

*PROCEEDINGS OF THE
BUSHMEAT CRISIS TASK FORCE
CURRICULUM DEVELOPMENT WORKSHOP*

SOUTHERN AFRICAN WILDLIFE COLLEGE

6 - 8 AUGUST 2002



RECOGNITION

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BACKGROUND

One of the most under-utilised resources in Africa for wildlife conservation efforts is the formal education and training sector. Africa maintains three excellent regional wildlife-training colleges (College of African Wildlife Management, Mweka, Tanzania [CAWM]; École pour la Formation des Spécialistes de la Faune de Garoua, Cameroon [EFG]; and Southern African Wildlife College, South Africa [SAWC]). For more than 30 years, CAWM and EFG and more recently SAWC have collectively educated 3000 African wildlife managers. The colleges focus on formal training for mid-career wildlife professionals, and many of their former students have become leaders of the protected area authorities and wildlife services, non-governmental organizations (NGOs), community organizations, tourism sector, hunting safari operators as well as researchers, academics, and trainers throughout Africa.

ESTABLISHMENT OF SAWC

During the early 1990's, and after a feasibility study of some two years, World Wide Fund for Nature-South Africa (WWF – SA) in conjunction with SADC decided to promote and take responsibility for the establishment of a College for the training of Senior Rangers and Wardens who would be capable of designing and implementing effective protected area management programmes in southern Africa.

The location of the College was paramount to the success of this venture. Factors considered in locating the College where it is today, included the need to minimise the impact on the environment; the close proximity this site has to local communities and potential employees, and its access to conservation training areas on site or close to the site. Various South African locations, which might have met these criteria, and which would also have provided a wide variety of ecosystems for conservation training purposes, were investigated.

The broad location was eventually narrowed down to an area directly adjacent to the Kruger National Park's (KNP) Orpen gate. Initially enquiries showed that the Hans Hoheisen Research station at the Orpen Gate could serve as the nucleus of the College as it met all the above criteria and also allowed for possible access into provincial and privately owned reserves.

However due to a number of factors it was eventually decided to build the College on 35ha of land 12km west of the KNP's Orpen gate. Owned by WWF – SA, the land is managed as a contractual park incorporated into the KNP. Interestingly, only one large tree was felled during the construction of the College.

The College is situated about 5km from the Welverdiend community, which also meant that fewer on-site houses needed to be built as a number of College staff members could be sourced from Welverdiend and the Boarder community areas surrounding the College.



From left to right:: Director Garoua College, Mr Ibrahim Njoya; Principal Mweka College, Mr Deo-Gratias M. Gamassa; Director SAWC, Mr Fanie Greyling

Funding was sourced from local and international role players by WWF – SA. The construction of the College was made possible by a generous donation of DM10 Million from the German government through the Kreditanstalt für Wiederaufbau (KfW).

Construction was completed during 1996, ahead of schedule, and within budget. It was registered as a section 21 company, “not for gain” during May 1996.

The first short courses were held during 1997, and the first certificate students registered during 1998.

Since 1999, the College has run to full capacity with its certificate programme and the introduction of a diploma programme, which has proved to be extremely successful. The College has a small core staff responsible for the day-to-day operations of the College. The College has opted, rather than hiring permanent training staff to source the services of experts in their respective fields to deliver the various training modules associated with its certification programmes.

Most, if not all, of our long course student’s hail from organisations that do not have the funds necessary to pay for the training conducted by the College, so the College relies heavily on donor funding to sustain its activities. This funding is sourced by organisations such as Peace Parks Foundation (PPF) and to a larger extent WWF – SA.

It is becoming more and more evident that, as a College, we need to encourage organisations to fund their own students, and to persuade students to pay for their own education. This approach is starting to bear fruit as slowly but surely organisations are committing themselves to the financial support of their students.

A great initiative with tremendous potential for the future economic viability of the College has been the establishment of SACET (Southern African Conservation Educational Trust Fund). The aim of this trust fund is to raise about US\$10 million, which would greatly assist not only this College, but also other similar institutions, to cover their financial burdens. The trust fund was officially launched on the 25th October 2001 and the guest of honour during this prestigious event was the Honourable Ambassador of the Federal Republic of Germany Mrs. Anna Margareta Peters.

COLLABORATION OF REGIONAL COLLEGES

These colleges provide opportunities for mid-career professionals and students to earn recognized diplomas and short course training in wildlife management. To date, however, none of these colleges maintains a curriculum on bushmeat. The recent (December 2000) wildlife management conference held at CAWM resulted in over half of the conference participants attending the bushmeat session sponsored by the Bushmeat Crisis Task Force (BCTF). Following that session, the BCTF has been flooded with individual requests from Mweka students and other African professionals for more information on the issue. BCTF subsequently began discussions with colleagues at EFG, CAWM and SAWC toward the potential for developing formal curricula on bushmeat. All three colleges have already formed an agreement (March 1999 International Workshop of Wildlife Training Colleges) to work more closely together and to collaborate toward curriculum development and review. The BCTF is interested in identifying the necessary support to enable such collaborative

work to occur beginning with the most significant conservation issue facing the African continent today: bushmeat.

The development of formal curricula on bushmeat through a participatory and collaborative process will provide wildlife professionals with the skills and knowledge to address this issue directly in the field and assure that it becomes a priority item for developing wildlife management programmes. The development of such formal curricula could play a key role in identifying long-term solutions to this crisis. By making the bushmeat module a requirement for all diplomas conferred and by assuring continuous monitoring of the development and application of the information being imparted to students – the curricula may be regularly updated to assure that the most effective and appropriate means for addressing the issue are being provided to students. In addition, these modules may provide the basis for similar courses to be developed in other regions of the world where the bushmeat crisis is also a problem. Of the long-term solutions proposed, education and professional training on the bushmeat issue is one of the highest priorities.

To this end, the BCTF has accomplished the initial planning phases for a collaborative effort on developing bushmeat curricula within Africa's three regional wildlife colleges. A meeting was held in Washington, DC from 17-21 May 2001 that included over 150 bushmeat experts and interested professionals from more than 20 countries. BCTF provided support for participation in the meeting from EFG, CAWM, and SAWC. A special meeting was organized in collaboration with the Africa Biodiversity Collaborative Group on 16 May 2001 where the three college representatives provided presentations regarding their overall education programmes. This meeting was followed by their participation in the BCTF meeting, including a half-day workshop on the development of bushmeat education materials in Africa. This proposal provides the background information leading to the BCTF meeting and bushmeat education development. The results of that meeting called for a stepwise approach to engage key decision-makers (KDMs) in the bushmeat issue and develop curricula for the regional colleges.

GENERAL PROJECT DESCRIPTION

The ultimate goal of this effort is to establish a professional team to develop bushmeat curriculum including lessons and field exercises to cover the following: general background, causes and effects of commercial bushmeat trade, laws, policy development, economics, ecological/population monitoring, market survey techniques, community-management (i.e. working with and/or developing hunter/trader associations), law enforcement, control of access routes, alternatives (economic and protein), awareness building and education, bushmeat information database management, and network development.

It will be important to assure that the courses developed will be taught as part of each college's diploma programme following the initial short-course implementation and that monitoring of the effectiveness of the course can be put in place for continuous feedback and upgrading of the curriculum. Evaluation of the initial short-course will indicate the most appropriate future use of the curriculum and/or the measures needed to integrate the bushmeat curriculum into the diploma programme.

In addition to curriculum development, this team will form the basis for the establishment of National Bushmeat Task Forces across Sub-Saharan Africa and form a model for other regions of the world – both in terms of education and network development.

EXPECTED OUTCOMES

- A template for a comprehensive bushmeat curriculum that will educate students attending the three African wildlife colleges regarding the causes, effects, and appropriate solutions to the bushmeat trade and how they can be most effectively implemented with particular emphasis on environmental education material development for primary and secondary schools and rural communities;
- Establishment of a broad network of professionals that are equally informed and focused on addressing the bushmeat crisis;
- Creation of a framework for additional training and capacity-building within government wildlife departments (as the curricula can be taught both within and outside the college environment as necessary);
- Reduction in the bushmeat trade as a result of improved education and training on the bushmeat issue for wildlife management professionals.

INTRODUCTION

The term bushmeat is taken from a translation of the French term for meat derived from wildlife – *viande de brousse* – which has provided both a source of protein and income for subsistence communities for thousands of years. Recently, this trade has evolved into an illegal, commercial, unsustainable enterprise that is compromising wildlife populations across Africa. Today the bushmeat trade has escalated far beyond a subsistence level and in recent years has exploded into a multi-billion dollar industry. Some of the driving forces behind this trade crisis are uncontrolled access to wildlife, lack of economic alternatives, absence of substitutes, and minimal capacity to enforce hunting laws. As a result, an illegal, unsustainable industry based on wildlife has become particularly acute in Africa.

In his article on the issue, published in the periodical *African Environment and Wildlife* (now known as *African Geographic*) in August 2000, Bill Branch stated the following: “The utilisation of wild game as bushmeat spans virtually the whole of sub-Saharan Africa. As human pressures continue to build, the conflict between man and animals for resources and living space has intensified, and wildlife is increasingly being viewed in terms solely of its worth to surrounding communities. Balancing the demands of conservation and social upliftment will require foresight and strong governance if Africa’s wildlife heritage is to survive.”

This curriculum development workshop at the Southern African Wildlife College was the third and last in the series, with workshops already having been held at EFG and CAWM. Three workshops were held to recognize the differences between the state of the bushmeat trade in each region, while emphasizing the pan-African nature of the crisis. While the process has placed co-operation and co-ordination between these regional institutions at a premium, it also recognizes that the differences must be reflected in the resultant curricula. The list of delegates invited to participate in the workshop was balanced between ensuring appropriate representation and expert input, while keeping the group small enough to ensure good participation from each delegate. (See Annexure A for the full list of delegates.)

The workshop program comprised two sections. During day one, participants shared formal presentations to review the status of the bushmeat trade throughout the region. The second two days entailed three working sessions where the delegates were divided into three groups.

For the first working session delegates were allocated groups to ensure an even distribution according to geographical origin and organisation representation. Each group addressed the same objectives:

- List and prioritize the key bushmeat issues,
- Identify the training needs or potential modules associated with these issues, and
- Identify and prioritize the target learner groups.

Once the groups had given feedback at the plenary regarding the outcome of their deliberations on the above, they were reconstituted according to their expertise. They were each allocated a target learner group, and using the list of training needs as a point of reference, were asked to further develop these in terms of learning objectives or specific outcomes and to identify associated core values. Here the plenary session played an important role in providing each group with the opportunity to make input into the other learner groups.

The third and final working session used the same groups to further develop the learning objectives into study units and to suggest module structure. The plenary was then used to ensure that all input had been captured and that there was consensus on the proposals.

The SAWC provided staff to act as facilitators/managers of each of the group working sessions, while a professional and independent facilitator was employed to oversee the workshop as a whole. The former helped significantly in guiding the group processes and to ensure that the three group objectives were achieved in the time available. The Nominal Group Process was initially applied to ensure that participants had an equal opportunity to have their thoughts expressed, discussed and captured. It was recognised that this process was the best to capture the richness and diversity of expertise represented by the delegates. Once the delegates had become familiar with each other the groups began to use the less formal brainstorming method to generate ideas.

As already mentioned this series of workshops are the third step in the process of developing and implementing training on the bushmeat crisis. These proceedings thus serve only as a record of this workshop at this step in the process. They will now be used by the college to develop the curriculum the participants felt was appropriate to address the issue. Although a significant contribution, the results will be seen in years to come as recipients of the training implement what they learn.

WELCOME SPEECH - SG Greyling, Executive Director, SAWC

On behalf of the management, staff and students, I would like to welcome you all to this, the third leg of the Bushmeat Crisis Task Force Workshop, being hosted at the Southern African Wildlife College. In particular I would like to welcome Natalie Bailey, BCTF Coordinator, Reg Hoyt, Philadelphia Zoo and BCTF Steering Committee member and my colleagues, Deo-gratias M. Gamassa, the principal of CAWM, and Ibrahim S. Njoya, the Director of EFG.

At the Southern African Wildlife College we pride ourselves in being at the forefront of conservation issues, our College is relatively new, and the bushmeat crisis is a burning issue that all conservationists, natural resource and protected area managers will need to address if we are to ensure the future sustainable use of our natural resources. Therefore this College

has made it our business to ensure that we do our part in an attempt to overcome this huge hurdle, although as a College we cannot solve this problem alone, it would need not just all of your support, but the support of Africa.

For those of you not fully aware, the term ‘bushmeat’ is used to describe the use of meat and products derived from wildlife. The illegal and commercial hunting for the meat of wild animals, including threatened and/or endangered species, poses an immediate threat to the future of wildlife in Africa, and has already resulted in widespread local extinctions of species in West Africa. It is therefore not only in our interest but more importantly, for our children’s sake that we endeavour at all cost to not only meet the objectives of this workshop but to try and exceed them. It is one of our core responsibilities as educators and conservationists to ensure that our natural heritage in Africa is preserved for generations to come.

The Bushmeat Crisis Task Force was founded in 1999 by a conglomeration of concerned conservationists, organisations and scientists to conserve the wildlife populations that are already threatened, or may become threatened by the illegal trade in Bushmeat.

Bushmeat trade is a problem in Africa and around the world. The problem has been tackled in three sections, utilising the three existing wildlife colleges in Africa. The first workshop was held in Garoua, Cameroon at the wildlife college situated there, the second leg at CAWM, Tanzania, and the third leg is this workshop, being held in Southern Africa. The aim of these three workshops is to develop one curriculum, taking into account the specific problems of the different areas in Africa, which will be used to educate and train those who are responsible for managing natural resources and protected areas in Africa.

The real crux of the bushmeat crisis is to acknowledge that the underlying reasons that this illegal trade flourishes in Africa, factors such as a lack of education, uncontrolled access to forest and wildlife resources, over-population, unemployment and poverty, are all factors, which will remain even after the depletion of wildlife species and the destruction of natural biodiversity. The most important message of this workshop is that each of you can make a difference. Once again on behalf of all of us, a very hearty welcome.

BCTF WELCOME SPEECH - Reg Hoyt

Welcome to all delegates on behalf of BCTF Steering Committee. Although there is a focus on forests, bushmeat must be seen as a pan-African problem. It is also not limited as a terrestrial problem. There is no simple formula for dealing with this issue. As stated by Mr. Greyling this is the third in a series of workshops that have been hosted by Africa’s wildlife colleges. I look forward to the discussions and thank BCTF, USAID, SAWC and the staff for making this workshop possible.



Dr Reg Hoyt, BCTF Steering Committee member, welcoming workshop participants.

PARTICIPANT PRESENTATIONS

The Bushmeat Crisis Task Force and International Collaboration **Reg Hoyt, Philadelphia Zoo**

The Bushmeat Crisis Task Force (BCTF) is a collaborative effort of conservation organizations, zoological parks, museums, animal protection groups, and experts from numerous disciplines based at the American Zoo and Aquarium Association in Silver Spring, MD. We are very pleased to have the opportunity to work with Southern African professionals to develop a framework for a bushmeat training programme at the Southern African Wildlife College. Funding for this workshop was made possible by a grant from the United States Agency for International Development and with the assistance of the African Wildlife Foundation. This paper will give an overview of the bushmeat trade in Africa, the BCTF and our actions to implement solutions to the bushmeat crisis.

Bushmeat Background

The term bushmeat is taken from a translation of the French term for meat derived from wildlife – *viande de brousse*, which has provided both a source of protein and income – mainly through trade – for subsistence communities for thousands of years. Recently, it has evolved into an illegal, commercial enterprise that is compromising wildlife populations across Africa.

Today the bushmeat trade has escalated far beyond a subsistence level and in recent years has exploded into a multi-billion dollar industry. The driving forces behind this trade crisis involve uncontrolled access to wildlife, lack of economic alternatives, absence of substitutes, and minimal capacity to enforce hunting laws. The result has been the establishment of an industry based on wildlife that is not only illegal but also highly unsustainable. This trade takes place around the globe and is particularly acute in Africa.

