets such as mining (8.1%) and manufacturing (9.1%). Accommodation services

has grown at a rate of 9.6% which is not particularly high considering the effort South Africa has put into actively marketing itself as a tourist destination. The high growth rate for community, social and other personal services (15.5%) is to be expected in a developing nation (Stats SA, undated).

South Africa is well known for its wildlife diversity and is recognized as the third most biologically diverse country in the world (Anon., undated a). It is the only country that offers the opportunity to hunt the "big five" (lion, leopard, rhinoceros, buffalo and elephant) and is home to 29 antelope species, six of which are endemic, as well as a variety of other species such as Burchell's Zebra, Cape Mountain Zebra (endemic), buffalo, large and small cats, elephant, Warthog, hippopotamus and Spotted Hyaena. Three species of antelope, Roan, Sharpe's Grysbok and Lichtenstein's Hartebeest are scarce and no hunting permits are currently being issued for them (Anon, 1997).

II. Wildlife and Sport Hunting Policy, Process and Legislation

Wildlife and Sport Hunting Policy Process: Wildlife management policy, including hunting regulations has evolved over time. South Africa followed a protectionist strategy for many years as a result of large numbers of game being shot out by European settlers when they first arrived in the 17th and 18th centuries. Much of this shooting continued into the 20th century and severe restrictions were legislated regarding who could hunt and where. Some species, however, regarded as 'vermin', such as the now endangered African Wild Dog, were hunted ruthlessly.

Game reserves were first established in the 1890s after the outbreak of the *rinderpest* epidemic in 1896. These reserves were closed to the public, and people living within the areas proclaimed as reserves were forcibly removed. The reserves were primarily areas in which landed gentry could hunt, but also served to provide a 'nursery for the propagation and preservation of the South African fauna'. The first restriction on hunting was imposed in *Republican Law Number 5 of 1894*. This law proposed a closed season during which no hunting could take place. Certain rare species, however, such as elephant, were totally protected and no hunting of these species was permitted. In the Transvaal colony, hunting legislation was given almost annual attention and prescribed severe punishment and control (Carruthers, 1988).

The need for control mechanisms to regulate the sport hunting industry became increasingly clear. In 1981, legislation was introduced which provided protection to the foreign hunter through obligatory standards (G. Davies, pers. comm., 2001; Anon, 1997). These regulations are fairly consistent throughout the provinces and are discussed twice a year at the meetings of the South African Professional Hunting Committee (SAPHCOM) meetings.

Wildlife and Sport Hunting Legislation: There are currently several pieces of conservation legislation in force in South Africa regulating hunting. The following Ordinances and Acts are most commonly used:

- *Transvaal Nature Conservation Ordinance 12 of 1983* – in force in Gauteng and North West Province;
- *Limpopo Environmental Management Act 7 of 2003* – in force in Limpopo Province
- *Mpumalanga Nature Conservation Act 10 of 1998* – in force in Mpumalanga;
- *Free State Nature Conservation Ordinance 8 of 1969* – in force in the Free State;
- *Cape Nature Conservation Ordinance 19 of 1974* – in force in Northern Cape, Western Cape and Eastern Cape; and,
- *KwaZulu Nature Conservation Act 29 of 1992* and *Natal Nature Conservation Ordinance 15 of 1974* – in force in KwaZulu-Natal.

Legislation developed for the former homelands and self-governing territories was not immediately repealed during or after the provincial restructuring process of 1994. This restructuring did not simply divide up the former provinces into smaller provinces but reshuffled the boundaries of the former provinces. In other words, areas which previously fell within the northern sections of the Cape Province fell into either the Northern Cape or North West Province which has left South Africa in a situation where one province may have to enforce several pieces of conservation legislation. Gauteng, for example, has nine pieces of legislation in force (Bürgener *et al*., 2001). The provisions of these pieces of legislation may conflict, for example, the conservation legislation of the former self-governing territory Bophutatswana, which is still in force, allows for the capture of birds for personal consumption, while the Transvaal Nature Conservation Ordinance does not. This leads to confusion in those parts of Bophutatswana which are now North West Province.

All of these pieces of legislation essentially prohibit the hunting of wild animals without the necessary permits or licenses, although landowners, their relatives or staff and land occupiers may obtain exemption from these requirements. While wording may differ slightly between provinces, the legislation provides for the classification of game into categories such as 'Specially Protected Game', 'Protected Game', 'Protected Wild Animals' and 'Ordinary Game', each category affording differing levels of protection.

The legislation places restrictions on the methods used to hunt animals, hunting seasons, places and times, the export and import of carcasses and trophies, and the sale and disposal of carcasses and trophies. Generally the permission of the landowner or his deputy is needed to hunt.

The status of *res nullius* is given to wild animals in South Africa. This means that they are not owned by anybody but are capable of being owned. Ownership is established by taking control of the animals, which usually consists of keeping the animals within a fenced area. The *Game Theft Act 105 of 1991* is used to determine and protect the rights of the owner, especially when game is lured away from the ranchers land or escapes. It should be noted that not all game is covered by this Act as it defines 'game' as wild animals used for hunting or commercial purposes. The Act was established to provide incentives for game ranch owners and provides some guidance on the type of legal tools that can be used as incentives to encourage sustainable trade practices (Bürgener *et al*., 2001).

South Africa does not have any national legislation in place governing hunting, but the *National Environmental Management Act 107 of 1998* (NEMA) supports the principle of sustainable development and requires that the use of renewable resources does not exceed the level beyond which their integrity is jeopardized. NEMA also requires that the environment is held in public trust for the people, that the beneficial use of environmental resources must serve the public interest and that the environment must be protected as the people's common heritage. This is in line with the *Constitution of South Africa Act 108 of 1996* which states that everyone has the right:

a) to an environment that is not harmful to their health or well-being; and
b) to have the environment protected, for the benefit of present and future generations, through reasonable legislation and other measures that –
  i) prevent pollution and ecological degradation;
  ii) promote conservation; and,
  iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

South Africa's *National Environmental Management: Biodiversity Act 10 of 2004* makes provision for "restricted activities" and defines this as follows:

a) in relation to a specimen of a listed threatened or protected species, means ---
  i) hunting, catching, capturing or killing any living specimen of a listed, threatened or protected species by any means, method or device whatsoever, including searching, pursuing, driving, lying in wait, luring, alluring, discharging a missile or injuring with intent to hunt, catch, capture or kill any such specimen;

Game ranching was indirectly encouraged in the past as ranchers were not subjected to stringent tax laws. This situation has changed in recent years and there is concern that these increased taxes will force game ranchers to return to domesticated species such as sheep or cattle (G. Davies, pers. comm., 2001).

III. Wildlife Utilization Industry

The estimated value of the game industry in South Africa for 2000 is shown in **Table 28**. Of the total value of the industry, ZAR140 million, foreign sport hunters are responsible for contributing only around 27% of this income. Hunting by citizens and residents accounts for the largest percentage (53%).

Table 28

The estimated value of the game industry in South Africa for 2000

Source of revenue	Revenue (USD)	Total (USD)	Percent
Foreign hunters	18 360 585		
Hunting animals			
Daily rates (29,275 hunting days)	10 000 000		
Taxidermy	10 000 000	38 360 585	27.4%
Citizen Hunting (*biltong*)	75 000 000	75 000 000	53.6%
Live Capture and Sale	25 000 000	25 000 000	17.8%
Venison Market	1 666 667	1 666 667	1.2 %
Total		**140 027 252**	

Source: Anon., 2000a

The game industry has grown in recent years due to increased emphasis being put on South Africa as a tourist destination. Photographic safaris are increasingly popular. In many instances, government has subsidized the establishment and/or growth of tourism ventures, particularly those involving previously disadvantaged people. Employment from the game industry provides approximately 5000 to 6000 direct jobs for sport hunting and 63 000 jobs on game farms (Anon., 2000b).

IV. Development of Sport Hunting

South Africa's rich diversity of wildlife has always made it a popular destination for those wishing to hunt. Historically, sport hunting was restricted to white landowners and rich tourists who had time to spend on a three-month safari. More demanding time commitments soon meant that people had less time to spend away from their business and home and the time spent on safari was gradually reduced to just a few days. Pressure was put on the professional hunter to provide the required animals in a short space of time. This also meant that smaller landowners could offer safaris in more concentrated areas.

Today, clients can hunt on both privately-owned game ranches as well as controlled hunting areas on State land during the hunting season which usually runs from April through October. In terms of hunting, private game farms are the most important areas in South Africa and vary in size from 1666 ha to 62 500 ha (Anon., 1997). South African game farming has progressed so well over the past few years that it is regarded as the agricultural industry with the fastest growth in the country (Radder *et al*., 2000). Game farming (which includes selective sport hunting and the culling of game for venison) can be an important conservation tool and can provide a welcome boost for economies in developing countries (von Wietersheim, 1988).

i.) Sport Hunting Growth in Private Lands

Interest in managing game on private land increased during the mid-1960s with the specific intention of providing hunting opportunities. Ezemvelo KZN Wildlife (then the Natal Parks Board) not only employed biologists to advise these landowners on game and habitat management, but also stationed nature conservation officers in the area to work with landowners. The document 'Farm Patrol Plan', published in 1975, gave details of how to combat poaching and conserve wildlife in a co-operative manner with neighbouring ranches. The idea of establishing conservancies was born in 1977 when farmers in the Balgowan areas met to discuss joint conservation efforts whereby landowners would pool their resources and hire conservancy guards in an attempt to stop the illegal harvesting of game and plants. The Balgowan Conservancy was formed in 1978 by 22 farmers. Within five years, over 90 conservancies, with 1,000 members and 200 guards had been established, covering 650,000 ha of land. These figures remained stable during the period 1983 to 1986 (Earle, 1991).

In 1985, the Free State (then the Orange Free State) followed suite. The Maluti Centre of the Wildlife and Environment Society of South Africa (WESSA) organized a meeting of the farmers in the Kirannaberg district and formed the Aasvoëlberg Conservancy. The Maluti Centre set out to promote the conservancy concept throughout the province and, by 1991, there were 18 conservancies covering an area of 340 000 hectares and involving 200 farmers and about 16 conservancy guards. Educationalists have also been trained for the programme (Earle, 1991).

South Africa closely follows the IUCN Commission for National Parks and Protected Area's prototype of protected area categories. The management of land receiving this protection is delegated to South African National Parks (SANParks), provincial nature conservation bodies and, in some cases, private nature reserves. Since 1994, a total of 155,119.8 ha have been proclaimed as protected areas and South Africa's national parks have been extended by 71 936 ha.

ii.) Sport Hunting Growth in Communal Lands

There are few hunting operations involving communities. Northern Cape has a project in the Kalahari Region, working with the previously mentioned Mier community, to assist them in the process of registering for foreign sport hunting. Towards this end, Restructuring and Development Programme funding was made available to erect a camp site (M. Badenhorst, Northern Cape Nature Conservation Service, *in litt* to TRAFFIC East/Southern Africa, July 2001).

CREDIT: © Megan Diamond

Buffalo *Syncerus caffer*

In Gauteng, the Dinokeng project has embarked upon the development of a premier tourist destination in the north eastern part of the province. Dinokeng is a diverse area spanning approximately 281 000 acres. The area is well suited to a range of nature-based tourism activities that

promote local craft and culture, providing a much needed boost to the local economy. Hunting is available at a few private lodges and the area boasts the "big five". At Leeuwfonteing, near Moloto, a Collaborative Game Reserve has been established.

In Limpopo Province, there are approximately four community projects which incorporate or plan to incorporate hunts. Three of these are in early stages of development and have not yet started hunting, while the fourth, the Makuleke project, has already conducted its first trophy hunt (D. von Wielligh, pers. comm., 2001).

North West Province has many communal lands which allow hunting. Approximately one-third of the province consists of former self-governing territories which maintained their rights to hunt. Originally the tribal chief was responsible for the allocation of hunts, issuing of permits and receipt of income, but after problems were encountered with the mismanagement of permits and the distribution of income, the system has been changed. Hunting permits are now issued by the Department of Nature Conservation and the income handled by the tribal authority. The nature conservation authorities in North West Province are currently training a number of community members to become trackers, skinners, camp managers, drivers and other supporting roles. A project to train community members as professional hunters was run in 2003 and was funded from the Department's budget (D. Swart, pers. comm., 2001; de Lange, 2004).

Mpumalanga Parks Board initiated a project in 2003 to finance the development of hunting skills and professional hunting courses for people from disadvantaged communities. Of the 2500 applications received, 60 carefully screened and selected candidates were put through a training programme. All students received an official certificate of attendance and, of the 19 that achieved the 70% pass mark, 12 were selected for the professional hunting course. Two of these students have subsequently passed the practical examinations while the others will be retested on certain aspects (de Lange, 2004)

The Northern Cape put students through a similar programme in 2003 (de Lange, 2004). Incentives such as one years free membership of Professional Hunters Association of South Africa (PHASA) were given to the students undertaking training in the various provinces. Students are being encouraged to train towards becoming hunting outfitters and some have been sent to other countries, for example Botswana, for big game experience. Additional programmes have been run to develop hunting skills such as skinning (G. Davies, pers. comm., 2004).

Box 1

"Makuleke" Case Study

After being forcibly removed from their land, the Makuleke community lodged a claim against the state for the restitution of 2000 ha of land in 1996. Most of this land fell within the Kruger National Park and the case quickly emerged as a precedent setting case for claims against other wildlife areas (Steenkamp, 1998).

The Makuleke community could not offer the land the same protection that it had received under the *National Parks Act, No. 57 of 1976*. Thus, the settlement depended on the willingness of the community to accept significant restrictions on their prospective rights and SANPark's willingness to relinquish total control over the area (Steenkamp, 1998).

The parties agreed to maintain the area's protection status and establish a low-impact game-lodge venture (Steenkamp, 1998). A 25-year contractual national park agreement with SANParks was signed, and the area is now managed through a Joint Management Board consisting of equal representation from the community and SANParks. SANParks is responsible for the daily management of the land, while the community gains significant resource-use rights, including the right to develop the tourism potential of the area and to use its natural resources commercially (Steenkamp *et al*. Undated).

A land use feasibility study identified commercial hunting as a viable option which could provide the Makuleke's with a short-term benefit of ZAR500 000 (US$67 000), in addition to about ZAR50 000 in concession fees. The major portion of this income (approximately ZAR475 000) would result from elephant hunts. The study recommended that at least two buffalo, one to two elephant, five impala, four Nyala and two eland of trophy quality could be hunted each year without negatively affecting game populations. The hunt was approved by the JMB and sold to a local sport hunting operator according to South African law. The hiring of a suitable hunting outfitter and professional hunter would absorb a considerable percentage of the total income (Steenkamp *et al*. Undated).

The Makuleke approached SCI to market the hunt jointly, but administrative details left little time to market or plan effectively. On hearing of the proposed hunt, the press strongly opposed the hunt as did local and international animal rights and welfare organizations. SANParks, despite giving assurances of support, "instructed" the Makuleke to cancel the hunt in the name of the Minister for Environment Affairs and Tourism saying that the hunting of elephant was 'illegal' in South Africa. By this time, the hunts had already been sold and the Makuleke's found themselves liable for damage claims (Steenkamp *et al*. Undated).

It is thought that the SANPark's change of heart was based on concerns that a public outcry over the hunting of elephants would jeopardize the downlisting proposal submitted to CITES 11th Conference of the Parties to re-open trade in elephant ivory (Steenkamp *et al*. Undated). With considerable pressure from the Makuleke and Friends of the Makuleke, however, the plan was eventually approved at a JMB meeting in March 2000 and the first hunt took place in May 2000 (Steenkamp *et al*. Undated).

V. Structure and Status of Sport Hunting

In South Africa, the sport hunting industry is considerably smaller than that of citizen hunting (**Table 29**) with sport hunting worth around ZAR28.3 million as against citizen hunting which is worth ZAR75 million. Citizen hunting, which is mainly for *biltong*, takes place on a large number of privately-owned farms.

Table 29

Total value of tourist and citizen sport hunting in 2000

Hunting type	Trophy fees (USD)	Daily rates (USD)	Concession fees	Total (USD)
Tourist Hunting	18 360 585	10 000 000	----	28 395 585
Citizen Hunting	75 000 000	----	----	75 000 000
Total	**93 395 585**	**10 000 000**	**----**	**103 395 585**
% Contribution	90.33	9.67%	0%	100%

SOURCE: C. Hoogkamer, SAPHCOM, *in litt* to TRAFFIC East/Southern Africa, July 2001

While sport hunting often requires a higher standard in terms of accommodation, travel arrangements, trophy quality and delivery of service, citizen hunting is less demanding. Those hunting for biltong are generally more willing to accept poorer conditions in terms of roads, accommodation and trophy quality, prefer instead the chance to 'rough it' and an animal which provides better meat.

VI. South Africa's Sport Hunting Market

***Sport Hunting Market*:** South African outfitters market their hunts mainly in America and to a lesser degree in Europe. American citizens make up approximately 65-70% of South Africa's foreign hunters, with another 20-24% of the hunters coming from Europe (C. Hoogkamer, pers. comm., 2001).

To enter the American market successfully, hunting outfitters need to donate one or more hunts for auction from which the hunting outfitter will receive one-third back. Safari shows in the USA are structured around having a booth at the front of the exhibition stall. To secure these positions, an outfitter must make considerable financial donations as well as hunt donations. The greater the donation, the better the location of the booth. Unfortunately, some hunting outfitters offer the client buying these hunts inferior service and a number of complaints have been made. It is estimated that approximately 40 to 50 hunts are donated each year worth an estimated USD500 000 (C. Hoogkamer, pers. comm., 2001). South Africa competes at these exhibitions with other southern African countries. Together they make up about 40% of the world market with one-fifth of that being South African (C. Hoogkamer, pers. comm., 2001).

Increasingly, hunts are being advertised on the internet. This has the advantage of reducing the costs of advertising for the hunting outfitter but also has several negative implications. The internet is a free market which is not easily controlled. It is extremely difficult to track all the adverts placed on the internet which makes for poor quality control. Hunters have reportedly complained about the hunt they received not meeting their expectations (G. Davies, pers. comm., 2001). Game ranchers are considered to have differing ideas as to what constitutes a trophy which also leads to disappointment from the hunter. Game ranchers cannot advertise their own game farms directly, they need to either be licensed themselves or work through a licensed hunting outfitter if not licensed themselves – many hunts are therefore illegal (R. Kretzschmar, pers. comm., 2001).

According to South African law, only licensed hunters may offer hunts to potential clients. Overseas operators must be licensed hunting outfitters in South Africa to offer hunts in the country. Offering hunts illegally could lead to the hunting outfitter being arrested when he arrives in South Africa with his client. Hunting outfitters claim that what they are doing is legal in terms of their law in their country of residence and this creates a certain amount of confusion (G. Davies, pers. comm., 2001). Where customer satisfaction is not met, it is uncertain as to who should be held responsible, the client or the 'salesman' (R. Kretzschmar, pers. comm., 2001).

Species Hunted: A wide range of species are hunted in South Africa including 26 antelope, the so called "big five", small cats, Warthog and a variety of birds. The main hunting species are presented in **Table 30** by value. **Table 30** is compiled from summaries of professional hunters registers. It lists all species hunted but which may not have been exported as a trophy, such as animals that have been shot 'for the pot'. It is interesting to note that of the top 20 hunted species, 16 are non-CITES listed. The majority of these species are known to breed fairly well on game ranches.

The total value of species hunted during the period 1999 is estimated to be around USD18.4 million. Of these, the top ten species, eight of which are non-CITES listed, account for 57.28% of the value. Impala were the most hunted species but White Rhinoceros was the most valuable species hunted.

Based on the number of animals hunted, Limpopo Province, Eastern Cape and Northern Cape are the main hunting provinces followed by KwaZulu-Natal. Although Gauteng had the least animals hunted within its confines, it is the main province of export for hunting trophies and associated purchases such as curios and souvenirs.

Table 30

Number of animals hunted in 1999 per province by foreign hunters and trophy fees generated

Species	WC	EC	NC	FS	KZN	NW	GT	LP	MP	TOTAL	Avg Value (USD)	Total Value (USD)
Kudu	6	374	144	37	116	117	8	795	32	1 629	1 000	1 629 000
Gemsbok	14	321	365	109	13	155	9	543	2	1 531	850	1 301 350
Lion	0	9	8	17	0	41	0	20	0	95	13 000	1 235 000
White Rhino	0	2	4	4	10	5	0	13	5	43	25 000	1 075 000
Nyala	2	112	18	8	356	29	2	119	16	662	1 500	993 000
Blue Wildebeest	9	121	124	61	105	80	4	554	17	1 075	850	913 750
Impala	11	502	283	68	413	198	17	1 647	101	3 240	280	907 200
Eland	10	100	90	44	19	70	2	170	13	518	1 700	880 600
Springbok	49	1 448	816	338	12	108	5	70	43	2 889	280	808 920
Waterbuck	0	33	55	16	36	67	7	382	12	608	1 300	790 400
Blesbuck	29	889	315	116	134	63	15	473	133	2 167	350	758 450
Red Hartebeest	13	192	161	58	37	132	2	203	3	801	850	680 850
Buffalo	0	3	0	5	5	1	0	118	18	150	4 500	675 000
Black Wildebeest	15	292	158	128	28	82	4	56	28	791	800	632 800
Zebra Hartmann	0	8	34	11	0	3	0	252	4	312	2 000	624 000
Zebra Burchell	2	147	86	56	94	105	6	267	11	774	800	619 200
Bushbuck	3	466	3	3	66	5	0	231	15	792	600	475200
Warthog	0	329	99	0	148	118	6	1 038	87	1 825	220	401 500
Elephant	0	0	0	0	4	0	0	16	0	20	20 000	400 000
Mountain Reedbuck	0	406	59	40	44	13	2	56	13	633	450	284 850
Sub-total												*16 086 070*
Red Lechwe	0	124	3	36	0	5	0	0	4	172	1 300	223 600
Leopard	0	0	1	2	4	4	0	55	3	69	3 000	207 000
Bontebok	16	103	23	12	0	1	0	0	0	155	1 300	201 500
Reedbuck	0	13	0	9	187	5	0	0	7	221	800	176 800
Common Duiker	5	375	67	22	89	24	1	203	6	792	220	174 240
Other Species (71 species)	31	1 081	417	97	121	170	14	610	21	2 562		1 291 375
Total	**215**	**7 450**	**3 333**	**1 297**	**2 041**	**1 601**	**104**	**7 891**	**594**	**24 526**		**18 360 585**

SOURCE: C. Hoogkamer, SAPHCOM, *in litt* to TRAFFIC East/Southern Africa, July 2001
Note: average value is based on average price of species when offered for hunting
Key: WC – Western Cape Province; EC – Eastern Cape Province; NC – Northern Cape Province; FS – Free State Province; KZN – KwaZulu-Natal Province; NW – North West Province; GT – Gauteng Province; LP – Limpopo Province; MP – Mpumalanga Province

Bowhunting: Permission to hunt with bows has been granted to several landowners and a number of hunting outfitters specializing either exclusively or mainly in this rapidly developing and growing form of hunting. While elephant, buffalo, hippo, rhino, giraffe, crocodile, lion, leopard, Brown- and Spotted Hyaena and African Wild Dog were previously excluded, they may now be hunted with a bow. Bow-hunters after dangerous game (lion, leopard, buffalo, hippo, elephant and rhino) must be accompanied by a professional hunter in possession of the prescribed certificate of competence. The client and professional hunter must have a suitable firearm handy when hunting nocturnal animals. Hunting may take place from a hide or at bait, and lighting may be used. Hippo, crocodile, buffalo, elephant and rhino may only be hunted during the day.

Applications to conduct bowhunts are assessed on a case by case basis. Applicants must supply, amongst other things, details of their experience, species hunted, type of bow and its kinetic energy, and the arrows to be used to the nature conservation office in the province in which they want to hunt. The professional hunter must also supply details of his experience (C. Hoogkamer, pers. comm., 2001).

The National Society for the Prevention of Cruelty to Animals (NSPCA) opposes bowhunting as accuracy levels are usually fairly poor. They do, however, recognize that people wish to bowhunt and have carried out competency tests. At the first competency test, over half of the hunters failed the test. NSPCA plan's to carry out further testing in conjunction with organizations such as Mpumalanga Parks Board where hunters that pass the test will be allowed to participate in a planned culling operation (R. Allan, pers. comm., 2001). This incentive will hopefully encourage bowhunters to improve their accuracy.

***Dart hunting*:** Dart hunting is a relatively new development in South Africa. There are currently about seven hunting outfitters offering dart hunting but only one organization specializes in them (P. Bartells, pers. comm., 2001). Codes of conduct, ethics and procedures have been developed but are not well implemented at this stage. Dart hunting, as opposed to rifle hunting, does not culminate in the killing of the animal. The hunter is able to collect a photograph of his trophy, make casts of the horns or tusks and have his trophy entered into record books such as those kept by SCI (Friedmann, 1999; P. Bartells, pers. comm., 2001). Clients are still able to carry out activities essential to rifle hunting such as tracking and stalking game, in fact, the hunter needs to get much closer to the animal to dart it (Friedmann, 1999).

A variety of species have been hunted using this method, with buffalo, elephant, lion, leopard and rhino being the most common species. Hunts vary in length with a rhino hunt taking two to three days, leopard 12 days, lion and elephant each seven days and buffalo two days. More than one species may be hunted during each hunt and some hunters have asked to book the "big five". To avoid animals being darted several times, the hunter may have to travel to several locations to get his animals. Hunting parties are relatively small with usually only the hunter and his/her spouse taking part (P. Bartells, pers. comm., 2001).

An estimated 50 hunts took place in 2001 but this number is expected to increase. Costs are less than those of rifle hunts: a two to three day hunt will cost the hunter in the region of USD8000 which is paid to the pilot and landowner, USD2000-2500 for the trophy, USD1000 for insurance and USD750 for the veterinarian, a total of USD12 250 (P. Bartells, pers. comm., 2001).

Box 2

Dart Safaris

The Wildlife Breeding Resource Centre (wBRC), a working group of the Endangered Wildlife Trust, launched Dart Safaris in 1998. Dart Safaris was the first operator to specialize in dart safaris, and the income they raise goes to the landowner and helps fund other projects run by the wBRC. This type of hunt allows increased public education and awareness of conservation issues, participation by members of the public in conservation management procedures and the expansion of the concept of sustainable wildlife resource utilization.

Dart Safaris only hunts animals that need to be darted for scientific or management purposes such as translocation, microchipping or ear notching, radio-collaring, blood, tissue or hair sampling. Dart Safaris is currently contracted to ear-notch all the rhino on a large private farm for management purposes. This provides the opportunity for a valuable species management programme to be carried out which would not otherwise be possible due to financial concerns.

The collection of scientific material and the carrying out of management activities not only allows for better conservation of species such as rhino but helps conserve the biodiveristy of the country (P. Bartells, *pers comm*., 2001).

Dart hunting is not well thought of by the rifle hunting industry. SAPHCOM would like to regulate against it as they feel that the rifle hunting industry is losing money. They do recognise its use as a management tool but are concerned about animals being darted several times and the associated health risks to the animal. They are also concerned about the monitoring of such hunts. Many rhino exist on farms which have exemption in terms of certain hunting regulations and no statistics of these hunts are compiled (C. Hoogkamer, pers. comm., 2001). The NSPCA does not oppose dart hunting provided that it is done for research or scientific purposes. They also require that a veterinarian be present at all hunts (R. Allan, pers. comm., 2001).

"Canned" hunting: Canned hunting is the hunting of an animal, usually a lion, in a small area. South African legislation states that this area may be no smaller than 400 ha. Animals are usually artificially fed and are often released into the area shortly before being hunted. This option allows a landowner to farm 'intensively' by purchasing animals, releasing them into relatively small areas and having them hunted within a fairly short space of time.

NSPCA opposes canned hunting mainly from an ethical, as opposed to a welfare, point of view. They feel that the breeding of animals specifically to shoot them is ethically wrong, and that genetic flaws are inherent in the process, for example, hybrid Blesbok x Bontebok offspring are very popular for hunting (R. Allan, pers. comm., 2001). Industry insiders are also challenging the basics of canned hunts. SCI considers any lion occurring in a wild population where it can breed and hunt freely as fair game. These lion should not come from circus', zoo's or be specially bred for the hunt and should show a natural desire to escape (B. Quimby, SCI Publications *in litt.* to Executive Committee, Trophy Records Committee, R. Rosen, L. Grimes and K. Hartung, September 1997). PHASA is also opposed to canned hunting as it goes against their Code of Conduct. This Code specifically states that hunters should not allow 'material

gain to supercede principles of fair chase' and that hunters should 'not hunt any wild animal which is not normally self-sustainable nor in its natural state' (G. Davies, pers. comm., 2001).

VII. Management of the Sport Hunting Industry

i.) Sport Hunting Management Bodies

***South African Professional Hunting Committee (SAPHCOM)*:** This committee consists of representatives from all of South Africa's nature conservation departments, PHASA, landowners, game capturers, taxidermists, professional hunting schools and Confederation of Hunters Associations of South Africa (CHASA). The group discusses policy issues and training of professional hunters. They have also been responsible for the basic standardization of hunting legislation throughout South Africa (C. Hoogkamer, pers. comm., 2001).

Professional Hunters Association of South Africa (PHASA): PHASA is the leading professional hunting authority and mouthpiece in South Africa. PHASA works closely with South Africa's nine nature conservation bodies, SAPHCOM and other stakeholders in the hunting industry to ensure that South Africa becomes 'the' hunting destination. Their mission is to 'represent and serve the interests of its members in a pro-active and dynamic manner, advance and promote professionalism and promote the benefits of professional hunting and the conservation of wildlife' (**Table 31**). Their main objectives are to:

- foster the conservation of South Africa's wildlife and flora resources;
- support proper wildlife management and utilization;
- assist and promote ethical hunting in South Africa;
- promote and market hunting in South Africa; and,
- promote high quality service and ethical standards among members.

Table 31

PHASA membership figures for the period 1978 to 2001

Year	Membership
1978	20
1980	62
1985	250
1990	370
1995	600
2000	1 100
2001	1 350

Source: Davies, undated

PHASA have until recently acted as an advisory body for organizations involved in or wishing to become involved in the industry. They have recently established a conservation trust, funded through placing a small levy on each trophy exported from the country, to ensure that the industry is sustainable, provides educational opportunities and assists in community projects (G. Davies, pers. comm., 2001).