Basic human needs – both nutritional and economic – drive the bushmeat trade. The average human requires 50g of protein per day, roughly equivalent to one-quarter kilogram of meat per person per day. To meet this protein need in Central Africa alone would require 2.5 million metric tons of meat for the 30 million consumers. This demand is clearly unsustainable – the meat demanded annually is equivalent to 10 million cattle or 500 million blue duikers. Of course, many species are taken throughout Central Africa, and livestock are not typically a viable alternative in the forests.

Bushmeat is a “band-aid” to larger problems of economics, poverty and food insecurity. The bushmeat trade is an economic solution to a market failure: the failure to produce sufficient protein for existing demand. To solve the bushmeat crisis we need to build a concerted effort that addresses not only the need to protect existing wildlife populations but also to alleviate the potential human tragedy resulting from the economic factors driving the system.

Health Risks of the Bushmeat Trade

During hunting and butchering of any animal, there is a high potential for blood-to-blood contact. When hunters dress a primate carcass, they expose themselves to the risk of diseases that can jump between humans and other primate species. Several researchers have recently reported a high level of emerging infectious diseases that may affect human populations through the bushmeat trade. One particularly compelling disease risk is SIV and other lentiviruses, diseases similar to HIV in primates. In West Africa, 26 species of primates were identified as carriers for different lentiviruses. In 2002, a team of researchers including Dr. Beatrice Hahn (who identified the link between SIV and HIV in 1999) found that a full 20% of primate meat in Cameroonian bushmeat markets tested positive for SIV. At a recent workshop in Washington, DC, Dr. Bernadetta Abela-Ridder from the PRESICA Project on HIV/AIDS in Cameroon reports that people are showing signs of HIV/AIDS, but are testing negatively for HIV1 and HIV2. These results may indicate that genetic recombination of the viruses has already occurred.

Another threat regarding primates and bushmeat is from Ebola and other emerging infectious diseases. In late 2001, an Ebola outbreak began in Gabon and Republic of Congo. As of 22 March 2002, a total of 92 human cases have been identified, with 69 deaths. Media reports linked the outbreak to the consumption of primate meat by a family in Gabon. The disease seems to affect non-human primates as well. A team of veterinarians, including Wildlife Conservation Society veterinarian Dr. William Karesh, reported finding carcasses of 30 western lowland gorillas and 8 chimpanzees in the area of the outbreak. Ebola is likely only one emerging infectious disease that may emerge from the African tropics. In 2000, Nathan Wolfe and a team from Johns Hopkins University reported that the diversity of microbes and vertebrates in lowland tropical forests puts bushmeat hunters at a great risk of EIDs.

The Bushmeat Crisis Task Force

The Bushmeat Crisis Task Force is a collection of organizations and experts committed to addressing this crisis for the sake of future generations of Africans and wildlife. Its members include all major conservation organizations in the US with field programs in Africa. The BCTF was established as a result of an experts' meeting at the headquarters of the American Zoo and Aquarium Association in Silver Spring, MD in February 1999. It has been fully operational for nearly two and a half years and since that time has made tremendous progress in achieving its established goal of supporting member institutions in addressing the bushmeat crisis and bringing the awareness of this issue to key decision makers and the general public. BCTF maintains a large network of key professionals and government officials in Africa and the USA working on the bushmeat issue. BCTF serves as the central point of contact for key decision makers, scientists, media, and general public on the bushmeat issue.

The mission of the BCTF is "to build a public, professional and government constituency aimed at identifying and supporting solutions that effectively respond to the bushmeat crisis in Africa and around the world." With the support of our members and the guidance of the Steering Committee, BCTF's staff has been able to accomplish a great deal in the 2.5 years since we became operational. The BCTF network includes more than 300 global experts representing development, conservation, education, media, government, the private sector and the donor community. In addition, we publish the "Bushmeat Working Groups Around the World update" three times per year that connects different organizations and working

groups to each other. These linkages help all of us to stay informed with the latest developments in the bushmeat issue.

The BCTF and Collaborative Action Planning

In May 2001, BCTF held our Collaborative Action Planning Meeting in Washington, DC. We had over 150 participants from government, media, university and NGOs, including a large percentage of participants from Africa. Members of the CITES Bushmeat Working Group and a CITES Secretariat representative met for one day, followed by two days of presentations and workshops focused on highest priority actions and solutions to the bushmeat crisis. The BCTF Steering Committee and Supporting Members reviewed the results and voted on priority actions during a one-day business meeting. The final summary of the meeting was presented at the National Press Club by well-known conservationist Ms. Stefanie Powers of the William Holden Wildlife Foundation. The proceedings of the meeting are available on the BCTF website.

Through this collaborative process of information gathering and evaluation, the BCTF and its network has established an eight-point action plan of priority bushmeat solutions. Long-term solutions include: development of appropriate policies and legislation to address the illegal, commercial, unsustainable bushmeat trade, education and training (including training development at Africa's three regional wildlife colleges, development of bushmeat education with US Zoo educators, and coordination of public education and awareness-raising in Africa); sustainable financing and monitoring and maintenance of protected areas. For the short-term, solutions include: development of alternative sources of income and protein; formation of hunter and market-seller associations and control of bushmeat access routes; strengthening linkages among industry, governments and NGOs to address the issue collaboratively; and using media to raise public awareness of the issue in Africa and the US.

With this action plan developed institutional members of the BCTF are able to: join forces to develop collaborative proposals to support on-the-ground efforts; funding institutions are able to verify highest priority field efforts; and gaps in field-based programs can be identified. In addition, this action plan enables BCTF to identify those programs that are high priority but for which there is a need for a centrally managed project effort. Examples include the bushmeat education and policy development efforts with the CITES Bushmeat Working Group. Its strong member base offers an outreach opportunity both for public education and support development as well as for linking with field conservation efforts in Africa. The BCTF offers a unique model for coordinating conservation activities and developing the broad-based networks necessary for increased efficiency and effectiveness in field conservation programs.

Collective Fundraising

One of the central roles for BCTF is to mobilize collective fundraising and, therefore, project development to avoid duplication of efforts, to increase efficiency and maximize effectiveness of action. In the past 12 months, BCTF has leveraged an estimated US\$1 million for actions to address the bushmeat crisis, including support from the MacArthur Foundation, USAID, the US Fish & Wildlife Service, the Jane Goodall Institute and World Wildlife Fund-US. In addition, several of our Supporting Members are engaging in collaborative fundraising and action on the bushmeat issue.

Global Information Centre

Another of BCTF's central roles is to build a global network for the bushmeat issue. In this capacity, BCTF manages a research and media archive of thousands of references on the bushmeat crisis and its solutions. BCTF also maintains a Projects Database that catalogues the efforts on the ground to address the bushmeat crisis, its causes and solutions. The BCTF Information Packet has been distributed to thousands of key decision makers, academics, activists and public citizens world wide in hard copy and online. Our website, which received more than 5000 visitors each month, provides up-to-date information on bushmeat documents, BCTF activities, crisis alerts and upcoming events regarding bushmeat. Finally, the Bushmeat Listserv provides a means of communication for our network of global experts on the bushmeat crisis.

Database Analysis and Interpretation

To achieve its goals of collaboration and information sharing to identify and support solutions to the bushmeat crisis, the BCTF is in the process of developing a "bushmeat hotspots map" that visually identifies hotspots for bushmeat hunting and markets. This tool for conveying the crisis to key decision-makers, funders and media will also assist experts in identifying the gaps in action on the crisis. The Bushmeat Hotspots Map will combine all existing BCTF databases, including our research archive, projects database and action plan with geo-specific data on protected areas, human population density and logging concessions.

Raising Public Awareness

Since January 2000, BCTF has raised public, governmental and private sector awareness of the bushmeat crisis through high-profile events and media publications. In 2000, we hosted a Capitol Hill Event, which featured Dr. Jane Goodall as a keynote speaker. In 2001, we ended our Collaborative Action Planning Meeting with an address by Stefanie Powers at the National Press Club in Washington, DC. Media attention from the Associated Press, Reuters, National Geographic, Newsweek, US News & World Report, Forbes and the BBC, among others, has raised the public awareness of this critical issue and brought further attention to the solutions now being implemented.

Key Decision Makers and Policy Development

BCTF works with key decision makers to identify and implement appropriate policies regarding bushmeat. With several Supporting Members, BCTF drafted an IUCN resolution that was passed and now receives priority attention by the IUCN Central African Program Office. BCTF has also provided key information to various US government offices that has led to the passage of the Great Ape Conservation Act (which provides \$1 million annually towards great ape conservation). Other key US Government Departments with which BCTF collaborates include the US Fish and Wildlife Service, the Department of State, US Agency for International Development, and the US Forest Service.

Capacity Building and Education

BCTF is working with a number of organizations to provide support for capacity building and education regarding the bushmeat issue in Africa and the USA. Through a grant provided by the MacArthur Foundation, BCTF is supporting the CITES Bushmeat Working Group by

facilitating communication and providing mechanisms for monitoring the illegal, unsustainable bushmeat trade. With Africa's three regional wildlife colleges, BCTF is coordinating efforts to develop bushmeat training curricula at each college. In the USA, BCTF is working with a volunteer team of zoo educators to develop a *Bushmeat Resource Guide* that will provide graphics, programs, training and evaluations to zoo educators, volunteers and their visitors on this critical issue. BCTF will also work with them to link their efforts to ongoing work on the ground in Africa. In addition, BCTF is working with members of its network to support community-based bushmeat education in Africa. Further information about ongoing bushmeat projects can be found on the BCTF website: www.bushmeat.org.

BCTF is currently in the process of developing The Bushmeat Promise, a tool for encouraging individuals around the world – whether they be private citizens, government officials or industry CEOs – to take personal responsibility regarding the bushmeat trade. Individuals would commit to a variety of actions and report them back to BCTF when those actions have been fulfilled. Actions may include: making a commitment NOT to engage in hunting, trading or consuming illegal bushmeat, educating themselves and others regarding the bushmeat crisis, supporting appropriate policies and legislation and donating time or money to support field projects on bushmeat. We anticipate that The Bushmeat Promise will become an integral part of the BCTF in the years to come, and hope that it will assist individuals around the world in identifying what they can do to address the bushmeat crisis.

Future Directions

In 2002, BCTF focused its energies on the areas of international policy development, education in Africa and the USA and media/public outreach. In 2003, BCTF will focus more of its time on the following efforts: protected areas, development of protein and income alternatives, and linkages to the private sector. We would like to invite you to further collaborate with BCTF in sharing information and activities. Our collective efforts can make a difference in this wildlife and human crisis throughout Africa and around the globe.

BCTF would not have been able to achieve its activities if it were not for the support of its members. BCTF currently has 30 Supporting Members and 2 Contributing Members. We are grateful for each of their commitments and action regarding the bushmeat issue. In addition, we are very grateful to our Steering Committee, who provides us with the expertise and connections that we need to get the work of wildlife conservation done.

The Philadelphia Zoo's One With Nature Program And Bushmeat Initiative in Liberia, West Africa
Reg Hoyt, Philadelphia Zoo

The Philadelphia Zoo, like all American Zoo and Aquarium Association (AZA) institutions, has a four-part mission that includes recreation, education, science and conservation. While the Zoo's animal collections have been a core element of its conservation efforts since the founding of AZA programs, like the Species Survival Plan, *in situ* conservation did not become a major priority until the founding of the Zoo's *One With Nature* conservation program in 1992.

During its first ten years, the *One With Nature* program has supported conservation action in more than 25 countries around the world. Today, the Zoo is engaged in more than 30 projects in 19 countries globally. One of the Zoo's largest and oldest initiatives is its "Adopt Sapo" program in Liberia, West Africa.

One might question, "Why Liberia"? Liberia is recognized as a global priority as it retains some of the largest intact blocks of Upper Guinea tropical lowland forests in all of West Africa. These forests are essential to the survival of several species of conservation concern, including the forest elephant, pygmy hippopotamus, Diana monkey, chimpanzee, and a number of other primate species, as well as a host of duiker species that include the Jentink's and zebra duikers. While retaining nearly 43% of its forest cover, Liberia has only one fully protected area, Sapo National Park.

In 1992, the Zoo initiated its "Adopt Sapo" program in an effort to support Sapo National Park and its conservation programs. However, at the time, a bloody civil war had already been raging in Liberia for more than 2 years. While the staff of Sapo National Park had fled, as had much of the civil population in the area, the Zoo recognized the need to maintain Liberia's capacity to engage in conservation activities whenever the conflict came to an end. With this mind, the Zoo provided financial and capacity building support for trained conservation professionals both within the Government's Forestry Development Authority (FDA) and the Society for the Conservation of Nature of Liberia (SCNL), Liberia's only environmental non-governmental organization (NGO) at the time, until the end of the war in 1996.

In 1997, months after the cessation of hostilities, the Zoo funded and participated in a conservation assessment of Sapo National Park and its partner organizations within Liberia. Unlike many parts of Africa, where wildlife has been decimated by war, Liberia's wildlife seemed to have actually benefited from the conflict, as it had resulted in a great reduction in the bushmeat trade due to the fleeing populace and the heated battles that took place adjacent to the Park. While the wildlife in southeastern Liberia had seemingly flourished during the civil war, the civilian population had suffered greatly. Throughout 1998, the Zoo chose to focus on capacity building activities for both our official partners at the FDA and SCNL, but also conducted an aid campaign to assist the civilian population around Sapo National Park. Pre-war, nearly 30 villages had been an integral element in the success of Sapo National Park, and we wished to recognize their role in local conservation and reward them for participation in earlier conservation efforts.

By 1999, conservation activities in Liberia were beginning to normalize, and the Zoo was invited to participate in a survey of the Cestos River watershed. Funded by the United Kingdom's Wild Invest, the survey was to focus on the distribution and status of the pygmy hippopotamus. However, my role was to conduct camera trap and small mammal surveys as well. During our work along the Cestos River, we found a situation resembling Kent Redford's "empty forest" syndrome. While the survey was being conducted in what appeared to be high quality habitat, we found few signs of antelope. Primates were present, but remained shy. Oddly, both the pygmy hippopotamus and forest buffalo appeared to have healthy populations. It was not until we interviewed local hunters did the situation make sense to us.

Local hunters complained that employees from a local logging camp were hunting in the area at commercial levels. Each night we heard gunshots, and the local hunters reported that the outsiders were setting as many as 300 cable snares per night. More traps than they could possibly inspect on a regular basis, many animals were left to rot in the snares. This explained the lack of antelope sign, but didn't explain our observations on primates, pygmy hippopotamus, and forest buffalo. However, hunters explained that both pygmy hippos and forest buffalo were dangerous game, and few were qualified to hunt them. Further, with antelope relatively abundant, easier to shoot than primates, and with shot so expensive (up to \$2/shot), it did not make economic sense to hunt primates. While much of the meat certainly was used to feed the families of loggers, it was also clear that large amounts of meat was being dried and transported to the capitol city, Monrovia.

To better understand the distribution and relative status of large mammal species of conservation concern, a hunter survey was conducted in 2000. This survey underscored the value of indigenous knowledge, and served as the starting point for the Philadelphia Zoo's bushmeat initiatives that were to follow.

The 2000 survey demonstrated the importance of hunting to the rural communities near Sapo National Park. Having been absorbed into a cash economy, villagers must acquire currency to purchase goods and services. With few sources of employment, many villages depend on bushmeat marketing for their cash, as well as their protein needs. However, there have been no studies as to the impact of the bushmeat trade upon Liberia's wildlife populations.

In 2000, in an effort to improve the communications to and from local villages, Sapo National Park, the FDA and SCNL, a Community Relations Officer (CRO) program was initiated in Sinoe County. The CRO's role is to act as a liaison between NGOs, governmental agencies, and the communities to improve information dispersal and communications. The CRO conducts formal and informal environmental education in the communities adjacent to the Park, and provides support to the villages as feasible. In addition, the CRO collects detailed hunting data from three villages.