Safari Club International – African Chapter (SCI): SCI established its African office in October 1995. This body has representation from professional hunters, hunting outfitters, amateur hunters, wildlife professionals, game ranchers and businessmen on its board and executive committee. It aims to assist in establishing safari operators and professional hunters within the sport hunting community as well as to develop effective and sustainable utilization linked to various conservation programmes throughout Africa. The African Chapter is responsible for assisting with the stabilizing of the industry by promoting long-term hunting and tourism development leases. It also attempts to involve local communities to ensure that they benefit directly and indirectly from sport hunting on their land. In this regard, however, SCI has been accused by some members of PHASA of being too prescriptive in their management and assistance approach (G. Davies, pers. comm., 2001).

Eastern Cape Game Management Association (ECGMA): Since its inception 17 years ago, the ECGMA has become involved in a number of projects. It was the first organization in South Africa to hold catalogue game auctions, and has been actively involved in reintroducing fauna to the Eastern Cape. The ECGMA also runs hunting schools for senior and junior hunters and farm workers. The association has formed a partnership with the wBRC providing opportunities for hunters to become involved in management actions and scientific research. In order to build up a database of scientific samples, the hunter learns how to remove and preserve testes and ovaries from what are often his principal targets – trophy quality animals whose genes are essential for maintaining a high standard in a species (Bezuidenhout, 1999).

There are a number of other local game associations such as the Natal Game Management Association and SA Hunting and Game Conservation Association which focus on the hunting interests of their specific location.

Stakeholder Associations:

- *Wildlife and Environment Society of South Africa (WESSA):* WESSA supports the principle of hunting but calls for it to be carried out in an ethical manner. After the canned hunting debacle in 1997, they requested confirmation

from the hunting industry that they had effective and efficient self-policing mechanisms in place and provided the lead as to what constitutes ethical hunting. Without this guarantee, they felt they would no longer be able to support hunting in South Africa. WESSA accepts that hunting may stem from traditional and cultural beliefs, and that these beliefs may be expanded to meet the economic needs of the community (B. Davidson *in litt*. to B. Maartens, PHASA, October 1997).

- *National Society for the Prevention of Cruelty to Animals (NSPCA)*: The NSPCA opposes hunting unless the meat is to be used for human consumption. They do, however, recognize that people wish to hunt and have been working with hunters and hunting organizations to ensure that hunts are carried out humanely and that shooting standards are improved. The NSPCA has established links with organizations such as PHASA and SANParks and intends to extend these links to other hunting bodies (R. Allan, pers. comm., 2001, 2004).

ii.) Maintaining Quality and Standards

Maintaining Professional Sport Hunting Standards: The professional hunting industry requested legislation to be enacted to standardize and regulate the standards of the industry in 1981. This legislation was implemented in an attempt to provide protection to South Africa's wildlife resource, as well as to the foreign hunter, by setting standards that are obligatory (G. Davies, pers. comm., 2001). These schools are seen as "finishing" schools by stakeholders in the industry as a certain amount of practical experience is necessary before applying for one's professional hunters license (G. Davies, pers. comm., 2001). Tests are designed to ensure that the applicant possesses the necessary knowledge, ability, skill and experience to be a professional hunter. Professional hunters are required to abide by the code of conduct and ensure that their clients operate in a legal manner at all times. Certain provinces, for instance Gauteng, are now limiting the validity of a professional hunters permit to three years after which the person must reapply. Should a permit expire, the hunter will be required to undergo retesting or supply a suitable reason as to why he should be exempt from this requirement. Professional hunters are required to keep registers of all their hunts detailing the clients name and contact details, species hunted, sex, number, place of hunt and format of trophy. Signed copies of the register must be handed to the client and submitted to the relevant nature conservation office for record keeping.

SAPHCOM is currently looking at revising the standards of professional hunting qualifications to bring them in-line with the new education system in South Africa (C. Hoogkamer, pers. comm., 2001). Although nearing completion in 2004, the review of the education system began in 1998 and it is surprising that this revision took so long.

PHASA feels that the process of training someone to become a professional hunter cannot be fast-tracked. They require candidates to have at least 60 days experience in the field before they can be licensed for dangerous game. This is over and above what they need to hunt plains game. Theoretical knowledge can be taught in a relatively short period of time, but knowledge of game and on how to deal with clients, can only be gained by experience. While in favour of giving opportunities to previously disadvantaged people, they require that suitable attention be given to language skills, people capabilities and experience with game (G. Davies, pers. comm., 2001).

Box 3

Professional Hunters Code of Conduct

Professional hunters are bound by a Code of Conduct which reads as follows:

'We hunters will conduct ourselves professionally in a manner which will reflect honesty, integrity and morality. In the spirit of fair chase, the principles of sustainable utilization of our resources will be adhered to, and we also pledge ourselves to:

- Obey all laws of the land;
- Not misrepresent ourselves to clients in any way nor mislead any client;
- Not allow material gain to supercede principles of fair chase;
- Not hunt any wild animal which is not normally self-sustainable nor in its natural state;
- At all times employ humane hunting practices;
- Not hunt female wild animals with dependent offspring;
- Not allow a client to shoot at animals at a distance beyond the capability of their competence or that client's equipment; and,
- Respect local communities' property and input." (Davies, undated).

Professional hunters complete a 10-day course but are expected to have about 200 days experience before they will be issued with a license. Training must be carried out at a professional hunting school which is registered with SAPHCOM. These schools meet annually to present their syllabus and course outline to the other schools for comment. Schools that provide a suitable level of training are then endorsed by SAPHCOM and are recommended to provincial nature conservation departments. The departments may use other schools, but their students will not be recognized outside of the province. Students from previously disadvantaged communities are encouraged to enroll at these schools and are given specialized training to ensure that they will be able to enter the job market competitively. Previously disadvantaged students

will be given the opportunity to participate in a two and a half year course which will involve a mixture of theoretical study and experiential training (C. Hoogkamer, pers. comm., 2001).

Professional hunters are required to either be a citizen of South Africa or a permanent resident. This is to ensure that the client is escorted by someone who has experience and knowledge of the country, the people, the conditions encountered and the behaviour of the game (G. Davies, pers. comm., 2001). Professional hunters are required to hunt at least three times during a three-year period or for at least 21 consecutive days in order for their licenses to be renewed (D. Hignett, pers. comm., 2001). This is a SAPHCOM requirement, not a recommendation.

Maintaining Hunting Outfitters Standards: South African legislation stipulates that hunting outfitters must be licensed. Licenses are only issued after at least 10 years of experience has been obtained and a satisfactory inspection of the outfitters service and facilities is carried out. The hunting outfitter must either have a professional hunter in their service or be registered as a professional hunter.

In order to protect both the client and the hunting outfitter, hunting outfitters must enter into a written agreement with their clients providing names, addresses, the place of the hunt, details of the hunters permit, kind and sex of the animals offered to the client, facilities provided, number of days and the tariff per day. During the hunt, the hunting outfitter is responsible for the transport of the hunter (excluding the international and certain domestic flights), accommodation, catering, safety and entertainment of the client. The hunting outfitter must also provide trackers, skinners and a professional hunter. Taxidermy services should be arranged if required.

Maintaining Taxidermy Standards: There is concern from the larger taxidermists of South Africa over a number of issues ranging from illegal or substandard operations, health and veterinary risks, irregular implementation of the legislation and lost revenue.

The larger taxidermists consider the inspection of shipments to be irregular with their shipments frequently being opened and inspected, but those of certain smaller taxidermists, some of whom offer 'cash & carry' service, not being inspected at all. While the turn around time for the larger taxidermists is approximately one year, these smaller operations offer a seven day service which allows certain trophies to be carried out in the client's hand luggage. While this is certainly appealing to the foreign hunter who wishes to take his trophy home immediately, permits are seldom secured this rapidly and veterinary restrictions are not always complied with (R. Kretzschmar, pers. comm., 2001).

There has been an increasing number of unprocessed trophies exported from South Africa over the past few years and it is thought that this is related to the increased number of smaller taxidermists who produce inferior trophies. As such, South Africa is losing its reputation for the production of quality trophies and many clients now prefer to take their trophies home for processing. American taxidermists are reputed to charge up to three times as much for processing African trophies and some have considered setting up offices in South Africa (R. Kretzschmar, pers. comm., 2001).

The export of unprocessed trophies or 'cash & carry' trophies increases the risk of spreading disease. For example, laws governing African Swine Fever state that a movement permit is needed from a state veterinarian if a swine (inclusive of Warthog) is to be moved outside a 50 km radius of Gauteng. If a state veterinarian is not available, the person transporting the trophy cannot be held responsible according to the legislation. The spread of Foot and Mouth Disease to countries outside of Africa is of grave concern and poses a serious threat to the continuation of South Africa's sport hunting industry (R. Kretzschmar, pers. comm., 2001). Taxidermists would like to see an increase in effective law enforcement and regulation, and not revision to the laws themselves. A large number of people are employed by the industry and any threat to the industry is a threat to the livelihoods of these people (R. Kretzschmar, pers. comm., 2001).

While there is currently no qualification recognized by the Department of Education or the industry itself, some taxidermists offer in-house training and recognition to their staff. By awarding staff a certificate of competency, their marketability is increased (N. Kretzschmar, pers. comm., 2001).

Regulating Minimum Trophy Size: South Africa does not have any restrictions on the animals hunted in terms of their trophy size (D. Hignett, pers. comm. 2001; M. Badenhorst, Northern Cape Nature Conservation Service, *in litt* to TRAFFIC East/Southern Africa, July 2001; L. Lotter, Gauteng Directorate of Nature Conservation, *in litt* to TRAFFIC East/Southern Africa, July 2001). This means that the trophy taken is determined purely by the hunter and his willingness to accept the size of the trophy on offer.

North West Province consults with landowners to set quotas for each season and relies on the landowners to indirectly determine trophy quality by restricting the number of animals which may be hunted (D. Swart, pers. comm., 2001).

South Africa's hunting clients come mainly from the USA. These hunters are generally concerned with getting a good trophy that can be entered into one of the record books. While no minimum trophy size is set by South Africa's hunting industry, American hunters will seldom shoot an animal that is not worthy of record book entry. Thus the attitude of the client regulates which animals are ultimately hunted (G. Davies, pers. comm., 2001).

The implementation of a minimum trophy size would be undermined by South Africa's large *biltong* industry. Game ranchers base their prices on the classification of the animal, that is juvenile, female, adult not of trophy quality, adult of trophy quality, and it would not make sense for the *biltong* hunter to shoot a trophy quality animal at a much higher price when he can get the same amount of meat from a non-trophy quality animal. Therefore, it does not make sense to invest time into determining and enforcing minimum trophy sizes as a wide spectrum of ages are harvested by the *biltong* industry (G. Davies, pers. comm., 2001).

International Conventions: As a signatory to CITES, import, export and re-export permits are required for hunting trophies being brought into, taken out of, or moved through the country. South Africa has also submitted quotas for certain species which have remained stable over the past few years: Leopard (75 trophies and skins) and elephant (86 tusks as hunting trophies from 43 animals).

iii.) Monitoring and Administration

CREDIT: © Megan Diamond

Nyala *Tragelaphus angasi*

South Africa's provincial nature conservation bodies are responsible for the administration of much of the sport hunting industry. They are responsible for the determination of hunting seasons, hunting fees and the issuing of permits to clients, hunting outfitters and professional hunters. Some of these functions, such as the determination of hunting seasons are carried out in conjunction with other stakeholders such as game ranch owners. Bodies such as SAPHCOM allow broader consultation to take place between the nature conservation bodies and other stakeholders such as professional hunting schools and taxidermists. PHASA acts as an advisory body to ensure the sustainability of the sport hunting industry within South Africa.

Records of the number and species of animals hunted, trophies kept, number of hunters and hunts and the hunters country of residence are kept by Northern Cape, Eastern Cape and Western Cape, Gauteng, KwaZulu-Natal, Free State, Mpumalanga and North West Province (M. Badenhorst, Northern Cape Nature Conservation Service, *in litt* to TRAFFIC East/Southern Africa, July 2001; L. Lotter, Gauteng Directorate of Nature Conservation, *in litt* to TRAFFIC East/Southern Africa, July 2001; M. Fryer, pers. comm., 2001; D. Hignett, pers. comm., 2001; S. Hughes, pers. comm., 2001; D. Swart, pers. comm., 2001). This is usually done by means of returned professional hunters records. These statistics are submitted to SAPHCOM for compilation and include both CITES and non-CITES species.

Up until the end of 2001, Limpopo Province was unable to keep a complete record of hunting statistics due to a lack of personnel and a suitable computer system. They had also been moved from one governmental department to another which further delayed implementation of their system. Limited statistics were handed over to PHASA and SAPHCOM (D. von Wielligh, pers. comm., 2001).

All provinces require professional hunters to return their registers detailing species, number, sex and other details of the hunt. While few provinces have penalties for not returning registers, these registers serve as an application for an export permit for the hunter. It is, therefore, in the client's interest that the hunter submits his returns. The specific requirements of provinces are as follows:

- Northern Cape requires only the registers which have trophies for export to be returned and no penalties are issued for not submitting returns (M. Badenhorst, Northern Cape Nature Conservation Service, *in litt* to TRAFFIC East/Southern Africa, July 2001);
- Gauteng provides for a fine not exceeding ZAR750.00 or a period of nine months imprisonment, or both. for failure to return registers (L. Lotter, Gauteng Directorate of Nature Conservation, *in litt* to TRAFFIC East/Southern Africa, July 2001);
- Western Cape does not specifically monitor the return of registers but, in order for the professional hunter to renew his license, he must satisfy certain requirements, one of which is that he has hunted at least three times in the preceding three years or for a consecutive period of 21 days. The return of registers satisfies this requirement (D. Hignett, pers. comm., 2001);
- Limpopo Province requires the return of professional hunter's registers to compile statistics and for the renewal of professional hunter licenses. Fines may be issued for failure to return registers. Limpopo Province does not rely on these registers as applications for export permits as they have found them to be inaccurate. Instead, they require

people wishing to export trophies to supply them with documentation confirming that the hunt was a legal one, for example, a client must attach a copy of his hunting permit, written permission from the landowner or an exemption permit to an application form (D. von Wielligh, pers. comm., 2001);

- In North West Province, professional hunters are required to return their registers although an estimated 3-4% fail to do so. Penalties for not returning registers may result in one's license not being renewed, licenses being revoked, blacklisting or spot fines (D. Swart, pers. comm., 2001); and,
- Eastern Cape may impose a fine if registers are not submitted (M. Fryer, pers. comm., 2001).

Provinces differ in their charges for hunting. Some provinces charge per hunting proclamation (a permit which allows one hunter/client to hunt all the species listed thereon) while others charge per animal hunted. Revenue generally goes into provincial income accounts and not directly back to the nature conservation office (M. Badenhorst, Northern Cape Nature Conservation Service, *in litt* to TRAFFIC East/Southern Africa, July 2001; L. Lotter, Gauteng Directorate of Nature Conservation, *in litt* to TRAFFIC East/Southern Africa, July 2001). Those provinces whose nature conservation bodies have the legal status of a board are able to off-set the costs of issuing permits with the income raised (D. Hignett, pers. comm., 2001). Some consider this a shortfall as the money could be off-set against the costs of issuing permits, while other provinces consider it acceptable as their budget originates from provincial funds (D. Swart, pers. comm., 2001). Value Added Tax and tourism levies are added to the hunting permit in some provinces like Western Cape, while other provinces add a tourism levy to the gate entry fee of their reserves (D. Hignett, pers. comm., 2001; S. Hughes, pers. comm., 2001). By adding the tourism levy to the permit fee, provinces can ensure that they receive maximum income, as people who hunt on private land in provinces, which add the levy to gate entrance fees, are not maximizing their income.

The fees charged by most provinces have remained stable over approximately the past two decades. Recently, provinces have begun revising this and most now levy a charge for hunting licenses and permit applications, particularly CITES permit applications (D. von Wielligh, pers. comm., 2001; M. Fryer, pers. comm., 2001).

PHASA has no objection to paying for hunting licenses but feels that some of the increases proposed are unrealistic. They feel that the costs of the hunting license must reflect the administration costs of issuing that license. A breakdown of how the charges are determined should be made available to the public, and that animals, such as Roan and elephant, should not have high charges simply because they are rare or endangered. If one province makes their costs unrealistically high, hunters will simply go to a province which offers cheaper license fees (G. Davies, pers. comm., 2001).

SAPHCOM is hoping to have legislation passed to force all hunters to belong to at least one recognized hunting association. This aims to ensure that hunters are regulated not only by the law, but also by their association which often has stronger ethical criteria. For example, it is legal to hunt a lion in an enclosure no smaller than 400 ha but many people and organizations do not consider this ethical. Hunting associations will then serve to regulate that their members do not take part in any such hunts (C. Hoogkamer, pers. comm., 2001).

PHASA further considers that licenses to operate as a professional hunter or hunting outfitter should be managed at the national level as these are national, and not provincial, issues. In many cases, professional hunters and hunting outfitters pay nine licensing fees which makes their operational expenses high. While they respect the provincial right to autonomy, having national issues dealt with at a national level will help ensure that actions taken are in the interests of the South African industry as a whole and not just the province concerned. An example is the introduction of Fallow Deer or Lechwe, which are not native to the country. Their introduction was allowed by one province, but as these species became established, they spread to other provinces who had previously refused their import (G. Davies, pers. comm., 2001).

Standards of permit issuance are considered poor by taxidermists and PHASA. They feel that too many mistakes are made on permits and that their issuance is irregular. PHASA reported that foreign professional hunters have applied for membership in order to secure a South African professional hunters license. As foreign hunters are neither residents of South Africa, nor hold South African citizenship, they are not eligible for a license (G. Davies, pers. comm., 2001). The standards of permit issuance and turnaround time of processing applications is being addressed by most provinces.

iv.) Sport Hunting Quota Setting

There are only a few species for which quotas are established, for example, leopard and elephant. These quotas are generally determined by availability of species and have remained fairly consistent over the years. They form the basis of the CITES quota which is divided amongst the provinces. Many species have closed or restricted seasons which may be adjusted according to weather conditions, availability of species and/or any other factors affecting the population, but this is seldom carried out (M. Badenhorst, Northern Cape Nature Conservation Service, *in litt* to

TRAFFIC East/Southern Africa, July 2001). Western Cape's hunting industry mainly revolves around bird shooting. There are open and closed seasons for birds which may be amended as necessary (D. Hignett, pers. comm., 2000).

Ezemvelo KZN Wildlife has quotas for rhino, elephant and leopard. They usually have an annual quota for 10 elephant and, at this stage, only one outfitter applies for these permits. As other landowners establish suitable populations, they will have to look at quota allocations. A quota of seven leopards is available to Ezemvelo KZN Wildlife and these are allocated through a draw system. Farms granted permission to hunt leopards are inspected for signs of leopard to avoid ranchers selling a leopard hunt for money knowing that they don't have leopard (S. Hughes, pers. comm., 2001).

Limpopo Province has quota systems for leopard and elephant. The leopard quota is usually for between 35 and 43 animals per year which is strictly managed. In October/November each year, landowners wishing to hunt leopard must make application through their local conservation office. These applications are then scrutinized for validity and approved permits are sent to the head office for further processing. Sixty permits are approved and landowners are required to notify head office whether or not the hunt was successful. If not, the permit is reallocated. Tags are issued to all successful hunts in compliance with CITES requirements. Elephant are also controlled in a strict manner. Limpopo Province usually receives 80% of South Africa's CITES quota (approximately 17 elephant), but seldom allows more than 10 to be hunted. They have revised their policy to allow the hunting of elephant to be more in line with sustainable utilization (D. von Wielligh, pers. comm., 2001).

Eastern Cape's is usually allocated a quota of four leopard from South Africa's CITES quota. This quota has not been used as provincial authorities are still in the process of developing a policy for these hunts. Elephant have not yet been hunted in the Eastern Cape but applications to do so would be assessed on an individual basis (M. Fryer, pers. comm., 2001).

v.) Maximizing Economic and Social Benefits

Game ranchers justify their high prices by claiming that it is very expensive to keep a game ranch going. They also have to keep stocking the ranch with game bought at high prices. As recently as 1998, hunting associations objected to the practice of using game prices at auctions of one year as the hunting price the following year. For example, the average auction price for a kudu in 1997 was ZAR1738, resulting in the price of a kudu bull hunted for *biltong* in 1998 being ZAR1995, while trophy bulls cost ZAR4,500.

Increasingly, hunts are raffled or auctioned. Approximately 2500 raffle tickets are sold for ZAR3200 (USD400) to overseas clients or ZAR3000 to South African clients for hunts of the "big five". These raffles do not stipulate hunting methods, competency levels or age restrictions and are viewed as irresponsibe by organizations such as the NPSCA (R. Allan, pers. comm., 2001) (Rodrigues, 2001).

To successfully compete on the American market, outfitters are required to donate a certain amount of hunts a year. These donated hunts cost the country approximately USD500 000 per annum (G. Davies, pers. comm., 2001). Clients on these hunts have complained that they did not receive what they expected with regard to the experience of professional hunters and standards of accommodation (C. Hoogkamer, pers. comm., 2001). Outfitters are forced into a situation whereby they need to market the hunts but also need to recover the costs of donating hunts.

There is often a large discrepancy between the price a game rancher charges for his animals and the price the hunting outfitter charges for that same animal. Game ranchers cannot directly market their game to overseas clients unless they are a licensed hunting outfitter. Outfitters are required to have a certain amount of experience in the industry and understand the dynamics of the hunting market. The marketing of hunts overseas is expensive and building the costs of marketing into the price of an animal pushes the price up considerably. Hence, hunting outfitters charge so much more than the game rancher. To have a stand at a safari show overseas costs approximately USD2700 for a booth. The booth is not equipped and the hunting outfitter needs to provide tables, information, displays, poster boards and other publicity material. Trips overseas to attend shows usually lasts from four to six weeks at USD200 per day for accommodation and food (G. Davies, pers. comm., 2001).

Every visiting foreign hunter can be expected to stay for 10 days, hunt six species and take home nine trophies. These avid sportsmen are serviced by 4,000 game ranchers (Bezuidenhout, 1999).

Hunting Fees:

Trophy Fee: Trophy fees vary from province to province and often between game farms. Average hunting fees are provided in **Table 32**.

Table 32

Average hunting fee for commonly hunted species in South Africa for the year 1999

Species	Average value (USD)	Species	Average value (USD)	Species	Average value (USD)
Aardvark	25	Gemsbok	850	Red Hartebeest	850
Aardwolf	25	Large Spotted Genet	40	Red Lechwe	1 300
African Wild Cat	25	Small Spotted Genet	35	Reedbuck	800
Baboon	80	Giraffe	2 300	Roan Antelope	6 000
Badger	50	Grey Rhebuck	700	Sable Antelope	4 000
Barbarry Sheep	1 000	Ground Squirrel	25	Scimitar Horned Oryx	3 000
Bat Eared Fox	25	Grysbok	500	Serval	50
Black-backed Jackal	60	Lichtenstein Hartebeest	1 000	Small Spotted Cat	25
Black Wildebeest	800	Himalayan Tahr	2 000	Spring Hare	25
Blesbuck	350	Hippo	1 500	Springbok	280
Blue Duiker	700	Brown Hyaena	1 500	Steenbok	220
Blue Wildebeest	850	Spotted Hyaena	2 000	Striped Polecat	25
Bontebok	1 300	Impala	280	Suni	900
Bontebok x Blesbok	500	Klipspringer	600	Suricate	25
Buffalo	4 500	Kudu	1 000	Tsessebe	1 200
Bushbuck	600	Leopard	3 000	Vaal Rhebuck	700
Bushpig	250	Lion	13 000	Vervet Monkey	25
Cape Fox	25	Mongoose	25	Warthog	220
Caracal	300	Mountain Reedbuck	450	Water Buffalo	2 000
Civet	100	Nyala	1 500	Waterbuck	1 300
Common Duiker	220	Oribi	1 000	White Rhinoceros	25 000
Dassie	25	Dammah Oryx	2 000	Burchell's Zebra	800
Eland	1 700	Ostrich	700	Hartmann Zebra	2 000
Elephant	20 000	Porcupine	25		
Fallow Deer	400	Red Duiker	700		

SOURCE: C. Hoogkamer, SAPHCOM, *in litt* to TRAFFIC East/Southern Africa, July 2001

The manner in which fees are determined do not appear to be standardized. Many game ranch owners simply add a percentage onto the previous years auction fee and then sell their game at that price. Certain South African game ranch owners have the perception that prices can be based on supply and demand, so as long as hunters are willing to pay high prices, they will remain high.

Table 33 provides a breakdown of standard hunting packages offered on the internet. Details of prices for hunts of the "big five", or including "big five" species, are normally marked 'price on request'.

Table 33

Average packages offered by hunting outfitters in South Africa during 2001

Ordinary game	Special game	No. of days	Value of package (USD)
4 antelope		5	2 950
5-6 antelope		7	3 732
4 antelope	Burchell's Zebra	7	3 800
4 antelope	Ostrich & jackal	7	7 000
4-5 antelope		10	5 275
4 antelope	Buffalo	10	11 250
7 antelope		14	5 500
7 antelope (including ordinary, Black and White Springbok)		14	12 000

Source: Various hunting sites on the Internet

Safari Operator Daily Rate Fee: Daily fees vary depending on the standard of the facilities offered. Hunters have a choice of accommodation varying from camping, to rustic, to luxury. The daily fee includes costs such as marketing fees and agent fees. **Table 34** provides the average daily fee charged by hunting outfitters. Hunting outfitter fees are often built into advertised packages.

Table 34

Average daily rate charged by hunting outfitters in 2001

Daily Rates	Average price (USD)
1 Hunter + 1 PH	650
2 Hunters + 1 PH	627
3 Hunters + 1 PH	730
Observer	234

Source: Various hunting sites on the Internet

Concession Fees:

South Africa bases its concession fees on free market prices. Concessions on government-owned properties are put out to tender while concessions on private properties are also tendered but more in line with an open bid system. Concessions do not necessarily go to the highest bidder with factors such as community development programmes being taken into account, especially on the longer term concessions. The price of the game available on the concession area is built into the concession fee (G. Davies, pers comm., 2001).

PHASA acts as a facilitator to market packages available from both private land owners and government bodies. People who make use of PHASAs facilities usually advertise half their packages through PHASA to PHASA members and open the other half up to the public (G. Davies, pers comm., 2001).

VIII. Discussion/Conclusion

Hunting legislation in South Africa is well developed especially at the provincial level, but overall is somewhat fragmented. In some cases, legislation is not clear or is confusing, especially where legislation from former self-governing territories or homelands has not been repealed and is still in force. This is being addressed through the Department of Environmental Affairs and Tourism's Law Reform Programme which entails revision of the nature conservation acts by the provinces.

Hunting is mainly carried out on private land and, to a lesser extent, provincial land. Limited hunting is done on community-owned land, but this is mostly restricted to local *biltong* hunters. In the past, there was little incentive for communities to become involved in hunting and the costs of doing so were often prohibitive. Some changes in this regard are now being seen however.

South Africa attracts most of its clients from America. While these clients are able to afford to hunt in South Africa, they do pose severe restrictions on advertising. The auctioning and donation of hunts costs South Africa considerable sums of money annually. This system needs to be reviewed.

Professional hunting schools are seen as 'finishing' schools by people in the industry. The content of the courses offered is presented to the nature conservation departments annually, and approval is given to schools meeting certain requirements. The standard of education as well as the structure of the courses will be revised as part of the outcomes based educational system that is being implemented by the Department of Education. This new system will also enable people that have several years of experience to become accredited through the process of 'recognized prior learning' and not going through a formal training institution such as a university or technikon.

Minimum sizes for trophy animals have not been established in South Africa as the large *biltong* industry operates outside the need for minimum trophy sizes, focusing instead on the meat an animal can yield.

One area where the South Africa system clearly differentiates from that of the region, is in quota setting. While the South African system has devolved the responsibility for setting off-take quotas to the game ranch owner, collaboration with provincial nature conservation authorities is still recommended. This will ensure that transparent and accountable practices are followed. The quotas for state land, based on game counts and previous years off-take, are set by the relevant provincial nature conservation authorities.

COUNTRY REPORT: SPORT HUNTING IN TANZANIA

I. Background

Map of Tanzania

Courtesy of the General Libraries, The University of Texas at Austin

Geography: Tanzania is bordered by Malawi, Zambia and Mozambique to the south, Kenya and Uganda to the north, the Democratic Republic of Congo, Burundi, and Rwanda to the west, and the Indian Ocean to its east, having an 800 km long coastline (Attwell, 1992). Most of mainland Tanzania, except for the coastal belt, consists of the Central African Plateau, characterised by gently sloping plains broken by scattered hills and low-lying wetlands. The major upland areas of the country occur in a northern belt that includes the Kilimanjaro, Meru, Pare and Usambara mountains, and a southern and central belt that includes the Ngurus and Ulungurus southern highlands (Leader-Williams *et al.*, 1995).

Socio-economic: One of the country's major unifying factors is that there is no one dominant ethnic group in Tanzania, but rather over 120 ethnic groups with none exceeding more than 10% of the population. Tanzania is also one of the least urbanised countries in the SADC region, with only about 15% of the population living in major towns or cities. Certain cities such as Dar es Salaam, however, are experiencing greater urban migration at a rate of about 7-10% per annum, indicating that rural to urban migration is becoming of increasing concern (Hurt, 2000).

The predominantly rural population relies extensively on subsistence agriculture, which represents some 60% of GDP and 80% of all employment (World Bank, 2000). Due to only one-fifth of the country securing adequate rainfall to enable reliable agriculture (that is greater than 750mm per year), the vast majority of the rural population is situated in these favourable agricultural areas, such as on the slopes of Mount Kilimanjaro, where rural densities can reach as much as 200 people per square kilometre (Bagachwa *et al.*, 1995).

As such, much of the country is sparsely populated savannah woodland, with only about 5% of the total land area under some from of agricultural activity. Livestock production is also restricted over large parts of southern Tanzania due to the occurrence of tsetse fly and the prevalence of trypanosomiosis (livestock sleeping sickness). Tanzania's reliance on subsistence agriculture and lack of any major commercial industries has resulted in 60% of the population living below the poverty line, with the World Bank (2000) classifying Tanzania as one of the poorest countries in the region, with a per capita income of only USD200 per annum.

Land Tenure: In Tanzania, all land is declared to be public land under the *Lands Ordinance, CAP 113, of 1923*. Such land is vested in the President who is given power to administer the land for the use and common benefit of Tanzanian citizens (Tenga, 1992). Outside of the national parks and game reserves, Tanzanian citizens can be granted "rights of occupancy" in communal areas by 'village councils' under the *Local Government (District Authorities) Act of 1982*. In the majority of the country, however, village councils as legal entities (or corporate bodies) assume control of communal land for the benefit of villagers (Tenga, 1995). "Rights to occupy" are given to individuals or village councils for limited periods of 99 years, although efforts are underway to increase this to 999 years. Individuals or village councils can own structures on the land as well as agricultural improvements, but under Tanzanian law the right to use land can be revoked.