With nearly a year's worth of data having been analyzed, it is clear that antelope represent the vast majority of the catch (73%), while primates represent less than 2% of the total harvest. We also found that villagers tended to be part-time hunters, and used relatively few snares (approximately 25-35). This contrasts greatly with what was seen on the Cestos River, where loggers were setting as many as 300 snares per night.

To better understand the bushmeat trade on a national level, the Zoo embarked on a two-part study in 2002. The first component was to be an Urban Public Opinion & Bushmeat Survey,

funded by a Conservation Endowment Fund grant from the AZA. Conducted in eight communities throughout Liberia in January of 2002, this survey utilized 20 Liberian university students to conduct nearly 2,400 surveys. While data analysis continues, the survey has produced some interesting results. Clearly the lack of protein and/or employment alternatives have a tremendous impact upon the bushmeat trade, and the trade routes for bushmeat in Liberia seem to generally lead to Monrovia, along an ever expanding network of logging roads as well as traditional routes. In addition, there seems to be a substantial amount of meat being traded across national boundaries. This survey utilized an informal "Liberia's Protected Wildlife" poster as a public awareness tool, and was followed up by a formal pilot public awareness campaign. In December of 2002, a follow-up survey will be conducted in Monrovia to measure the impact of the awareness campaign and the media used to evaluate how best to promote awareness in Liberia.

In 2003, a Rural Public Opinion and Bushmeat Survey will be conducted in five target regions of Liberia, and National Public Awareness Campaign will be initiated with funding from the Critical Ecosystem Partnership Fund of Conservation International. Data from the rural survey will be compared and contrasted with Urban Public Opinion and Bushmeat Survey data to better understand the bushmeat trade in Liberia. In addition, it is hoped that a "Liberia Bushmeat Working Group" will be formed in Liberia to address the bushmeat crisis. It could serve as a partnership between governmental and non-governmental organizations within Liberia, and seek to develop a common strategy for approaching this threat to Liberia's biodiversity.

Is there a solution to the bushmeat crisis in Liberia? While the answer to this question is yet to be identified, it is clear that a solution will only come from empowerment and trust. Individuals, communities, and agencies must be empowered to address the crisis in appropriate manners. Further, they must work together with mutual trust, knowing that their ultimate goal is for a solution that is in the best interest of Liberia and its biodiversity.

I would like to thank our friends and partners at the Society for the Conservation of Natural of Liberia, the Forestry Development Authority, the University of Liberia and Cuttington University College for making this work possible. I would also like to thank the people of Liberia who have participated in our studies. They are truly the future of Liberia.

The Bushmeat Crisis Task Force and Educational Activities
Natalie Bailey, Program Coordinator, BCTF, USA

In the time since the Bushmeat Crisis Task Force (BCTF) became operational in January 2000, the BCTF has received a great deal of requests from colleagues around the world regarding bushmeat information and bringing this issue to the public in the US and in Africa. In addition, we have received numerous requests to assist with capacity building in Africa. With the guidance of bushmeat experts and educators at the BCTF Collaborative Action Planning Meeting in May 2001, we have developed a set of priority actions to address the bushmeat crisis in Africa, including these educational initiatives as one of our top long-term priorities.

Capacity building in Africa

BCTF is working with Africa's regional wildlife colleges (L'École pour la Formation des Spécialistes de la Faune de Garoua [EFG], Cameroon; College of African Wildlife Management [CAWM], Mweka, Tanzania; and Southern African Wildlife College [SAWC], South Africa) to build a bushmeat curriculum at each college. For more than 30 years, CAWM and EFG and more recently SAWC have collectively educated 3000 African wildlife managers. The colleges focus on formal training for mid-career wildlife professionals, and many of their former students have become leaders of the protected area authorities and wildlife services, non-governmental organizations (NGOs), community organizations, tourism sector, hunting safari operators as well as researchers, academics, and trainers throughout Africa.

By providing opportunities for formal bushmeat training, BCTF hopes to build the capacity of African wildlife and protected area managers, law enforcement officers, local communities and educators to respond to the region-specific needs regarding the bushmeat trade. During 2002, BCTF has worked with the colleges to hold workshops with regional bushmeat experts and educators to review the state of the bushmeat trade in each region and to develop a template for the development of bushmeat curriculum. Support for these workshops was provided by the U.S. Agency for International Development and facilitated by the African Wildlife Foundation (AWF), and further support for the EFG workshop was provided by World Wildlife Fund-US's R.E. Train Education for Nature program. More than 100 Africans engaged in the bushmeat issue have contributed their expertise to this process and we are deeply grateful for their involvement in this process.

Public Awareness in Africa

BCTF is working with members of its network to support community-based bushmeat education in Africa. BCTF supports the CITES Bushmeat Working Group (BWG) through a John D. and Catherine T. MacArthur Foundation grant to raise awareness about the bushmeat crisis and what communities can do to implement solutions to the crisis. The CITES BWG is currently reviewing the terms of reference for a public awareness consultant who will assist in the development of bushmeat public awareness campaigns. The Pan African Sanctuary Alliance (PASA), an umbrella group of 17 African primate sanctuaries that care for the orphans of the bushmeat trade, is working with BCTF to develop and support educational materials regarding bushmeat. In addition, BCTF networks with the Pan African Association of Zoological Parks, Aquariums and Botanical Gardens (PAAZAB) in their public outreach and education efforts. The Conservation Education Committee (CEC) of the American Zoo and Aquarium Association (AZA) has expressed interest in linking their educational efforts in

the US to on-the-ground educational efforts in Africa. Further information regarding our partners' educational efforts in Africa can be found on the BCTF website: www.bushmeat.org.

Public Awareness in the USA

To respond to the tremendous interest of the US zoo community in the African bushmeat crisis, BCTF approached the CEC to request a collaboration to develop bushmeat educational materials for BCTF and AZA members. Approximately 30 educators from almost 25 AZA member institutions have worked together to develop the Bushmeat Resource Guide. The teams conducted surveys of AZA institutions' interest and needs regarding internal training, public outreach and action on the bushmeat crisis. The materials include sample signage (graphics and text), programs, activities, training materials and evaluation tools that will enable zoos and BCTF members to customize them for their respective visitors and audience. In addition, BCTF has worked to lay the groundwork for further linkages between AZA members and conservation on the ground in Africa.

The primary message points in the Bushmeat Resource Guide are:

- **Bushmeat is the most significant, immediate threat to wildlife populations in Africa today**
- Many animals are affected (elephants, apes, other primates, large and small antelopes, rodents)
- It is a pan-African problem (West, Central, East & South)
- It is a global problem (North & South America, Africa, Southeast Asia)
- Bushmeat is a Band-Aid for larger problems of poverty, food security and economic development
- Extractive industries can choose to help solve the problems of the bushmeat crisis
- The BCTF, its members and colleagues are working to identify and implement solutions to the bushmeat crisis
- You can help (learning more, support projects such as sanctuaries, tell private industry and government that you want them to support protected areas in Africa)

The Bushmeat Resource Guide will be in final development in the coming months and should be available in early 2003.

The Bushmeat Promise

BCTF is currently in the process of developing The Bushmeat Promise, a tool for encouraging individuals around the world – whether they be private citizens, government officials or industry CEOs – to take personal responsibility regarding the bushmeat trade. Individuals would commit to a variety of actions and report them back to BCTF when those actions have been fulfilled. Actions may include: committing to sustainable consumption (whether in Africa or the US), educating themselves and others regarding the bushmeat crisis, supporting appropriate policies and legislation and donating time or money to support field projects on bushmeat. We anticipate that The Bushmeat Promise will become an integral part of the BCTF in the years to come, and hope that it will assist our Supporting Members in identifying what the public can do to address the bushmeat crisis.

BCTF would not have been able to achieve its activities if it were not for the support of its members. BCTF currently has 30 Supporting Members and 2 Contributing Members. 24 of our members are AZA institutions. We are grateful for each of their commitments and action regarding the bushmeat issue. In addition, we are very grateful to our Steering Committee, who provides us with the expertise and connections that we need to get the work of wildlife conservation done. Finally, we would like to thank the Southern African Wildlife College, the Directors of SAWC, Mweka and Garoua and everyone who attended the workshop for their valuable contributions.



A SUMMARY OF THE MWEKA BUSHMEAT TRAINING DEVELOPMENT WORKSHOP
Dr Will Banham, College of African Wildlife Management

INTRODUCTION

The illegal commercial bushmeat trade is one of the most significant conservation issues facing the African continent today. An important long-term solution to the bushmeat crisis in Africa is the development of integrated training programmes for African professionals on applied conservation that addresses the issues that result in the unsustainable illegal commercial trade of bushmeat.

The development of formal curricula on bushmeat through a participatory and collaborative process will provide wildlife professionals with the skills and knowledge to address this issue directly in the field and assure that it becomes a priority item for developing wildlife management programmes. The development of such formal curricula could play a key role in identifying long-term solutions to this crisis.

To this end, the Bushmeat Crisis Task Force has accomplished the initial planning phases for a collaborative effort on developing bushmeat curricula within Africa's three regional wildlife colleges. A meeting was held in Washington, DC from 17-21 May 2001 that included over 150 bushmeat experts and interested professionals from more than 20 countries. BCTF provided support for participation in the meeting from Mweka College, Garoua College, and SAWC. A special meeting was organized in collaboration with the Africa Biodiversity Collaborative Group on 16 May 2001 where the three college representatives provided presentations regarding their overall education programmes. This meeting was followed by their participation in the BCTF meeting, including a half-day workshop on the development of bushmeat education materials in Africa. The results of that meeting called for a stepwise approach to engage key decision-makers (KDMs) in the bushmeat issue and develop curricula for the regional colleges. Without the establishment of formal education and training opportunities for wildlife management professionals, it is less likely that the positive effects of any of the other proposed short-term solutions to the bushmeat crisis will be sustainably implemented.

This report covers one of the regional curriculum-development workshops, held at the College of African Wildlife Management, Mweka, Tanzania in May 2002.

ii) MWEKA WORKSHOP

The Workshop was attended by 39 participants, consisting of representatives from six eastern African countries (Burundi, Kenya, Rwanda, Tanzania, Uganda and Zambia), as well as Cameroon, South Africa and the USA. Representatives from Malawi were invited but, unfortunately, were unable to attend.

Participants were selected based on their interest in and expertise on the issues surrounding training related to the utilisation of bushmeat within the eastern Africa region. Therefore, participants represented a combination of national and regional wildlife authorities, NGOs

and training institutions, as well as individuals with specifically relevant field experience and knowledge.

The overall Workshop objective was to develop a framework for training on the sustainable utilisation of bushmeat within the eastern Africa region. The Workshop combined three methods in order to achieve this overall objective. These methods were:

- Individual presentations
- Working group discussions using the Nominal Group Process
- Plenary discussions to reach consensus

Following the individual presentations, the Workshop participants moved into three Working Groups. The participants were pre-assigned to Working Groups based on their geographic origin, type of organisation and individual areas of expertise.

The Working Groups were given a number of objectives to address before the Plenary Sessions convened to receive feedback from the Working Groups and attempt to reach an overall consensus. These objectives were:

OBJECTIVE 1: Working Groups suggest the key bushmeat issues, the training needs associated with these issues and the target trainees.

OBJECTIVE 2: Working Groups define training needs in terms of specific competencies and core values (KSAs).

OBJECTIVE 3: Working Groups propose a syllabus to cover the agreed competencies and core values.

OBJECTIVE 4: Working Groups propose the methods of learning/teaching, specific exercises or case studies, and a timetable for the course/s.

Due to time restrictions, Objective 4 was only partly addressed by one of the Working Groups.

iii) TARGET TRAINEES

The output from the Workshop consisted of outline syllabi for three short courses targeted at three different groups of trainees. These three groups were:

A: Resource Managers

This group of trainees consists of resource managers from wildlife, forestry and fisheries sectors, protected area wardens, district/regional game officers and managers of community-based or NGO or private sector protected areas or reserves.

B: Law Enforcement Officers

This group of trainees consists of customs officers, police officers, anti-poaching officers, licensing officers, government veterinary officers, wildlife/forestry/fisheries law enforcement officers, military personnel (where the military have a civil law enforcement role).

C: Community, Private Sector and NGO Representatives

This group of trainees consists of appointed, elected or traditional community leaders, chairpersons of local natural resource committees, NGO leaders and private sector leaders.

iv) OUTLINE SYLLABI

The details of the training needs, competencies, core values and detailed syllabi for each group are included in the main body of the report, however the outline syllabi for each course is presented below:

A: Community, Private Sector and NGO Representatives

1. Introduction to Bushmeat

- 1.1 Definitions*
- 1.2 Legal and illegal aspects*
- 1.3 Environmental impacts*
- 1.4 Community socio-economic factors*
- 1.5 Private sector economic factors*
- 1.6 Species used for bushmeat (case studies of what is used regionally, past and present)*

2. Introduction to the principles of conservation

- 2.1 Community values*
- 2.2 National values*
- 2.3 International values*
- 2.4 Fundamentals of conservation biology (four evils, over harvesting, habitat loss, SLOSS, genetics-inbreeding effects, population crash)*

3. Introduction to relevant legislation and the implications for local communities

- 3.1 International and regional treaties pertaining to wildlife in East Africa*
- 3.2 National laws related to wildlife and wildlife use*
- 3.3 Local bylaws related to wildlife*
- 3.4 Traditional/customary laws related to wildlife (case reports from students)*

4. Introduction to environmental economics

- 4.1 Open access resource exploitation characteristics, demand/supply curves*
- 4.2 History*
- 4.3 Application of principles of EE*
- 4.4 Identification of tools*
- 4.5 Identification of tools used and available in EE (benefit-cost analysis, EIA)*
- 4.6 Basic background on how they are used*

5. Introduction to skills used for effective communication

- 5.1 Written*
 - 5.1.1 Report writing – Mweka, text books*
 - 5.1.2 Letter writing – Mweka, text books*
 - 5.1.3 Proposal writing – Mweka, text books*
 - 5.1.4 Brochure/flyer design – NGOs, private sector*

- 5.2 *Oral*
 - 5.2.1 *Presentation skills*
 - 5.2.1.1 *Public speaking – Toast masters*
 - 5.2.1.2 *Gestures – Text books*
 - 5.2.2 *Use of traditional story telling methods*
 - 5.2.2.1 *Plays – musicians, artist, drama group*
 - 5.2.2.2 *Songs – musicians, artists*
 - 5.2.3 *Negotiation skills – UN Dept, UNHCR, text books*
- 5.3 *Basic networking skills – business school, text books*

6. Introduction to gender related issues

- 6.1 *Background*
 - 6.1.1 *Defining gender*
 - 6.1.2 *Historical overview (class assignment – personal experiences from their communities)*
 - 6.1.3 *Defining gender issues (environmental/natural resource decision making)*
- 6.2 *Core issues*
 - 6.2.1 *Identifying gender related issues/disparities within communities*
 - 6.2.2 *How to mitigate these issues within communities*

7. Introduction to law enforcement policies and measures at national and local levels

- 7.1 *Knowledge of all laws/acts/bylaws relevant to wildlife and the trade of wildlife*
- 7.2 *Knowledge of penalties for illegal trade*
- 7.3 *Knowledge of positive legal options – Kenya coffee case*
- 7.4 *Obligations of the government to return revenue back to the communities*
- 7.5 *Background to the relevant institutions that work in this field and their duties/purpose/responsibilities*

8. Fundamentals of bushmeat

- 8.1 *Hunting/harvesting techniques*
 - 8.1.1 *Identification of techniques that are not sustainable or morally/ethically acceptable (case studies from local communities)*
- 8.2 *Zoonotic diseases related to bushmeat*
 - 8.2.1 *Impact of diseases to livestock/humans*
- 8.3 *Hygienic methods for handling / butchering / consuming / transportation / preservation of bushmeat*
- 8.4 *Techniques used for meat species identification*

9. Sustainable use of wildlife

- 9.1 *Holistic approach to conservation and use*
- 9.2 *Hunting/harvesting techniques*
- 9.3 *Quota setting*
- 9.4 *Research, monitoring skills/techniques (census, population counts, biodiversity assessment, interdependence of species, principles of biodiversity)*
- 9.5 *Record keeping skills*

10. Introduction to self-regulation within communities

- 10.1 *How to deal with individuals who carry out illegal activities (case study of traditional communities)*

10.2 Quota setting procedures

11. Introduction to needs assessment format/skills

11.1 Procedures on carrying out needs assessment

11.1.1 PRA

11.1.2 RRA

11.1.3 Other tools used

12. Introduction to programme/project management

12.1 Fundamentals of project management

12.1.1 Log frame analysis

12.1.2 SWOT

12.2 Basics in human resources management

12.3 Basics in budgeting/accounting/book-keeping skills

13. Introduction to business principles

13.1 Appropriate tools that can be used by local communities

13.2 Basics in business plan development

13.2.1 Rationale (assignment of developing a business plan using EE principles)

14. Introduction to participatory business optional plan

14.1 Fundamentals of PBOP (assignment to develop a plan for their community)

15. Alternatives to bushmeat

15.1 Economic

15.1.1 Identification of other suitable sustainable alternative economic activities for local people in the region

15.2 Meat

15.2.1 Basic nutritional requirements for humans

15.2.2 Rationale for other sources of proteins (cultural bias)

15.2.3 Identification of suitable regional alternatives (case studies option)

16. Training of trainers

B: Resource Managers

1. Bushmeat industry

1.1 Introduction to the bushmeat concept

1.1.1 Definition

1.1.2 History

1.1.3 Roles and impacts

1.2 Bushmeat stakeholders

2. Bushmeat products

2.1 Introduction

2.2 Public health issues

2.3 Meat preservation

2.4 Meat identification

3. Wildlife management

- 3.1 *Introduction to wildlife management*
- 3.2 *Wildlife monitoring and research*
 - 3.2.1 *Data collection and analysis*
- 3.3 *Environmental economics*
 - 3.3.1 *Introduction*
 - 3.3.2 *Analytical skills*
 - 3.3.2.1 *Environmental analysis*
 - 3.3.2.2 *Cost-benefit analysis*

4. Principles of sustainable utilisation

- 4.1 *Introduction*
- 4.2 *Wildlife utilisation (stakeholders)*
- 4.3 *Alternatives to bushmeat*
- 4.4 *Community development skills*
- 4.5 *Setting of quotas*

5. Policies and legislation

- 5.1 *Introduction*
- 5.2 *International and local policies and legislation*
- 5.3 *Law enforcement*
 - 5.3.1 *Anti-poaching*
 - 5.3.1.1 *National*
 - 5.3.1.2 *International*
 - 5.3.1.3 *Transboundary*

6. Human resources skills

- 6.1 *Introduction*
- 6.2 *Conflict resolution*
- 6.3 *Public relations*
- 6.4 *Negotiation skills*
- 6.5 *Group dynamics*
- 6.6 *Communication skills*
- 6.7 *Training of trainers*

C: Law Enforcement Officers

1. Introduction to bushmeat issues

- 1.1 *Definition/concepts (what is bushmeat)*
- 1.2 *Historical aspect of bushmeat conservation values (direct and indirect)*
- 1.3 *The impact of bushmeat on conservation (wildlife conservation, natural resources, cultural and economic)*
- 1.4 *The role of key stakeholders (NGO's, local communities, public & private sector)*

2. Law enforcement

- 2.1 *Introduction to relevant laws, policies, regulations, guidelines and treaties relevant to bush meat*
- 2.2 *Procedures for law enforcement (arresting, investigation/intelligence, prosecution, evidence handling, preparation of charge sheets)*

- 2.3 *Planning and budgeting approaches (preparation of work plans, preparation of budgets, preparation of reports)*
- 2.4 *Law enforcement stakeholder analysis (institutional framework, national and international)*
- 2.5 *Meat identification (identifying species, methods of identification, advantages and disadvantages of each method of identification, and outsourcing procedures)*

3. Research and monitoring

- 3.1 *Methods of information gathering (indigenous knowledge, health and veterinary issues)*
- 3.2 *Importance of indigenous knowledge in research and monitoring*
- 3.3 *Different sources of information*
- 3.4 *Introduction to research and monitoring methodology (PRA etc.)*
- 3.5 *Application of research findings*

4. Education and awareness

- 4.1 *Training (identification of training needs, trainees, basic training methodology, evaluation and feedback techniques)*
- 4.2 *Communication skills (target groups, media, interpersonal, role play, communication tools/production of the same/outourcing)*
- 4.3 *Extension skills*
- 4.4 *Alternative source of income/protein (identification of alternatives, applicability, incentives, networking, case studies)*
- 4.5 *Sustainable harvesting of bushmeat (criteria for sustainability, quota setting and adherence, harvesting methods, advantages and disadvantages)*
- 4.6 *Other forms of utilisation (domestic and commercial, other products of wildlife and uses)*
- 4.7 *Processing methods*

5. Social, cultural and economics

- 5.1 *Economic benefits (multiple values of wildlife e.g. eco-tourism, cultural values, medicinal values)*
- 5.2 *Human wildlife interaction costs (disease transmission, crop raiding, human injuries, land use conflict)*
- 5.3 *Factors influencing bushmeat use (motivations)*
- 5.4 *Trends in bushmeat consumption*

6. Utilisation

Following the Workshop, the tasks listed below remain to be addressed, in order to achieve the overall objective of conducting training courses to support a sustainable utilisation of bushmeat within the eastern Africa region.

- Consolidating the framework into three detailed course outlines, following the established Mweka format.
- The development of training materials (training manuals) for each of the three courses.
- The integration of the bushmeat curricula and training materials into the existing Mweka long courses curriculum (as opposed to the proposed short courses).

- Marketing and delivery of the three short courses, followed by training evaluation with revision of the curricula or training materials as necessary.
- Ongoing support through the established network of bushmeat training specialists.

College of African Wildlife Management
Deo-Grassias Gamassa, Principal, CAWM, Tanzania

The College's Vision

This vision of the College of African Wildlife Management is to be a centre of excellence in providing professional and technical training and research and consultancy services to meet the challenges of African countries managing wildlife and conserving biodiversity to sustainably derive maximum benefits from conservation.

The College's History and Geography

- Founded in 1963
- Initial intake of 25 students from 5 countries
- Located on slopes of Mt Kilimanjaro
- Easily accessible by road and air
- Close to world famous protected areas (Serengeti, Kilimanjaro, Ngorongoro, Lake Manyara, Arusha Tarangire, Mkomazi)

The College's Achievements

- Sasakawa Global Award for Conservation 1986
- EAC and SADC recognition
- Training of over 2,500 wildlife managers from 26 African and 16 non-African countries
- Provision of consultancy services to Wildlife Divisions, Conservation Agencies and UNDP
- Four decades as the field leader
- Modern dynamic training institution focused on the needs of contemporary wildlife management

Mandates

- Provide technical and professional **training** in African Wildlife Conservation and Management
- Provide **research** and **consultancy** services in applied wildlife conservation and management.

The Course Programmes

Long Courses

- Special Course (1 year)
- Certificate course (1 year)
- Diploma course (2 years)
- Advanced Diploma course (3 years)
- Postgraduate Diploma course (1 year)

Short Course

- Modular courses (2-4 weeks)

- Short courses (2-12 weeks)
- Commissioned courses (2-4 weeks)
- Outreach courses (2-4 weeks)

Course fee structure

Long courses fees person/year

- Tanzanian Students US\$ 3,125
- Non Tanzanian students US\$ 6,000

Short course fees person/week

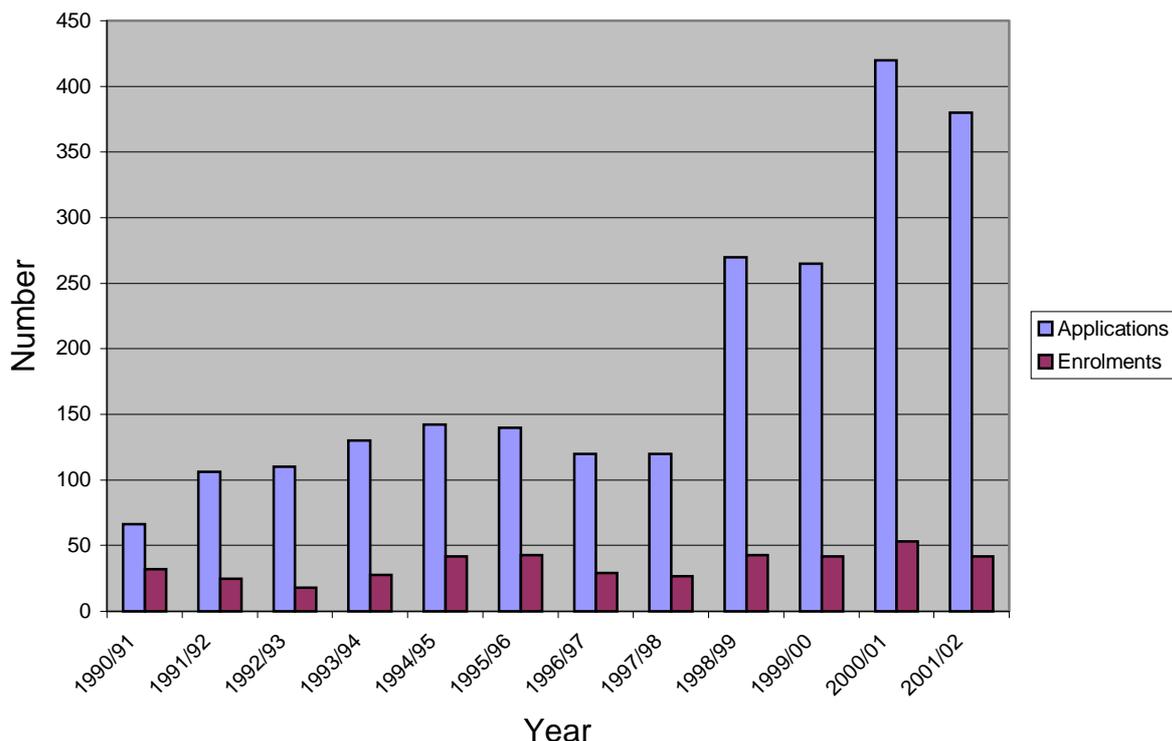
- Modular courses US\$ 250
- Short courses US\$ 450
- Commissioned courses US\$ 450
- Outreach US\$ 250

Training Demand

- Applications for key most popular courses increased more than five fold over ten years.
 - Certificate from 66 applications in 1990/1991, to 420 in 2000/2001
 - Diploma from 50 applications in 1990/1991, to 280 in 2000/2001
- Most popular long courses more than eight times over subscribed in 2001/2002.
 - Certificate 42 admissions out of 380 applications.
 - Diploma 36 admissions out of 295 applications.

Training Demand – A Clear Trend

Applications and Enrolments for Certificate 1990-2001



Challenges

- Declining scholarship funding
- Lack of financial sustainability
- Rapid changes in wildlife management practices in Africa
 - Devolution of wildlife management to local authorities, communities, private sector, NGOs, CBOs
 - Benefits beyond boundaries
 - Biodiversity conservation and sustainable development
 - Politics of wildlife conservation and management

Managing Challenges

- Build financial viability to sustain quality training
 - Business plan (2000-2004)
 - Fund raising
 - Block modular training
- Institutional strengthening programme
 - Expansion and upgrading of training infrastructure and facilities
 - Provision of demand driven training
 - Development of short course unit
 - Revision of College fees
 - Improved remuneration
 - Organisation right-sizing
 - Capacity building



SOUTHERN AFRICAN WILDLIFE COLLEGE **TRAINING PROGRAMS – Kathleen Hay - SAWC**

Types of Training Programs

The College offers the following Training Programs:

- **Long Courses**: Which include both Certificate and Diploma Courses.
- **Short Courses**: Are targeted at a specific Audience within the broader framework of Environmental Management.
- **Custom Made Courses**: Are available on demand. The courses are designed to suite specialised needs and specific Target Audiences.
- **University Tours**: The College hosts popular overseas University Tour Groups, and are usually from the Natural Sciences Faculty.

The Long Courses Training Programme

The Southern African Wildlife College can accommodate a total of 50 students, 25 in each course. The duration of the courses held here are 9 months in total running from January through until October. The training offered here focuses on Protected Area and Natural Resource Managers throughout Africa who are already in the service of conservation and Environmental Agencies.

Certificate Course in Natural Resource Management

Objective

To equip learners with the necessary knowledge & practical field management skills to effectively implement the management activities within their protected areas.

Certificate Course Module Outline

- *Philosophy & Ethics*
- *Ecosystem Integrity & Law Enforcement*
- *Soil & Climate*
- *Vegetation & Animal Management*
- *Veld burning*
- *Catchment Management*
- *E.I.A's*
- *Community Development & Conservation*
- *Infrastructure Management*
- *Management of Cultural Sites*
- *Personnel & Office Management*
- *Tourism Management*

Diploma Course in Natural Resource Management

Objective

To equip learners with the knowledge & skills to effectively manage a protected area & it's activities according to an integrated management approach.

Diploma Course Module Outline

- *Communication & Research methodology*
- *Landscape Management*
- *Project Management*
- *Human Resource Management*
- *Natural Resource Management*
- *Environmental Development Plans*
- *Management of Aquatic systems*
- *Community Development & Conservation*
- *Resource Economics*
- *Environmental Education*
- *Natural Resource Protection*

Equipping Students with skills to manage the Bushmeat Crisis

Animal Management

- *Animal Identification*
- *Habits, Habitat & Ecology*
- *Animal Behaviour*
- *Capture & Monitoring techniques*
- *Sustainable Management of populations*

Ecosystem Integrity

- *Monitoring*
- *Patrols & Field Observation*
- *Weapon Handling*
- *Design & Implementation of Security Plans*

Protected Area Management Planning

- *Identification & Understanding of all management components within a protected area*
- *Design & Implementation of Management Plan*
- *Plan & Prioritize work activities within a Protected Area*

Community Development & Conservation

- *Understanding issues facing Protected Areas & Local Communities*
- *Identifying appropriate co-operation strategies (extension, collaborative management & CBNRM)*
- *Conflict Resolution*

Landscape Management

- *Biodiversity*
- *Inter-dependence of components within Natural Systems*
- *Biosphere reserves & Transboundary Parks*
- *Wildlife Population threats – Extinctions,*
- *Loss of Diversity*



**PARTICIPATORY WILDLIFE QUOTA SETTING:
A TOOL IN PROMOTING THE SUSTAINABLE
HARVESTING OF WILDLIFE RESOURCES IN
CBNRM SYSTEMS: LESSONS AND
EXPERIENCIES FROM CAMPFIRE**
Norman Rigava, WWF - SARPO

Introduction

This paper briefly describes a technique of harvesting wildlife resources developed by WWF – SARPO¹ called participatory wildlife quota setting. The technique, although it can be adapted to other wildlife harvesting situations, has mainly been applied in multistakeholder resource management initiatives such as CBNRM, and particularly in CAMPFIRE. Since 1996, participatory wildlife quota setting has been used by rural communities involved in community based wildlife

utilization projects in Zimbabwe to set sustainable wildlife quotas. The paper also highlights some of the main lessons learnt in using the participatory wildlife quota setting method. It concludes by looking at the importance of such techniques in local level resource management.

Community Based Natural Resources Management (CBNRM)

Community Based Natural Resources Management (CBNRM) is a resource management and development strategy that provides "the legal, institutional and economic framework for stakeholders to become co-managers² of their resources" (Rihoy et al, 1999: 9). CBNRM advocates for decentralisation and devolution of management authority over common-pool resources. It aims at enhancing the conservation of natural resources outside traditionally protected areas to support rural development using direct, tangible benefits (derived from wildlife) to people involved in the management of the wildlife and other natural resources.

CBNRM is an evolving concept and it integrates multiple disciplines and involves multiple stakeholders. Its implementation is usually fraught with conflict and its dynamic nature necessitates that it best be implemented using adaptive management principles.