Table 35

Tanzania's protected areas network and land classification with regards to wildlife use

Category of land area	Number	Size (km^2)	Human settlement	Administered	Wildlife use
National Park	13	38 365	No	TANAPA	Wildlife viewing
Conservation Area	1	8 300	Yes	NCAA	Game viewing, livestock grazing
Game Reserve	29	110 013	No	WD	Tourist hunting, game viewing, traditional use
Game Controlled Area	44	90 865	Yes	Regional	Tourist hunting, resident hunting, game viewing, cropping, live capture, crop protection
Open Area	n/a	-	Yes	Regional	Tourist hunting, resident hunting, cropping, live capture, crop protection
Total		**247 543**			

Source: Lamprey, 1995; PAWM, 1995a; Hurt, 2000.

Natural Resources: Low rural population densities through out most of the country has resulted in Tanzania maintaining some of the richest biodiversity in sub-Saharan Africa. The country possesses a diversity of species, both in terms of richness and endemism, as well as a wide range of habitats and ecosystems. Pomeroy (1993) ranked Tanzania in the top five sub-Saharan countries with regards to species richness of mammals, birds, reptiles and plants, with the country having some 75 endemic reptiles, 40 amphibians and 122 butterflies (PAWM, 1995a). Equally importantly, Tanzania has one of the greatest numbers of habitats anywhere in sub-Saharan Africa, with some 19 broad terrestrial habitat types recognised (Mackinnon and Mackinnon, 1986).

Tanzania's commitment to conserving this natural resource base is clearly evident in the success of its policy for gazetting protected areas devoted to wildlife conservation. As indicated in **Table 35**, these now include 13 national parks, 29 game reserves, one conservation area (Ngorongoro Conservation Area) and 44 controlled game areas that cover some 247 000 km^2 of the country's total land surface (Wily, 1995). Altogether this constitutes some 25% of Tanzania's land area, with 10% of this made up of national parks and game reserves where no permanent human settlement is permitted. Several of Tanzania's protected areas are internationally renowned, and four (Serengeti National Park, Kilimanjaro National Park, Ngorongoro Conservation Area and Selous Game Reserve) have been designated as World Heritage Sites, and two, Serengeti National Park and Lake Manyara National Park, as biosphere reserves (PAWM, 1995b).

Such a large protected area estate, the prevalence of trypanosiomoses in large parts of southern Tanzania, and a generally sparse rural population has not, however, resulted in the protection of the wildlife resource from conservation threats. The growing rural population continues to eek out a living through subsistence means, and reliance on the natural resource base to support their livelihoods is increasing. Such activities as the illegal killing of wildlife for trophies and meat is reportedly on the rise, with protected areas such as Maswa and Uwanda Game Reserves and the Serengeti and Arusha National Parks coming under increasing pressure (Hurt and Ravn, 2000). Although in comparison to other neighbouring countries, land clearing and habitat loss is of less immediate concern than illegal wildlife off-take, such activities as tree-felling for fuel wood and charcoal production is beginning to have severe conservation implications, and land degradation is becoming one of the key issues facing the country.

II. Wildlife and Sport Hunting Policy, Process and Legislation

Wildlife and Sport Hunting Policy Process: Since independence, and the *Arusha Manifesto of 1961* which outlined Tanzania's commitment to the conservation of its natural heritage, Tanzania has recognized not only the biological, but also the economic, values of its wildlife resources. Government is fully committed to the sustainable use of wildlife to achieve conservation whilst ensuring the development of its country and people. Such government intention is clearly outlined in the *Policy for Wildlife Conservation and Utilization of 1996* which states as an overall policy objective the:

> *"further development of a wildlife industry based on game viewing, hunting, ranching/farming and village wildlife schemes which will provide employment, revenue, income and food to rural communities and revenue to government" (MTNRE, 1995a).*

Licensed hunting forms an integral component of this wildlife industry, with trophy motivated sport hunting by foreigners being recognized as a sustainable and economically viable form of wildlife utilization that is consistent with the national policy of promoting wise use of wildlife and maximising economic returns from low volume but highly priced markets. Such policy is aware that licensed hunting already generates significant revenues for the country, and

is widely practised across many remote areas of Tanzania, where there is little potential for any other economically viable forms of wildlife utilization. Accordingly, Tanzania aims to promote the sport hunting industry in such a way that it can make significant contributions to the future conservation of protected areas, the economies of rural human populations living outside of protected areas, and to the national economy (MTNRE, 1995b).

The importance of sport hunting to Tanzania's wildlife policy is reflected in the fact that government has developed its own *Policy and Management Plan for Tourism Hunting*. This policy outlines Tanzania's strategy for maintaining the country's reputation for high-class trophies and quality of hunting areas. Specifically, the policy and management plan aims to encourage:

- The development of the sport hunting industry as a legal form of wildlife utilization that makes significant contribution to conservation objectives and Tanzania's economy;
- The allocation of hunting blocks through an open tender system that does not compromise the existing high standards of the outfitters or prejudice the long-term economic returns from sport hunting to Tanzania;
- The adoption of a simple fee structure that combines a right-to-use concession fee paid by the outfitter in return for a long-term lease of that block, and a trophy fee per animal shot;
- The setting of sustainable hunting quotas that promote quality on a scientific basis;
- The adoption of codes of conduct by outfitters and of examinations for professional hunters;
- The sharing of direct benefits and revenues with rural communities from hunting carried out on their land;
- The re-investment of funds derived from sport hunting for the better management of game reserves that serve as core areas for the industry; and,
- The updating, and where necessary, the amendment of the wildlife legislation relating to the actual conduct of sport hunting, and to sport hunting in the context of community-based conservation.

Wildlife and Sport Hunting Legislation: Although policy is well developed in terms of government plans of action for affecting positive management action, there is a lack of legislative change that has actually formalised these polices so that implementation can proceed. This is especially the case with regards to community-based conservation, where policy states that WMAs should be established so that villages could become 'authorized associations' and benefit directly from the sustainable use of the wildlife resource (GTZ, 1996).

Even though this policy directive has been in force since the mid-1990s, the legislation necessary to implement WMAs has not been forthcoming. This has also been the case with Tanzania's *Policy on Tourist Hunting*, which although developed, again in the mid-1990s, has still not been formally approved and consequently has seen little implementation due to a lack of legislative change as well as motivation from the industry.

Consequently, the primary legislation controlling and regulating Tanzania's hunting industry is the rather dated *Wildlife Conservation Act of 1974*. This principal act is supported by subsidiary legislation such as the *Hunting of Animals Regulations*, which outlines the species of animals that can be hunted, administration and permitting requirements, and the regulations and standards expected for conducting an ethical and sustainable hunting industry within Tanzania.

III. Wildlife Utilization Industry

A limited industrial sector and a reliance on subsistence agriculture for sustaining the livelihoods of most, has resulted in the wildlife sector being of critical importance to Tanzania and its people. In Tanzania, all forms of wildlife utilization are allowed, these include wildlife viewing, licensed hunting, game farming/ranching, cropping/culling schemes for game meat and trophy production and live capture (especially of birds and reptiles) for export.

Wildlife viewing occurs mainly in national parks, whereas consumptive wildlife uses such as licensed hunting occurs mainly in

Table 36

Economic value of the legal wildlife sector in Tanzania during 1989 (USD millions)

Wildlife sector	Gross value (USD millions)	Foreign exchange (USD millions)	Government revenue (USD millions)	Off-take number of animals
Cropping	0.5	0.2	0.5	4 000
Tourist Sport Hunting	10.0	10.0	3.3	4 000
Resident Hunting	3.0	-	0.2	30 000
Crop Protection	0.5	0.5	0.5	7 000
Live Exports	17.5	17.5	0.1	Very High
Wildlife Viewing	33.0	25.0	2.0	None
Ivory Trade	4.0	4.0	4.0	1 400
Total	**68.5**	**57.2**	**10.6**	**46 400**

Source: ITC/IUCN, *1989*

the game reserves and game controlled areas. As indicated in **Table 36**, all sectors contribute significant revenue, with the exception of game farming and ranching which remain underdeveloped due to inadequate land tenure laws and enabling wildlife ownership legislation (Edwards and Allen, 1992).

During the late 1980s, ITC/IUCN estimated the gross value of the legal wildlife sector in Tanzania to be about USD68.5 million, representing a significant contribution to the national economy (**Table 36**). Of this, some USD13 million was derived from licensed hunting and although less than half of the USD33 million is estimated to be generated from wildlife viewing, licensed hunting is a critically important component of Tanzania's wildlife sector as it is often the only viable form of wildlife use in the more remote wildlife areas of the country (ITC/IUCN, 1989). Sport hunting is less capital intensive whilst being a low off-take high income use. Of the 46 400 animals assumed to be hunted per year, only 4000 were hunted by tourists. Revenue generated is also largely in foreign currency and a greater proportion is retained by government (33%) in comparison to wildlife viewing (6%).

Since the late 1980s, the wildlife sector has grown considerably with, for example PAWM (1995a) estimating wildlife viewing to be generating USD20 million and sport hunting USD13.9 million by the early 1990s. By 1995, sport hunting was estimated to be earning USD29.9 million (Hurt and Ravn, 2000) and by 1997 some USD40 million when including all multiplier effects such as airlines and urban accommodation (FCF, 1998). As such, the contribution of sport hunting to the national economy and wildlife sector has similarly grown.

IV. Development of Sport Hunting

East Africa (Tanzania, Kenya and Uganda) was the traditional home of sport hunting up until the 1970s, when Tanzania initially closed hunting in 1973, followed by the hunting ban in Kenya in 1977, while Uganda became politically unsafe and unattractive as a hunting destination (Hurt and Ravn, 2000). Since 1978, when Tanzania reopened its borders to hunting, it has become one of the most popular hunting destinations in Africa. On the other hand, Kenya remains closed to the hunting market and Uganda reopened its industry in 2002 on a trial basis (Lake Mburo area only) (Hurt, 2000).

The present hunting structure in Tanzania first emerged in the 1960s when the first block and quota system in Africa was developed (PAWM, 1995a). Hunting blocks were designated to private companies within the classified conservation areas know as game reserves, game controlled areas and open areas. This system was operational until 1973, when sport hunting was banned in response to misconduct by various safari operators (Lamprey, 1995). However, due to the realisation of the economic potential sport hunting represented to Tanzania, it was reopened in 1978 under the management of the Tanzanian parastatal authority known as the Tanzanian Wildlife Corporation (TAWICO).

TAWICO was responsible for all forms of wildlife utilization in Tanzania, and was solely responsible for developing wildlife utilization guidelines and procedures (Severre, 1995). TAWICO was therefore responsible for overseeing sport hunting and the Department of Wildlife (now know as the Wildlife Division) was responsible for the issuance of quotas and the collection of game fees. Private companies were initially discharged from operating under the TAWICO system, but it soon became increasingly clear that TAWICO was not able to fully utilise the hunting resource available, and eventually private companies were encouraged to sub-let a limited amount of hunting rights from TAWICO (Hurt, 2000).

By 1984, nine private companies were allocated hunting blocks under this system for a period of four years. In 1988, the management of the hunting industries was taken over by the Ministry of Tourism, Natural Resources and Environment (MTNRE) and was increasingly opened to private companies (Barnett, 2000). As reflected in **Table 37**, since this time, the industry has grown quite considerably to some 35 private safari companies servicing over 1100 hunting clients during 1999. The vast majority of hunting is now undertaken by private companies with TAWICO competing as a private outfitter.

Table 37

Number of sport hunting companies operating in Tanzania during the period 1978 through 1999

Companies	'78	'84	'88	'89	'90	'91	'92	'93	'95	'96	'97	'98	'99
No. of Operators	1	9	15	20	26	27	31	31	43	42	36	35	35
No. of Hunting blocks	-	-	128	-	-	120	131	143	153	135	129	127	124
No. of Clients	-	-	370	487	489	387	570	688	668	694	937	992	1 112

Source: PAWM, 1995d; PAWM, 1995c; Hurt, 2000

During the period 1990-1995, a Planning and Assessment for Wildlife Management project was undertaken. Its aim was to analysis the sport hunting industry and provide guidance to the Wildlife Division through the Revised Draft Management Plan for Tourist Hunting. Although this plan has been accepted by the Wildlife Division, it has not been implemented (Baldus and Cauldwell, 2004).

V. Structure and Status of the Sport Hunting Industry

In Tanzania, licensed hunting by tourist and resident hunters occurs throughout the game reserves, game controlled areas and open areas of the country. In total, some 181 000 km^2 of the country is allocated towards licensed hunting (**Table 38**). Resident hunting occurs in open areas that have no form of protected area status under Tanzania's wildlife legislation, whilst sport hunting takes place mainly in the game reserves and game controlled areas.

Table 38

Estimated land category allocated to licensed hunting in Tanzania during 1999

Land classification	Area (km2)	Number of hunting blocks
Game Reserves	95 000	67
Game Controlled Areas	56 000	34
Open Areas	30 000	23

Source: Hurt, 2000

Resident Hunting: Licensed resident hunting is conducted during the July to December hunting season, with quotas being issued by Wildlife Division (GTZ, 1996). A range of 22 animals and a number of bird species may be hunted by residents under a differentiated fee structure for citizens and residents (Kappara, 1993). Resident hunting fees are very low, especially for citizens, with, for example, the cost of a Cape Buffalo being USD6 (TZS 6000) for a citizen and USD28 (TZS27 000) for a non-citizen resident (Leader-Williams, 2000). Such fees cover no more than the administration costs of issuing the license and, having been last reviewed in 1989, have not kept up with inflation.

Government recognises the right of Tanzanians to utilise and hunt wildlife, and subsidises the citizen/resident hunting sector through low cost licenses to ensure that Tanzanians are not disadvantaged or priced out of hunting by the more lucrative sport hunting sector (MTNRE, 1995b). The originally intended purpose of providing subsidised meat through subsistence use has, however, in recent years been replaced by commercially motivated urban citizen and resident hunters. As traditional methods of hunting are also not allowed under current legislation, rural citizen hunters cannot afford to hunt. The result, as confirmed by PAWM (1995d), was that over 92% of all resident hunters were the more affluent city and town inhabitants (**Table 39**). Due to resident licenses having no resemblance to "market value" either through sport hunting or meat value, these urban residents increasingly undertake resident hunting for commercial gain, either by taking non residents sport hunting or by selling game meat for profit, both of which are illegal (Barnett, 2000).

Table 39

Numbers of animals sold and fees earned from citizen and resident hunters during 1992

Species	Hunted by citizens	Hunted by residents	Fees from citizens (USD)	Fees from residents (USD)
Buffalo	355	28	6 797	2 441
Wildebeest	550	28	3 543	1 295
Hartebeest	331	16	3 195	863
Topi	237	13	2 287	674
Grant's Gazelle	292	26	1 405	836
Thompson's Gazelle	210	10	799	270
Impala	606	65	3 935	2 226
Damara Dik-dik	227	3	310	75
Warthog	111	31	567	1 462
All other species	1 962	208	4 939	2 069
Sub-total	*4 881 (92%)*	*428 (8%)*	*27 777 (69%)*	*12 211 (31%)*
Total		**5 309**		**39 988**

Source: PAWM, 1995d

As indicated in **Table 39**, a total of 5309 animals were requested during 1992 for citizen/resident hunting from 47 districts out of 85 for which there were data. The majority of these requests were made by urban citizens in Arusha, Coast and Mara regions, and impala, wildebeest and buffalo were the most numerous species shot. The revenue collected in the form of game fees from the 47 districts amounted to USD39 988 mostly from citizens. However, with the differential pricing structure for citizens and non-citizen residents, the latter hunt 8% of the animals but contribute 31% of the fees (Leader-Williams, 2000).

Sport Hunting: As seen in **Table 40**, the overall dynamics and performance of sport hunting compared to citizrn/resident hunting are very different. Resident hunters requested some 5285 animals and generated some USD39 988 in game fees, whilst 7034 animals were shot by tourist hunters and generated about USD3.6 million in game fees during 1992. Economic returns to the two industries are even more striking when comparing total volumes hunted in game controlled areas and open areas, where the hunting of 3574 animals by tourist hunters resulted in USD1.8 million in game fees, almost 50 times more then the USD39 988 earned by resident hunters from 5285 animals hunted (PAWM, 1995d).

Table 40

Comparison of tourist verses resident hunting during 1992

Species	All sport hunting	Sport hunting in GCAs/OAs	Resident hunting
Buffalo	736	239	383
Wildebeest	287	159	578
Hartebeest	434	214	347
Topi	166	74	250
Grant's Gazelle	302	292	318
Thompson's Gazelle	214	177	220
Impala	550	408	671
Damara Dik-dik	110	100	230
Warthog	339	124	142
All other species	3 896	1 787	2 146
Total number	**7 034**	**3 574**	**5 285**
Total game fees	**3 600 000**	**1 842 000**	**39 988**

Source: PAWM, 1995c.

Due to the greater economic return, sport hunting occurs in more biodiverse and species rich hunting area concessions in game reserves and game controlled areas known as hunting blocks. These areas are specifically reserved for tourist hunters and cannot be legally used for hunting by residents (Hurt and Ravn, 2000). This system of allocating hunting blocks was first used in Tanzania in the Selous Game Reserve during the 1960s. Hunting blocks are usually based on clear topographic features, and were first officially mapped in 1992 (Hurt, 2000). The length of tenure for these hunting blocks was increased from three years to five years in 1991, in an effort to promote safari operators investment in the hunting area. Operators are required to pay USD7500 per annum for each hunting block and a minimum 40% of the quota set for that area (Lamprey, 1995). The open tender system has yet to be implemented.

As seen in **Table 37**, safari operators and their clients have increased from 15 and 370 respectively in 1988, to 35 and 1112 respectively in 1999 (Overton, 1998). During 1999, there were about 124 hunting blocks evenly spread between game reserves and game controlled areas. Of these, Hurt and Ravn (2000) estimate that 80 are of good quality and a minimum size of 10 000 ha. One area of concern is that to accommodate the increase in additional safari operators and their clients, hunting blocks have been subdivided and the quota for animals has in affect been doubled for these hunting areas. The Wildlife Division looked at re-assessing its policy on hunting block sub-division (Hurt, 2000), due to increasing calls from the industry for a reduction in the number of safari companies allowed to operate in Tanzania.

The sport hunting season, as with resident hunting occurs between July and December. As seen in **Table 41**, the total number of hunting days being spent in Tanzania has increased steadily from just over 4000 in 1988 to over 10 000 in 1992. Similarly, the total number of animals killed by tourist hunters has grown from 2865 animals in 1988 to over 7000 animals in 1992 (**Table 42**).

Table 41

Growth of the sport hunting industry in Tanzania during the period 1988 through 1992

Year	Hunting days	Game fees (USD)	Other fees (USD)	Daily rate (USD)	Total revenue (USD)
1988	4 028	1 252 386	0	n/a	4 676 186
1989	9 352	2 198 506	122 600	7 949 200	10 270 306
1990	8 983	2 342 390	196 700	7 635 551	10 174 641
1991	6 892	2 584 455	1 219 100	5 858 200	9 661 755
1992	10 141	3 600 260	1 740 350	8 619 851	13 960 461

Source: PAWM, 1995c.

In line with these increases, and as indicated in **Table 41**, the total value from game fees (government license fee charged per animal) and daily rates (safari operators daily fees) and other fees (trophy handling, firearm certificate) have increased from about USD4.6 million in 1988 to USD13.9 million in 1992. Other more recent estimates that include additional expenses such as air flights and multiplier effects put the value of the sport hunting industry in Tanzania closer to USD40 million in 1997 (FCF, 1998).

VI. Tanzania's Sport Hunting Market

Sport Hunting Market: Tanzania is regarded as one of the premier hunting destinations in Africa, due to the large areas of remote and sparsely populated habitat that is available for hunting (Hurt and Ravn, 2000). Low human populations in comparison to other SADC countries, and the prevalence of tsetse fly and trypanosiomes through large parts of the country have provided Tanzania with a reputation for scenically beautiful and unspoilt hunting concession areas. Hunting on private land in southern Africa is viewed as tame in comparison. About two-thirds of tourist hunters come from North America, and about one-third from Europe, particularly France, Germany and Italy (White, 1995).

Species Marketed: As well as an unequalled quality and variety of hunting destinations, Tanzania also offers a balanced package of species. As designated in the Third Schedule, Section A of the *Wildlife Conservation Act*, a range of 74 species of big game (71 mammals, plus crocodile, Ostrich and python), as well as a variety of game birds are available to the tourist hunter in Tanzania (PAWM, 1995b). These include sought after species such as Gerenuk, Lesser Kudu and oryx which are not readily available elsewhere (MTNRE, 1995a). Tanzania also has a reputation for having the best-manned lion, the largest Cape Buffalo, and the distinction of having more buffalo, lion and leopard then any other country. This ensures that a tourist hunter is more likely to encounter and hunt a trophy quality species (Jackson, 1995). This success rate is very important to tourist hunters who are in-country for only a limited period of time. Tanzania's high success rate for trophy quality animals has resulted in it being the most expensive hunting destination in Africa, at an average of approximately USD53 180 being spent for a 21-day safari (Hurt and Ravn, 2000).

Table 42

Total numbers of various species shot by tourist hunters throughout Tanzania during 1988 to 1992

Species	1988	1989	1990	1991	1992
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
All other species	1 836	3 624	4 127	5 614	4 830
Total	**2 865**	**5 414**	**6 051**	**7 110**	**7 034**

Source: PAWM, 1995a

As seen in **Table 42**, of the more charismatic animals, the most popular species hunted in Tanzania by tourist hunters during 1992 was buffalo (736), followed by zebra (459), lion (222) and leopard (214). As the number of safari operators and hunting tourists have increased, so have the numbers of most species hunted. The only exception is elephant which, since 1990 and the introduction of a minimum tusk size (1.70 m in length or 20 kg pair), has seen a marked reduction from 50 in 1989 to only 15 in 1990 (GoT, 1993).

The loss of so many elephant to illegal ivory poaching, together with habitat loss, saw the estimated population of 365 000 in 1977 decline to 90 000 in 2000. The subsequent reduction in trophy quality has affected the competitiveness of the Tanzanian sport hunting industry. As shown in **Table 43**, elephant's contribution to generating game fees has reduced dramatically over the period under review. Despite this, the psychological satisfaction of seeking an elephant on a hunt remains an important part of the tourist hunters' motivation to book a safari. As elephant can only be hunted on a 21-day safari, they remain very important for motivating longer hunting duration in the country, and hence greater daily rate revenue generation (GoT, 1993).

Table 43

The percentage contribution of a number of species to the total game fees in the period 1989 to 1992

Species	1988	1989	1990	1991	1992
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	2%	2%	2%	3%	3%
Oryx	2%	2%	2%	2%	3%
Sable	6%	5%	5%	6%	4%
Roan	2%	1%	1%	2%	2%
Buffalo	9%	9%	10%	11%	12%
Zebra	6%	7%	7%	6%	8%

Source: PAWM 1995b.

Species such as Gerenuk, Lesser Kudu and oryx, which are almost exclusively availability in Tanzania, as well as renowned trophy species such as the big four (elephant, buffalo, lion and leopard) and Sable and Roan were assessed by PAWM (1995b) for their contribution to game fees earned during the period 1988 to 1992. This assessment (**Table 43**) reveals clearly that whilst elephant have declined in importance, lion and leopard have contributed the most at between 11-13% during the period under review. Buffalo have also shown a steady increase from 9% in 1988 to some 12% in 1992. The economic value of the large cats and buffalo to the sport hunting industry is critical, and concerns over the current sustainability of lion quotas (refer Quota Setting section) could have a detrimental affect on the overall economic viability of hunting in Tanzania.

VII. Management of the Sport Hunting Industry

The management of the sport hunting industry in Tanzania is firmly focused on attaining maximum economic and social benefits whilst maintaining a renewable hunting resource. Tanzania tries to achieve this objective through the establishment of management bodies that ensure that standards are maintained, and monitoring and administration systems put in place so that informed management decisions can be made with regards to the establishment of quotas and fees of animals to be hunted.

i.) Sport Hunting Management Bodies

Overall responsibility and management for the sport hunting industry falls under the Wildlife Division, MTNRE. A number of different authorities under the Wildlife Division are responsible for managing the sport hunting industry according to the category of land area involved (Hurt, 2000).

Most game reserves in Tanzania fall under the direct control of the Wildlife Division, with central treasury providing funds for their management. With the exception of Mkomazi Game Reserve, most of these Wildlife Division controlled game reserves are devoted to sport hunting. A few game reserves, however, and all of the game controlled areas, are under regional control and receive their budget through the respective regions (**Table 35**). Although Regional Game Officers are not answerable directly to the Wildlife Division, these areas are mostly staffed by wildlife officers out-posted from the Wildlife Division (Ndolanga, 1995). Sport hunting in open areas is also under the control of the Regional Game Officer. Consequently, a number of different government management bodies are responsible for sport hunting in Tanzania.

In addition to central and regional management of the sport hunting industry, a number of other wildlife parastatals which fall under the Wildlife Division are also involved. For example, the Tanzania Wildlife Research Institute co-ordinates wildlife research including the Conservation Information and Monitoring Unit which provides critical wildlife census data for quota setting, and the College of African Wildlife Management at Mweka, which trains some of the sport hunting industries management personnel.

PAWM (1995a), Overton (1998) and Hurt (2000) all report that the complexity of Tanzania's management structure is one reason for the lack of clarity and comprehension of the overall sector's management objectives. This is made worse by limited inter-institutional communication and co-ordination. The establishment of the Tanzania Hunter Operators Association and the work of some NGOs has achieved some success in increasing co-ordination and communication between government institutions and the private sector. All management bodies in recent years have begun working towards higher management standards for the hunting industry.

ii.) Maintaining Quality and Standards

As probably the most expensive hunting destination in Africa, Tanzania is well aware of the need to maintain its reputation for quality trophy species, an excellent hunting experience, and well-trained, experienced and ethical professional hunters (Jackson, 1995).

Firstly, Tanzania, tries to ensure that trophy quality of its renowned species is maintained by imposing a minimum trophy size requirement for the exportation of trophies to hunting clients home countries. In 1991, due to declines in elephant populations, a minimum trophy requirement of 1.70 m in length (or 20 kg per pair) was introduced, which drastically reduced the number of elephant hunted (GoT, 1993). Concerns are also raised on Tanzania's ability to set sustainable quotas for that may endanger the future trophy quality of this species.

Secondly, professional and ethical hunting standards are provided for in the *Wildlife Conservation Act of 1974, Hunting of Animals Regulations*. Some of the more pertinent regulations are that a Wildlife Officer must accompany each hunting trip to ensure that the correct type and number of animals are hunted, whilst also maintaining that no hunting of females occurs, no hunting from vehicles, at night, within 500 m of a water hole or at a salt lick occurs. In reality, however, it is very difficult to ensure that these regulations are strictly observed, especially when considering the value of species hunted and the average salary of USD40 per month for the game scouts who are expected to enforce these regulations (Hurt, 2000).

CREDIT: © WWF-Canon / Frederick J Weyerhaeuser

Buffalo *Syncerus caffer*

Consequently, the most effective way for maintaining standards is through the self-motivation of the professional hunters themselves. Tanzania has, however, a chequered history with regard to the training and licensing of professional hunters (Winter, 1991). Before sport hunting was banned in 1973, the Game Department issued all licenses to professional hunters. When hunting was reopened in 1978, TAWICO, as the government parastatal, provided all professional hunters who had been fully trained at the College of African Wildlife Management, Mweka. This meant that there was little need to scrutinise hunters applying for professional hunters licences as all had to operate through TAWICO. When the management of hunting was taken over by the Wildlife Department in 1988, the system remained unchanged and problems in unethical and unprofessional hunting began to emerge. From 1988 to 1995, standards for professional hunters were not maintained (Marenga, 1995).

Since 1995, professional hunters can only get their licenses from the Wildlife Division after sitting and passing an exam. The Wildlife Division then communicates to the Tourist Agents Licensing Authority to allow the operators to be issued with a *Tala* that allows then to operate and guide tourist hunters. There remains, however, disputes among the industry on the standards of the licensing system in operation, and PAWM (1995a) called for a thorough review of the system and the introduction of a more comprehensive examination system.

iii.) Monitoring and Administration

Due to the number and complexity of management bodies involved in regulating the sport hunting industry in Tanzania, the roles and responsibilities for monitoring and administration are often confused. In the main, however, the Wildlife Division as the primary sport hunting administrative body in Tanzania is responsible for establishing and running monitoring systems.

There are a number of monitoring systems in place in Tanzania, that provide critical information to the Wildlife Division, especially with regard to establishing fees, allocating hunting blocks and setting quotas. The primary monitoring system run by the Wildlife Division tries to keep a record of the actual number of animals hunted by tourist hunters and resident hunters (Hurt, 2000). By law, all tourist and resident hunters in Tanzania must obtain a Hunting License. For tourist hunters, it is the responsibility of the safari operator to obtain this license. On arrival in the hunting area, the game scout that, by law, must accompany the safari, is issued with a copy of the license, while the operator keeps the original. Both documents are then completed independently on completion of the hunting trip. The Wildlife Division is then able to cross-check the validity of data (ITC/IUCN, 1989).

Although recommended throughout the 1990s, Severre (1995) and Hurt (2000) reported that an organized system for monitoring trophy quality, body weights and other criteria of population performance, and simple measures of hunting success, had still not been put in place. Indeed, even at the request of the Wildlife Division, a governmental donor developed a computerized system to license, invoice and monitor sport hunting in 1996/97 that would have enhanced the transparency and effective management of the industry. Whilst the Wildlife Division acknowledged that the system was designed according to the original request, it was never implemented.

iv.) Sport Hunting Quota Setting

The quota of animals to be hunted in any given hunting concession area is the fundamental management decision made by wildlife managers. The numbers and diversity of species made available to tourist hunters is the most important element affecting the marketing of a particular safari. As such, the viability of the sport hunting industry relies heavily on the quota being of sufficient quality and balance to attract the overseas visitor (FCF, 1998).

Whilst maximising economic return from a finite resource, quotas need to ensure the sustainability of hunting and maintain trophy quality. In Tanzania, these quotas are established by the Wildlife Division at the start of each hunting season (Winter, 1991). In the past, delays in setting the quota have negatively impacted safari operators ability to market hunting safaris. In 1998, for example, leopard quotas were set after many clients had arrived in the country to find that a leopard quota no longer existed for the particular hunting block in question (Hurt, 2000).

In Tanzania, quotas for hunting blocks are set by a "very sound educated guess" based on available data at the time (Severre, 1995). The quotas are produced in relation to the size of the area, type of habitat, density of specific species, and hunting off-take in previous years, where suggestions and advice from wildlife officers and professional hunters in the field are also taken into consideration (Baldus and Cauldwell, 2004; Hurt and Ravn, 2000). Some aerial wildlife population census data are also available from the Tanzania Conservation Wildlife Monitoring Unit, although it is limited in scope and is useful for only the larger mammals such as elephant and buffalo that can be accurately counted from the air.

As previously mentioned, however, a lack of monitoring systems and the effective analysis of monitoring data has resulted in most quotas being conservatively set, whilst the accuracy of some others is cause for concern. An analysis of the 1994 hunting quota for the 47 hunting blocks in the Selous Game Reserve (**Table 44**) shows that only 39% of the quotas were utilised, even though the Wildlife Division insists on a minimum of 40% of the quota being used (Siege, 1996).

Table 44

Analysis of the Selous Game Reserve sport hunting quotas during 1994

Species	Total SGR quota	Utilization levels	% Success	Sustainable trophy off-take	Min. population required	SGR population estimate
Buffalo	419	240	57%	3.5%	11 970	138 102
Eland	145	45	31%	3.0%	4 830	-
Elephant	-	20	-	0.5%	6 000	31 735
Hartebeest	261	150	58%	3.5%	7 450	11 788
Impala	322	141	44%	10.0%	3 220	29 507
Kudu	116	28	24%	3.0%	3 860	-
Leopard	148	54	36%	6.0%	2 467	-
Lion	142	44	31%	6.0%	2 367	-
Sable	112	34	30%	2.5%	4 480	1 603
Waterbuck	205	66	32%	3.0%	6 830	10 054
Wildebeest	299	146	49%	3.5%	8 540	46 347
Zebra	290	97	33%	5.0%	5 800	22 454

Source: GTZ, 1996
Note: SGR-Selous Game Reserve

As can be clearly seen from **Table 44**, quotas are set very conservatively, which, together with low utilization rates, results in a sustainable industry. In fact, the industry may be under achieving in terms of realising its potential economic revenue. GTZ (1996) also maintains that because the Wildlife Division obtains the majority of its income from insisting that operators use a minimum of 40% of the *value*, and not the *number* of animals of a quota, there is a tendency to "load" the quota with high value species such as buffalo. The effect has been to encourage the operators to hunt as many of the valuable species as possible, whilst ignoring the cheaper-priced animals such as impala or baboons. In affect, this policy encourages inefficiency by encouraging the full utilisation of only part of the overall quota.

Indeed, concerns over the allocation of quotas has been raised many times in the past (Winter, 1991; PAWM, 1995a). Such concern has stemmed from the sub-division of hunting blocks to accommodate increased demand for hunting. When these areas are subdivided, the quotas are simply increased accordingly, raising the question of sustainability of hunting in these areas. Indeed in 1997, the Tanzanian Hunting Association (TAHOA) filed a request with the government to restrict any further sub-divisions, although the process still continues to this day (Hurt, 2000).

Other concerns on the sustainability of hunting quotas have been restricted to certain charismatic species such as lion, leopard and buffalo. As these species represent the backbone of Tanzania's sport hunting industry, it is especially important that off-take quotas are accurate to ensure the continued economic viability of the overall industry.

v.) Maximising Economic and Social Benefits

Tanzania maximises the economic and social benefits derived from the sport hunting industry through the judicious application of hunting fees, and by packaging hunts and allocating hunting concessions effectively. The result is the occurrence of a substantial industry valued in 1993 at some USD13.9 million in hunting fees alone, and in 1997 at about USD40 million when indirect costs and multiplier effects are considered (PAWM, 1995a; FCF, 1998).

Table 45

Potential revenue from tourist hunting fees during 1992

Type of hunting fee	Economic value (USD)
Government Game Fee	3 600 260
Government Conservation Fee	1 014 100
Government Permit Fee	326 550
Government Observer Fee	239 600
Government Trophy Handling Fee	160 100
Sub-total	*5 340 610*
Safari Operator Daily Rate	8 619 851
Total	**13 960 461**

Source: PAWM, 1995a

Hunting Fees:

Revenue is earned directly from sport hunting through the levying of various government fees such as the game fee, observer fee, conservation fee, permit fees and trophy handling fees, as well as directly by the safari operator through daily rates which is the charge

for professional hunter services rendered (Hurt, 2000). New government fees were introduced at different times during the period 1988 to 1992, and have been responsible for the large increase in total government hunting fees generated from USD1.1 million in 1988 to USD5.3 million in 1992 (PAWM, 1995a).

Game Fees: This is a fee charged by the Wildlife Division for each animal shot or wounded by the hunting client. Despite the introduction of new government fees such as the conservation fee in 1991, the game fee has remained the most important, as reflected in 1992 where it was responsible for generating some 67% of all government hunting fees (**Table 45**). In 1988, the game fees were made payable in foreign exchange and are responsible for generating significant foreign exchange reserves for Tanzania (MTNRE, 1995b). The value of game fees differs according to the sport hunting market value of the species. As indicated in **Table 46**, such values were last increased in 1991, where the game fee for most species was increased by about 60-70% (Hurt, 2000).

Observer Fee: This fee was introduced in 1989 and is charged on a daily basis for any observer staying in the hunting camp and not hunting. A fee of USD50 is payable (Baldus and Cauldwell, 2004).

Conservation Fee: This fee of USD100 per day was introduced in 1991 and charged to hunting clients only. Conservation fees were introduced because it was felt that the quality of different hunting blocks could not be judged on species diversity alone and that land usage needed to be charged for.

Permit fees: These fees were introduced in 1991 and are charged according to the length of the hunting safari, with seven-day safaris being charged at USD450, and over 14-day safaris at USD600.

Table 46

Sport hunting game fees for selected species for 1989 and 2000

Species	Game fee value (USD)		Percentage increase
	1989	2000	
Big Game			
Elephant	2 500	4 000	62.5%
Lion	1 400	2 000	70%
Leopard	1 400	2 000	70%
Buffalo	420	600	70%
Plains Game			
Impala	165	240	68%
Thompson's Gazelle	130	190	68%
Grant's Gazelle	155	220	70%
Eland	600	800	75%

Source: White, 1991; Hurt, 2000

Trophy Handling Fees: These fees were also introduced in 1991 and are charged according to the length of the safari, with seven-day safaris being charged at USD200, and over 14-day safaris being charged at USD300.

Additional Government Payments: Additional government payments are also incurred by safari operators and their hunting clients, such as 'rifle fees', which are charged by the police at a cost of USD100 per weapon. Taxation, however, represents by far the largest additional government costs to safari operators. Indeed, Tanzania with its socialist history, is renowned for its excessively bureaucratic and overburdening taxation system, with Hurt (2000) reporting that safari operators have to pay over 30 different types of individual taxes to the government.

Safari Operator Daily Rates: The daily rate is charged by the safari operator for the services of the professional hunter, accommodation, subsistence and other incidentals incurred during the hunting safari (PAWM, 1995b). The revenue earned by safari operators from daily rates is far greater then that received by government through all other hunting fees. In fact, **Table 44** indicates that of the total hunting fees of USD13.9 million, USD8.6 million, or 62%, is derived directly from safari operators daily rates.

In 1989, the government introduced two new regulations with regard to this fee (MTNRE, 1995b). The first was that each safari operator should charge a minimum of USD850 per day, and the second was that 55% of total daily rates revenue should be banked in Tanzania as hard currency. The governments intention was not only to increase the taxable amount, but also the reserves of foreign currency held within Tanzania. These regulations still hold today, although average daily rates are now in the region of about USD1500 per day (Hurt and Ravn, 2000).

Table 47

Tanzania's sport hunting packages for 2000

Species	Length of sport hunting package			
	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	3	3	2	2
Plains Game	Various	Various	Various	Various

Source: Hurt, 2000

Although numerous, and slightly bureaucratic, these hunting fees have insured that Tanzania is regarded as one of the most expensive hunting destinations in the world. As such, the industry has been effectively priced to ensure maximum return from a finite resource.

Hunt Packaging:

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Giraffe *Giraffa camelopardalis*

Tanzania markets its sport hunting industry through packaging hunts into 21-, 16-, 14- and seven-day safaris that offer different packages of species available to be hunted. This marketing system was inherited from TAWICO's management of the industry (Hurt, 2000). Although rather rigid, this system does increase the number of hunting days and consequently the daily rate and other hunting fees generated (PAWM, 1995c). As seen in **Table 47**, tourist hunters wishing to hunt the more charismatic species such as elephant, gerenuk and Roan must undertake and pay for a 21-day safaris. A minimum of seven days needs to be hunted for a buffalo, and 16 days for a lion, Sable and three buffalo. As most clients who visit Tanzania are inspired by the country's reputation for trophy quality lion, buffalo and leopard, 21-day safaris represented 71% of all safaris sold, followed by seven-day safaris (18%), 16-day safaris (7%) and 14-day safaris (4%) (PAWM, 1995b).

Hunting Block Allocation and Retention:

An additional strategy employed by the Wildlife Division to maximise benefits from sport hunting is through the allocation of hunting block concessions. Hunting blocks are leased to safari operators for periods of five years. Each hunting block is renewed on an annual basis with a fee of USD7500 paid per annum, and the safari operator is obliged to pay for a minimum of 40% of the concessions quota (Hurt and Ravn, 2000). This requirement was introduced in 1993, due to hunting fees being structured on a "pay as you use" rather than a "right to use" basis. The result was that concession holders were not motivated to use all of the blocks quota, resulting in under utilization of the hunting resource in many of the less productive concessions.

Hunting block retention by safari operators is assessed by the Wildlife Division who conducts a detailed review of the operators conduct in the concession area. This process involves an assessment of the revenue earned, quota utilisation and development within concessions such as road construction, anti-poaching operations and involvement of local communities. Specifically, the criteria for block retention and allocation are that concessionaires must:

- Use or pay for 40% of the value of the quota;
- Develop roads and airstrips in the area;
- Establish proper community conservation programmes;
- Actively assist the Wildlife Division in anti-poaching programmes in their areas;
- Export their hunting trophies within three months of the safari ending; and,
- Pay an annual concession fee (currently USD7,500).

During the first five-year period of tenure (1988 to 1992), there was great variation in the success of operators in retaining the same hunting blocks over the five-year period. For example, of the blocks issued, 49% of these had the same concessionaires through the period, whilst 39% had two and 11% had three different concessionaires during the same period (PAWM, 1995c). In addition, the criteria by which these concession holders were retaining the same blocks were, it seemed, not being based on official criteria for block retention as outlined above. PAWM (1995c) reported that it was clear that between the year 1988 and 1992, operators with a good utilisation and development record were not very successful at retaining blocks, whilst others with poor records were successful. As such there was little correlation between good performance and retention of hunting concessions, with Overton (1998) indicating that corruption was the principal factor determining block retention during this time.

Another serious problem identified by Lamprey (1995) and Overton (1998) is that smaller safari operators who have less financial backing, do in some cases sublet their concessions to external, unregistered "paper" hunting companies for profit. These operators do not have any long-term financial or conservation objective and are only interested in turning a quick profit. Indeed, two of the most notorious incidents that occurred in Tanzania during the 1990s involved sub-let hunting block concessions. In 1994, a Kenyan Amboseli elephant which had been part of an ongoing monitoring programme was shot by a Zimbabwean safari operator sub-leasee when it wondered over the Tanzanian border (Lamprey, 1995). In the same year, controversy also surrounded the sub-leasing of the Loliondo Game Controlled Area to a Brigadier of the United Arab Emirates for a 10-year period (Overton, 1998).

Although government policy with regards to sub-leasing remains unclear, the general situation with regards to the allocation of concessions seems to have improved during the 2000 to 2005 block allocation exercise. Hurt (2000) reported that block reallocations were pleasantly received by most, with the majority being reallocated to 1999 concession holders. One problem, however, was that operators were not informed of block allocations until February 2000, only two weeks before the American sport hunting conferences where most Tanzanian safaris are sold. Still, Tanzania has a way to go before the allocation of sport hunting concessions can be said to be transparent. There appears to be a lack of commitment to the open tender system proposed in the policy document developed under the auspices of the Planning and Assessment for Wildlife Management (PAWM) project

Benefits Distribution:

The distribution of the total revenue earned from sport hunting to key stakeholders, whether it be government, private sector, or communities who live with the hunting resource, is an important consideration. In Tanzania, benefits from sport hunting are distributed between government and the private sector through the retention and allocation of hunting fees.

The *Wildlife Conservation Act* established the Tanzania Wildlife Protection Fund (TWPF) in 1978. The TWPF was allowed to collect 25% of the proceeds from game fees and consequently the hunting of each animal in Tanzania. The remaining 75% was to go to central treasury (Leader-Williams, 2000). The Fund's role was to finance conservation projects throughout Tanzania, and was relied upon heavily by the Wildlife Division to finance the running of Tanzania's protected areas estate (Overton, 1998).

Table 48

Revenue accrued by government from sport hunting during the period 1988 to 2000

Year	Revenue accrued by the government (USD)
1988	1 396 601
1989	2 422 517
1990	2 567 540
1991	3 599 271
1992	4 646 313
1993/4	7 312 430
1994/5	6 435 374
1995/6	7 336 036
1996/7	8 214 005
1997/8	8 559 320
1998/9	8 709 665

Source: Winter, 1991; PAWM, 1995a; Lamprey, 1995; Hurt, 2000

A full audit of Tanzania's hunting system and TWPF was conducted in 1996. From this audit came a computerised system for the entire hunting industry which placed emphasis on the financial management of the industry. Unfortunately key recommendations have not been implemented (Baldus and Cauldwell, 2004)

Other government hunting fees such as the conservation, permit, and trophy handling fees are also retained by the Wildlife Division through the TWPF. Lastly, central government obtains considerable revenue through the taxation of 55% of the safari operator's daily rate revenue which has to be banked within Tanzania.

Consequently, central government and the Wildlife Division retain considerable revenue from sport hunting. **Table 48** shows that, with the introduction of new government fees between 1989 and 1992, revenue accrued by the government from sport hunting more than doubled from USD1.4 million to USD3.6 million. In 1992, however, a retention fee was agreed upon with the Selous Game Reserve, under which government agreed that the Selous could retain half of the game fee previously due to central treasury (GTZ, 1996). Such revenue is used for the running of the game reserve and implementation of CBNRM programmes. Although the Selous remains the only game reserve to be afforded such a retention scheme, plans are underway to expand the system to others. Indeed, funds are already being retained on the same basis as the Selous in other game reserves, under the assumption that a retention scheme will be agreed for these areas too (PAWM, 1995c).

In 1992, a directive from the Prime Minister was issued calling for one-quarter of all sport hunting revenues going to treasury to be re-directed to district councils in order to compensate local people living around conservation areas for the trouble caused by wildlife. Under this scenario, which exists to this day, district councils receive 9.4% of the game fee, TWPF 25%, game reserves 37.5% and the central treasury 28.1% (Hurt, 2000). Regardless of the distribution, however, government, through the central treasury and Wildlife Division TWPF, obtain considerable revenue from sport hunting. Over the last 10 years, this revenue has increased nearly four fold from USD2.4 million in 1989 to USD8.7 million in 1999 (**Table 48**).

Community-Based Natural Resource Management:

As with most other SADC countries, Tanzania has recognized the need to involve communities in the management of wildlife by devolving benefits and stimulating responsibility for management amongst rural communities. As sport hunting occurs throughout large areas of rural Tanzania, and is the most lucrative wildlife use, its potential for providing benefits to local communities to simulate wise management is considerable (MTNRE, 1995a).

Sport hunting is evenly spread between game reserves, which are devoid of people, game controlled areas and open areas that are cohabited by wildlife and people. As indicated in **Table 49**, similar numbers of the various species that are important in contributing to Tanzania's total sport hunting revenue are hunted in uninhabited game reserves as in game controlled areas and open areas settled by people (PAWM, 1995d). Although there are exceptions, such as more elephant being hunted in game reserves, and greater numbers of Gerenuk, Lesser Kudu and oryx hunted in game controlled areas and open areas, the end result is that similar totals of game fees are earned from areas settled by humans as from unsettled game reserves. This clearly shows the potential of sport hunting to contribute equally to the conservation of game reserves and to local communities living among wildlife in game controlled areas and open areas (PAWM, 1995c).

Table 49

Number of animals killed by tourist hunters in different land categories and total game fees accrued during the five-year period 1988 through 1992

Species	Game reserve (human uninhabited) (USD)	Game controlled area and open areas (human settled) (USD)
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	1 452	1 058
Zebra	874	974
	Total Game Fees Accrued During Period	
1992	1 758 205	1 842 055

Source: PAWM, 1995d

To date, however, communities on whose land sport hunting takes place, or which border hunting blocks in game reserves, have received few tangible benefits from the industry (MTNRE, 1995b). Although governments commitment to implementing a community-based approach to wildlife conservation is clearly defined in Tanzania's *Policy for Wildlife Conservation and Utilization*, progress has been slow, especially with regard to harnessing the full potential of sport hunting to CBNRM in Tanzania. To affect this general policy of CBNRM in Tanzania, government amended the *Wildlife Conservation Act* in 1994 to enable the establishment of WMAs that can be managed by rural communities that form Authorized Associations. In WMAs, communities, through Authorized Associations, have the right to use and benefit from the wildlife resource through the allocation of a quota of animals provided by the Wildlife Division.

Once such a system of WMAs and Authorized Associations have been established, safari operators wishing to undertake sport hunting in a WMA will have to negotiate a tender directly with the community. This will result in the more effective use and distribution of benefits from the hunting resource, and stimulate community management. Progress has, however, been slow, with the requirement to demarcate land and obtain village title deeds resulting in not one WMA being established by early 2004. In fact, the procedures for establishing and management of WMAs were only released at the end of 2002. These regulations provide for 16 pilot areas in which WMAs are supposed to be tested during the period 2003-2005 (Baldus and Cauldwell, 2004).

Some progress has been made towards achieving this target by a number of community-based projects around Serengeti National Park, the Selous Game Reserve and around the parks and game reserves of the Grater Ruaha ecosystem (PAWM, 1995d). Such projects have made considerable progress, with village land being demarcated and title deeds obtained, and quotas of animals being issued to villagers in order to produce a legal game meat supply.

Overall, however, progress towards harnessing the most lucrative wildlife use, namely sport hunting, to the concept of community conservation has been slow. The Selous Game Reserve has, perhaps, made most progress towards achieving the incorporation of hunting into its community programme. Under the Gesellschaft für Technische Zusammenarbeint (GTZ)-supported Selous Conservation Programme, a community wildlife management programme was initiated in 1989 and currently involves 41 villages and some 71 000 people bordering the Selous Game Reserve (Barnett, 2000). The Selous Conservation Programme retains 50% of sport hunting game fees earned in the reserve and all of the wildlife viewing revenues. The reserve is divided into 47 hunting blocks which are allocated to 17 safari operators, that during 1995 generated some USD900 000 in game fees and an estimated total gross value of USD2.3 million (Siege, 1996). In contrast, wildlife viewing generated only USD205 000, showing clearly that the reserve is

mainly financed through sport hunting. The Selous Game Reserve has also implemented a computerised system to monitor the hunting throughout the entire ecosystem (Baldus and Cauldwell, 2004).

In addition, and through the retention scheme, sport hunting revenue is used by the Selous Conservation Programme to run the wildlife management programme in the 41 villages bordering the reserve. This entire project hinges on the ability of these communities to establish WMAs and lease out the wildlife resource to the highest bidder which in Tanzania is more than likely going to be a safari operator. Unfortunately, however, the slow progress in formalising the establishment of WMAs has meant that, to date, Selous Conservation Programme villages have only been able to benefit from game meat production from a quota set by Wildlife Division each year. As domestic livestock meat is unavailable in the Selous due to the prevalence of tsetse fly and trypanosomiases, the quota (usually nine large mammals) is welcomed for game meat supply through licensed resident hunting or cropping schemes (GTZ, 1996).

Although sales of game meat and revenue generated have increased communities' positive perception of wildlife, it is negligible when compared to the revenues that could be obtained from sport hunting. Currently, communities receive little direct benefit from sport hunting other then some voluntary contributions, which are negligible and amounted to only USD2700 for the entire Songea District during 1994 (Siege, 1996). In relation to resident licensed hunting, however, the Selous Conservation Programme villages have begun to make considerable progress in maximising revenue from their wildlife quotas.

Recognising that resident hunters were obtaining charismatic species such as buffalo for very cheap subsidised prices from government, some Selous Conservation Programme villages in 1996 started to issue "Certificates of Entitlement" for resident hunting in their proposed WMAs. These certificates were charged at an additional cost of, for example, TZS150 000 for a buffalo, in addition to the game fees paid to the Wildlife Division. Such costs represents a more realistic valuation of a sport hunted buffalo, and revenues generated are equitably distributed to villagers.

Other progress in devolving economic and social benefits of sport hunting to local communities has been made by a few private safari operators, namely, Robin Hurt Safaris and Tanzanian Game Trackers. Such private sector community-based initiatives were stimulated in the late 1980s by drastic declines in trophy species in key hunting areas such as the Maswa-Makau Game Controlled Area (Edwards and Allen, 1992). Such declines were caused by the rampant bush meat off-take using wasteful hunting techniques such as long-line snaring (Hurt and Etling, 1991). It was clear to some leading operators that unless rural communities were persuaded to stop their activities, little would be left to market to overseas clients within a few years (Winter, 1991).

This led to the establishment of community conservation and development projects such as the Cullman and Hurt Community Wildlife Project, and the Friedkin Conservation Fund, which have tried to provide a greater proportion of the financial value of tourist hunted animals directly to communities. Wildlife benefits have been mainly provided through the payment by hunting clients of conservation fees (15-20%) in addition to standard hunting costs. These have funded community infrastructure improvements and the establishment of village law enforcement patrols and reward schemes in which cash payments are given for recovered snares, firearms and the arrest of poachers (FCF, 1998). To date, however, only the two largest safari operators have been able to develop such projects, with other operators finding it hard to obtain the necessary funding.

VIII. Discussion/Conclusion

The sport hunting industry in Tanzania is one of the most lucrative within the SADC region, due to the countries reputation for trophy quality and unspoilt hunting areas. Total off-take in terms of numbers of animals hunted is negligible when compared to total revenues generated. Wildlife policy incorporates sport hunting and the revenues it raises as the economic backbone to the country's community-based wildlife management aspirations, especially in regard to the establishment of Wildlife Management Areas.

Although contributing significantly to community livelihood in some areas, such as under the Friedkin Conservation Fund and Cullman and Hurt Community Programme, and in areas surrounding the Selous Game Reserve, the potential for harnessing the potential of sport hunting for stimulating community wildlife management has gone largely untapped. This is mainly due to a lack of legislative change to adequately reflect wildlife policy. In addition, management strategies as outlined in well-developed sport hunting polices remain without formal government endorsement and are largely unimplemented, suggesting a lack of motivation and will on the part of government and private sector. Legislative reform, and increased impetus to affect implementation of management strategies, needs to occur as a matter of priority so that the overall viably and integrity of the sport hunting sector is safeguarded.

COUNTRY REPORT: SPORT HUNTING IN ZIMBABWE

I. Background

Map of Zimbabwe

Geography: Zimbabwe is a landlocked country of about 389 000 km^2 located in southern Africa. It is bordered by Zambia, Mozambique, Botswana, Namibia and South Africa (ZATSO, 2000). The mean annual rainfall is 685 mm, ranging from 386 mm in the southern lowlands to 866 mm in the Eastern Highlands, although the wet season, December through March, can often be unreliable with periodic droughts (ZCSO, 1999). The fauna and flora reflect the environmental gradient from the predominantly low rainfall savannah and miombo woodland to the isolated wet savannahs and montane forests located mainly in the Eastern Highlands. The country can be divided into five natural regions: Regions I, II, and III represent about 56% of the country and are suitable for agriculture and livestock production; and, Regions IV and V make up the remaining 44% of the country and represent generally semi-arid and infertile land suitable only for extensive livestock and wildlife production (Murphree and Cumming, 1996).

Socio-economic: Historically, Zimbabwe was a relatively wealthy country with a GDP per capita of USD740 but this has since dropped to around USD470. The country's population in 1999 was 13.4 million, estimated to grow at 3.13% to 14.5 million by 2005. The population is predominantly rural (77%) with main urban populations located in Harare and Bulawayo (11%) (World Bank, 2004; ZCSO, 2000). The economically active population in 1996 was 5.28 million people, 66% of which were employed in the agricultural sector (ISS, 2004). In terms of contributing to the overall GDP, agriculture has dropped from 19.4% in 1999 to 17.4% in 2002. Industry and Services (e.g. wholesale and retail trade, transport, professional and personal services) have remained fairly stable, contributing 23.8% and 58.8% to the GDP in 2002 respectively (World Bank, 2004). The commercial farming sector produces cash crops such as tobacco, cotton, and soya bean, but the value of exports have dropped from US$567.5 in 1996 to US$29.9 million in 1999 for tobacco and US$140.1 million to US$4.8 million for raw cotton for the same period (ISS, 2004).

The AIDS pandemic and the imposition of a land reform policy based in the reallocation of predominantly white-owned farms has drastically transformed the socio-economic data for Zimbabwe. From having shown a 12% growth in 1980 post-independence days, the economy has dropped to -1.4% in 1999 (ISS, 2004). Inflation was 107.5% in 2001 (World Bank, 2004).

Land Tenure: Zimbabwe has a dualistic land use and agricultural sector inherited from its colonialist past that comprises of three distinct land categories – private commercial land, communal land and government land such as the Parks and Wildlife Estate (Child and Nduku, 1986). Commercial land in which residents exercise private tenure comprises 4500 large-scale commercial farms (in excess of 200 ha) and 9000 small-scale commercial farms (under 200 ha), that represent some 170 000 km^2 (Murphree and Cumming, 1996). Communal land in Zimbabwe is owned by the state through the *Communal Lands Act, 1982*, where residents do not own the land, in the sense that it cannot be sold or leased without permission of the state. This sector comprises some 840 000 households occupying some 160 000 km^2. The current land reform policy in Zimbabwe has resulted in the above situation changing rapidly and with great uncertainty.

Natural Resource Base: Zimbabwe hosts some of the richest wildlife resources in the southern Africa region which are located in over 126 261 km^2 or 32% of the country that is under some form of wildlife management (Barnett, 2000). Unlike most of its neighbours, Zimbabwe's wildlife policy has stimulated the conservation of wildlife not only within the Parks and Wildlife Estate, but also on private and communal lands. By 2001, over 59 000 km^2 of government land had been

Table 50

Land categories under wildlife management

Land category	Number	Area (km^2)	Proportion of country
Parks and Wildlife Estate:			
National Parks	11	27 040	6.95%
Safari Areas	16	18 973	4.87%
Sanctuaries/Reserves/Gardens	38	3 778	0.97%
Forest Reserves	5	9 770	2.51%
Sub-total		*59 561*	*15.3%*
Private Commercial Lands	2 200 Properties	36 000	9.25%
Communal Lands	40 Districts	30 700	7.71%
Total		**126 261**	**32.26%**

Source: Murphree and Cumming, 1996; DNPWLM, 2000a

designated as national parks, safari areas and reserves, collectively known as the Parks and Wildlife Estate, and wildlife on some 36 000 km^2 of private land, and 30 700 km^2 of communal land was being actively managed **(Table 50**). About 6.9% of the country comprises 11 national parks that enjoy the highest conservation status in which consumptive forms of wildlife use are not permitted. In the safari areas (4.9%), communal (10%) and private (9%) wildlife managed areas, all forms of wildlife use are allowed, including sport hunting (Ack and Child, 1993). Since 2000, land invasions threaten this situation and reallocation of land is inevitable.

Murphree and Cumming (1996) estimate that wildlife numbers have doubled since 1975 with, for example, elephant numbers rising from 32 700 in 1960 to 64 000 in 1995 (SCI, 1998). Once endangered species such as Liechtenstein's Hartebeest, Gemsbok, and Nyala have been translocated from neighbouring countries and re-established (WPA, 2000). Land invasions have, however, changed this scenario with increasing reports of 'poaching' by the invaders on privately-owned game farms and conservancies. Increasing pressure from growing human populations has led to environmental degradation such as deforestation, over-grazing and soil erosion, especially in the communal lands (Davies, 1998). Deforestation is of primary concern. Fuel wood accounts for 31% of the country's energy consumption resulting in a 1.5% annual loss of forests that has been especially severe in the communal lands, which have experienced a 50% decline in forest habitats (ZTA, 2000).

II. Wildlife and Sport Hunting Policy, Process and Legislation

The government regards wildlife as a critically important national asset that should be used wisely through both non-consumptive (largely photographic tourism) and consumptive (such as sport hunting) means for the betterment of its people (Bond, 1997). Sport hunting, as one of the most lucrative wildlife use options, forms an integral part of Zimbabwe's conservation and development strategy. It is regarded as a valuable, legitimate and sustainable form of land use, which may be the most appropriate form of development in many areas that are agriculturally marginal (Chimuti *et al.*, 2000).

The government's 1989 *Policy for Wildlife* (revised in 1992) embodies this approach by promoting wildlife as a sustainable form of land use. In 1996, the government established the "Parks and Wildlife Conservation Fund" which created the need for the Parks and Wildlife Estate to be more financially self-sufficient (Mitton, 1996). As outlined in the Ministry of Environment and Tourism's *White Paper of 1996*, wildlife in Zimbabwe increasingly has to "pay its own way." Since the creation of the Fund, sport hunting has played an increased role in financing wildlife management. The process by which Zimbabwe's wildlife policy has been developed and formalized in legislation is described below.

Wildlife and Sport Hunting Policy Process: During the 1970s, the Ministry of Environment and Tourism, through the Department of National Parks and Wild Life Management (DNPWLM), which administers wildlife, acknowledged that centrally-controlled approaches to conservation were failing (Muir and Bojo, 1994). Colonial conservation and the enforcement of the royal game principle had effectively alienated Africans from the wildlife resource. Benefiting from wildlife became illegal. Rural Zimbabwean farmers were expected to tolerate the consequences of living with wildlife (for example, crop damage, endangerment to life), whilst not being able to obtain any benefits. Incentives to sustainably manage the resource were lost, with farmers opting to get rid of wildlife rather than tolerate its presence (Hill, 1996).