Within the southern African region, Zimbabwe's communal areas management programme for indigenous resources (CAMPFIRE) (Martin, 1986), is a well-known CBNRM initiative.

CAMPFIRE

CAMPFIRE has provided rural communities with some degree of ownership and control over wildlife resources occurring in their areas. CAMPFIRE has also provided a framework

¹ The participatory wildlife quota setting was developed by WWF-SARPO working in collaboration with the Zimbabwe Trust and the Department of National Parks and Wildlife Management, Zimbabwe.

² Borrini-Feyerabend, Favara, Nguingiri and Ndangang (2000: 1), defines collaborative management as "a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources".

enabling these rural communities to directly benefit from the management and wise use of the wildlife resources.

The CAMPFIRE principle or policy underscores the need for local (district and sub-district) proprietorship (ownership and control) of wildlife resources as a process towards empowering³ local communities. Knowledge and skills for resource management as part of capacity building is one component which greatly contributes to empowering local communities to manage and make informed decisions pertaining to resource monitoring and management (Rigava and Dimbi, 1999).

Participatory Wildlife Quota Setting

The process for determining wildlife quotas in CAMPFIRE takes account of the “fugitive nature of wildlife and the multiple stakeholders involved in its management” (Taylor, 2001). This process is based on adaptive management. The technique employs both scientific and indigenous technical knowledge about wildlife and its behavior.

The development of the method evolved through an iterative process (called participatory technology development - PTD) (Sutherland, Martin and Salmon, 1998) which brought together technical wildlife specialists and resident experts of local communities to develop a simple, socially applicable, and technically robust participatory methodology for setting wildlife quotas.

Developing the quota

In determining the wildlife off-take quotas, this participatory wildlife quota setting process uses independent assessments to provide population trends for each major wildlife species. The independent assessments that are collated, shared and analyzed in a facilitated workshop include; aerial survey data, trophy quality measurements, offtake rates, quota utilization, the incidence of poaching, problem animals, hunting effort, local community perceptions and participatory ground counting results. These independent assessments provide a set of indices for each wildlife species that are brought together through a triangulation⁴ process and combined in a matrix used to adapt the previous season's quota. On the matrix, the available wildlife population trend data for each wildlife species is graphically represented as shown in table 1 below.

³ Empowerment is "about handing down authority. It is about increasing the efficiency, enhancing the effectiveness and ensuring the sustainability of development by passing responsibility to those people, communities and enterprises to whom efficiency, effectiveness and sustainability matter" (Wakely, 1996).

⁴ Triangulation means crosschecking information on the same subject generated through different methods and techniques. Triangulation is based on adaptive management. The underlying philosophy of triangulation as a validation strategy is that of increasing the validity and credibility of findings based on multiple data sources and methods than relying on a single data source or method. Participatory wildlife quota setting tries to establish the "true" quota by assessing the coherence of both quantitative and qualitative information from the key stakeholders.

Table 1: A section of the participatory triangulation matrix summarizing the key indicators for individual species in relation the current and proposed quota

SPECIES	CURRENT QUOTA	GROUND COUNTS TRENDS	AERIAL SURVEY TRENDS	TROPHY QUALITY TRENDS	SAFARI OPERATOR	COMMUNITY INFORMATION	PROPOSED QUOTA FOR NEXT YEAR
Elephant (m)	7	↔	↔	↔	↓	↑	7
Buffalo (m)	20	↔	↔↓	↑	↔	↑	20
Lion	3	✘	✘	✘	↔	↔	3
Leopard	4	✘	✘	↔↓	↔	↔	3

KEY TO TABLE		
↑ = low increase in population	↔ = stable population	↓ = low decrease
↑↑ = medium increase in population	↔↑ = stable but increasing	↓↓ = medium decrease
↑↑↑ = high increase in population	↔↓ = stable but decreasing	↓↓↓ = large decrease
✘ = Information not available/ irrelevant		

When the quota developed through this process is utilised, the biological information collected from the hunted species is integrated with information from previous hunts; and analysed and used in subsequent quota setting exercises.

Lessons learnt (development and use of participatory wildlife quota setting)

Participatory wildlife quota setting has helped in increasing the participation of rural/communal people in wildlife management activities. Participation of the local people helps in building popular support and instilling a sense of ownership for the wildlife resource. It also provides the incentive for local communities to invest in other resource management activities linked to quota setting such as counting wildlife (Bond, 1999) and law enforcement.

Participatory wildlife quota setting also serves as a conflict resolution mechanism in that it is a negotiated consensus involving trade-offs between stakeholders thereby promoting co-management of wildlife (Rigava, 2001). The participatory nature of the methodology also enriches the management process by drawing on the awareness, knowledge and skills of all stakeholders and especially the rural people who for many years have been really marginalised in this process. Through the exchange of knowledge and skills, participatory wildlife quota also provides an opportunity for training and skill development among the various stakeholders.

Illicit trade and use of wild meat in CBNRM projects in Zimbabwe

The extent and scale of the illicit trade and use of wild meat in CBNRM projects in Zimbabwe is not well documented and as such it is not well understood. Field observations in

most CBNRM projects in Zimbabwe nevertheless suggest that due to increased ownership and control, the illicit trade and use of wild meat (bushmeat) has generally declined in communal areas. While this reduction cannot be attributed solely to participatory wildlife quota setting, the role played by this process cannot be under-estimated. Experience has also shown that illegal harvesting and use of wild meat as both a source of food and income increases in times of drought and economic hardships.

Conclusion

Participatory wildlife quota setting has played an important role in building the wildlife management capacities of rural people involved in CAMPFIRE as well as in raising the interests of these rural residents in sustainable wildlife utilisation issues. Experience has shown that if rural people have knowledge and skills and can actively participate in resource management then they can have greater control over the resources in their areas. Effective ownership of wildlife (by communal land residents) and appropriate incentives for wildlife management leading to community development play a vital role in raising the local community interests in the sustainable management of wildlife resources in communal areas (Barnett, 2000).

Literature cited

1. Barnett, R. (Ed.) (2000). *The Utilization of Wild Meat in Eastern and Southern Africa, TRAFFIC Eastern/Southern Africa, Nairobi, Kenya.*
2. Barton, T., Borrini-Feyerabend, G., de Sherbinin, A. and Warren, P. (1997). *Our People Our Resources, IUCN, Gland Switzerland.*
3. Bond, I. (1999). Participatory Quota Setting in CAMPFIRE: A critical factor in promoting institutional change. *CAMPFIRE News, 21: 7*
4. Borrini-Feyerabend, G., Farvar, M. T., Nguingiri, J.C. and Ndangang, V. A (2000), *Co-Management of Natural Resources: Organising, Negotiating and Learning-by-Doing*, GTZ and IUCN, Kasperek Verlag, heidelberg, Germany
5. Rigava N. (2001). *Participatory Wildlife Quota Setting Process: Linking Biodiversity Conservation, Sustainable Use and Equity Issues*, in. *Assessment, Conservation, and Sustainable Use of Forest Biodiversity, CBD Technical Series No. 3: (39): pp. 114-115*, .Montreal, Canada: Secretariat of the Convention on Biological Diversity.
6. Rigava, N. and Dimbi, L. (1999). Participatory Wildlife Quota Setting: A CAMPFIRE Case Study in Schei, P. J., Sandlund O. T and Strand, R. (Eds.). *Proceedings of the Norway/UN Conference on the Ecosystem Approach For Sustainable Use of Biological Diversity*, Trondheim, 6-10 September 1999, Directorate for Nature Research, Trondheim, Norway Management and Norwegian Institute for Nature
7. Sutherland, A., Martin, A. and Salmon, J. (1998). *“Recent Experiences with participatory Technology Development in Africa: Practitioners Review”*, Natural Resource Perspectives 25, ODI, London.

8. Taylor R. D. and Bond I. (2000). *Participatory Technology Development for Community Based Wildlife Management in Zimbabwe, the WWF Support To CAMPFIRE Project* – in Watson A., Aplet E. and Greg (2000). *Personal, Societal, and Ecological Values of Wilderness Congress Proceedings on Research , Management, and Allocation, Vol. II, Proc. RMS-p-000. UT: U.S.*
9. Taylor R. D. (2001). *Participatory Natural Resource Management: Implications for Conservation* in Hulme D. and Murphree M. (Eds). *African Wildlife and Livelihoods, The Promise and Performance of Community Conservation.* Oxford, James Currey
10. Wakely, P. (1996). *Capacity Building for Better Cities.* DPUNews No. 34, Development Planning Unity, University College of London

BUSHMEAT CRISIS - AFRICA WORKING GROUP UNDER THE AUSPICES of PAAZAB - Dave Morgan

BACKGROUND

This working group was called into life at the PAAZAB annual conference in Plettenberg Bay in June 2001, subsequent to a workshop held by Mike Hutchins of the BCTF. It became clear that an African working group was needed to drive the African regional association's initiative with regard to the bushmeat crisis. It has since been decided to rename the Working Group "**Bushmeat Crisis - Africa**" in order to give it an identity distinct from the BCTF and the EAZA Bushmeat Crisis working group. Although it will seek the closest possible liaison with all action groups and role players, it will remain under the auspices of the African regional Zoo Association.

The initial core working group comprised **Dave Morgan** (formerly Montecasino Bird Gardens, presently Cheetah Conservation Foundation), **Tony Blignaut** (Monkeyland), **Willie Maritz** (East London Aquarium) and **Karl Westphal** (Mitchell Park Zoo) as Chairman. Subsequently Willie Maritz withdrew from the working group, and now acts as liaison for the "Fishmeat" action. Furthermore, **Judy Mann-Lang** (Sea World - Durban) was asked to consult in terms of the educational aspect, and **Yolan Friedmann** (CBSG - South Africa) as representative for both the Conservation Breeding Specialist Group (CBSG) and Endangered Wildlife Trust (EWT).

Enquiries within South Africa have shown that, even the media, who are usually well informed, are still relatively ignorant with regard to this particular problem, and in general even the issue of the extent of current and future species extinctions and environmental pressures. It therefore becomes obvious that the general public would be even less well informed.

At a meeting of the working group in Durban on the 13th of May 2002, the above was discussed and the conclusion drawn that the most immediate need was the initiation of a "**groundswell of awareness**". This was to be achieved by means of a **poster campaign**. Two posters were decided upon: one was to be targeted at the more developed regions (mainly Southern Africa), and was to be a graphic depiction of the problem to generate an awareness and interest in the developing crisis. The Second was to be targeted at the populace of the Crisis range states. As it was accepted that a certain amount of bushmeat utilisation was necessary for the survival of the poorer populace of these regions, the poster was to depict critically threatened species which should not be utilised (e.g. chimps, gorillas etc.), and those which could sustain some utilisation. This poster was to be published in English and French, and distributed as widely as possible within the Crisis range states. After further consideration, it was decided to put a hold on this poster in favour of higher priority projects.

Further initiatives include the development of a **contact network** within Africa, both of influential persons (political, corporate and social leaders and opinion makers) which can be lobbied and informed of the developing crisis, and secondly a network of field workers active in Africa who can supply the working group with real-time information and assessments. In addition, the **patronage** of a prominent African personage is to be sought to lend credence to the work on the Bushmeat Crisis with the African populace (Nelson Mandela, Valli Moosa and Mark Shuttleworth were suggested as possible patrons to be approached).

Due to the upcoming PAAZAB annual conference and AGM, it was decided to present these proposed initiatives to the PAAZAB Council for approval, and then sponsorship for these actions were to be sought.

PAAZAB AGM 2002:

During the 2002 PAAZAB Conference, there were extensive discussions with **Edem Eniang** of the Biodiversity Preservation Group in Nigeria. He is one of the first two recipients of the PAAZAB Conservation award, conferred on him for his work on researching and combatting Bushmeat abuse in the Cross River National Park in Nigeria. It emerged that he has been employing ex bushmeat hunters as assistants and porters, as well as utilising them for anti-poaching patrols. This is currently largely funded by himself, necessitating his doing additional work for research institutions to subsidise his own work. He has also been using his personal vehicle for transport, which has now (largely due to its unsuitability to the terrain) reached the end of its lifespan.

It was therefore decided to initiate a **pilot project** to firstly support Edem and his existing infrastructure with basic operating equipment for his “rangers”, and, depending on his further success and provisional to regular reports, to later establish a permanent base of operations. A further initiative suggested by him is to set up the logistics (trucks and drivers) to truck in domestic meat from areas where it is produced and is relatively cheap, to areas where there is currently no alternative to bushmeat, such as in reserve areas.

Lee Stewart of Munda Wanga Environmental Park in Zambia was also approached to act as field agent in Zambia and surrounding countries to identify problem areas and possible future projects in which BCA could get involved.

Although no patronage has yet been secured, this matter is being pursued with the help of Thembi Mogoai of the Johannesburg Zoo.

Further initiatives - The production of a **Bushmeat educational workbook** to be made available to institutions with existing educational programmes, which can easily be appended to their existing resource material. Also, in lieu of petitions, members were asked to **lobby VIP contact** in their areas in order to further raise awareness. Initial discussions are also underway for the production of a **TV documentary** for screening on South African television and at conferences.

At the PAAZAB Conference a **donation** of R 20 000 was made by the Cheetah Conservation Foundation, which will be used for the partial funding of the above initiatives. **Further funding** is to be sought from both African corporate sponsors, as well as international donors.

Karl Westphal
Chairman - Bushmeat Crisis Africa

NAMIBIAN WILDLIFE RESORTS - Dr. Victoria Nicodemus

Dr. Nicodemus presented brief background information to Namibia and explained the relationship of the Namibian Wildlife Resorts to the Namibian wildlife management institution. It was recognized that while she was not sufficiently informed to contribute to the workshop, the potential impact of the bushmeat crisis on the National Parks within which the resorts are located meant that it would be appropriate for her to take the matter up with colleagues upon her return. In the mean time she would ensure that participates as constructively as possible in the workshop while collecting as much information as possible.

SPORT HUNTING - Felismina Langamane – Mozambique

INTRODUCTION

This document is a contribution to the Southern Africa Bushmeat Conference, and presents a short summary of National Conservation Areas System, policy and legislation on Sport hunting in Mozambique.

Mozambique re-started sport hunting activities in 1993, after 16 years of the civil war which started shortly after the independence.



Hunting started in 1993 with a few companies and currently there are more than 10 companies operating in Hunting Areas (Coutadas) and some in Game Farms.

The Ministry of Agriculture and Rural Development through National Directorate for forestry and wildlife (DNFFB) is responsible for management of wildlife in multiple use areas where according to the law hunting is allowed but restricted to Mozambican citizens. In these areas investors can develop game farming.

On the other hand, the Ministry of Tourism through the National Directorate for Conservation Areas (DNAC) is responsible for management of Protected Areas, namely National Parks, National Reserves and Coutadas.

1.1. Policies and Legislation

The Policy on Forest and Wildlife (DNFFB, 1996) acknowledges the importance of Mozambique's natural resources stating the objectives as "*the protection, conservation, development and the rational use of forest and fauna resources for economic, social and ecological benefits of the present and future generations of Mozambicans*".

A new Forest and Wildlife Legislation (Law 10/99) was approved by parliament on 7 July 1999. According the Article 10/99, of this legislation, sport hunting can be done by nationals or foreigners, in controlled hunting areas (Coutadas) and in game farms. National individuals can undertake the sport hunting in the multiple use areas, under the regulatory terms (Article 22)

1.2. Hunting Areas in Mozambique

The National Conservation System in Mozambique comprises National Parks, Game Reserves and controlled hunting areas (Coutadas).

There are 13 Coutadas covering about 5.1 millions hectares. The Table below gives a complete list of hunting areas in Mozambique, their sizes and location. All Coutadas are managed under contract between government and private operators. Private operators who get concessions for a limited period of time after having qualified in bidding process conduct the hunting in Coutadas.

There is also small scale hunting activities in the buffer zone of the Niassa Game Reserve as well as in some game farms. These areas are not officially included, as hunting areas but the management plan has recommended that operators be authorised by the Government to carry out Hunting Safaris due the availability of game.