By the 1970s, the detrimental impact of this approach to Zimbabwe's wildlife was becoming increasingly clear. In the semi-arid Regions IV and V, which represent 65% of the country, crops and livestock were steadily replacing wildlife. Government actively encouraged this process by supporting the farming sector through price support schemes and subsidies amounting to some USD600 million per year during the 1970s (Cumming, 1989). Such government support was necessary to bolster land use practices that were largely unsuited to these dry and infertile lands. A colonial heritage and increasing human populations resulted in more and more people relying on these semi-arid lands for their livelihood. The communal lands, for example, represented only 42% of Zimbabwe's most arid and infertile land, but hosted over 76% of the country's population (Hoare and Mackie, 1993).

A change in thinking began to emerge during this time that was based on the fundamental realization that wildlife would have to financially out-compete alternative land uses such as agriculture and livestock production if it were to survive. It semi-arid areas it was felt that this could be achieved if all consumptive, including meat production and sport hunting, and non-consumptive wildlife use options were allowed (WPA, 1999). The comparative advantage of wildlife as a form of land use lay, firstly, in it having evolved over millions of years in the semi-arid lands of Zimbabwe and therefore requiring less management inputs and, secondly, that there were lucrative markets for wildlife from wealthy residents of northern hemisphere countries.

The central tenet of Zimbabwe's conservation policy has been to increase the value of wildlife whilst allowing these benefits to accrue directly to land holders to provide incentive for increased wildlife management. Consumptive uses, and especially sport hunting, have been the engine for the implementation of this policy in the semi-arid areas of the

country where photographic tourism is less suitable. Zimbabwe has led the east and southern Africa region in developing the necessary policy and legislation for conducting a well-managed and sustainable consumptive wildlife utilization industry.

Wildlife and Sport Hunting Legislation: This policy process and strategy culminated in the enactment of the *Parks and Wildlife Act of 1975*, which allowed private land holders to utilize wildlife through both consumptive and non-consumptive means (WPA, 2000). The devolution of wildlife benefits increased the incentive for many large-scale commercial farmers to maintain and manage wildlife on their properties. Communal land residents, however, were excluded from taking advantage of the Act, not only because wildlife was largely under a free access regime in these areas, but also due to the absence of institutions that truly represented communal residents and had the capacity to manage wildlife sustainably (Attwell, 1992).

CREDIT: © WWF-Canon / Magnus Sylven

Woman in the communal lands carrying game meat

It was not until 1984 and the creation of RDCs, Ward Development Committees and Village Development Committees, that representative management structures existed and the advantages of the *Parks and Wildlife Act* could be transferred to communal areas with the enactment of the 1989 Amendment to the Act (Taylor, 1990). The amendment allowed RDCs to be custodians of their wildlife, after councils had demonstrated a willingness and ability to manage and administer the resource correctly. With the authority to manage wildlife devolved to land holders in the private and communal lands, DNPWLM supported the creation of the Wildlife Producers Association and the CAMPFIRE programme in the mid 1980s to provide technical assistance and represent the interests of both private and communal producer communities respectively (WPA, 1999).

Currently, the legal framework for consumptive utilization and sport hunting is embodied in the *Parks and Wildlife Act (No.14) of 1975* as amended in 1990 with the *Parks and Wildlife (General) Regulations, 1990*, and as read with the *Development of Tourism Act (No.36) of 1975*, as amended by *Act No.10 of 1984*, and the *Forest Act (Cap 125) of 1949* amended in 1981 (Davies, 1998). These Acts regulate the harvest, possession, sale and trade of wildlife in all land categories. The principal *Parks and Wildlife Act* provides the rules and regulations for licensed hunting and contains schedules specifying specifically protected species, species allowed to be hunted, and species classified as problem animals.

III. Wildlife Utilization Industry

Up to 2000, as summarized in **Table 51**, the estimated annual total revenue in official receipts earned by wildlife in Zimbabwe during 1999 was USD254 million. When including multiplier indices of 1.67 as reported by ZTA (2001) for photographic and hunting tourism, which includes secondary expenditure such as the purchase of food and beverages by hunting lodges, total revenue generated increases to some USD405 million.

Wildlife was also a growing industry with tourist numbers (photographic and sport hunting) increasing from 552 989 in 1990 to over 2.1 million in 1999. Likewise, tourism revenue rose by some forty fold from ZWD158 million in 1990 to ZWD7.712 million by 1999. Although devaluation of the Zimbabwe dollar reduced this to a three-fold increase in foreign currency earnings from USD60 million in 1990 to USD201 million in 1999, the wildlife tourism industry has been one of the main growth sectors in Zimbabwe during the last decade (ZTA, 2000). Other wildlife sectors, such as sport hunting, hide and meat production from game ranches and farms (crocodile and Ostrich), and live animal sales, have experienced similar growth **(Table 51**). As such, wildlife is a primary economic commodity contributing some 8% to Zimbabwe's GDP and, after agriculture, was the second largest foreign currency earner (ZCSO, 2000). Recent developments have seen a substantial decline in tourist numbers and volumes and further devaluations of the Zimbabwe dollar.

Table 51

Wildlife sector revenue generation and growth during the period 1990 to 1999

Wildlife Sector	Estimated Annual Official Receipts Value (USD)	Total Value (%)	Estimated Growth and Indicator During 1990 to 1999
Photographic Tourism:	201.60 million (1999)	79.40%	**Increasing at 70.1%**. USD60.23 million in 1990; USD201.60 million in 1999
Sport Hunting:	23.9 million (1999)	9.41%	**Increasing at 77.4%.** USD4.2 million in 1985; USD9.1 million in 1990, USD18.56 in 1999.
Ostrich Farm Hide/Meat Value	15.70 million (1997)	6.18%	**Increasing at 69%.** No. Ostriches slaughtered: 5500 in 1995; 8769 in 1996; 17, 686 in 1997; 18 000 in 1998.
Communal (CAMPFIRE) Districts and DNPWLM Elephant Ivory/Hide Value:	4.78 million (1999)	1.88%	**Stable increase.** Elephant population continues to grow resulting in more hunting, problem animal control and culling.
International Sales			
Local Sales	4.09 million (1999)	1.61%	
Large-scale Commercial Ranch Hide/Meat Value:	1.77 million (1998)	0.70%	**Increasing.** Commercial wildlife ranches have increased as reflected in the growth of Wildlife Producer Association membership from 436 in 1990 to 1000 in 2001.
Crocodile Farm Hide/Meat Value:	1.56 million (1998)	0.61%	**Increasing at 9.3% growth.** No. of Crocodiles slaughtered: 42 104 in 1994; 38 641 in 1995; 35 242 in 1996; 46 456 in 1997.
Live Animal Sales/Auctions:	325 000 (1999)	0.13%	**Increasing.** Wildlife Producers Association reports increased sales in live animals through auction.
Communal (CAMPFIRE) Districts Hide/Meat Value:	203 926 (1998)	0.08%	**Stable.** Most potential communal areas with substantial wildlife resources had joined CAMPFIRE numbering some 41 districts in 2001. Limited potential for further growth.
Total	**253.9 million**	**100%**	

Source: ZTA, 2000; DNPWLM/WWF NP9 Database, 2001; WPA, 2000; Barnett, 2000; Chimuti *et al*., 2000; Davies, 1998; SCI, 1998

Note: In 1999, a one-off sale of elephant ivory (USD54.6 million) and hides (USD41 million) that had been stockpiled over the past 20 years occurred. Consequently, annual income is estimated at USD4.78 million (i.e. USD95.6 million divided by 20 years) in addition to annual local sales of ivory that have occurred through out the period.

The wildlife sector has been able to achieve this success even though it receives little in the way of government subsidies (about USD0.8 million annually) and is left largely to the mercy of open market forces (Cumming, 1989). In contrast, for example, some USD21 million in government subsidies bolsters the beef industry, and the Lome Accord offers favourable subsidies to Zimbabwean beef imported into the European Union (ZCSO, 1999). Although total beef and milk production generated about USD113.6 million in 1999 (ZCSO, 2001), the return on government investment in the form of subsidies and grants is minimal when compared to the USD248 million generated by the wildlife sector.

IV. Development of the Sport Hunting Industry

The growth of the sport hunting industry bears testimony to its success in generating significant revenues to land holders, with over 65 000 km^2 or 17% of the country now hosting sport hunting. Of the four land categories, hunting is undertaken in 30 000 km^2 of privately-owned commercial farmland, 16 945 km^2 of safari areas, 16 945 km^2 of communal areas, and 4105 km^2 of forest land (ZATSO, 2000). Bond (1997) reports that approximately 30% of hunting occurs in communal lands, 30% in private lands and 40% is safari areas. The sport hunting sector has increased steadily since 1980 as reflected in the number of registered safari operators which have grown from just 13 prior to 1980, to 55 in 1986, to 171 in 1994 and to 273 in 2001 (Bond, 1997; ZTA *in litt*. to TRAFFIC East/Southern Africa, 2001). As depicted in **Figure 1**, the total number of foreign hunts, hunting days, average value of a hunt and consequently tourist hunting revenue, has increased by 77% from USD4.2 million in 1984 to USD18.58 million by 1999.

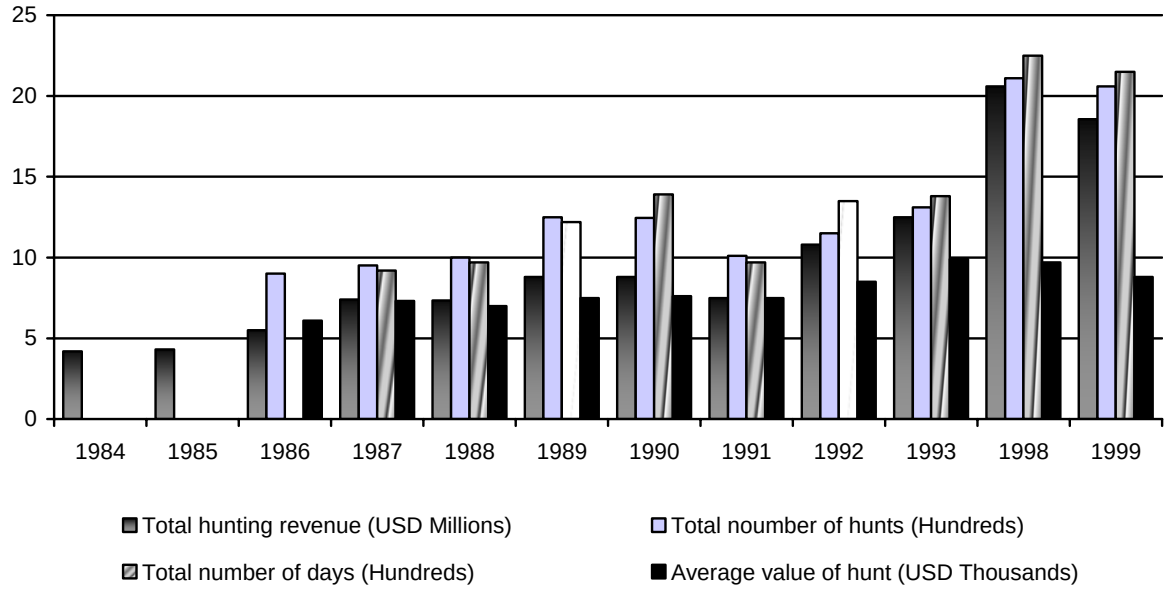
Although sport hunting has experienced an impressive growth during the past decade, within each land category the sector has developed at different rates due to the timing of enabling legislation, and different land tenure and management systems. Up until the 1950s, sport hunting occurred on a small-scale and was mainly confined to commercial land. During the 1960s, attempts were made to incorporate sport hunting in government land that achieved some limited success through the creation of CHAs in 1960 (*The Wildlife Conservation Act*) (Cumming, 1989). However, the first real turning point in the development of the industry came with the creation of the Matetsi Safari Area "experiment" under which marginal agricultural land was expropriated by government for sport hunting. The success of this initiative was pivotal in showing that hunting could be both lucrative and well-managed.

This lead to the enactment of safari areas under the *Parks and Wildlife Act of 1975*, which also importantly granted appropriate authority to the large-scale commercial farm sector (LSCF) (Bond, 1997). This provided the necessary basis for private land owners to be able to benefit directly from sport hunting and, as luck would have it, capitalize on an increased market share due to Kenya banning all sport hunting in 1975. The last major barrier to the continued growth of sport hunting in Zimbabwe was removed in 1989, when the *Parks and Wildlife Act of 1975* was expanded to also grant appropriate authority to communal lands.

Following is a summary of the development of sport hunting in Zimbabwe's four land categories and the role it has played in generating revenue and persuading land holders to effectively manage the wildlife resource it relies upon.

Figure 1

Safari hunting revenue for the period 1984 to 1999



Source: ZTA in litt. To TRAFFIC East/Southern Africa, 2001

i.) Sport Hunting Growth in Private Lands

The *Wildlife Conservation Act, 1960*, gave commercial farmers increased freedom to commercially utilize wildlife. Game meat production was the main means by which farmers utilized their wildlife, with cropping of excess animals increasing up until the mid-1960s (Child, 1995a). Despite the much publicized advantages of game populations being able to utilize a multitude of habitats, resist disease and withstand drought conditions (Pinchin, 1992), it soon became apparent, that meat production alone could not financially compete with other forms of land use such as agriculture and livestock production (Cumming, 1989).

It was soon realized that the comparative advantage of wildlife as a land use lay in the potential of a single animal to be firstly sold to photographic tourists, secondly to a client as a trophy animal, and finally as a meat product (Bond, 1993). Farmers began to explore a greater multi-use approach to wildlife ranching that was catalysed in the mid-1960s by the introduction of sport hunting (Hill, 1994). As the most lucrative wildlife use, sport hunting offered the chance to make wildlife more profitable than other competing land uses, especially when incorporating non-consumptive tourism and meat production.

When incorporating sport hunting, Brunt *et al*. (1986) found that gross revenues from wildlife amounted to ZWD16.30 per hectare as compared to ZWD12.80 for cattle production alone in a communal area of the Zambezi Valley. These findings were corroborated by data from the Buffalo Range Ranch in southeast Zimbabwe and found that wildlife was about three times more profitable than cattle over the period 1978 to 1984 (Taylor and Walker, 1978). Further, in semi-arid areas such as Regions IV and V, farmers began to find wildlife financially more viable than cattle (Jansen *et al*., 1992). Sport hunting increasingly represented the majority of wildlife revenue, from just 2% of total profits in 1967/68,

for example, to 75% in 1972/73 and 93% in 1982 at the Rosslyn Game Ranch (now part of the Matetsi Safari Area) (Johnstone, 1975; Taylor, 1984). As such, sport hunting was largely responsible for stimulating the growth of wildlife utilization in the commercial sector.

Despite heavy subsidization of competing land uses, the industry grew from about 50 ranches using wildlife in the late 1950s to over 180 by 1974 (Muir, 1989). The introduction of the *Parks and Wildlife Act* in 1975 effectively transferred ownership of wildlife from the state to private land holders (WPA, 1999), and in 1979 the industry was further boosted by Kenya's hunting ban. Between 1975 and 1984, the industry expanded at about 6% per year (Child and Child, 1990) and, between 1984 and 1986, the annual value of hunting on commercial lands increased from USD2.5 to USD5.6 million (Child, 1990b). With the growing importance of wildlife utilization in private lands, the Commercial Farmers Union (CFU) declared wildlife a commodity. Under the auspices of the CFU, a Wildlife Producers Association (WPA) was formed in 1986 to represent the interest of commercial land owners, and a steady increase in membership from 436 members in 1990, to 680 members in 1995, reflected the overall growth of the industry during this time period (Bond, 1993; WPA, 1999).

Fuelled primarily by sport hunting, the result has been a significant shift from livestock monocultures to a greater integration of wildlife species. By the mid-1990s, about 25% (27 000km^2) of commercial land was being managed as a multi-species wildlife system. This constituted nearly 31% of the country's total land area allocated to wildlife, second only to national parks and safari areas (Murphree and Cumming, 1996). Some commercial lands were also entirely devoted to wildlife with, for example, the Hwange National Park being effectively increased in size by some 250 000 ha as neighbouring ranch land turned to wildlife (Child, 1995a).

The rapid expansion of the industry continued throughout the 1990s and was facilitated to some extent by the declining viability of beef production brought about by government price restrictions, and the occurrence of severe droughts in the early 1990s (Bond, 1993). The 1992 drought saw many farmers' traditional crops and livestock die, leaving wildlife as the only source of income. Such resilience to drought motivated farmers to incorporate some form of wildlife management on their lands. The industry continued to grow with the WPA having some 1000 members by 2001 (WPA, 2000). A TRAFFIC survey conducted in 1998 of a representative sample (n=270) of all large-scale commercial farms in Zimbabwe showed that 49% undertook some form of sport hunting, which equates to over 2200 properties (Barnett, 2000).

These properties can be defined as LSCFs and are located mainly in the Matabeleland, Masvingo and Midlands Provinces in which wildlife is the main source of revenue, and small-scale commercial farms in Mashonaland, for example, where wildlife is an additional source of revenue to crop production. LSCFs obtain greatest revenues from sport hunting. As shown in **Table 52**, species hunted are predominantly plains game, although interestingly, 34% and 23% of LSCF respondents hunt sable and leopard, which are highly-prized trophy species.

Table 52

Top 10 species hunted by Large-Scale Commercial Farmer (LSCF) respondents during 1998

Species	% of LSCF hunting individual species
Impala	82%
Kudu	80%
Eland	40%
Sable	34%
Zebra	32%
Wildebeest	29%
Warthog	29%
Leopard	23%
Tsessebe	14%
Duiker	13%

Source: Davies, 1998

It is estimated that around 40% of owners manage the hunts themselves and 60% sell a quota to professional safari operators (R. White, pers. comm., 2001). Owners of larger properties are motivated to undertake hunts themselves due to the increased profits they can realize. Owners of smaller ranches tend to find it easier and more profitable to sell the quota, because of the considerable investment needs and costs for advertising and marketing abroad. By selling a quota, smaller properties are assured of a fixed income quickly, without the need for costly investment. Foreign hunters undertake the majority of hunting, with citizens being increasingly priced out. The devaluation of the Zimbabwe dollar has also increased the importance of being able to pay in hard currency (G. Pangeti, pers. comm., 2001).

Although the growth of the sector has been primarily due to its economic viability especially on the LSCFs in the lowveld (Regions IV and V), smaller farm properties in the highveld (Region II) have increasingly played an important role although for more aesthetic reasons. In Mashonaland East Province in 2001, for example, there were 445 small commercial farms that mainly undertook crop production. Of these, 125 were WPA members; 91 being classed as non-active preservationist members, and 34 as active members engaged in some form of consumptive wildlife utilization (R. White, pers. comm., 2001). As such, most properties set aside unproductive parts of their farms to keep wildlife for purely aesthetic reasons. However, as these populations have invariably grown farmers have been forced to undertake some form of management. In most cases, farmers opt for either live animal capture and sale or sport hunting (WPA, 1999). In the past 10 years, small farms have contributed significantly to the live animal auction sector. Over 130 000 animals have been captured and relocated, and about 70 770 animals sold at 33 auctions for a value of ZWD44.7 million (WPA, 2000).

Sport hunting is also a popular option for controlling excess animal numbers. A thriving hunting industry has developed, where safari operators will buy a few animals from many small farm properties. Depending on the "bag" required, hunting clients may visit up to half a dozen small farms during a hunting trip (G. Pangeti, pers. comm., 2001). The value of hunting in these areas has grown to such an extent that in some cases, as with the Carolina Wilderness Ranch located 20 km outside Harare, farmers regard wildlife as the key crop, which can be interchanged with more traditional cash crops such as tobacco. Rather than fencing wildlife in on only unproductive areas of the property, farms are now fencing the entire ranch to give wildlife greater range. Individual crops, not wildlife, are now being fenced. Tobacco, for example, is inter-cropped with wildlife. Once harvested, the ground is re-sown with grasses and opened up to wildlife during fallow periods (R. White, pers. comm., 2001). The commercial sector is also constantly striving to meet new demands from the hunting market. In 2001, for example, after successful trials were conducted during the late 1990s, bow hunting was allowed outside of the Parks and Wildlife Estate for soft skinned game, but is prohibited for dangerous game (Mungwashu, 2001).

The growth of this sector has also been facilitated by the establishment of conservancies such as the Save Conservancy, which are informal groups of neighbouring wildlife ranchers and farmers who pool together to manage the shared wildlife resource. In addition to increasing wildlife numbers and habitat throughout Zimbabwe, the commercial sector, specifically conservancies, have also increased biodiversity by re-establishing endangered species. Liechtenstein's Hartebeest, Gemsbok and Nyala have been translocated from Zambia, South Africa and Malawi, respectively, and reintroduced into many conservancy areas throughout the commercial lands of Zimbabwe (R. White pers. comm., 2001). Due to their sport hunting value, buffalo are now being bred for resistance to Foot and Mouth Disease, and 35 properties now hold over 700 disease-resistant animals (WPA, 2000).

The success of the commercial farm sector in achieving conservation is well documented, but political events since 2000 have severely impacted progress made during the past 25 years. Land invasions, resettlement and political instability has had dire consequences for wildlife occurring in the commercial sector. Land invasions have affected all wildlife management activities, and resulted in severe habitat destruction, increased poaching and infrastructure damage with thousands of kilometres of fences being destroyed to make wire snares. Results of a WPA survey conducted in 2001 indicate increased poaching throughout affected areas in Matabeleland and Masvingo Provinces. A typical questionnaire response from an invaded 50 000 acre farm in Masvingo Province is summarized in **Table 53**, and indicates substantial poaching losses of up to USD1 819 040, with over 3400 snares recovered and 134 poachers arrested in just two months (WPA, *in litt*. to TRAFFIC East/Southern Africa, 2001). Their example is indicative of the situation facing some 150 other properties throughout the Masvingo Province (R. White, pers. comm., 2001). Such levels of poaching are due directly to land invasion and settlement, but also to an increased general perception that poaching on commercial lands will not result in arrest.

Table 53

Poaching losses on one large-scale commercial ranch in Masvingo Province between April and June 2001

Species	Number snared	Trophy value (USD)	Total value (USD)
Impala	3 300	150	495 000
Nyala	25	1 500	37 500
Waterbuck	35	1 000	35 000
Warthog	800	200	160 000
Kudu	600	750	450 000
Wildebeest	250	500	125 000
Zebra	290	600	174 000
Bushbuck	260	250	65 000
Eland	120	1 500	180 000
Ostrich	5	1 000	5 000
Tsesebe	1	500	500
Cheetah	5	2 000	10 000
Wild Dog	7	Protected	Protected
Leopard	1	2 000	2 000
Elephant	3	6 000	18 000
Sable	25	2 000	50 000
Buffalo	7	1 500	10 500
Giraffe	1	1 500	1 500
Baboon	1	40	40
Total			**1 819 040**

Source: WPA, 2001

In line with this political instability, there has been an increase in cancelled tourism bookings. WPA estimate that in 2000 there was a 50% decline in photographic tourism, and a 20% decline in ranch/farm hunt bookings. In 2001, the situation deteriorated further, with photographic tourism and hunting declining by a further 30% and 10% respectively (R. White, pers. comm., 2001). Since 2000, the nationwide trend has been a loss of wild habitat in the commercial lands and key species such as Cheetah (95% occur in commercial lands) have come under increasing poaching pressure from re-settlement. The National Lands Committee have instigated an assessment on the conservation damage inflicted by re-settlement, and in 2001, gave assurances that conservancies and commercial wildlife ranches and farms would not be included in resettlement schemes (G. Pangeti, pers.comm., 2001).

ii.) Sport Hunting Growth in the Parks and Wildlife Estate

Safari Areas: During the 1950s, sport hunting occurred on a small-scale and was restricted to private land. Although the hunters' association was able to lease small areas of Crown Land, the government of the day was not wholly committed to supporting the growth of the industry. The newly-established Wild Life Conservation Department tried to

establish a "Hunting Safari Scheme" in 1957, only to find that suitable land was not available (Cumming, 1989). In the late 1950s, the government also blocked proposals for the establishment of a hunting area in the buffer zone around Wankie (now Hwange) National Park (Fraser, 1959).

It was not until the enactment of the *Wild Life Conservation Act of 1960*, that sport hunting was able to expand to some extent with the creation of CHAs in the Zambezi Valley in 1961, and in Hwange and the Tuli Circle in 1963. Adjusted to 1987 exchange rates, the sport hunting industry grew in value from just USD44,615 per year between 1961 and 1963 (generated from one CHA in Zambezi Valley), to USD155 338 per year between 1963 to 1973 (generated from three CHAs in Zambezi Valley, Hwange and the Tuli Circle). Although increasing in value due to greater access to huntable land, the numbers of safari hunters remained relatively stable during the 1961 to 1973 period with an average of 193 hunters per year between 1961 and 1966, and an average of 240 hunters per year between 1966 and 1973. The importance of non-residents to Zimbabwe's sport hunting sector was apparent from the start with an average of 43% of tourist non-resident hunters (DNPWLM Annual reports, 1961-73).

CREDIT: © WWF-Canon / Martin Harvey

Elephant *Loxodonta africana*

Demand for hunting, however, exceeded supply many fold, causing hunts to be allocated on a lottery system. In 1973, the demand for hunting in the few CHAs led to the government's purchase of land in a depressed cattle ranching area in north-western Zimbabwe that was allocated to the DNPWLM for sport hunting. This experimental development heralded a greater government commitment to sport hunting and the Matetsi CHA laid the framework for managing "hunting concessions" that would be followed by wildlife managers throughout the region in the years to follow. The Matetsi CHA was divided into seven concessions that were leased to sport hunting operators in 1973. Operators had to reside on the concession and were encouraged to actively participate in its management through the provision of game water supplies, and the maintenance of firebreaks and hunting tracks (Cumming, 1989).

Due to the success of the Matetsi CHA and the popularity of sport hunting, the *Parks and Wildlife Act of 1975* formalized the creation of safari areas. Safari areas encompassed the CHAs but were not restricted to sport hunting only, and incorporated other non-consumptive recreational pursuits such as photography, animal viewing and camping. Sport hunting, however, soon became the primary land use with nearly 60% of safari areas being used for this purpose by the late 1980s. By 1989, 16 safari areas had been created which accounted for nearly 40% of the Parks and Wildlife Estate of Zimbabwe, representing some 18 972 km^2. These safari areas were mostly located in parts of the country characterized by infertile soils and low agricultural productivity.

In 1986, the 12 hunting safari areas generated a total of USD638 253 in revenue from trophy fees and concession lease payments. The Matetsi Safari Area was by far the largest earner at USD239 307, followed by Chewore Safari Area at USD91 470 and the Nyakansanga section of Hurungwe Safari Area at USD67 740. By 1989, these areas were generating approximately USD1 004 640 per annum (Cumming, 1989). Sport hunting revenue from all safari areas increased slightly in 1990 to USD1 400 000, and by 2000 had increased to USD3 389 869, which represented about 14% of total sport hunting revenue.

Forest Land: Forest areas represent some 2.4% of the country's total land area. Of this, some 4105 km^2 contains huntable populations of large mammals situated mainly in western Zimbabwe in areas that adjoin the Hwange National Park and the Matetsi Safari Area. The Forestry Commission manages sport hunting in these areas (Cumming, 1989). Although there are a number of sites leased by the Forestry Commission to tour operators for non-consumptive tourism, the vast majority of forestland with sizeable wildlife populations are used for sport hunting (Bond, 1997).

iii.) Sport Hunting Growth in Communal Lands

Before the 1980s, communal land hunting concessions were mainly located adjacent to protected areas, and were remote and largely underdeveloped. DNPWLM administered the hunting concessions, whilst the Ministry of Local Government administered the communal land itself. Revenue generated from sport hunting was collected by government but returned to district councils from central revenue through grants for approved development projects (Cumming, 1989).

During the 1980s, communal lands experienced a rapid expansion of subsistence farming and livestock production caused mainly by the increasing human population, but also facilitated by the eradication of tsetse fly in the Zambezi Valley (Musokotwane and Rehoy, 1992). Communal land came under increasing pressure leading to a decline in hunting concessions in communal lands from 17 in 1981 to 11 in 1986 (Cumming, 1989). In an effort to reverse this

decline in communal area wildlife habitat, and in recognition of the failure of DNPWLM's centrally controlled approach to wildlife management, the CAMPFIRE programme was launched in 1985.

The CAMPFIRE philosophy recognized that greater custodianship of wildlife was required by local communities who were best placed to manage the resource (Murphree, 1994). As emphasized in Zimbabwe's *Policy for Wildlife* which states that "rural land holders … as wildlife producers, should be the primary beneficiaries", CAMPFIRE actively promotes the realization of greater wildlife benefits to rural communities with the aim that the resource becomes perceived as an asset that requires effective management (Ack and Child, 1993). The success of this approach is reflected in the growth from two districts in 1986 to some 40 districts by 2001, amounting to over 30 000 km^2 that had been granted "appropriate authority" to benefit from, and manage the wildlife resource (Kharere, pers. comm., 2001). RDCs and rural communities that once viewed wildlife as problem animals, now view them as assets that can be realized through sport hunting. During 1990 and 1991 in Gokwe for example, 44 elephants were killed through problem animal control. After joining CAMPFIRE, this number declined to just three due to the sport hunting value now being placed on the animals (WWF, 1997b).

Table 54

Annual revenue generated by Rural District Councils between 1989 and 1998

Year	Sport hunting revenue (USD)[1]	Tourism (USD)[2]	PAC, Hides, ivory and meat (USD)[3]	Other (USD)[4]	Total (USD)
1989	326 798	28	5 294	17 690	349 810
1990	453 424	2 865	42 847	57 297	556 433
1991	638 153	15 904	20 859	101 105	776 021
1992	1 154 082	18 951	9 429	34 216	1 216 678
1993	1 394 060	21 095	14 988	53 730	1 483 873
1994	1 553 543	39 985	2 770	46 373	1 642 671
1995	1 476 812	54 866	11 685	48 204	1 591 567
1996	1 656 338	23 275	39 869	36 429	1 755 911
1997	1 708 234	71 258	44 331	13 615	1 837 438
1998	1 787 977	40 871	25 205	37 713	1 891 766
Total	**12 149 421**	**289 098**	**217 277**	**446 372**	**13 102 168**
Percent	93%	2%	2%	3%	100%

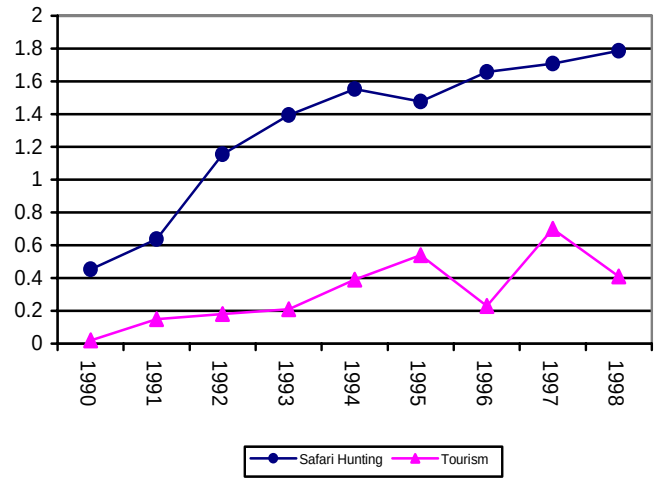
Source: Bond, 1997; Chimuti *et al*., 2000; Bond *in litt*. to TRAFFIC East/Southern Africa, 2001

Notes: 1.) Sport hunting-income earned from lease and trophy fees paid by safari operators; 2.) Tourism-income earned from the lease of wild life areas for non-consumptive tourism; 3.) PAC, hides, ivory and meat-income from the sale of animals products primarily from problem animal control; 4.) Other-income from the sale of live animals, collection of Ostrich and crocodile eggs, etc.

Although these districts generate revenue from a variety of sources, including sport hunting, photographic tourism, and cropping and culling schemes for meat production, sport hunting contributes the vast majority of this revenue (Bond, *in litt*. to TRAFFIC East/Southern Africa, 2001). Between 1989 and 1998, sport hunting accounted for 94% of all wildlife-based revenue received by CAMPFIRE district councils **(Table 54**). This compared with only 2% generated from non-consumptive tourism. Although some analysts assert that communal areas have considerable potential for non-consumptive tourism (Child, 1995a), others believe that the continuing settlement of wild land for agriculture and resulting decrease in wildlife populations has limited the tourism potential in most communal districts (Bond, 1997).

Figure 2

Communal areas sport hunting and tourism growth for the period 1990 to 1998



Source: Unknown

As depicted in **Figure 2**, sport hunting in communal areas has grown at a significant rate compared to photographic tourism, indicating that safari hunters seem more immune to the vagaries of hunting in communal areas. Indeed, many foreign hunting clients insist on undertaking some of their hunting in communal area concessions due to the "feel good" factor of assisting in development and meeting of community members (G. Pangeti, pers. comm., 2001). It is important to note that only an average of four districts have benefited from tourism whereas as average of 15 districts have benefited from sport hunting. As such, only a few districts maintain the species and infrastructure required for tourism, in contrast to sport hunting which is an option for many (Chimuti *et al*., 2000). However, the rate of growth for sport hunting has slowed from USD1.4 million in 1993 to USD1.8 million in

1998, indicating that all districts with feasible wildlife numbers have already joined the CAMPFIRE programme. As such, potential growth for sport hunting and tourism seems limited.

Although the CAMPFIRE programme has reduced the loss of wild land due largely to sport hunting, wildlife as a primary land use is not yet entrenched within communal lands (Bond, 1997). This is mainly due to the low rate of return to individual households, with revenue distributed directly to households as cash payment, or in the form of village development projects amounting to only USD5.43 and USD8.51 being generated per person in the two most profitable districts of Guruve and Nyaminyami.

Although households should ideally be the unit of benefit, management and accountability, in practice, democratically elected RDCs are responsible for wildlife management and the disbursement of revenue generated. DNPWLM guidelines outline that 50% of revenue should be disbursed directly to households, 35% should be expended on wildlife management, and the remaining 15% kept by RDCs for administrative and running costs (R. Taylor, pers. comm., 2001).

Some analysts maintain that a failure to genuinely empower rural wildlife producer communities, and the overriding continued demand for land from a growing human population, will result in minimal long-term conservation in many CAMPFIRE districts. Others, on the other hand, maintain that an increased sense of ownership and proprietorship through skills transfer, training and capacity building will result in communities continuing to manage their resource (Ballan, 1998). Regardless, sport hunting will probably continue to be the financial backbone of the CAMPFIRE programme.

V. Structure and Status of Sport Hunting

The sport hunting industry generated some USD23.9 million or about 9% of the total value of wildlife in Zimbabwe during 1999. As seen in **Table 55**, revenue is mainly generated through trophy fees (45%) and safari operators daily rates (47%) and to a lesser extent hunting concession lease fees (8%). Foreigners conduct the vast majority of sport hunting. Citizen hunting is limited due to the expense of hunting and the requirement to pay in hard currency, with the devaluation of the Zimbabwe dollar making it increasingly unaffordable. Citizen hunting is largely confined to four Parks and Wildlife Estate safari area hunting concessions where cheaper hunts are reserved solely for citizens. During 1999, citizen hunting generated about USD1.77 million in contrast to USD22.1 million from tourist hunters.

Table 55

Total value of tourist and citizen sport hunting in 1999

Hunting type	Trophy fees (USD)	Daily rates (USD)	Concession fees (USD)	Total (USD)
Tourist Hunting	9 008 886	11 376 540	1 801 773	22 187 199
Citizen Hunting	1 773 088	-	-	1 773 088
Total	**10 781 974**	**11 376 540**	**1 801 773**	**23 960 287**
% Contribution	45%	47%	8%	100%

Source: DNPWLM, 2001; DNPWLM/WWF NP9 Database, 2001

Although realizing significantly less revenue than photographic tourism, sport hunting has contributed significantly to conservation and community development throughout Zimbabwe. Unlike many other wildlife uses, hunting is undertaken in all of the country's land categories. In many semi-arid areas where hunting occurs, photographic tourism is not an option due to the extensive infrastructure required, lack of scenic beauty and charismatic species (Bond, 1997). In contrast, sport hunting is the most lucrative use of wild animals, and clients are less concerned by scenic beauty, species diversity and require less infrastructure such as good roads and lodges (Cumming, 1989). Sport hunting contributes over 92% of all wildlife revenue in communal area districts (Chimuti *et al*., 2000), and is the major source of wildlife revenue in large-scale commercial farms (Davies, 1998). As such, hunting has been the only viable use of wildlife in huge areas of unproductive land, and consequently has been largely responsible for the implementation of Zimbabwe's conservation policy in much of the country.

Sport hunting's importance to the wildlife sector has also increased dramatically since the February 2000 Referendum to change the constitution, and the resulting political instability and land invasions that occurred (Zirebwa, pers. comm., 2001). Since this time, reduced photographic tourist confidence has resulted in a 50% decline in arrivals (ZTA, 2000). In addition, Zimbabwe's military involvement in the Democratic Republic of Congo's conflict, and a shortage of foreign currency with which to purchase fuel, resulted in severe commodity shortages during 2000 and 2001. This further adversely affected international photographic tourists, but especially regional tourists. For example, South Africans and Zambians travelling by road in Zimbabwe constitute some 26.2% and 28.5% of all tourists (ZTA, 2001). Limited fuel has resulted in drastic declines in regional tourist visitors, especially in the eastern region of the country (Zirebwa, pers. comm., 2001).

By the end of 2000, 66 registered tourism facilities had closed, 12% of all tourism employees had been retrenched, and photographic tourism's contribution to GDP had declined from 7% in 1999 to just 3% in 2000 (ZTA, 2001). In contrast, sport hunting has faired well under these trying times (G. Pangeti, pers. comm., 2001). Although affected, declines in visiting hunting clients have been less severe at about 20% in 2000 compared to 1999 (R. White, pers. comm., 2001). Hunters are less affected by political instability and most travel within Zimbabwe by air, thus being less affected by fuel shortages. As further discussed below, during 2000 and 2001, sport hunting has exhibited more stability than other wildlife enterprises occurring in Zimbabwe.

VI. Zimbabwe's Sport Hunting Market

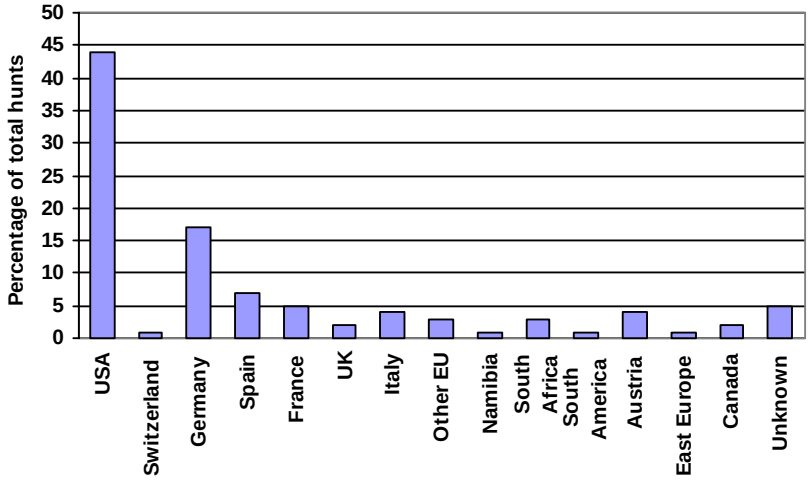
Sport Hunting Market: Zimbabwe has faired well under increased competition in sport hunting in the SADC region, and has maintained a prominent market position within the African sport hunting industry. The ban on hunting in Kenya in the late 1970s provided a welcome boost to Zimbabwe's fledgling industry (Cumming, 1989). Since then, the country has been able to out compete many of its neighbours in terms of the supply and quality of the hunting experience offered.

DNPWLM insistence on limited quotas, minimum trophy sizes and in developing a limited off-take, high-value industry, has maintained Zimbabwe's reputation as a quality hunting destination. Indeed, the control and regulation of sport hunting in Zimbabwe by DNPWLM and professional organizations such as the WPA and Professional Hunters and Guides Association is considered to be an advantage that Zimbabwe holds over other countries. The policy framework set up by government provides for sustainable hunting quotas, appropriate monitoring and a level of accountability and transparency not found in other competing countries (Jones, 1995). Zimbabwe has been able to maintain a quality product in terms of the hunting experience and quality trophies, which has been a good investment for the future growth of the industry.

The Zimbabwean sport hunting industry is focused on attracting foreign clients in a move to increase foreign currency earnings. The industry does, however, make provision for Zimbabwean citizens in that some SA hunting concessions are specifically reserved for locals (Mitton, 1996). These areas are in less demand from foreign hunters due to the limited prevalence of dangerous game, with most popular hunting concessions largely used by wealthier foreign clients. As such, the majority of sport hunting clients in Zimbabwe are foreign (Bond, 1997). As shown in **Figure 3**, an analysis of hunting permit returns for the period 1995 through 1999 show that Americans form the bulk of all hunting clients, representing some 44%, followed closely by Europeans at 33%. Of the Europeans, 17% come from Germany, 7% from Spain, 5% from France and 4% from Italy. Outside of Europe, South Africa at 3% and Australia at 4% also provide significant numbers of hunting clients (Chimuti *et al*., 2000). As Zimbabwe's sport hunting industry relies predominantly on Americans and Europeans (77%), any political developments in these two regions of the world, such as increased restrictions on the import of trophies, will have direct consequences for the future of sport hunting in Zimbabwe.

Figure 3

Number of hunts by client country of origin for the period 1995 to 1999

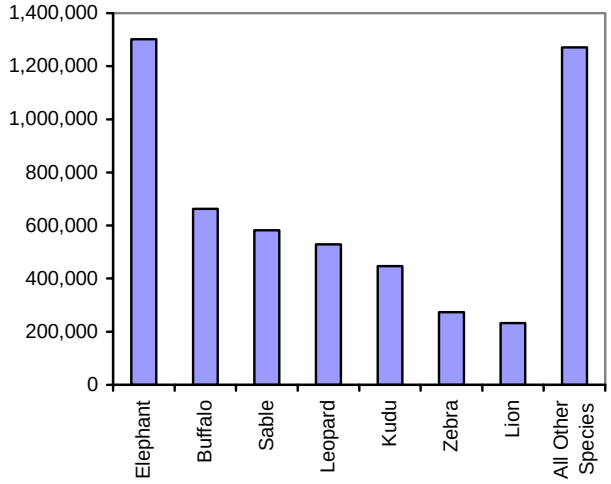


Source: Chimuti *et al*., 2000

Species Hunted: As summarized in **Figure 4**, of the top 20 mammal species hunted by foreign tourists in Zimbabwe, only seven (lion, leopard, sable, buffalo, kudu, zebra and elephant) contribute over 76% of all trophy fees (Bond, 1997). Of these seven species, kudu is hunted the most, followed by buffalo, zebra, sable, leopard, elephant and lion. Total contribution to revenues, however, differs in that less abundant, but more sought after species, attract higher hunting fees and contribute significantly more to total revenues (Ferguson, 1994). DNPWLM has supported this approach through quota setting and the establishment of minimum trophy size requirements that has been directed at achieving a high value, limited off-take industry.

Figure 4

Total revenue generated (Trophy fees and daily rates by species hunted in 1999)



Source: Bond, 1997

Species such as buffalo, leopard, elephant and lion are regarded as dangerous game, with hunters valuing the increased hunting experience. These species, as well as sable, are also valued for their trophies. As such foreign trophy hunters are prepared to pay substantial fees for the right to hunt these animals and acquire their trophies (Heath and Machena, 1997). In contrast, impala, Warthog, kudu and zebra are abundant, widely distributed, less renowned for their trophy value, and not regarded as dangerous game, thus, they attract much lower hunting fees. Although hunted in the greatest numbers, their contribution to total revenue is correspondingly less. Buffalo perhaps represents the best balance between abundance and value as a huntable species. Buffalo are abundant, but safari hunters regard the species as a dangerous animal to hunt, value its trophy, and the quality and quantity of its meat. Due to its substantial hunting fee, at almost double that of kudu, and its abundance, where it ranks fifth in terms of the numbers hunted, buffalo ranks second in terms of total revenue raised **(Table 56**).

Elephants are hunted in small numbers but contribute by far the largest amount to total revenue. Of the seven key species, elephant alone was responsible for 22% of all trophy fees paid between the period 1986 and 1993 (Ferguson, 1994; Bond, 1997). This increased dramatically for the period 1995 to 1999, mainly due to an increase in trophy fees to a minimum of USD6000 per animal, which resulted in elephants accounting for 64% of total revenue from sport hunting (Chimuti *et al*., 2000). Even during the early 1990s, elephants provided the majority of revenue directed to communities in communal lands, accounting for some 64% of revenues in 1992. Safari areas also rely heavily on elephant for a significant proportion of revenues generated with 48% of all elephants hunted in these areas. Indirectly, elephants are also essential to the continued viability of sport hunting in commercial private lands as ranch hunting of plains game are often complimented by more dangerous species in safari areas or communal lands.

Cheetah also has the potential to join the key species as a substantial revenue earner for the industry. Cheetah numbers have increased dramatically in commercial farmland due to the removal of their main predator, hyena, and a shift in primary food from small antelope to cattle. Cheetahs have been given a value by allowing a small sport hunting quota, and consequently, the tolerance

Table 56

Number of animals hunted in 1999 for the top 20 species by foreign hunters and trophy fees generated

Species	No. shot	Av. trophy fee (USD)	Total trophy fee (USD)
Elephant	182	9 059	1 648 738
Buffalo	680	1 690	1 149 200
Lion	53	3 434	182 002
Leopard	273	2 305	629 265
Hyena	79	260	20 540
Hippo	59	1 451	85 609
Crocodile	52	1 431	74 412
Sable	482	2 016	971 712
Eland	403	884	356 252
Kudu	1 118	699	781 482
Bushbuck	406	436	177 016
Waterbuck	294	1 238	363 792
Reedbuck	172	397	68 284
Zebra	753	683	514 299
Bushpig	149	159	23 691
Warthog	1 169	174	203 406
Impala	2 702	120	324 240
Duiker	417	100	41 700
Wildebeest	495	618	305 910
Klipspringer	174	305	53,070

Source: DNPWLM/WWF NP9 Database, 2001
Note: All species male.

of farmer's towards Cheetah has been increased (Heath and Machena, 1997). Although the hunt success rate for Cheetah is notoriously low, due mainly to their refusal to be baited, hunters pay lucrative fees for the privilege to hunt this renowned species, and their contribution to the overall viability of the industry is likely to grow.

The future viability of the sport hunting industry in Zimbabwe is linked with the well being of buffalo, leopard, lion, sable and elephant populations. In line with the overall doubling of wildlife numbers in Zimbabwe since 1975 this future looks positive as key hunting species populations have been steadily increasing. Buffalo numbers have been rising even though severe veterinary restrictions exist such as the requirement for double fencing in commercial farms due to their hosting Foot and Mouth Disease. Leopards are also distributed throughout much of Zimbabwe and their numbers on commercial farms have increased, in some cases by as much as 50%.

Lion, sable and elephant are found in good numbers in the Parks and Wildlife Estate, although a serious outbreak of disease in the early 1990s significantly reduced lion numbers in the Zambezi Valley. Due to their incompatibility with livestock, lion were also largely eradicated from commercial lands up until the 1970s when their sport hunting value began to be recognized (Heath and Machena, 1997). Elephants, which form the backbone of the sport hunting industry, have been steadily increasing from about 32 700 in 1960 to 52 000 in 1988, despite the culling of 44 500 elephants during the period to prevent them from damaging habitat (Martin, 1990). Populations have been increasing regardless of disease, veterinary restrictions, culling, and incompatibility with livestock or human habitation due to the sport hunting value associated with these species. Land holders are now willing to absorb the costs of keeping these species due to the economic return they will receive from sport hunting.

CREDIT: (c) WWF-Canon / Michel Terrettaz

Hippopotamus *Hippopotamus amphibius*

VII. Management of the Sport Hunting Industry

The key sport hunting management objective is to safeguard the overall integrity of the industry whilst maximising the revenue generated from a sustainable resource. A number of management bodies, including land holders, DNPWLM, NGOs and other associations, are responsible for achieving this objective. Management structures have been established to ensure that standards are maintained, and monitoring and administration systems put in place to allow for informed management decisions when establishing the quotas and fees of animals to be hunted. As the central tenet of Zimbabwe's wildlife policy is based on maximizing wildlife revenue to land holders, management support is also provided to ensure that hunting concession leases result in optimal benefit to producer communities. Following is a summary of these key management issues:

i.) Sport Hunting Management Bodies

As previously outlined, since the 1960s, the management of sport hunting has experienced a gradual devolution of authority from central DNPWLM control to that of land holders. The dilemma in communal areas, however, was that since colonial times, local communities had no experience with wildlife management and were initially ill equipped to take on the task. To lessen the immediate risk, DNPWLM implemented the process of devolving wildlife management in a planned and responsible manner using an adaptive management approach. To facilitate this process, DNPWLM played a key role in providing logistical and technical assistance to land holders, whilst encouraging the establishment of a wide range of associations and NGO programmes that would assist key stakeholders in private and communal areas.

National Parks and Wild Life Management: The Departments role began to focus increasingly on monitoring and administering the sport hunting industry in order to safeguard its overall integrity and growth. Currently, this includes ensuring that professional standards are maintained, setting and approving quotas, imposing minimum sizes for trophies exported out of the country, and establishing centralized monitoring systems (Edwards and Allen, 1992). DNPWLM also plays a key role in ensuring that provisions made under international conventions such as CITES do not adversely affect the country's sport hunting industry (Bond, 1997).

Only in the safari areas, which fall directly under the Parks and Wildlife Estate, does the DNPWLM still retain direct management control of hunting concessions, although even here greater responsibility for management is being placed with safari operators. DNPWLM maintains no direct management action in private commercial lands, and in the

communal areas prefers to restrict its role to simply administering the CAMPFIRE programme (Edwards and Allen, 1992).

Stakeholder Associations: A number of associations have been established to assist DNPWLM in key aspects of supporting stakeholders in managing the sport hunting industry. The professional hunters association provides marketing and technical information to safari operators to ensure that Zimbabwe maintains its position as one of Africa's premier hunting destinations. Private land owners are assisted by the WPA, which provides wildlife management and marketing assistance to ensure that land owners obtain maximum returns from sport hunting on their ranches. Likewise, CAMPFIRE supports communal land holders and RDCs by providing representation, assisting in monitoring and providing technical advice in the extension of the programme (Edwards and Allen, 1992). CAMPFIRE in turn receives considerable support from the following NGOs:

- World Wide Fund for Nature (WWF) has managed various projects that provide technical assistance, ecological planning, economic analysis and donor support to ensure sustainable management of the species involved, and assist in providing benefits to species populations, habitats and local communities;
- Centre for Applied Social Sciences at the University of Zimbabwe has assisted with social, economic and political research, monitoring, and documentation analysis; and,
- Zimbabwe Trust has supported a range of management, participatory planning, monitoring, training, and institutional development programmes.

Box 4

DNPWLM Code of Ethics for hunters

According to the DNPWLM Code of Ethics for hunters, it is unethical to:

- Not follow the principle of fair chase
- Shoot from a vehicle, aircraft or boat
- Chase animals with a hunting vehicle
- Sport hunt animals at night
- Hunt "caged" or "canned" or captive breed animals
- Use spotting agents to locate animals
- Hunt within 400 m of national parks
- To shoot pregnant female animals or those with young
- To shoot animals at drinking point or feeding station
- To over hunt animals on any land
- Not to remove bait at the end of a hunt
- To hunt animals in an inhumane way
- To lure animals with electronic calling devices
- To litter a hunting area
- Submit falsified trophy measurements
- To mishandle and behave irresponsibly with firearms
- Not to follow up on wounded animals

Source: Canopy, 2001

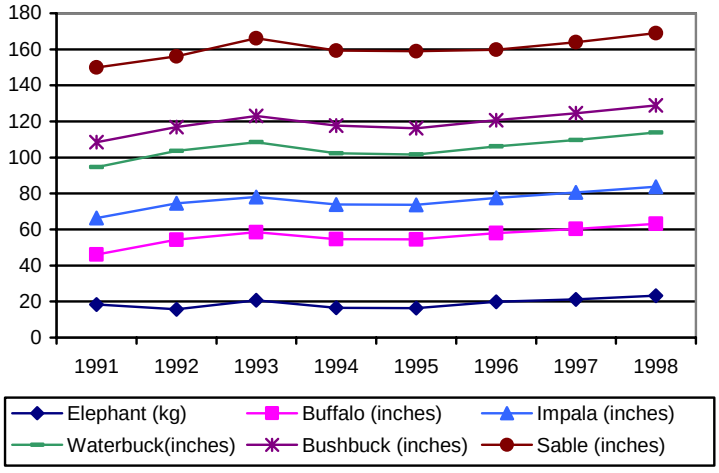
ii.) Maintaining Quality and Standards

A key role of these management bodies is to ensure that regulatory mechanisms set in place by DNPWLM are adhered to so that the future of sport hunting in Zimbabwe is safeguarded. Such regulatory mechanisms are described below.

Maintaining Professional Sport Hunting Standards: To ensure that professional standards are maintained, DNPWLM, the safari operators association and professional hunters association conduct practical and written examinations for Learner Professional Hunters who must conduct a two-year apprenticeship. Standards are high as seen by the failure of 51 entrants out of 172 for the exam in February 2001 (DNPWLM, 2001). In the past, practical examinations included the hunting of a set training quota provided by DNPWLM. However, with each species now so highly valued, this quota has been suspended, resulting in learner professionals having little practical experience (G. Pangeti, pers. comm., 2001). In 2001, DNPWLM introduced a "Code of Ethics" for all professional hunters (see **Box 4**) in an effort to improve the reputation of the industry, especially amongst the anti-hunting lobby (Canopy, 2001). The

Figure 5

Trophy quality for key species in Omay District during the period 1991 to 1998



SOURCE: Unknown

Development of Tourism Act also stipulates that all safari operators, professional hunters and guides must register and attain prescribed standards with respect to equipment and service to clients (ZTA, 2000).

Regulating Minimum Trophy Size: A large part of the motivation to hunt is the acquisition of trophies. Foreign hunters are required to obtain a CITES import/export permit for each trophy they acquire on their hunting trip. The DNPWLM plays a critical management role by insisting on minimum trophy sizes for key species. They regulate this requirement through the issuance of CITES export permits, and penalties are imposed on clients who obtain trophies under the minimum size requirement. By maintaining minimum trophy sizes, Zimbabwe has catalysed its reputation as a hunting destination for good quality trophies.

Also, Zimbabwe's focus on trophy quality has resulted in low off-take levels, which include a high level of males that are surplus to the breeding requirements of the population (Chimuti *et al*., 2000). Low off-take levels of minimum trophy size animals results in limited impact on population breeding dynamics. This in turn has led to an increase in numbers as well as trophy size for many species in many hunting concessions throughout the country. An example of the sustainability of the sport hunting industry in Zimbabwe is depicted in **Figure 5**, where trophy sizes in Omay Communal Land for six key species have remained constant or increased over the period 1989 to 1998.

As a population can only produce a finite number of surplus males with required trophy sizes, the result is that Zimbabwe's insistence on maintaining trophy quality has imposed a limit on the growth of the sport hunting industry (Chimuti *et al*., 2000). Whether the limit of growth has already been reached is uncertain. Most, if not all, areas in the Parks and Wildlife Estate and communal lands that maintain huntable wildlife populations have already been made into hunting concessions. Further growth may, however, be possible in private lands. Although the limited numbers of dangerous game species will not attract significant numbers of foreign clients, demand from Zimbabwe's resident hunters may stimulate further growth of hunting in private lands.

International Conventions: DNPWLM looks after the interests of Zimbabwe's sport hunting industry primarily with regard to CITES. The CITES quota initially allowed for elephant (250), leopard (500), Cheetah (50), and unlimited crocodiles to be hunted each year. As such, the CITES ban on trade in elephant products did not directly affect sport hunting in Zimbabwe as the Convention initially provided a quota of 250 elephants per year (Bond, 1997). This was subsequently increased and, by 1999, the CITES quota of 400 elephants represented some USD2 400 000 in trophy fees at a minimum of USD6000 per elephant. Except for the Cheetah quota, half is allocated to communal lands (Chimuti *et al*., 2000). DNPWLM follows a strict tagging and monitoring system for species under the CITES quota, in which only tagged trophies are allowed out of the country (DNPWLM, 2000a). However, pressure from anti-hunting lobbyists and some proposed international conservation policies, especially in the USA, have posed a threat to the continued hunting of elephant in Zimbabwe (Anon, 2001).

iii.) Monitoring and Administration

Maintaining standards of quality and ensuring a sustainable hunting industry requires effective management that can only occur if efficient monitoring and administration system are in place (WWF, 1997a). The DNPWLM plays a central role in establishing and running monitoring systems for hunting in all land categories in which hunting occurs. These systems have evolved since the late 1980s, and were initially guided by the key principles: 1) keeping it simple; 2) limiting bureaucracy; and, 3) retaining and analysing a minimum set of information for adaptive management purposes (Child, 1995b).

Table 57

Sport hunting data collection forms

Administering institution	Data collection form and key information description
DNPWLM	Pre hunt form (hunt quota and duration) Post hunt form (Animals killed on quota and biological information) NP9 Form (Daily rate, species hunted and trophy fee for foreign clients) Taxidermy form (Trophy shipment data) CITES export form (Trophy shipment data)
Customs and Revenue	Shipping form (Trophy shipment data) CD1 Customs form (Tariff trophy shipment data)
Department of Immigration	NP11 Immigration information
Tourism Authority	Levy and statistics form (financial data on hunt)

Source: Unknown

These guiding principles have not, however, been followed. Currently there exist nine different forms that safari operators and clients have to fill out and submit to different government departments for each hunting excursion undertaken **(Table 57**). Most forms replicate information, leading to a cumbersome and bureaucratic system (G. Pangeti, pers. comm., 2001). Different government departments have not consolidated their own requirements. The result is that forms are not submitted, and essential information required for monitoring is not captured. The Zimbabwe Tourism Authority (ZTA), for example, has a "Sport Hunting Levy and Statistics Remittance Form" it uses to calculate its 2% tourism levy that should be completed by each of the 178

registered hunting operations every month as stipulated in the *Tourism Act of 1995* (Chapter 14:20) (ZTA, *in litt.* to TRAFFIC East/Southern Africa, 2001). Because the information required duplicates that are already provided for on another eight forms submitted by the operator, motivation to comply is lacking with for example only five completed forms returned to Zimbabwe Tourist Authority for the month of April 2001 (Zirebwa, pers. comm., 2001).

Although many data collection forms exist, failure to return completed forms coupled with a lack of DNPWLM capacity to analyse and use such information is problematic (V Booth, pers. comm., 2001). For example, pre- and post-hunt forms for hunting in the Parks and Wildlife Estate are not analysed and used for adaptive management by DNPWLM. Since the enactment of *Statutory Instrument 26 of 1998*, which required all private land holders to submit annual wildlife quotas and use rates, DNPWLM have not collated, analysed or used this information (Masolani, pers. comm., 2001). Some data collection forms are also ill conceived with, for example, the private lands monitoring forms not requiring the name of the farm or ranch (R. White, pers. comm., 2001).

Of all the data collection forms used, the NP9 form provides the most accurate measure for assessing the foreign sport hunting sector in Zimbabwe (I. Bond, pers. comm., 2001). This form captures financial information from operators conducting foreign client sport hunting. Together with the CITES export permit, this form is required for exporting trophies out of Zimbabwe, and consequently is completed by all operators. In collaboration with WWF-Southern African Regional Programme Office (WWF-SARPO), DNPWLM have entered information from all NP9 forms for the years 1998 and 1999, and analysed information has been used for managing the industry (R. Taylor, pers. comm., 2001). Unfortunately, however, and as seen with many of the data collection forms used in Zimbabwe, the NP9 form does not include any biological data, or information on revenue disbursement in communal areas that would be essential for effective management. As such, WWF-SARPO and CAMPFIRE have devised another form for use in the communal areas to capture this information and have established a database to track the information. Still, returns from the RDCs to date have been limited to about 40% of the total (A. Khumalo, pers. comm., 2001).

The NP9 DNPWLM/WWF foreign hunter monitoring system, and the CAMPFIRE/WWF biological and revenue disbursement monitoring system contribute greatly to providing critical information for effective management, especially with regards to quota setting and concession tender processes (Karere, pers. comm., 2001). Although no centralized collation and analyses of hunting return data occurs for private commercial lands and the Wildlife and Parks Estate, individual concession holders do monitor their own activities and undertake effective adaptive management. Plans are also underway for all government institutions to streamline their data requirements to just a few standardized forms, which will contain all financial and biological data required (G. Pangeti, pers. comm., 2001).

iv.) Sport Hunting Quota Setting

Establishing the quota of animals to be hunted is integral to the financial success and sustainability of the industry (Anon, 2000a). A quota represents the number of animals that can be safely removed from a population without affecting its biological integrity and viability (WWF, 1997d). For sport hunting, the structure and size of a quota is directly related to maintaining healthy populations of trophy quality animals (DNPWLM, 2000a).