Table 1: Complete list of Hunting areas, location, area and the currently situation

Coutadas' number	Situation	Province	Area (Km ²)
4	No hunting activities	Manica	3.227
5	No hunting activities	Manica/Sofala	6.868
6	No hunting activities	Sofala	4.563
7	No hunting activities	Manica	5.408
9		Manica	4.333
10	Hunting activities since 1997	Sofala	2.008
11	Hunting activities since 1993.	Sofala	1.928
12	Hunting activities since 1997	Sofala	2.963
13		Manica	5.683
14	Hunting activities since 1995	Sofala	1.353
15		Sofala	2.300

1. MONITORING AND ADMINISTRATION

The Monitoring and Administration have been done at the central level, where licences are issued. The Licence system is one of the most important methods used to control the annual quotas. Each licence issued indicates the species to be hunted and specify the area where hunting takes place.

Due the lack of information on the status and/or conditions of wildlife throughout Mozambique, the quota setting is based on the following:

1. Information provided by field rangers;
2. Information from SPFFB (annual reports);
3. Reports provided by operators of sport hunting safaris;
4. Quota consumption of previous years; and
5. Quota proposal by operators and SPFFB;

Special attention is given to species protected by national and international legislation (e.g. CITES).

2. QUOTA CONSUMPTION

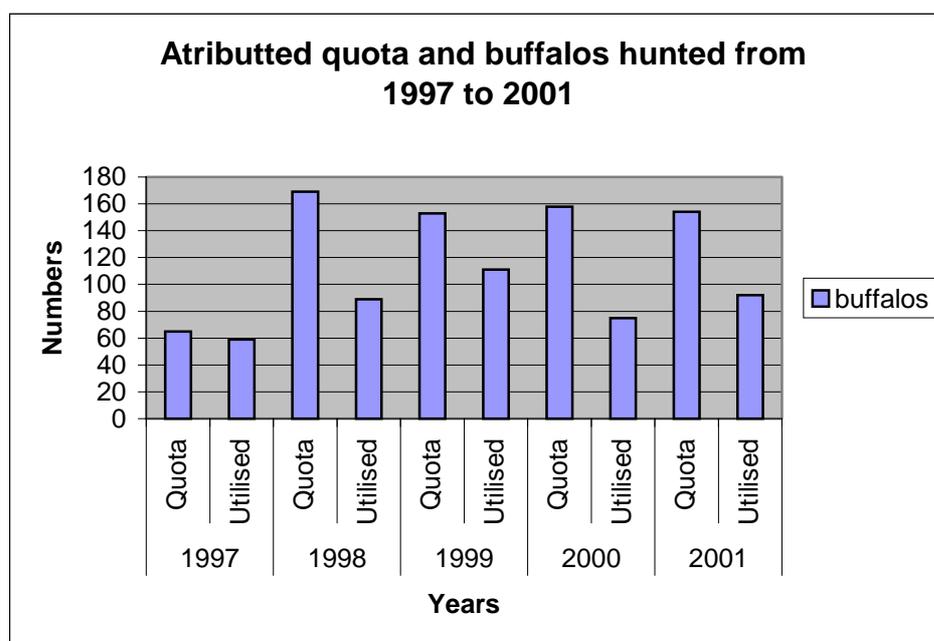
Table 1: Quotas for the last 11 years - 1991 to 2001

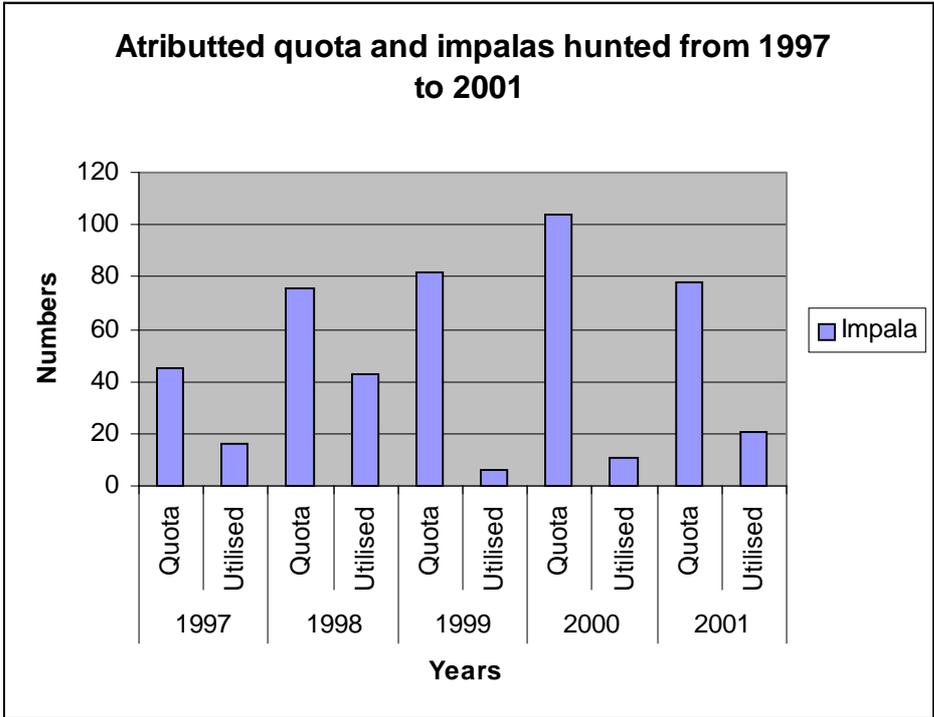
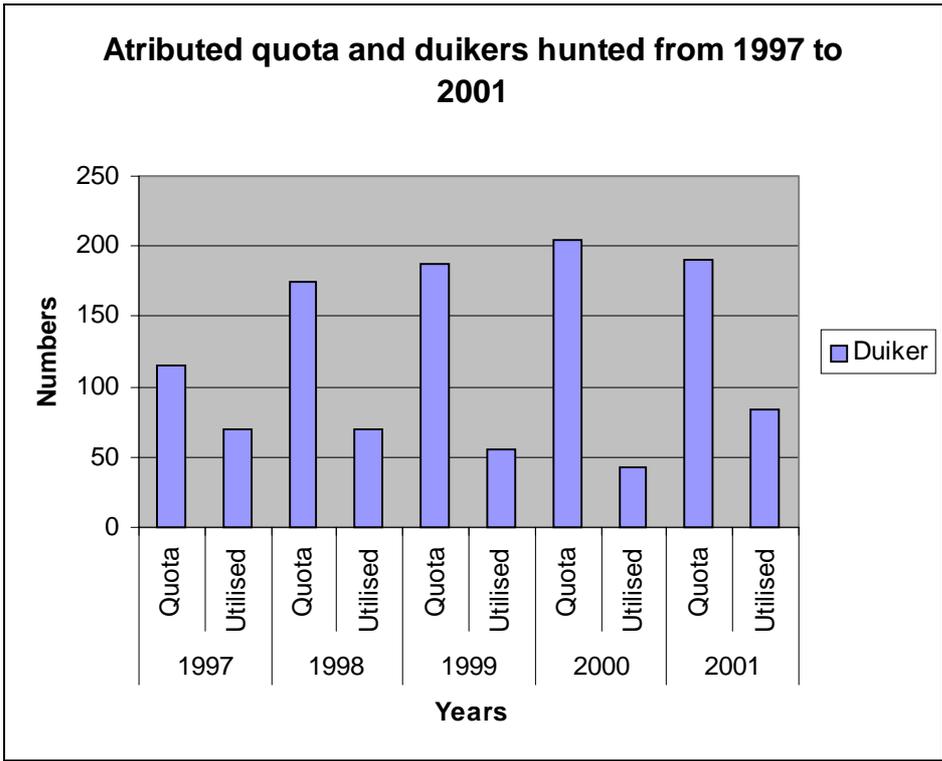
Animal/year	91	92	93	94	95	96	97	98	99	2000	01
Buffalo	265	275	230	311	105	198	65	169	153	158	154
Duiker	259	259	131	420	105	182	115	175	188	205	191
Reedbuck	64	64	42	155	45	123	46	90	69	98	96
Wildebeest	10	10	5	10	2	17	2	4	4	9	7
Crocodile	-	-	-	-	-	78	21	51	49	80	71
Kudu	90	70	46	128	23	53	25	23	39	50	40
Eland	7	7	6	21	6	23	3	9	7	18	20
Elephant	-	-	-	-	-	-	-	-	-	2	4
Warthog	153	153	53	215	68	122	52	92	103	154	154
Francolin	-	-	-	-	-	65	32	114	119	213	193
G. Fowl	-	-	-	-	-	89	50	140	185	282	307
Hartebeest	24	24	13	19	3	30	10	10	8	14	14
Hippo	58	58	41	38	16	40	8	15	16	20	19
Bushbuck	54	54	38	96	45	98	45	74	75	115	104
Impala	320	320	115	260	75	155	45	76	82	104	78
Waterbuck	130	130	70	156	37	67	21	41	38	48	40
Nyala	55	55	30	40	12	26	27	19	23	23	16
Lion	47	47	26	80	22	38	18	27	26	34	30
Leopard	37	37	20	55	32	59	22	39	37	46	44
Yellow baboon	180	160	100	165	57	139	68	134	101	124	155
Sable	53	53	40	83	20	40	15	25	32	47	49
Bush pig	48	48	30	190	62	138	48	95	86	135	124
Zebra	43	43	34	42	10	10	5	12	9	21	22

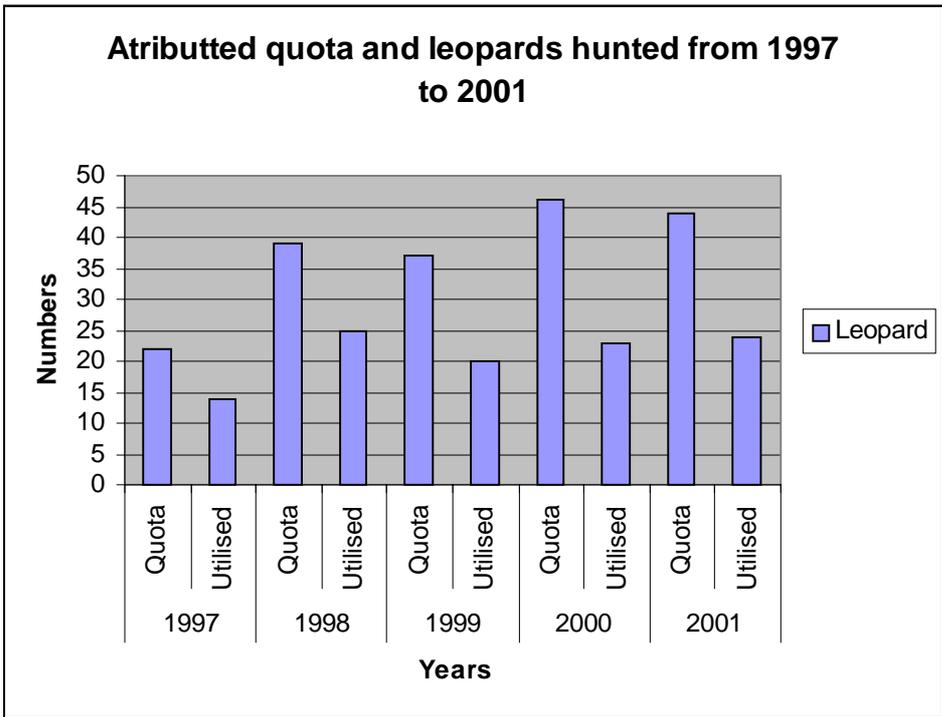
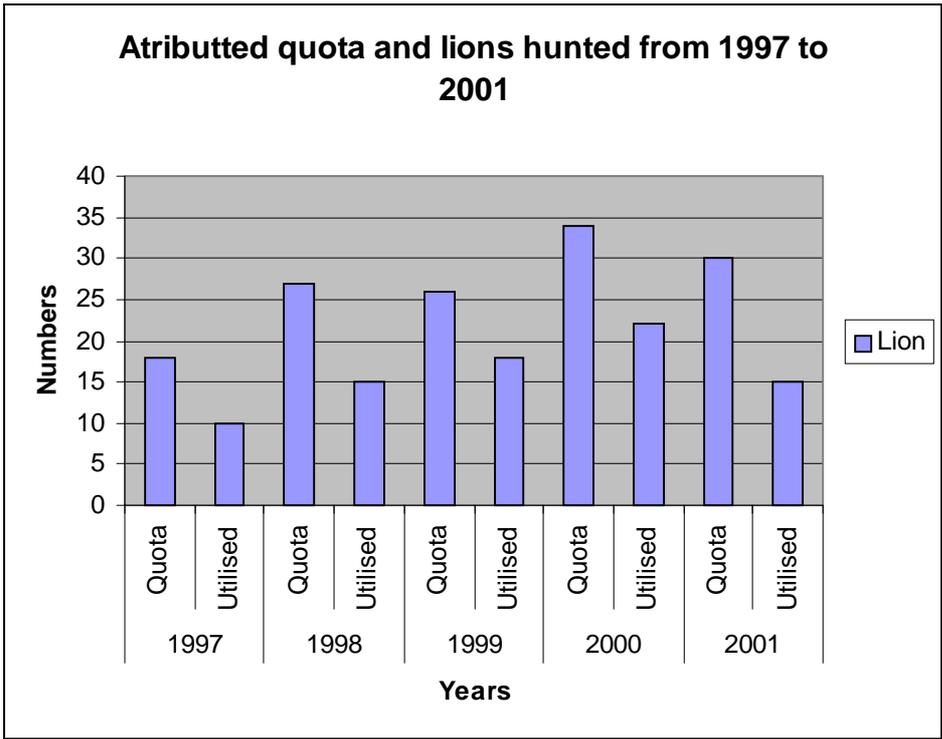
Quota utilization for the last five years (1997 to 2001) is shown in the table and figures shown below. Buffalo is the species most hunted during the period under review.

Table 2: Quota utilisation; 1997-2001

Animal/year	97	98	99	2000	01
Buffalo	59	89	111	75	92
Duiker	69	70	56	43	84
Reedbuck	8	26	6	19	46
Wildebeest	10	4	4	3	7
Crocodile	5	22	19	16	27
Kudu	10	23	18	8	23
Eland	12	1	4	5	8
Elephant	0	0	0	2	2
Warthog	21	37	34	23	63
Hartebeest	3	4	3	7	8
Hippo	2	6	6	10	10
Bushbuck	18	24	26	22	49
Impala	16	43	6	11	21
Waterbuck	8	22	14	6	27
Nyala	5	16	8	6	12
Lion	10	15	18	22	15
Leopard	14	25	20	23	224
Yellow baboon	6	20	5	5	14
Sable	17	21	15	21	33
Bush pig	5	19	17	22	40
Zebra	7	6	4	2	7







3. PROBLEMS/ CONSTRAINS

- Lack of information on status of wildlife
- People living inside Coutadas, uncontrolled hunting and habitat destruction
- Low animals fees
- Poaching
- Lack of monitoring of trophies quality

SUSTAINABLE BUSHMEAT PRODUCTION IN CAMPFIRE AREAS: THE CASE OF NYAMINYAMI DISTRICT IN ZIMBABWE

Charles Jonga, Program Manager – CAMPFIRE, Zimbabwe

INTRODUCTION

The main objective of the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) is to contribute towards rural development through the practice and promotion of natural resources utilisation, including wildlife as an economic and sustainable land-use option, for people living in rural areas. Approximately US\$2million is generated annually with sport hunting currently constituting 90% of the revenue from CAMPFIRE activities in about 15 out of 50 member districts. Nyaminyami is one of the major wildlife and pioneering districts in CAMPFIRE. It is located in the north-western part of Zimbabwe in a semi-arid environment with seasonal rainfall averaging less than 500mm. Subsistence agriculture is therefore severely constrained and cattle production is limited. As early as 1989 the Nyaminyami Wildlife Management Trust was established as an arm of the Council to administer and manage wildlife resources for the benefit of the people of Nyaminyami. One of the major management activities of the Trust was sustainable impala cropping with support from CIRAD/EMVT to provide meat to the people of the district at a controlled and subsidised price, and to generate employment and develop skills and knowledge. The cropping programme now commonly known as the “Nyama Project” or meat project has since expanded to include large mammals such as elephant, hippo and buffalo. More than ten years of implementing the project confirms the demand for game meat as an alternative and relatively cheaper source of protein when compared to beef but brings to question the issue of management and sustainable off takes to meet growing local, national and international demand.

OVERVIEW OF THE NYAMA PROJECT

Legislative Framework

Hunting in Zimbabwe is regulated by the provisions of the Parks and Wildlife Act [*Chapter 20: 14*] of 1975 as amended. Section 59 of the Act provides conditions upon which hunting and subsequent sale of animals and animal products should be undertaken i.e. through the issuance of a permit to an Appropriate Authority (AA). In terms of the same Act AA is granted by proclamation to any owner of alienated and unalienated land. All hunting is controlled through hunting quotas approved and issued annually by the Parks and Wildlife Authority.

A Review of the Cropping Programme

The Nyama project has been implemented from 1989 with local communities benefiting from meat cropped from an annual quota of 1,500, being 10% of an estimated initial population of 15,513. During this first four years hired commercial operators and the Rural District Council met all the capital costs from hunting to distribution of the meat. All meat was sold on cost recovery basis but below its market value. By 1995 the Rural District Council had assumed overall management of the project resulting in increased cost of the meat and subsequent introduction of large species such as elephant, buffalo and hippo, and birds in 1999. Utilisation of the impala quota has decreased with time owing among other factors to changes

from impala ecology to being gun shy as the animals are hunted at night using sport light and sometimes using guns without silencers. In 2001 the quota was reduced to 1100 and still not fully utilised. The 2002 quota is 505. Effort time has therefore increased to three nights per week, for three weeks per month for six months in a year. While proceeds from sale of impala meat have been low, more income has been realised from skins, especially of big mammals. A biltong factory is also being developed.

NYAMA PROJECT FINANCIAL STATEMENT: 1995-2001 (Z\$)

	1995/6	1996/7	1997/8	1999	2000	2001	GRAND TOTAL
INCOME	46586.16	74631.07	103193.65	68405.05	196362.36	558795.1	1047973.39
MEAT SALES	18376.25	14817.22	92554.5	200075	1946948	121000	2393770.97
HIDE SALES	101600				1322.46	165.31	103087.77
OTHER							
TOTAL INCOME	166562.41	89448.29	195748.15	268480.15	2144632.82	679960.41	3544832.13
EXPENDITURE	449430.83	98641.68	90207.48	25506.39	313985.1	488456.83	1466228.31
SURPLUS/D	-282869.1	-9193.39	111016.6	242973.66	1830647.72	191502.57	2084078.04

Source: Nyaminyami RDC.

NB: Project is subsidised by the CAMPFIRE Account in the form ammunition, fuel, vehicle maintenance, protective clothing, salaries and allowances and this expenditure is not captured.

Impact of Large Mammals and Birds Cropping

Income from impala cropping declined sharply 1996/7. The improved sales in 1999/2000 are a result of the introduction of large mammals and birds. Large mammal meat is less preferred and therefore sells cheaper than impala meat. However bulk supplies make up for the shortfall of impala meat and more revenue is realised from hides sales. However the large mammals react faster and increased hunting for cropping may ultimately adversely impact on trophy hunting, which occurs in the same district and realises higher revenues.

ISSUES TO CONSIDER IN THE DESIGN AND MANAGEMENT OF SUSTAINABLE BUSHMEAT TRADE

Socio-economic: There appears to be lack of clarity of economic objectives of cropping schemes and failure to understand the constraints of rural subsistence communities.

Financial: To what extent does the capital costs and hunting for bushmeat match the benefits? Should the costs of higher catch effort be passed onto the consumer?

Biological: Over-cropping of the reproductive segment of a species may contribute to long term decline in numbers. Quota setting should carefully address the allocation of male against female numbers for cropping.

REFERENCES

- Chardonnet P and Le Bel S.,** 1998. Feasibility Study for a Micro Project – Gonono Communal Game Ranch, CIRAD-EMVT Report No. 98-049,.
- Nyaminyami Wildlife Management Trust,** 1987. The Wildlife of Nyaminyami, Harare, Zimbabwe.
- Taylor R.D.** 1990. Socio-Economic Aspects of Meat Production from Impala Harvested in a Sustainable Zimbabwean Communal Land, WWF SARPO, MAPS Project No. 8.
- WWF SARPO,** 1996. Impala Cropping Programme 1989-96 in Omay Communal Land, Nyaminyami District, Workshop Report.
- WWF SARPO,** 2002. Impala Cropping Programme 1989-96 in Omay Communal Land, Nyaminyami District, Workshop Report.



ASSESSMENT OF LEMUR HUNTING AND VALORISATION OF POTENTIAL RESOURCE CASE OF BUSH PIGS (*Potamochoerus larvatus*)
Vonjy Andrianjakarivelo - WCS Mammals Program Officer, Madagascar

WCS Madagascar is seeking to save biodiversity and sustainably valorise natural resource through many programs. Activity regarding bushmeat at WCS Madagascar is included in the framework of our Mammals Program. WCS mammals Programs aims to manage conservation of wild forest mammals species by protecting threatened native mammal species and managing impacts of introduced species. Our specific objective regarding bushmeat crisis is to reduce poaching of lemurs.

STUDY SITES

1. ***Masoala National Park***: Masoala National Park consists of a peninsula located in north-eastern of Madagascar. It is the largest rainforest Reserve of Madagascar.
2. ***Sahamalaza Peninsula***, is located in north-western of Madagascar. Sahamalaza Peninsula is known as the only distribution site of Scalater's Black Lemur in Madagascar.



Red Ruffed Lemur, *Varecia variegata rubra* and Scalater's Black Lemur, *Eulemur macaco flavifrons*

TARGETED SPECIES

Two lemurs species are targeted at Masoala National Park: White-fronted brown lemur *Eulemur fulvus albifrons* and Red Ruffed Lemur *Varecia variegata rubra*. At Sahamalaza Peninsula, targeted species is: Scalater's Black Lemur, *Eulemur macaco flavifrons* (critically endangered)

In Madagascar Lemurs are hunted for food by local people for subsistence as a protein source. But given an increased protein need due to the rapid demographic growth, hunting is now considered as the second most important threat to Lemur populations after the loss of habitat. All Lemurs species are now protected by Malagasy law and by international treaties although they are still amongst the most exploited animal species in Madagascar. The Local Population has no alternative to satisfy their protein need. Domestic meat is more expensive and very scarce in rural area. Lemurs are easier to hunt than other game species because they live in social groups. Preference on Lemurs may

be resulted from their larger body size. In general, large body size species are most hunted than small body species. As a result, large body species are more vulnerable to hunting pressure. For instance in Masoala National Park, local population prefer the larger species such as *Eulemur fulvus albifrons* (2.3Kg) and *Varecia variegata variegata* (3.5 to 4.5Kg), rather than the smaller species such as *Microcebus* or *Allocebus* (50-80 gr) or *Cheirogaleus* (150-600gr) because larger animals provide more meat.

So far although much research has been completed on the biology and ecology of Lemurs there is little documentation relating to the extent that lemurs are hunted in Madagascar and its impact on the lemur populations. In fact little research has been carried out on this focus due to the lack of appropriate methodology to approach this problem. Most of the research to estimate the number killed for food has been based on interviews with the local people because lemur meat is not found in the markets. However local people never say that they hunt Lemurs. They are aware of the law forbidding Lemur hunting in Madagascar. For instance in Masoala National Park, periodical patrols conducted by the conservation agent detect many active lemur traps in the forest. But Lemur ecological monitoring that has been conducted in this Park since 1995 and interview undertaken with Local Population did not allow the assessment of the extent of Lemur hunting. Therefore the frequency of the trapping and the number of caught animal are not known.

Sometimes ecological monitoring does not find any significant annual variation on Lemur abundance, perhaps because monitoring sites are located far from hunting areas. Comparing lemur density between a hunting area and an area with limited or no hunting activity can demonstrate only if hunting affect significantly the abundance of Lemur population, but it doesn't shown how many Lemurs are killed every year. This lack of relevant information on Lemur hunting remains a great problem in managing and conserving Lemur populations in Madagascar's protected areas, so Managers and Partners are not convinced to take any particular conservation measure against the hunting.

While methodology for the assessment of extent of lemur hunting is now the focus of our work at WCS Madagascar, we initiated the valorization of potentially important animal as an alternative to reduce Lemurs hunting. This effort focus mainly on bush pigs for many reasons:

1. Bush pig is the largest game species in Madagascar, so they represent the most important source of meat for the rural communities. An adult bush pig weighs 50 to 70 Kg and provides 55% of meat of its body weight. It is an equivalence of 27-38 Kg of meat per adult individual.
2. Bush pigs have a relatively high reproductive potential (A reproductive female produce on average of 4 to 6 piglets per year). That makes them more potential to the hunting than other game species.
3. Bush pigs are suspected to be a pest for the ecosystem
4. They are notorious for their depredations in crops.

For instance, bush pigs are suspected to be amongst the factor contributing to the rapid decline of *Geochelone yniphora* (the world's most endangered tortoise and restricted to a small area in western Madagascar). Bush pigs are also considered to be an influential factor contributing to the decline of the regeneration of *Canarium madagascariensis*, a tree species whose fruits constitute the main food for Aye-aye and many Lemurs species.

Damage has been caused by bush pigs in the manioc crop during the year 2001, at Sahamalaza Peninsula. A study survey has been done in this peninsula and showed that because of Bush pig crop raiding:

- 106 T of manioc were damaged (20% of annual production)
- 90% of the available manioc field could not be cultivated as it is not possible to the people to build fences all around the fields in order to protected the crop against bush pigs.

As a consequence of this damage, demand for land grows. In fact, local populations clear forest areas to produce more rice by practicing slash-and-burn cultivation.

In Sahamalaza Peninsula, valorisation of bush pigs provides two benefits:

- Maintain bush pig density at a low level, allowing people to grow crops and to increase revenue
- Reduce forest cutting and increase the viability of lemur species.

Valorisation of bush pigs presents many problems according to the local context. For example, in Sahamalaza Peninsula, eating bush pigs is taboo for local people, and they have less interest to hunt them. So, for us the solution would be directed to search for interesting markets for trade.

Whereas in Masoala Peninsula where majority of local population eat bush pig meat, but hunting bush pigs is harder and more difficult than lemur poaching. So the solution will be focussed on motivating local people to hunt bush pigs and hopefully that will reduce the pressure on the lemur population.

THE “FISH MEAT” ISSUE – BUSHMEAT UNDER THE OCEANS OF THE WORLD
Willie Maritz, East London Aquarium and PAAZAB.

As the bushmeat situation in Africa is now reaching crisis proportions, there is a growing groundswell of support for awareness programmes and a drive towards sustainable use of the African wildlife resources. There is appreciation amongst all concerned of the magnitude of the problem and the very difficult task ahead.

In a very similar way the world’s oceans are under threat due to over fishing and indiscriminate poaching of marine living resources. Just about every fishery in the world is either at maximum capacity or currently operating at such a level that cannot be sustainable in the long run. 70% of the South African line fish species have been given the status of “collapsed”.



The shark fin industry is causing havoc on the high seas – sharks are being caught and the fins removed while still alive – the bodies are simply dumped – thousands of sharks are removed from the system and this in itself will have an effect on the balance in the predator/prey relationships. Add to this the illegal harvesting of Patagonian Tooth Fish, the Abalone poaching syndicates which operate on a worldwide scale and the unsustainable harvesting of inter tidal marine life, the picture becomes quite gloomy. There is certainly an international fish meat crisis.

Each and every issue relating to bushmeat also relates to fish meat – it is exactly the same problem only in a different habitat. At the moment there are many organizations working tirelessly to find answers to the crisis – at the end of the day the answers to the bushmeat crisis will also apply to the fish meat crisis.

Under the guidance of Marine and Coastal Management (MCM) in South Africa, a network of marine and coastal educators has been established – resource materials have been developed in the form of a poster series and a marine and coastal fact sheet files. The posters and the fact sheet files are made available to all marine and coastal educators to enhance the level of awareness of the marine environment and specifically the issues around overexploitation and the sustainable use of marine living resources.

Regional zoo and aquarium associations have been very active in bringing about awareness around the problems. Within the Pan African Association of Zoological Gardens, Aquaria and Botanical Gardens (PAAZAB) all the Aquaria are members of the Marine and Coastal Educators Network. (MCEN). The combined efforts of all these institutions have resulted in an increased level of awareness around the fish meat problems.

Coast care fact sheet files and posters are obtainable from MCEN members within PAAZAB or Marine and Coastal Management in Cape Town.

SPONTANEOUS PRESENTATION

Cathy Kay – Wildlife and Environmental Society of South Africa

The Wildlife and Environment Society of South Africa (Wessa) has been active for the past 76 years.

Our Vision

Is to strengthen our effectiveness as an independent, Non-Government Organisation, working to achieve a South Africa that is wisely managed by all to ensure long term Environmental sustainability.

The society has two arms: conservation and education.

In 1974 the society laid a foundation for what came to be known as the African Conservation Education Project, and which over the years evolved onto Wessa's highly acclaimed and Internationally respected environmental Education Programme in 12 SADC Countries. By 1992 more than 30.000 pupil and teachers were attending formal Environmental education courses conducting by Wessa each year.

In 2001, The Swedish Government contracted Wessa to help teach a three-week course in Sweden for senior Educationists from all over Africa and Sweden This successful course runs partly in Sweden and partly at Wessa's Umgeni Valley will be repeated on a regular basis.

Wessa has developed courses for industry in Malawi, incorporating the ISO 14001 standards in the timber and tobacco Industry. The Course is designed to develop an Ethic of Land care and protection. This Education Course serves to heighten awareness, resulting in cleaner industries, allowing for trade to the international market.

Wessa is committed to securing the protection and wise use of natural Resources and in so doing serves as an Environmental Watchdog. Thus influencing Policy and Decision-making with regard to the trade in Bushmeat in the SADC countries.

Trade Records Analysis of Fauna and Flora In Commerce (TRAFFIC) recently published a two-year study commissioned by the European Commission on the Bushmeat trade in seven countries; Botswana, Kenya, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe demonstrated a considerable and growing reliance on affordable and often illegal sources of Bushmeat protein from a variety of species ranging from Elephants to Insects.

It was found that while traditional hunter/gatherers continue to rely on Bushmeat, demand has grown among a wide range of other groups such as the Pastoralist Ngoni and Chewa people of Malawi and the Pastoralist Samburu of Kenya.

Most Pastoralists people regard their livestock herds as both cultural and Capital assets, people the region regardless of ethnicity refrain from consuming or trading their livestock when Bushmeat is available.

In all survey areas of the study, Bushmeat utilised extensively so that livestock can be preserved as a household capital and cultural asset. In Maputo over 50tons of Bushmeat per month is traded. The study found a wide variety of species are utilised regularly from insects

to rodents and birds to minimised animals, such as Duiker and Grants Gazelle's to the more renowned species such as Elephant and Cape buffalo.

Larger species such as bush pig and impala are generally preferred for their taste and due to larger quantities of meat available per animal, however larger populations of larger Bushmeat species are in decline due to over hunting, land degradation and habitat loss.

Bushmeat users have adapted by targeting smaller species, which are suited to surviving in and around modified or cultivated habitats.

There was a significant trend towards consumption of small species. Animals under 5 kilograms in weight make up 41.7% of all species currently utilised as bushmeat. Rapidly increasing human populations, acute poverty and widespread unemployment in the region has led to a growing reliance on Bushmeat.

The study showed that the shift to smaller species for Bushmeat signalled a serious decline in Wildlife, especially of the larger preferred species.

The study further indicated that rising prices for Bushmeat have led hunters and traders to target an ever-increasing variety of species. The increased demand for Bushmeat has led to abandon traditional hunting seasons in favour of continuous, year round harvesting, as a result Wildlife no longer benefits from recovery periods during closed hunting periods.