The DNPWLM sets quotas each year for the number of animals per species that can be hunted in each safari area concession, and approves quotas from RDCs in communal areas and private land owners from the commercial sector (DNPWLM, 2000b). Quotas should be set by the end of October for the following year, allowing safari operators to market their hunts during the off-season period between December and March. For example, the quota for the 2001 hunting season was set in November 2000, allowing safari operators ample time to market their hunts at "hunting fairs" held in the USA and Europe during January and February of each year (WWF, 2000a). Although hunting is allowed throughout the year, the March to October period is regarded as the peak season as concessions are easily accessible during this time (G. Pangeti, pers. comm., 2001).

Safari Area and Forest Land Hunting Quotas: Quotas for safari area and forest land concessions are set on the basis of aerial censuses and ground reconnaissance by DNPWLM staff and professional hunters. Aerial censuses are conducted during the dry season and largely focus on elephants although some other large mammals such as buffalo, sable, waterbuck, eland and zebra are sometimes counted. Consequently setting quotas for other species relies predominantly on ground surveillance and, in most cases, a general "rule of thumb" approach (Anon, 2000b). DNPWLM do have a system in which rangers in the field are required to fill in ground surveillance forms when they observe wildlife populations. However, limited feedback to rangers and a lack of motivation results in limited returns (Masolani, pers. comm., 2001).

Matetsi Safari Area is the only concession which conducts a full species census each year by using both road strip counts and aerial counts due to it being better staffed and having a more complete system of access tracks (Cumming, 1989). With the exception of Matetsi Safari Area, however, detailed information on population size and structure is usually lacking and quotas are set conservatively to ensure that sustained off-take of quality trophies is achieved. Quotas for elephant are set at 0.5% of the population. Quotas for other large mammals such as eland, buffalo, sable,

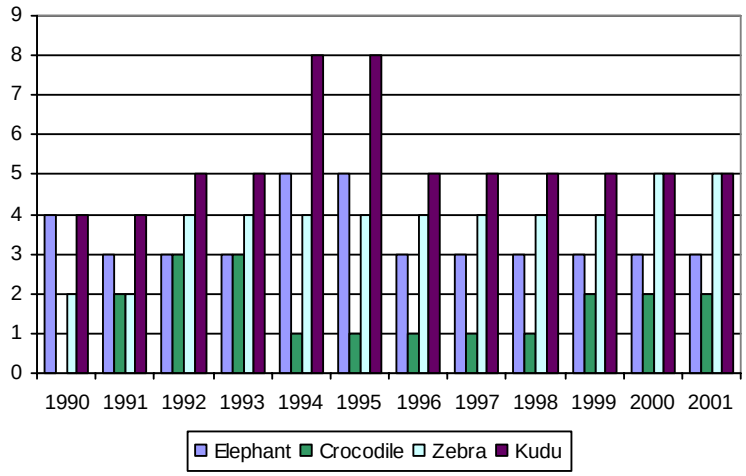
waterbuck, and zebra are set at 2% of populations, whilst quotas for large cats are set at 8% of populations (DNPWLM, 2000c).

Communal Land Hunting Quotas: In the past, quotas for communal land hunting concessions were set by DNPWLM. This centralized quota setting involved limited input from key stakeholders. Producer communities had little control over their wildlife resources and, hence, little incentive to participate in wildlife management (Anon, 2000a). The importance of participatory quota setting was recognized and, by the mid-1990s, RDCs were given the responsibility for setting their own quotas. It was felt that if RDCs were to be held responsible for wildlife in their custodianship, they should also be given the responsibility for its complete management (Child, 1995a).

Assistance to RDCs is provided by a quota-setting project jointly run by DNPWLM and WWF-SARPO (WWF, 2000a). Quota setting workshops are held each year, which use information from the previous quota, poaching data, information from safari operators, community information, trophy quality trends, aerial survey and transect survey results (Chimuti *et al*., 2000). The availability of data and accurateness of quota setting differs from one district to another. For example, not all districts undertake transect surveys, and DNPWLM and WWF staff carry out population aerial surveys in only some districts (DNPWLM, 2000a). In such cases, when determining quotas, an adaptive management approach is used in districts where only a rough idea of population size is available. If the quota is set too large, monitoring and evaluation systems will soon point to the fact, and corrective action is taken (I. Bond, pers. comm., 2001). As depicted in **Figure 6**, a precautionary approach to quota setting is taken with only small increases observed for most species. As characterized by crocodile in Beitbridge (see **Figure 6**), when a source of information points to a decline in the population of a species, quotas are immediately reduced and then, if signs of recovery are forthcoming, are gradually increased.

Figure 6

Selected species quotas for Beitbridge during the period 1990 to 2001



Source: Unknown

Quota setting for communal area hunting concessions usually relies on one or more conventional methods of counting such as aerial, road strip counts and walked transects. These are integrated with more indirect methods such as safari operators perception of animal abundance and trophy quality size. Results of the conventional and indirect methods are crosschecked in a triangulation process to increase the confidence in the final estimate of numbers (WWF, 2000b). A matrix for each wild species is developed in which all the available trend data is geographically represented. The underlying philosophy of the process is adaptive management. Consequently, the matrix begins with the current quota and then considers whether the available data justifies an increase, decrease or no change. These triangulation workshops involve all stakeholders, from rural communities, RDCs, safari operators and the DNPWLM. Tools such as games, simulations and role-plays are used to simplify technical issues, enabling all to fully participate in determining quotas (WWF, 1997d).

Between July 1996 and April 2001, the DNPWLM/WWF quota setting project focused on 14 districts and facilitated the production of 44 district level quotas through 27 district, 13 ward and four national training and quota setting workshops (R. Taylor, pers. comm., 2001). Initially, DNPWLM-approval rates of these quotas were low due to the belief that rural farmers would need considerable time to develop necessary skills to accurately determine quotas. In 1997, for example, of the 13 quotas developed by rural communities and submitted to DNPWLM, only two were accepted in their entirety (Rigava, 1997). By the year 2000, this acceptance rate had increased significantly, with the majority of communal district quotas now being accepted by DNPWLM (R. Taylor, pers. comm., 2001).

Private Land Hunting Quotas: Up until 1998, DNPWLM were not involved in quota setting in private lands. Land owners were given total discretion on quota setting due to the belief that it was in their best economic interest to sustainably harvest their wildlife populations. Although this approach seemed to work as shown by the rapid expansion of wildlife populations and habitat observed in the commercial sector between 1975 and 1998, a lack of monitoring and knowledge on the size and dynamics of the industry led DNPWLM to instigate the need for annual quotas and returns to be submitted and approved through *Statutory Instrument 26 of 1998* (R. White, pers. comm., 2001*)*.

v.) Maximizing Economic and Social Benefits

Establishing an accurate quota of animals to be hunted from a finite resource ensures the sustainability of the industry, whereas the effective packaging and pricing of the quota animals maximises revenue generated. Booth and Jones (1984) were instrumental in recognizing the importance of the "bag" composition of species and duration of hunting in providing a balanced hunt that maximized revenues. Clients pay two fees, namely trophy fees for each animal shot and daily rates. As summarized in **Table 58**, plains game species are marketed for 10 days hunting which involves the cheapest daily rates of around USD400 per day. Adding big game, such as buffalo or leopard, increases the hunt from 14 to 18 days and daily rates to about USD800 per day. The addition of an elephant will increase rates to over USD1000 per day and the length of the hunt to over 21 days (Edwards and Allen, 1992).

The way in which species are combined and packaged into hunts greatly affects the daily rate and length of hunt, which has a huge bearing on the overall price of a hunt (Child, 1990a). Charges, and the length of the hunt, increase stepwise with the addition of big game species. Adding valuable trophies to raise the daily rate, and lesser species to lengthen the hunt uses animals more efficiently. As such, DNPWLM promotes the situation where a client takes a combination of big game and plains game, and prohibits a client from taking a large number of big game in one hunt.

Although there are many permutations to how hunts can be packaged to maximize revenue obtained, three main categories are discerned in Zimbabwe, namely *Big Game Safaris*, *Plains Game Safaris*, and *Ranch Hunts*. The type of species hunted and the size of the hunting concession distinguish these types of sport hunting (Cumming, 1989).

Table 58

Representative values of typical "hunts" marketed by safari operators in Zimbabwe

Hunt	Species	Trophy fee (USD)	Duration (No. of days)	Daily rate (USD)	Total daily rate (USD)	Value of hunt (USD)
Plains-Game	Bushpig	100				
	Duiker	100				
	Eland	600				
	Grysbok	150				
	Impala	150				
	Kudu	650				
	Steenbuck	150				
	Warthog	100				
	Wildebeest	500				
	Zebra	500				
	Sub-total	3 000	10	400	4 000	7 000
Sable	+ Sable	1 500				
	Sub-total	4 500	10	400	4 000	8 500
Buffalo	+ Buffalo	1 500				
	Sub-total	6 000	14	800	11 200	17 200
Cat	+Leopard	2 000				
	Sub-total	8 000	18	800	14 400	22 400
Elephant	+Elephant	10 000				
	Sub-total	18 000	21	1 000	21 000	39 000
Big Four	+Lion	2 000				
	Sub-total	20 000	28	1 000	28 000	48 000

Source: Child, 1990a

- The *Big Game Safaris* can only be offered by operators who lease hunting concessions that are at least 130 km^2 and which maintain elephant, lion and buffalo populations.
- The *Plains Game Safaris* can only be offered by operators who lease concessions that are at least 60 km^2 and maintain predominantly plains game (although dangerous game may sometimes be present) and no domestic livestock.
- *Ranch Hunts* can be offered by operators who lease concessions under 60 km^2 when only plains game is present, or over 60 km^2 when domestic livestock is also present.

The quota set for each hunting concession is usually packaged into 10-, 15-, and 21-day hunts. Ranch hunts offered on private land are usually five to 10 days depending on the species offered (Cumming, 1989). The predominant lack of dangerous big game such as elephant, buffalo and lion on commercial farmland and the minimum concession size requirement precludes big game safaris in most cases. Hunting by foreigners in ranches and farms tends to be comprised of hunts of short duration with a large and varied bag (Heath and Machena, 1997). In many cases, foreign hunters are likely to combine this with hunting in safari areas or communal lands where big game species can be more readily obtained (Child, 1990a). As such, packaged hunts that incorporate optimum species selected for achieving maximum revenue often involve hunting in more than one location (Cumming, 1989).

There are three different mechanisms employed by land holders in Zimbabwe for generating revenue from hunting concessions. The first and most popular method is to lease a hunting concession to a safari operator. The second is for land holders to undertake the role of the safari operator in their own hunting concessions. The third method is undertaken only by DNPWLM in four safari areas, which involves packaging the quotas into eight-, 10 or 14-day hunts and selling them directly to the general public. Following is a summary on each of these approaches and their success in maximizing revenue from a finite number of animals.

1. Hunting Concession Leases in Safari Areas, Forest Land and Communal Areas

The first approach involves the leasing of hunting concessions to safari operators for periods of at least five years. This mechanism is employed in eight safari area concessions, five forest land concessions and over 30 communal area hunting concessions (DNPWLM, 2000b).

The concession tender process in safari areas and communal lands involves the land holder inviting safari operators to bid for hunting concessions. Due to demand for sport hunting still being greater than supply in Zimbabwe, many safari operators (usually more than 10) bid for a single hunting concession (Kerere, pers. comm., 2001). This keen competitiveness has resulted in increased income to land holders from hunting concession fees, with as much as 25% of total hunting revenue now being earned from hunting concessions in all land categories (I. Bond, pers. comm., 2001). Competitive marketing has reduced operators own profit margins from 25% to about 10% with a greater proportion of revenue going to land holders (Jones, 1994).

With the assistance of CAMPFIRE, Chimuti *et al*. (2000) maintains that RDCs marketing skills have improved over the years. Before 1989, lease contracts were in Zimbabwe dollars and based on government trophy fees used by DNPWLM. Since this time, RDCs have developed their own range of contracts and fees to suit their own conditions and most of them are in USA dollars to protect themselves against devaluation and inflation. The result is that the efficiency of sport hunting lease contracts has increased by indices of 0.33 in 1990 to 0.57 in 1994 (WWF, 1997a). Improved marketing of leases by RDCs has not only increased direct revenue but also other forms of support from operators. For example, operators in Binga have provided meat from their hunts to the community, helped with building a school, donated a lorry to the RDC, and assisted in paying for land use planning (Jones, 1994).

There are three costs associated with sport hunting in leased hunting concession areas. These are the concession lease fees, trophy fees, and safari operators own daily cost fee. Both the concession lease and trophy fees are paid to DNPWLM for concessions in safari areas, to RDCs under the Ministry of Local Government for concessions in communal areas, and to the Forestry Commission for concessions in forest areas.

Concession Lease Fee: The first cost is a concession lease fee (or right to hunt fee) paid by safari operators to land holders as outlined in their successful bid for a hunting concession. As outlined in **Table 59**, for all 16 hunting concessions in eight safari areas, DNPWLM received some USD180 737 from concession fees in 2000, amounting to about 19% of fixed trophy fees. In general, the Department tries to obtain 30%, but allowances are also made during the tender process for safari operators who have a good track record for community development activities. In the communal and private land hunting concessions, lease fees are also believed to represent approximately 30% of fixed trophy fees (G. Pangeti, pers. comm., 2001).

Table 59

Safari area concession lease and trophy fees in 2000

Safari area concessions	Concession fee (USD)	Concession fee as % of fixed trophy fee	Fixed trophy fees (USD)	Optional fees (USD)	Total value (USD)
Chete	12 789	30.0%	42 629	27 707	70 336
Chirisa	30 000	26.1%	114 775	91 460	206 235
Deka T	2 597	6.5%	39 750	31 495	71 245
Dande	5 194	7.0%	73 850	-	73 850
Matetsi Unit 6	19 986	30.0%	66 620	39 405	106 025
Matetsi Unit 5	19 951	30.0%	66 505	27 720	94 225
Matetsi Unit 4	19 810	30.0%	66 035	27 765	93 800
Matetsi Unit 3	10 000	14.6%	68 360	37 215	105 575
Matetsi Unit 2	18 723	30.0%	62 410	35 765	98 175
Matetsi Unit 1	10 000	16.08	59 510	45 740	105 250
Chewore C	2 597	4.8%	54 387	-	54 387
Chewore S	20 000	21.0%	95 630	88 620	184 250
Chewore N	2 597	2.8%	91 215	87 290	178 505
Charara S	2 597	8.0%	31 773	-	31 773
Malapati	3 896	18.0%	21 650	-	21 650
Rifa	-	-	-	-	-
Total	**180 737**	**Av. 18.9%**	**955 099**	**540 182**	**1 495 281**

Source: DNPWLM, 2001

Trophy Fee: In communal and private hunting concessions, one fixed fee is set for each animal, which operators must pay whether the animal is hunted or not. In contrast, in safari area concessions there are trophy fees for animals on a fixed quota, and optional fees for animals on an optional quota **(Table 59**). All fixed trophy fees must be paid by the operator regardless of whether they are hunted or not. Optional trophy fees, however, are only paid for animals that are hunted and scheduled on the optional quota. Consequently, the total value of fixed trophy fees represent the minimum revenue generated by safari area hunting concessions at USD955 099. An additional USD540 182 could potentially be generated if all optional quota animals are hunted resulting in a possible USD1.6 million total revenue. As such, trophy fees are by far the most important revenue earner in comparison to concession lease fees.

In the past, DNPWLM provided a base value for each species hunted to help land owners ensure that they did not under-value their animals when negotiating with safari operators or hunters. As seen in **Table 60**, these base values were calculated according to the value of the species meat, skin, and trophy value. Due to demand exceeding supply, land holders generally charge safari operators or hunters 50-100% more than the government wholesale price (Edwards and Allen, 1992). This mark-up now depends on free market forces such as how easily the quota can be hunted, the quality of animals likely to be found, the combination of other animals available on the hunt, and the cost of servicing the client during the hunt.

Table 60

Department of National Parks and Wild Life Management sport hunting wholesale base values for six key species

Species	Meat value (USD)	Skin value (USD)	Trophy fee (USD)	Base wholesale Value (USD)
Elephant	480	480	7 500	8 460
Buffalo	72	12	1 000	1 084
Sable	32	8	1 200	1 240
Leopard	8	160	2 000	2 168
Kudu	6	4	400	410
Zebra	32	30	600	662

Source: Edwards and Allen, 1992

Since 1981, and due to open market forces, average trophy fees for the six key species have increased by 83% between 1981 and 1999 **(Table 61**). For example, government trophy fees for elephant increased from USD1200 in 1981 to USD9059 by 1999. Corresponding with the increase in trophy fees charged to clients, the total value of the average hunt has increased by 31% from USD6078 in 1987 to USD8763 in 1999. This increase reflects the healthy situation where demand exceeds supply leading to increases in the cost for hunting in Zimbabwe (Cumming, 1989; Chimuti *et al*., 2000).

Table 61

Average trophy fees for six key species during the period 1981 to 1999

Species	1981 (USD)	1982 (USD)	1984 (USD)	1986 (USD)	1993 (USD)	1998 (USD)	1999 (USD)	% Increase
Elephant (male)	1 200	1 200	1 200	2 100	7 609	9 148	9 059	**87%**
Buffalo (male)	210	210	300	300	1 046	1 618	1 690	**87%**
Sable (male)	300	300	360	480	1 524	1 971	2 016	**85%**
Leopard	360	360	360	420	1 888	2 325	2 305	**84%**
Kudu (male)	120	120	120	150	544	696	699	**82%**
Zebra (male)	150	150	150	240	553	677	684	**78%**
Average	**390**	**390**	**415**	**615**	**2 194**	**2 739**	**2 742**	

Source: Cumming, 1989; Bond, 1997; DNPWLM/WWF NP9 Database, 2001

Safari Operator Daily Rate Fee: The third fee is the safari operators own daily rate fee, where professional hunters own running costs such as for leasing and maintaining concessions, running vehicles and hunting lodges, as well as profit margins are combined and charged to sport hunting clients. As seen in **Table 58**, daily rates increase depending on the reputation of the species, from USD400 per day for plains game to over USD1000 for big game species such as elephant. This daily rate fee is not inclusive of trophy fees as clients are expected to pay trophy fees for all animals hunted (Ferguson, 1993). The daily rate represents the revenue that goes directly to operators, as trophy fees and concession lease fees are usually payable to the land holders. Although land holders obtain significant revenue, operators still manage to make generous profits. Average daily rates during 1999 were USD520, with each of the 127 operators generating an average of some USD89 570 from daily rates alone (DNPWLM/WWF NP9 Database, 2001).

2. Land holders Conducting Sport Hunting

In some cases, private commercial land ranch owners, Forestry Commission, and some RDCs in communal areas perform the role of safari operator on their own land. It is estimated that about 40% of large-scale commercial farms undertake their own sport hunting (R. White, pers. comm., 2001). In the forestry hunting concessions, the Forestry Commission has its own company, Ngamo Safaris, which generated substantial revenue of USD674 580 in 1999. Although this approach results in increased revenue by cutting out the profit margin of middlemen safari operators, it

does require considerable investment and expertise, which in the communal area hunting concessions has resulted in only a few RDCs undertaking the role of safari operators (Kerere, pers. comm., 2001).

3. DNPWLM Safari Area Public Auction Hunts

Different mechanisms for allocating hunting rights in the Parks and Wildlife Estate have been used since the early 1960s. As demand for hunting camps in CHAs greatly exceeded supply during the 1960s, all hunts were allocated on the basis of a lottery system. Since CHAs became safari areas and were expanded with the enactment of the *Parks and Wildlife Act (1975)*, a number of different approaches to allocating hunting rights have been used. Of the 12 safari areas in Zimbabwe where sport hunting occurs, six are leased directly to safari operators by tender process, four are packaged into individual hunts and sold by tender directly to the general public, and two are leased to the Zimbabwean Hunters Association **(Table 62**).

By the late 1980s, three distinct categories of sport hunting were undertaken in safari areas. These were: 1) areas leased to safari operators; 2) areas allocated for auction hunts; and, 3) areas reserved for Zimbabwean hunters only (Bond, 1997). In 1989, only four (Hartley, Chipinge, Umfurudzi and part of Charara Safari Area) of the 16 safari areas were not hunted and used primarily for non-consumptive recreational use. Of the 12 sport hunting safari areas, six were leased to safari operators, two were leased to the Zimbabwean Hunters Association, and four safari areas were divided into 10- and 14-day hunts and auctioned to the general public with a condition that 33% of hunts be reserved for Zimbabweans (Cumming, 1989).

Table 62

Safari area and type of lease

Safari area and type of lease	Area (km^2)
Areas on Lease to Safari Operators	
Matetsi SA	4 040
Charara SA	933
Chirisa SA	1 340
Chete SA	1 081
Chewore SA	3 390
Dande SA	1 046
Sub-Total (60.3%)	*11 830*
Public Tender for Hunts	
Nyakasanga section of Hurungwe SA	1 138
Makuti section of Hurungwe/Charara SA	836
Sapi SA	1 180
Tuli SA	416
Sub-Total (18.2%)	*3 570*
Rifa section of Hurungwe SA	600
Doma SA	945
Sub-Total (7.9%)	*1 545*

Source: Unknown

In the four safari areas open to public tender, available quotas are packaged into 10- and 14-day hunts. During the 1970s, these hunts were sold at fixed prices on a draw system. At the time, demand for hunting exceeded supply and a draw system was believed to be the fairest way of distributing hunting rights. During the 1980s, this changed to a tender system, and, then changed again to public auction by the late 1980s (Cumming, 1989).

The Doma Safari Area and the Rifa section of Hurungwe Safari Area were leased directly to the Zimbabwean Hunters Association at reduced rates for the animals offered on quota. The Association was then able to offer hunting to its members at affordable rates. However, with the introduction of the National Parks Fund in 1996 and the need for DNPWLM to generate more of its own operating revenue, these two safari areas were re-allocated to public tender hunts in an effort to generate greater profit (G. Pangeti, pers. comm., 2001).

Currently, public auction hunts take place in Doma, the Zambezi Valley (Nyakasanga and Sapi), Tuli, and Charara/Makuti/Hartely "A"/Umfurudzi Safari Area hunting concessions (FERREIRA, 2001). In general, hunters undertake hunts alone without the need for professional safari operators. DNPWLM incorporates the trophy fees for animals included in the package hunt, as well as an amount, which is equivalent to daily rates, although at a much lower cost than hunters would be expected to pay professional safari operators (Cumming, 1989).

In 2001, for example, the average price of a basic 10-day plains game hunt was USD7060 – much cheaper than a safari operators hunt which would have cost a minimum of about USD9560 when including their daily rates of USD250 per day (Booth, *in litt*., 2001). The advantage of this approach is that DNPWLM do not have to invest in equipment and expertise to perform the role of a safari operator.

As seen in **Table 63**, the Zambezi Valley hunts are open to foreigners and are more lucrative earning some USD1.05 million in 2000, in contrast to the others which are reserved for citizens with Doma earning only USD0.7 million in 2000 (DNPWLM, 2001). DNPWLM have structured the packaging and auctioning of all public auction hunts to maximise revenue (V. Booth, pers. comm., 2001). For example, in the Zambezi Valley Nyakasanga hunting section, the total quota was packaged into 42 hunts of 10- and 14-day durations. Three different species bags for 14-day hunts and two different species bags for 10-day hunts were auctioned (DNPWLM, 2001). Prices realized at auction depend on species specified and the time in which the hunt is scheduled for during the season (G. Pangeti, pers. comm., 2001). These set packaged hunts include more abundant species such as buffalo, impala and duikers. One or more big game species such as elephant, lion and leopard could also be purchased at auction for an additional cost to the packaged hunt.

For example, Hunt No. 19 was a 10-day hunt of two buffalo, one hyena, eight impala, one duiker and Grysbok, four baboon and 18 birds. This hunt was scheduled to take place between the 1st and 10th of May 2001 and was purchased for USD8441. At auction, the hunter also had the option of purchasing one or more big game species for an additional cost, for example, a male elephant for USD16 880, a male lion for USD15 844, a leopard for USD4025, or a crocodile for USD3636 (DNPWLM, 2001). As such, DNPWLM reserve key big game species as "extra animals", and in this way maximize revenue from all species available in the quota. The packaging of hunts in this way, and increasing demand, has resulted in a substantial increase in hunt values and total revenue generated with, for example, revenue increasing three fold in Nyakasanga and Sapi over the 1987 to 2001 period (see **Figure 7**).

Table 63

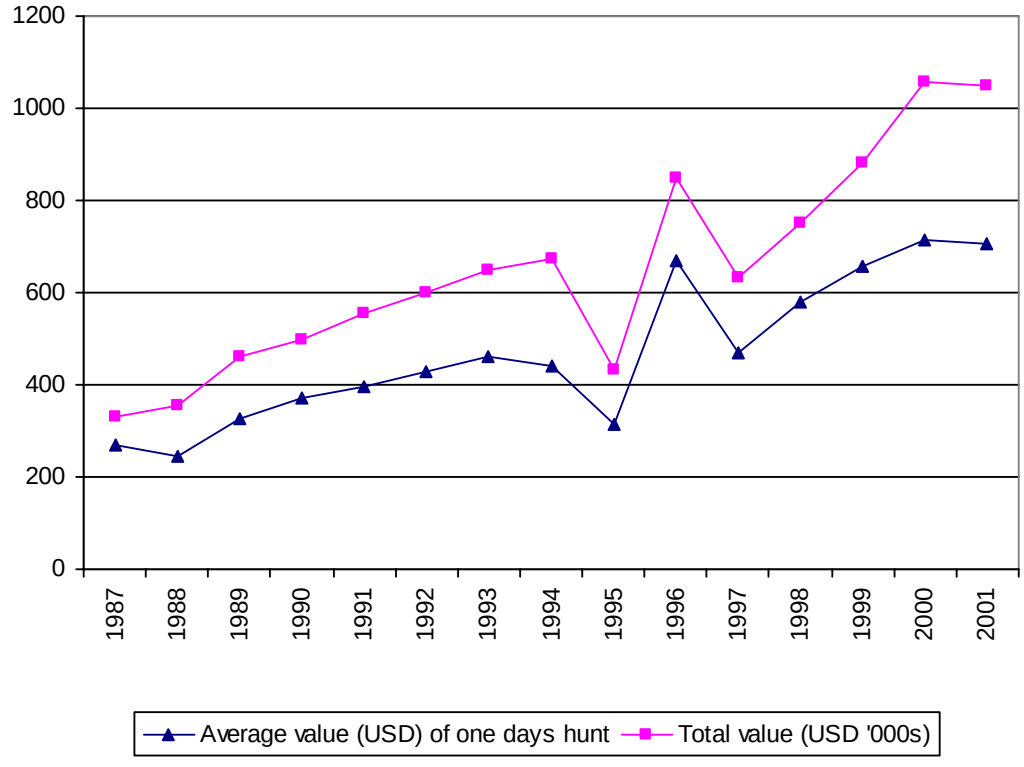
Value of Department of National Parks Wild Life Management safari area public auction hunts in 2000

Location	Total value (USD)
Zambezi Valley:	
Nyakasanga Camp	640 261
Sapi Camp	419 440
Sub-total	*1 059 701*
Tuli:	
Pakenham Camp	39 091
South Camp	39 480
North Camp	40 961
Extra Animals	29 421
Sub-total	*148 953*
Charara Camp	134 415
Makuti Camp	217 922
Hartely "A" Camp	27 273
Umfurudzi Camp	8 182
Extra Animals	90 544
Sub-total	*478 336*
Doma:	
Rukute Camp	35 065
Kemakanda Camp	34 415
Extra Animals	16 618
Sub-total	*86 098*
Total	**1 773 088**

Source: DNPWLM, 2001; Booth *in litt*, to TRAFFIC East/Southern Africa, 2001

Figure 7

Zambezi Valley (Nyakasanga and Sapi) auction hunts daily and total values for the period 1987 to 2001



Source: DNPWLM, 2001

VIII. Discussion/Conclusion

Zimbabwe has led the east and southern Africa region in establishing the necessary wildlife policy and legislative framework to catalyse wildlife management not only in the Parks and Wildlife Estate, but also in the private and communal lands. Wildlife in all land categories is under some form of management over large areas of the country. In contrast to many other countries of the region, Zimbabwe has experienced not only an increase in revenue generated by wildlife, but also an increase in its wildlife populations. Sport hunting has been integral to this success, providing high revenue returns from limited off-take that has largely financed wildlife management in many agriculturally marginal areas.

The growth of the sport hunting industry bears testimony to the central role it has played in implementing Zimbabwe's wildlife policy. Although reaching its pinnacle as a result of its policy of maintaining high quality, limited off-take hunting, Zimbabwe's leading role may be undergoing profound change in the wake of land reform and practical change. The commercial sector is experiencing increasing strain as the land re-settlement programme is implemented, with large-scale commercial wildlife ranches being sub-divided into smaller subsistence-based properties that will not be conducive to wildlife and sport hunting. Increasing awareness amongst government and policy decision makers on the importance of sport hunting not only for conserving the countries natural heritage, but also as a key economic asset that contributes significantly to GDP, will be instrumental in safeguarding the future of the industry.

MANAGEMENT AND 'BEST-PRACTICE' GUIDELINES

The management of the sport hunting industry in the SADC region is theoretically focused upon attaining maximum economic and social benefits from a finite hunting resource. This has been achieved, to differing degrees, through the establishment of private, non-governmental and governmental management structures. All of the various systems strive to ensure that certain ethical standards are maintained and that adequate administration and monitoring systems are in place. In theory, these systems are designed to support informed decision making, for example, when quotas and fees for hunted species are set or other issues of sustainability are considered. The following discussion presents a comparative regional overview of the key management themes identified during this project's field research and the regional workshop with stakeholders in the sport hunting industry. In doing so, it is possible to isolate important generic issues as the key elements for inclusion in future 'best practice' guidelines for the SADC region.

I. Maintaining Quality and Standards of the Sport Hunting Industry

Regional Comparative Overview

Each SADC country that allows sport hunting has established structures and systems for ensuring that the quality and standards of their industries are maintained. The potential success of any country's hunting industry is based on its reputation for: 1) producing trophy quality animals; 2) providing tourism services; and, 3) ensuring professional hunting services and standards of ethical hunting. Each country uses, with varying degrees of success, a number of different mechanisms to safeguard the quality and standards of their sport hunting industries.

Firstly, most wildlife authorities have adopted species-specific minimum trophy size regulations that govern what is allowed to be exported outside of the country. Most countries are fully aware that a critical determining factor in consideration of a hunting destination is the quality and size of the hunting trophy that a client is likely to obtain (Child, 1995a). Zimbabwe's imposition of minimum trophy sizes, for example, has resulted in a gradual increase in average trophy sizes over the past decade. Likewise, in Botswana, maintenance of minimum trophy sizes has resulted in the consistent hunting of record winning trophy elephant (Peake, 2001). In 1991, Tanzania was forced to impose minimum trophy sizes on elephant due to a marked reduction in numbers due to illegal hunting. While this greatly reduced the number of elephants allowed to be hunted on an annual basis, the result has been a slow increase in the quality of trophies obtained (GoT, 1993). South Africa is the only country that does not impose minimum trophy quality sizes. This decision, as is the case with most other management decisions in South Africa, is left mainly up to the discretion of landowners on whose property the game is found (Patterson, 2001).

Secondly, the wildlife legislation of all the countries surveyed clearly outlines a series of regulations for maintaining hunting standards. These hunting rules relate more to ensuring the sustainability of the industry, such as not shooting breeding females or game near water holes and salt licks, and the provision for closed hunting seasons. To a lesser extent, these rules also promote ethical hunting such as the prohibition of night hunting or hunting from a vehicle. In this regard, the content of hunting legislation is similar in all of the target SADC countries. What differs markedly, however, is each country's ability to enforce such regulations.

In most cases, wildlife officers are required to accompany hunting safaris to ensure that these regulations are enforced. Unfortunately, however, reports exist that in some countries, for example Tanzania, corruption is prevalent, resulting in minimal adherence to such regulations (Overton, 1998). Progress has, however, been made in CBNRM hunting areas bordering the Selous Game Reserve in Tanzania, and throughout Namibia, Botswana, and Zimbabwe's CBNRM districts. In these places, incentives have been provided for community game scouts to accompany hunting safaris and ensure adherence to hunting regulations.

Many countries also ensure that standards are maintained with regard to the quality of tourism service provided to sport hunting clients. Namibia probably leads the region in this respect, with the *Nature Conservation Ordinance of 1975* actually laying out prescriptive standards for accommodation, food and transport, which all hunting farms and safari operators have to meet (GoN, 1975).

Namibia also maintains one of the highest standards for professional hunters. Three standards of hunter are licensed namely, ordinary, master and professional hunters who are tested both theoretically and practically after two years of field-based experience has been gained. South Africa, Botswana and Zimbabwe also require that their professional hunters obtain sufficient experience and a thorough level of training before being registered (Patterson, 2001). Standards are generally high with, for example, 30% and 64% of hunters failing the examinations during 2000 in Zimbabwe and Botswana, respectively (DWNP, 2001). At the other end of the spectrum is Tanzania, which, until recently, had no standard for testing and licensing professional hunters with regard to their knowledge and skills for sport hunting. Although licensing exams are now in place, standards remain insufficient (Hurt, 2000).

Most countries put significant value on practical experience, with shooting marksmanship often forming a practical exam, including competence with respect to hunting dangerous game. Until recently, Zimbabwe allocated a training quota so that trainee citizen hunters could gain practical experience that would otherwise have been too expensive to obtain (White, 2001), but the allocation of this quota has now ceased due to the high opportunity cost involved. Throughout the region, there is concern that sport hunting will remain an elitist industry unless citizens can afford to gain the practical experience necessary to become a professional hunter.

Whilst government agencies have a legal obligation to maintain hunting standards and ethics, the region's sport hunting associations also play a leading role. These associations are mandated to promote the future development and viability of the industry for their member hunters (Davies, 2001). For example, reports of "caged" and "canned" hunting, together with other unethical practices, could adversely affect the future of hunting. Consequently, ethical issues have become a primary focus for many of the region's hunter associations. Such associations were found to exist in all of the target countries surveyed and, in all instances, played key roles in promoting ethical hunting amongst members, as well as liaison with wildlife authorities, to improve the image and marketing of sport hunting overseas (Hoogkamer, 2001).

Regional Best Practises:

- Minimum trophy quality sizes and standards determined – The lack of long-term tenure security over many hunting concessions has prompted unsustainable over-hunting of certain lucrative species, resulting in inferior trophy quality animals, especially in State and communal land concession areas. Where they do not exist, trophy quality sizes and standards need to be established.
- Wildlife hunting regulations enacted and enforced – The ability of countries to enforce regulations developed to maintain the sustainability of hunting, and to set standards for ethical hunting, differs widely. The use of community based natural resource management (CBNRM) programs which provide incentive for community game scouts to accompany hunting safaris should be encouraged. Canned and put-and-take hunting practices should be condemned.
- Professional hunting associations formed – Each country should ensure that a national hunting association exists and is empowered to promote ethical hunting and professional standards of hunters in a standardised manner throughout the SADC region.
- Professional hunting training courses held – Sport hunting training courses should be a feature in each country to provide opportunities to citizen hunters to gain the experience necessary to become professional hunters and improve individual hunting skills.
- Professional hunter standards established – Conforming to a regional minimum standard, each country should establish professional hunter standards through comprehensive programmes offering both theoretical and practical examinations. Hunters that pass these examinations and successfully serve an apprenticeship should become registered with the national hunting association and govenment before being allowed to conduct hunts professionally.

II. Monitoring and Administration of the Sport Hunting Industry

Regional Comparative Overview

The effective management of the sport hunting industry in the SADC region is dependent, to a great extent, on the amount and quality of monitoring information available. Such monitoring systems should be established according to the following key principles: 1) keeping it simple; 2) limiting bureaucracy; and, 3) retaining and analysing a minimum set of information for adaptive management purposes (Child, 1995b). Unfortunately, and throughout most of the target countries, such guidelines have generally not been followed.

All countries that allow sport hunting maintain monitoring systems that require information to be entered onto data collection forms and questionnaires and returned to the country's central wildlife authority. In many cases, however, such systems are bureaucratic. In 2000, Zimbabwe, for example, had nine different forms, which contain essentially the same information, that had to be completed by safari operators for each client and submitted to different government departments (Pangeti, 2001). Such cumbersome and bureaucratic systems lead to discontent amongst safari operators and serve to undermine compliance. A minimal percentage of hunt-return forms are received by wildlife authorities in Botswana and Tanzania, even though the requirement to do so is provided for in law and non-compliance can theoretically result in the non-renewal of hunter's licenses.

The primary reason for non-compliance is that these wildlife authorities do not analyse and use monitoring information to make more informed and accurate management decisions, or provide any meaningful feedback on their use back to hunters. In addition, legislation requiring hunters to submit past monitoring returns before new licenses can be issued is often not enforced (Monyatsi, 1997). The result is that in Botswana and Tanzania, wildlife authorities have a limited idea as to past hunting off-take rates in various concessions, a fact that drastically affects their ability to set new quotas accurately. In Zimbabwe, efforts to address such concerns have resulted in an improved monitoring system and better

decision making for management purposes. The WWF/DNPWLM initiative has established an information management system based on the analysis of financial and hunt-return data. Using a database format, the system is able to provide time-series information on the parameters and dynamics of the hunting industry, allowing for a higher degree of effective management (Bond, 2001).

Within the SADC region, Namibia and South Africa have the most efficient monitoring systems in place. This is due to two main factors, namely, the information received is proactively analysed and used for management decisions and, legislation is enforced to ensure compliance with monitoring requirements. As hunting operators themselves clearly benefit from improved management decisions made possible by their timely submission of monitoring information and data, they are more willing to comply with such requirements (Taylor, 2001). Namibia, and many provinces in South Africa, also keep accurate records on monitoring returns. New hunting permits are withheld from hunters who have not complied with monitoring requirements. Hunters in South Africa are additionally motivated due to the fact that hunt return registers also serve as an application for a trophy export permit in some provinces (Patterson, 2001).

As SADC countries increasingly implement CBNRM programmes that rely to a great extent on tourist sport hunting, the need for establishing a community's own monitoring system has grown (Goodman, 1999). Zimbabwe's CAMPFIRE programme has led the region in this respect, with the majority of CAMPFIRE districts now collating and analysing monitoring data for more effective sport hunting management decisions (Bond, 1997). Although in 2000 Botswana and Namibia's CBNRM programmes lag behind in this regard, each communal area management plan requires the establishment of a monitoring system and certain established systems such as the Community Game Guard Monitoring System in the Kunene region in Namibia, and the Sankuyo Tshwaragano Management Trust in Botswana, are reportedly producing valuable information for community decision making processes (NACSO, 2000).

Regional Best Practises:

- Monitoring systems developed and implemented – The information and data generated through sport hunting needs to be part of an active monitoring system. Such a system should feature routine and effective analysis of available data to ensure that subsequent management decisions are informed, as well as provide timely feedback for adaptive management purposes.
- Data collection forms standardised – To support the monitoring systems, data reporting formats should be simple, clear and streamlined to facilitate the collection of data from key stakeholders. These forms should include financial and biological information necessary for the effective management of the sport hunting industry at the national level. If possible, where different government departments have data collection requirements, an attempt should be made to streamline everything into a single, all encompassing form. Standardisation at the SADC level is an option that should be explored thoughtfully.
- Hunt return registers submitted – Hunt return forms are an essential component of any effective monitoring system by providing data on a range of important issues, such as effort vs. success rates, the quality of trophies and off-take rates. An effective means to ensure that hunt return information is regularly submitted is to require proof of submission as the basis for applications for trophy export permits. Similarly, compliance with hunt return regulations should form part of the requirement for renewing hunting permits and licences.

III. Quota Setting

Regional Comparative Overview

A quota represents the number of animals that can be safely removed from a population without affecting its biological integrity and viability (WWF, 1997c). The quota of animals allocated for hunted determines not only the financial viability of sport hunting, but also its sustainability. For sport hunting, the structure and size of a quota is directly related to maintaining healthy populations of quality trophy animals (DNPWLM, 2000b). As such, meeting the need for renowned species of trophy quality, whilst ensuring the sustainability of hunting off-take, is one of the most important decisions open to sport hunting managers in the region.

South Africa, Namibia and Zimbabwe have taken steps to devolve responsibilities for setting quotas to private land holders. In Botswana and Tanzania, private commercial land tenure is negligible, and those privately-owned properties that do exist are required to have quotas set directly by government. In South Africa, Namibia and Zimbabwe, however, enabling legislation was introduced a few decades ago and provided the legal basis for private land owners to benefit directly from the wild resource (Corbett and Jones, 2000).

Similarly, management responsibility was handed over from central control due to the belief that the private land sector maintained the capacity to manage hunting effectively. In these three countries, wildlife policy maintains that it is in the land owners' best economic interest to sustainably hunt their wildlife populations. South Africa leads the region in terms of devolving the responsibility to set quotas to private land owners (Patterson, 2001). South African farmers have

almost total discretion to hunt whichever species they choose on their own land, with provincial wildlife authorities seldom required to approve such quotas.

Until recently, and since the enactment of the *Parks and Wildlife Act of 1975*, private landowners in Zimbabwe's large-scale commercial farming sector also had total rights to set their own quotas (WPA, 2000). Since 1998, however, farm quotas have needed to be approved by the DNPWLM. This system now reflects that of Namibia, where, since the enactment of the *Nature Conservation Ordinance No. 4 of 1975*, private farm owners have been setting their own quotas regarding animals to be hunted which are then approved by the MET and, in some cases, checked through farm visits undertaken by Namibia's Department of Parks and Wildlife Management (Erb, 2001). Quota approval is straight-forward and the requirement is due more to the need for monitoring the private hunting sector then maintaining central control.

Wildlife authorities play a more direct role in setting quotas for State and communal lands although these quotas are usually set by using a "rule of thumb" approach (Anon, 2000b). Monitoring data, which would allow for the making of more informed and effective quotas, are often lacking. Monitoring data that is available, and used to differing extents throughout the region, consist of aerial population census data, past hunting off-take records, trophy quality data, ground transect surveys, wildlife ranger and safari operator feed-back and, biological indicators that relate to the species' reproductive ability (Child, 1995a).

Aerial census data are expensive and beyond the means of most wildlife authorities. Tanzania, for example, has limited and dated census data for only a few protected areas, Namibia only for the north-eastern areas of the country and Zimbabwe for only selected areas. Botswana probably maintains the most comprehensive aerial survey programme in the region but even here such data are limited to large species such as elephant and buffalo which can be easily spotted from the air (Goodman, 1999). Quota setting monitoring data, such as past hunting off-take records and ground census data, are also often lacking. In an effort to improve the situation, a trophy quality monitoring programme has been established in Botswana which provides excellent data on the status of populations which is used by the DWNP for quota setting (BWMA, 2001).

Of the target countries, Namibia maintains the most effective monitoring system for providing critical off-take, biological and financial data for establishing more accurate quotas (DSS, 2001). On the whole, however, a lack of effective monitoring systems in the region results in most quotas being set conservatively using biological indicators (Severre, 1995). Hence, the hunting resource is in many cases is not used optimally, with low off-take rates resulting in the economic under-achievement of the industry. In Tanzania's Selous Game Reserve, for example, off-take quotas for buffalo are ostensibly set at 3.5% of the population. Recent quotas for buffalo would suggest a minimum population of 12,000, however, the actual buffalo population is believed to be around 138 000, thus the quota has been substantially less than what could be sustainable utilized (GTZ, 1996). In other cases, quotas do not adequately take into account past trophy directed hunting pressure, problem animal control offtake, and concerns arise in relation to the sustainability of such quotas. This is the case in Tanzania where the current sustainability of lion and leopard quotas are being questioned (Hurt, 2000) and in Botswana where a number of resident hunting license quotas fall outside of the recommended allowable off-take quota for the country (Barnett, 2000).

Wildlife authorities in the project's target countries are also at different stages in the process of devolving wildlife benefits and management responsibility such as quota setting to communal land holders. Indeed, many regard central governments commitment to transferring the responsibility to set quotas to communal land holders as the ultimate test towards their commitment to CBNRM programmes. Currently, no SADC country offering sport hunting has fully devolved quota setting to communities. This is partly due to the fact that many communities do not yet have the management capacity and resources to effectively take on this management responsibility. Consequently, progress has been closely linked with community capacity building programmes.

In Namibia, communal land hunting quotas are set by the MET, with little input from conservancies in communal areas although it is hoped that capacity building support under the LIFE programme will result in greater community involvement in quota setting in the future (WWF/LIFE, 2000). Likewise, Botswana and Tanzania's wildlife authorities set all CBNRM hunting quotas. Although, communities are provided with an opportunity to comment on quotas, in reality little emphasis is given to community involvement. The BWMA has, however, made considerable progress toward changing this situation in Botswana where a community monitoring programme has been initiated in one CBNRM district that records important ecological, biological and off-take data for quota setting (National CBNRM Forum in Botswana, 2000).

Zimbabwe has, perhaps, progressed furthest in relation to involving communities in the quota setting decision making process, although final approval still rests with the DNPWLM (Chimuti *et al*., 2000). A quota setting project, undertaken jointly by WWF and DNPWLM, has made considerable progress in stimulating a participatory approach to quota setting. The quota setting process relies on a whole range of conventional (aerial and ground census data, trophy quality data) and unconventional (safari operators perceptions) methods that are cross checked in a fully participatory

triangulation process that increases the confidence in the final estimate of numbers (WWF, 2000). As monitoring data availability and accurateness differs between districts, adaptive management is used to continuously reassess management decisions (Rigava, 1997). In this way, local communities learn from experience, and improve on the accurateness of quotas set, resulting in a greater proportion being approved by DNPWLM.

Regional Best Practices:

- Quota setting processes and procedures established – The process and procedure for establishing annual hunting quotas should be clearly delineated, transparent and accountable. There may be different policies or procedures for different species or industry stakeholders (private landowners, communal land areas or government concessions), but in all cases quota setting requirements should be established according to a set procedure and under some kind of supervisory control by central government but involving key stakeholders.
- Compliance with CITES demonstrated – CITES is the world's leading policy instrument for international trade in wildlife. From time to time, through collaborative discussion and agreement at its Conference of Parties, quotas are established for certain species, including specific reference to sport hunted trophies. Compliance with these, and all other CITES requirements, should be implemented at the national level.
- Management capacity demonstrated – There is a need to ensure that viable and demonstrable management capacity exists for each hunting concession area. This requirement is especially important in instances whereby private sector concession owners are allowed to set and approve their own quotas for hunted animals and have ownership rights over their own resources.
- Information and data collected and analysed – To set quotas effectively, there is a need to use various sources of information and data, including indices such as population size, status and trends, sex ratios, frequency of sightings, problem animal control records, catch effort and trophy quality (i.e. size). Using information and data relevant to a specified hunting block or concession is a vital part of ensuring sustainability in the long-term, and realising critical engagement and buy-in from stakeholders.
- Information sources agreed and standardised – The type of information and information sources required for quota setting should be standardised to the extent possible. For example, aerial or ground surveys, catch effort and trophy quality data, and anecdotal information may all be used to triangulate the most reliable indication of population trends and then be used adaptively to determine the quota.
- Monitoring systems established – Monitoring systems should collate critical data and information necessary for effective quota setting. These data should include past hunting off-take records, aerial and/or ground population census data, trophy quality, and financial and biological indicators.
- Trophy quality data recorded and analysed – Trophy quality is an excellent indicator of population status. It should be a requirement in the quota setting process that such data are available, analysed and used proactively in the context of adaptive management practices.
- Quota approval necessary – Once management capacity is established, the responsibility to approve quotas should be clearly established. Where land use rights devolve wildlife management responsibilities to land holders in private and communal lands, government oversight and approval procedures need to be clearly established.

IV. Maximising Economic and Social Benefits from the Sport Hunting Industry

Regional Comparative Overview

The sport hunting industry in the SADC region generates significant gross revenues for participating countries, not only making a significant contribution to the national GDP, but also towards providing sufficient incentives for increased wildlife management in the region's State, commercial and communal land areas. Sport hunting, as a low-impact, high-return industry, involves the hunting of negligible numbers of animals with, for instance, only 2505 animals sport hunted in Botswana during 2000 (BWMA, 2001). The industry is able to generate significant gross revenues, for example up to USD12.6 million in Botswana in 2000, due to its ability to maximise revenue through the judicious structuring and packaging of hunting safaris, effective application of hunting fees and the allocation of hunting rights to concession areas. Not only do countries in the region strive to maximise revenue from a finite resource, but also to increase its equitable distribution to those charged with its conservation.

Hunt Packaging and Hunting Fees: The effective packaging and pricing of trophy animals provided on any quota is the most important determinant for maximising revenue (Edwards and Allen, 1992). The region's ability to achieve this is one of the primary reasons for sport hunting being such a lucrative, yet low-impact wildlife use. From experiences gained in the packaging and auctioning of hunts in the Zambezi Valley in Zimbabwe, Booth and Jones (1984) were instrumental in recognising the importance of "bag" composition of species, and the duration of hunting, in providing a balanced hunt that maximised revenue. As clients generally pay two hunting fees, a trophy fee for the right to hunt a particular type of animal, and a daily rate fee that covers safari operators costs such as accommodation, subsistence and transport, hunting safaris are usually packaged in such a way as to increase both sets of costs (Child, 1990a).

The way in which species are combined and packaged into hunts greatly affects the daily rate and length of a hunt, which has a huge bearing on the overall price of a hunting safari. Charges, and the length of the hunt, increase stepwise with the addition of big game species. Adding valuable trophies to raise the daily rate, and lesser species to lengthen the hunt, uses animals more efficiently and substantially increases the overall cost of hunting (Cumming, 1989). Throughout the region, hunts are packaged in this way, although less rigid structures are found in South Africa and Namibia. In these two countries, safari operators are free to structure their hunts and charge for them as they see fit.

In contrast, this approach to packaging and marketing sport hunting is required by law in Tanzania, where only 21-, 16-, 14- and seven-day safaris are allowed (FCF, 1998). Big game species such as elephant and leopard may only be hunted on 21-day safaris. The success of this approach is apparent, however, in that 71% of all hunting in Tanzania is on a 21-day safari (Hurt, 2000). Likewise in Botswana, elephant, lion and buffalo may only be hunted on 21-, 14- and 12-day safaris and in Zimbabwe, although not provided for in legislation, most hunting is packaged into 21-,15- and 10-day hunts (BWMA, 2001). Indeed, the predominant lack of big game species and preponderance of plains game species in Zimbabwe and Namibia's commercial farmland, has led to many hunting safaris incorporating cheaper plains game safaris of shorter duration, with more expensive big game hunting in the State land hunting concessions in order to economize in overall hunting expeditions (Heath and Machena, 1997).

Throughout the majority of target countries in the region, the government charges for hunting rights in State land hunting concessions on a per animal basis through trophy fees. In fact, governments in the region don't routinely track market trends and thresholds when establishing trophy fees. In cases such as Botswana, these fees represent only a fraction of the tourist sport hunting market value of the animal in question (Traill-Thomson, 1998). In countries such as Zimbabwe and Tanzania, government trophy fees represent a more realistic value (Hurt and Ravn, 2000). Only in Namibia and South Africa does government not charge trophy fees for hunting in State land hunting concessions, relying instead solely on hunting concession lease fees (Davies, 2001).

In terms of additional government fees charged to safari operators and their clients, Tanzania stands alone with respect to the numerous observer fees, conservation fees, permit fees, trophy handling fees and over 30 different types of taxes incurred (Lamprey, 1995). Overall, however, trophy fees result in the majority of revenue accrued to government in the region, although when compared to safari operators own daily rates, total amounts are significantly less. In Tanzania, for example, over 62% of the gross value of the industry is earned from the daily rates of safari operators (PAWM, 1995a).

Hunting Block Allocation and Benefits Sharing: An additional strategy employed by all target countries to maximise economic and social benefits from the industry is in the allocation of hunting concessions and the right to hunt to sport hunting operators. In State and communal land throughout the region, hunting areas are divided into blocks of land that are leased out to operators for periods of one to 15 years (BWMA, 2001). In Namibia, State land hunting concessions are leased out for three years, in Tanzania for five years and in Botswana for periods of up to 15 years (Barnes, 1996). Whilst safari operators prefer longer periods of lease agreement so that returns on infrastructure and management investments can be earned, governments are generally wary about granting long-term leases due to their need to re-evaluate performance and costs on a more regular basis.

Concession leases are allocated in a number of ways throughout the region such as open tender, public auction and closed bids (MET, 1999). The open tender process, for instance, has found favour in Zimbabwe, due to its transparency and ability through competition to generate substantial revenues. In Zimbabwe's State and communal land areas, competition between safari operators for concessions is fierce, with more then 10 operators usually bidding for each concession. Such competitiveness has increased lease fees being paid to land holders with a result that the safari operators profit margins have been reduced from 25% to 10% (Jones, 1994).

In Zimbabwe, public auction of concessions and quotas are undertaken and, over the past decade, have proved very successful at maximising revenues through increased market competition. Namibia changed from the open tender system to the public auction in 1994 and found that this was the most efficient way in obtaining market values of hunting concessions and quotas. During the 2000 auction of concessions for the 2000-20003 period, auction reserve prices were exceeded by some 50% (OPM, 2001). This process is taken one step further in Zimbabwe's Zambezi Valley, where quotas of animals are packaged into 14- and 10-day hunts and auctioned according to species diversity, numbers of animals and duration of hunt (Booth, 2001). In effect, hunting concession leases are offered to each hunting client for the duration of their hunt and revenues maximised through the judicious packaging of the quota.

Whilst Namibia, South Africa, and Zimbabwe have succeeded in maximising revenues from the effective allocation of hunting concession leases with, for example, some 25% of all hunting revenue in Zimbabwe now being generated from concession lease fees (Pangeti, 2001), Tanzania and Botswana have faired less well. In Tanzania, hunting blocks are allocated after a review by the wildlife division of applications from safari operators. The only official payment for the concession is a negligible USD7,500 per annum. Although Tanzania tries to ensure economic returns by insisting that

40% of the value of the quota has to be utilised each year, such systems are open to abuse. Due to the lucrative nature of the five-year tenure on offer, this system is open to corruption (Hurt, 2000). Similarly, in Botswana, concession leases in State land are conducted in a so-called 'open competitive environment', resulting is limited lease revenues that are given to the Lands Boards under the Ministry of Lands and Housing, rather than being received by the DWNP (DWNP, 1999).

Governments in all hunting countries, however, strive not only to increase revenues through lease allocations, but also to promote the development of concession areas and rural communities living in or around such hunting areas. Indeed, sport hunting has been the economic steam engine driving many of the CBNRM programmes in the target SADC countries. In Botswana, 73% of total revenue generated by all 45 CBOs was from tourist sport hunting during 2000 (BWMA, 2001). Between 1989 and 1998 in Zimbabwe's CAMFIRE districts, sport hunting accounted for some 94% of all wildlife-based revenue (Chimuti *et al*., 2000). Even in Namibia, sport hunting revenues contributed about 12% of total income in 2000, even though only four communal conservancies undertook sport hunting (WWF/LIFE, 2000).

Capacity building and training programmes undertaken by CAMPFIRE in Zimbabwe, LIFE in Namibia and the NRMP in Botswana, have resulted in a significant increase in the proportion of sport hunting revenues retained by rural communities (van der Jagt *et al.*, 2000). Communities are now fully aware of the value of their sport hunting resource that has resulted not only in economic, but also social benefits, accruing directly to local land holders. In Tanzania, Zimbabwe and Botswana, for example, concession holders are also assessed on their past performance with regard to community involvement and development, game meat distribution, law enforcement, problem animal control activities and infrastructure improvements, when re-allocating hunting concession areas.

Regional Best Practices:

- Transparent mechanism for allocation of hunting concessions adopted – Failure to adopt a transparent and fully accountable process for the allocation of hunting concessions in government or communal land areas inevitably invites allegations of corruption, cronyism or mismanagement. Concession tender processes should allow for a high degree of competition between safari operators and be designed to ensure maximum financial benefit to public landowners, foreclosing on any potential for 'back door' arrangements or deals that end up rewarding individuals rather than government and/or communal stakeholders. Open tender processes and public auctions have been used successfully in different countries in the region and should be encouraged.
- Screening criteria for hunting operators developed and used – To ensure that potential sport hunting operators are well-qualified to finance and conduct professional hunting operations, and that they will adhere to ethical hunting practices, a series of screening criteria should be applied to all applicants who seek allocation of a concession. Application of both technical and financial criteria would necessarily make certain players ineligible for consideration from time to time. Screening practices should ensure that individuals who have violated rules and regulations in the past no longer are eligible for licenses to operate.
- Annual reporting and accounting of revenues practised – Good governance practises should require that financial transactions, especially those involving government and communal landowners and which become part of public sector budgets, be subject to appropriate audit oversight and public scrutiny to ensure accountability.
- Hunting packages marketed effectively – The composition of species and the duration of each hunting package is instrumental in providing a balanced hunt that maximises revenues and client satisfaction.
- Government hunting fees revised periodically – Fees should be established according to the open market value of trophy animals and revised from time to time to ensure maximum revenue.
- Hunting tenures set – The length of time that individual hunting concessions are held and the security associated with such tenure has a direct bearing on the amount safari operators are willing to invest in the protection of the concession and the development of CBNRM programmes. Long-term tenure commitments should be encouraged to promote maximum investment in the resource base and local communities.
- Revenue retention – The allocation of revenues to those who own the hunting resource should be promoted with a requirement that a proportion of revenue should be banked in-country.

V. Constraints Affecting the SADC Sport Hunting Industry

Sport hunting, like all tourism activities, is susceptible to political instability or isolated incidents, which could pose a potential threat to visitors. Zimbabwe, perhaps, represents the best example in the region where such instability can affect the sport hunting industry. The land reform process that involved the invasion of white-owned farms, election unrest, and serious fuel and foreign exchange shortages have negatively impacted upon the country's sport hunting industry, although to a lesser degree than the wildlife viewing tourism industry (Pangeti, 2001). The comparative advantage of sport hunting over tourism is that hunters seem to have a higher tolerance for such events and are less deterred by socio-economic instability (White, 2001).

Visitor numbers can also be affected by adverse publicity from anti-hunting lobbies in North America and Europe (Davies, 2001). The down listing of the African Elephant in 1997 by the 10th Conference of the Parties to CITES eased this threat to some extent, although the future of sport hunting still depends on how "socially acceptable" it is in European, and especially, North American countries, which provide the bulk of sport hunters to the region (Bond, 1997).

Similarly, policy decisions by European and North American countries made in isolation from the African countries offering sport hunting, can adversely affect the industry. For example, in 1991 the US Fish and Wildlife Service proposed guidelines for the importation of sport hunted trophies into the USA. If perversely applied to countries with large elephant populations such as Botswana, which has arguably the largest elephant population in Africa, and where large scale elephant populations are currently under consideration, unnecessary restrictions could result.

Hunting in the region is extremely vulnerable to political developments in both the USA and Europe (Chimuti *et al*., 2000). Pressure from anti-hunting lobbyists and adverse international conservation policies has the potential to severely restrict the growth, and even the survival, of the regions sport hunting industry in the worse case scenario.

VI. Discussion/Conclusion

In summary, sport hunting in the SADC region represents an important industry that significantly contributes not only to national economies but also to maintaining the livelihoods of many of the region's rural communities. Whereas in the past, most economic and social benefits from sport hunting accrued directly to national government and private safari operators, considerable progress in implementing CBNRM programmes has now resulted in a greater proportion of the revenue going directly to those who live with and own the hunting resource. Sport hunting is increasingly becoming the engine that is driving many country's CBNRM programmes, especially in Zimbabwe, Botswana and Namibia.

Moves to devolve wildlife management responsibilities to communal and private landowners, together with incentives to use such resources on a sustainable but profitable basis, has resulted in considerable conservation success in many of the target countries assessed under this project. In contrast to non-sport hunting countries such as Kenya, there are credible reports that wildlife numbers outside of protected areas in Zimbabwe, Namibia and Botswana's communal and private lands are increasing, due mainly to the value now placed on the lucrative sport hunting resource.

The overall success of the sport hunting industry is, however, marred by the continued existence of problematic management practices, especially in relation to quota setting and the allocation of hunting concessions. The lucrative nature of the industry and potential for abuse and corruption still affects the industry, and incentives are required to improve a range of management practices in certain countries. Considerable effort by governments and other key stakeholders needs to be expended on addressing issues of concern as a matter of urgency. By learning from the experiences of the region's sport hunting nations, this study is a first step towards realising a 'best practices' standard for general application throughout the SADC region to ensure sustainability and a viable future in the face of increasing scrutiny and demand for transparency.

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