What are the solutions?

Legal production of game meat can help to address the issue but the potential is largely untapped.

All seven of the above mentioned countries produce game meat through legal ranching, farming, cropping. Licensed hunting or problem animal control initiatives yielding approximately 8,500 tons of meat annually. Legal game meat production initiatives are often limited by veterinary regulations, which favour domestic meat production and severely limit access to more lucrative markets.

The situation is made worse by the fact that game meat initiatives receive few incentives in the form of government subsidies compared to operations based on livestock. Legal game meat productions have a vast and largely untapped potential as demonstrated by Zimbabwe, which produces 2.925 tons of game meat annually.

The seven mentioned countries produce approximately 8.500 tons of game meat per year, which amounts to an estimated US\$7.7 million in meat protein. Game meat production, especially through licensed hunting and cropping schemes may also play an important social role if the game meat produced is made available to local people at prices far cheaper than domestic rate.

In South Broom on the south coast of Kwazulu Natal 800 snares have been collected in the indigenous bush surrounding the suburb. The main target is the Blue Duiker, which is on the red data list.

Although these initiatives could grow significantly to form a cornerstone of sustainable meat protein supply in the area, its success will be entirely dependant on the strength of the government and its leadership.

Maybe what society should be lobbying for is to ensure that African heads of states invest donor aid into poverty alleviation and job creation instead of weapons of destruction and self-indulgence.

Unfortunately the series of events in Zimbabwe has led to a collapse of the Game Meat industry. More than 50% of its Wildlife has been decimated with more to be lost.

The Wildlife and Environment society input into the world summit will focus at a global level, where the international community needs to put in place mechanisms to limit greed and to encourage sustainable development.

COMMUNITY BASED ORGANISATION NETWORK

Douglas Lecholo, Botswana, (BOCOBONET)

The Government of Botswana has developed policies and strategies that are geared towards sustainable livelihoods and poverty alleviation.

The communities in Botswana have grouped themselves to utilise the policies and strategies available, more especially rural marginalized and poor people. The policies that have been developed are Community Based Natural Resource Management, Financial Assistance Policy, Citizen Entrepreneurial Development Assistance and National Agricultural Master Plan and Dairy Development just to mention a few.

With the above situation in place of conducive Environment we established Community Based Organisations that will use a certain type of natural resource within their reach, such as Wildlife, tourism and veld products of high value.

As the government is the custodian of Wild life the CBNRM Policy asked for decentralisation and communities were given the rights of sustainable utilisation of Wildlife and also as a culling measure. The communities in the North West around the Delta are given quotas to hunt or sell to Safari operators. There are few CBOs in Kgalagadi and Gantsi who are given quotas and most of them consume the meat from their quotas the animals are fewer as compared to those in the North West.

It is very important for us to attend this workshop of Bushmeat, as it will enhance us to help the CBOs to add value to the meat they get from Safari Operators and the meat from the animals that were not sold, and also to help the communities to use the skins from the hunted animals for better use.

The communities in Botswana are very particular to the effect that they do not eat any meat but those who eat all the meat of Wildlife can be taught how to prepare and preserve for later use. As a training Co coordinator I find this workshop to be very valuable. We will also prepare a programme for meat preservation for all our members.

MEAT QUALITY OF DOMESTIC ANIMALS AND WILDLIFE

Prof EC Webb, Department of Animal & Wildlife Sciences, University of Pretoria

Meat is defined as all animal tissues suitable as food for human consumption (Forrest *et al.*, 1975). This includes all processed or manufactured products prepared from animal tissues. The majority of meat consumed comes from domestic and aquatic animals, but a number of less well-known species and products are continuously added to the list. Meat is subdivided into four different categories namely:

- Red meat (beef, lamb/mutton, pork, goat and a small proportion of horse and ostrich)
- Venison (including meat from game or traditionally non-domesticated animals e.g. water buffalo, rabbit, llama, camel, eland, impala, kudu, game birds etc.)
- Poultry meat (chicken, turkey and duck)
- Sea foods (e.g. various fish species, crabs, lobsters, oysters, etc.)

It is estimated that ca. 1,5 million tons of meat are produced in South Africa. The number of cattle slaughtered in South Africa fluctuates considerably. Roughly between 2 and 2,5 million cattle, 5 million sheep and goats and 2 million pigs are slaughtered annually. According to Forrest *et al.* (1975), meat consumption is often an indicator of the economic status of a country or individual. The *per capita* consumption of meat in developed or industrialised countries is much higher compared to developing countries. People with a higher social or economic status appear to demand a greater amount of high quality meat products.

It appears that South African meat producers are finding it increasingly difficult to supply the local demand for meat and honour export contracts. Negative publicity on the wholesomeness of meat e.g. fat content and coronary heart disease, mad cow disease (BSE), foot and mouth disease (FMD), African swine fever, as well as the shift towards organic farming, contributes to the decrease in popularity of many traditional meat products.

By contrast, the game industry has exhibited significant growth in recent years and it is evident that hunting and related activities now represent a major industry. There are 5061 game farms in South Africa, which comprise an area of ca. 10.3 million hectares and is increasing by 5.6% per annum (Eloff, 2002). This has resulted in more in-depth studies on the use and quality of venison as well as the elimination of unethical practices pertaining specifically to harvesting methods and factors that affect the quality and safety of the meat.

Venison is a sought after product mainly because of its favourable biochemical composition (low fat content and healthy fatty acid composition) and unique organoleptic characteristics (Van Zyl *et al.*, 1969; Von la Chevallerie, 1970; Huntley, 1971; Skinner, 1973; Kroon *et al.*, 1972; Ledger *et al.*, 1996; Hoffman, 2000). There are many similarities in meat quality and the factors that affect meat quality between venison and meat from domestic animals.

Meat is composed mainly of muscle. Other components include fat (subcutaneous, inter- and intramuscularly), nerves, vessels and bone. Meat quality is determined mainly by the chemical and physical properties of the musculature of a carcass as well as the associated connective tissues. The characteristics of muscle is determined by their functions i.e. locomotion and maintenance of posture. An important example is that muscles that contain large proportions of connective tissue in order to perform strenuous functions are often perceived to be relatively tough when consumed. It is generally accepted that the collagen content and tenderness of meat are influenced by the age of the animal, anatomical location of muscle, sex, species of animal and last but not least, cooking method. A number of

research papers were published on factors that influence the meat quality of venison e.g. species, age, gender, cropping methods, bleeding, skinning and evisceration methods, post mortem changes (necrobiosis, anaerobic glycolysis, autolysis, glycogen depletion, lactate formation and pH drop, rigor mortis), carcass quality, bruising, aging, conditioning, hanging, physical properties of meat (sarcomere length, meat texture, water holding capacity, colour of meat, meat pH), diseases, meat hygiene and zoonoses.

Meat is one of the most nutritious foods, particularly in terms of supplying high quality protein (essential amino acids), minerals and essential vitamins. Meat has unique sensory properties. This is substantiated by the fact that most attempts to prepare meat-like products without actually using products of animal origin have not been very successful. However, the potential for “added value” and “easy care” or convenience meat products is enormous. This includes the partial substitution or replacement of muscle with other protein sources.

Fat quality contributes significantly to meat quality (Webb, 1994). Species, breed (maturity type) and dietary factors (energy content of diet, processing of diet and fat pigments i.e. concentration of lutein in the feed) influence the composition and amount of carcass fat. These are factors that will become increasingly important as the focus shifts from wildlife conservation to game farming.

REFERENCES

- Eloff, T., 2002. The economic realities of the game industry in South Africa. In: Sustainable utilization- Conservation in practice. Eds. Ebedes, H., Reilly, B. Van Hooven, W. and Penzhorn, B., 78-86.
- Forrest, JC *et al*, 1975. Meat as food, In: Principles of meat science, WH Freeman and Company, New York, pp.3-7.
- Hoffman, LC, 2000. The yield and carcass chemical composition of impala (*Aepyceros melampus*), a southern African antelope species. *J. Sci. Food Agric.* 80, 752-756.
- Huntley, BJ, 1971. Carcass composition of mature male blesbok and kudu. *S. Afr. J. Anim. Sci.* 1, 125-128.
- Kroon, FE *et al.*, Van Rensburg, W.J.J. & Hofmeyr, H.S., 1972. Seisonale veranderinge in chemiese samestelling van volwasse blesbokramme (*Damaliscus dorcas phillipsi*) van die Van Riebeeck Natuureservaat. *S. Afr. Tydskr. Veek.* 2, 41-44.
- Ledger, H.P *et al.*, 1967. Wildlife and food production. *Wrl. Rev. Anim. Prod.* 3, 13-36.
- Romans, JR *et al*, 1994. The meat we eat, Thirteenth Edition, Interstate Publishers, Inc.
- Lawrie, RA, 1992. Meat Science. Elsevier Applied Science.
- Skinner, JD, 1984. Selected species of ungulates for game farming in southern Africa. *Acta Zool. Fennica* 172, 219-222.
- Steenkamp, K *et al.*, 1999. The effect of age, sex and habitat on long-chain fatty acid composition of fat depots in the African buffalo, *SA J Anim Sci.* 29: 218-220.
- Steenkamp, K *et al.*, 1999. Fatty acid composition of different fat depots in the African buffalo, *SA J Anim Sci.* 29: 223-224.
- Van Zyl, JHM. *et al.*, 1969. A note on the dressing percentage in the springbok (*Antidorcas marsupialis*, Zimmerman) and impala (*Aepyceros melampus*). *Proc. S. Afr. Soc. Anim. Prod.* 8, 199-200.
- Von la Chevallerie, M, 1970. Meat production from wild animals. *Proc. S. Afr. Soc. Anim. Prod.* 9, 73-78.
- Webb, EC. 1995. Animal fats affect meat quality, *Effective farming*, Vol.10, No. 2, pp.191-192.

- Webb, EC *et al.*, 1994. Dietary influences on subcutaneous fatty acid profiles and sensory characteristics of Dorper and SA Mutton Merino wethers, *SA J Food Sci & Nutr.*, Vol. 6, No. 2, pp. 45-50.
- Webb, EC *et al.*, 1997. Influence of dietary presentation on the composition of fatty acids and sensory characteristics of meat from wethers, *SA J Food Sci & Nutr.*, Vol. 9, No. 2, pp. 69-76.



Bushmeat Crisis Task Force Workshop Participants, representing the Southern African Region, Cameroon, Tanzania and the USA at the SAWC - South Africa, 6 – 8 August 2002

INTRODUCTION TO THE FIRST WORKING GROUP SESSION

The objective of the first working group session was to:

- List and prioritize the key bushmeat issues,
- Identify the training needs or potential modules associated with these issues, and
- Identify and prioritize the target learners.

The delegates were evenly distributed into the three working groups each with the above objective. Under the guidance of a Southern African Wildlife College staff member the groups each elected a facilitator, scribe and reporter to give feedback at the plenary session. Strict time control was applied to ensure the extensive topics were covered with all delegates having an opportunity to give input according to the Nominal Group Process. The following is a record of each group's input:

Group One - Objective One

The participants for this session were as follows:

Moemi Batshabang
Jocelyn Rakotomalala
Francisco Pariela
Kathleen Hay
Bheki Nkosi
Andrew Lumbe
Willie Maritz
Charles Jonga
Ibrahim Njoya
Reg Hoyt

The following results were generated during the process:

1. Key Bushmeat issues:

1. Poverty
2. Illegal hunting
3. Socio Economic factors
4. Greed
5. Dietary habits
6. Market demand
7. Lack of awareness
8. Unemployment
9. Law Enforcement
10. Infrastructure
11. Lack of ownership of resources
12. Weak administration
13. Lack of alternatives
14. Biological impacts
15. Leniency in judicial system
16. Poor/no fencing

17. Logging
18. Lack of equipment
19. Legislation
20. Political instability
21. Military involvement (transport/sales)
22. Illiteracy
23. Population growth
24. Habitat loss
25. Lack of knowledge (ecological)
26. Hunting technology (no control)
27. Community empowerment
28. Perceived low value of species
29. Land tenure
30. Wildlife/human conflict
31. Illegal unplanned settlements
32. International trade
33. By products
34. Distribution of meat
35. Human health risk
36. Culture
 - Medicinal
 - Diet
 - Clothing/ornaments
 - Totems

These main issues were then grouped into the following broad categories as the priority Bushmeat Issues:

1. Socio-Economic Factors
2. Biological Impacts
3. Law Enforcement
4. Public Policy & Political Will

2. Target Groups

The following groups were identified as target learners for potential Bushmeat training programs.

1. Community Leaders
2. Field Managers/Law Enforcers
3. Environmental Educators

It was decided that Field Managers & Law Enforcers be grouped as a single category as the group members felt that much of the law enforcement activities associated with be Bushmeat crisis would be part of the duties of field managers.

3. Potential Modules

The group discussed possible training modules that would equip the various target groups with the necessary skills to address the bushmeat crisis.

Although it was required to allocate appropriate modules to each target group, the group felt that each module was relevant to all three of the target groups and that they could not be separated.

Introduction to the Bushmeat Crisis
Community Development
Sustainable Resource Use
Conflict Resolution
Legislation, Treaties & Conventions
Potential alternatives
Research & Monitoring
Public Awareness
Identification of meat/animal products
“Favourite African recipes” (Uses/traditional customs)



Workshop participants listening and participating in group presentations after the first working group sessions were completed.

Group Two - Objective One

The participants for this session were as follows:

Lesley Greyling (SAWC facilitator and assisting Mr Pires as scribe)

Adam Pires (Group facilitator and scribe)

Kopano Maleli

Vonjy Adrianjakarivelo

Dr Victoria Nicodemas

Yolan Friedman

James Harding

Israel Ngarira

Deo-Gratias M Gamasa

Ettienne Hatungimana

1. Key Bushmeat issues:

1. Poverty
2. Unemployment
3. Poaching, subsistence and trophy hunting
4. Financial factors relating to poverty and unemployment
5. Lack of knowledge about alternative protein
6. Market demand – this was felt to be a wide and important dimension
7. Lack of commitment and/or knowledge with Law Enforcement Officers
8. Corruption
9. Lack of ownership of resources
10. Land use and land management issues – particularly in South Africa
11. Biological factors
12. Industrial endeavours – logging, mining, even tourism in previously pristine areas
13. Legislation
14. Conflict – political, local, regional, cultural, man-animal
15. Habitat loss
16. No specific legislation governing hunting ethics – especially trophy hunting
17. Lack of or need for Community Capacity Building
18. Wildlife/human conflict
19. International trade
20. No shared benefits of legal hunting by-products from culling and trophy hunting
21. Human health risk
22. Cultural use for products for clothing, ornaments and food
23. Medicinal use – not only in Southern Africa, but also cultural or medicinal uses of Bushmeat products overseas – i.e. Rhino Horn in Japan

2. Target Groups

The following groups were identified as target learners for potential Bushmeat training programs.

1. Community Leaders
2. Protected Area Managers (PAMs)
3. Educators

4. Law Enforcement Officers (LEOs)

There was much debate about the issue of combining Law Enforcement Officers and Protected Area Managers (PAM), with some of the group feeling they could be combined. However, after discussion the group agreed that they should remain separate because:

- a. PAMs did have a certain level law enforcement responsibility
- b. However, to properly tackle the full impact of the Bushmeat crisis, *all* those involved in law enforcement needed to be aware of the problem, from PAMs, through traffic, harbour airport, and border police, through to magistrates and prosecutors.

However, the group could not agree to leave out any of the top four Target Learner groups indicated above.

Group Three - Objective One

Group 3 consisted of the following people:

Douglas Lecholo
Eusebia Mabongani Adoro
Felisima Langamane
Theresa Sowry
Cathy Hay
Albert Machaba
Dave Morgan
Norman Rigava
Will Banham
Liyong Sama Emmanuel

1. Key Bushmeat Issues

1. Poverty / hunger / lack of economic infrastructure
2. Lack of education / awareness
3. Proximity to protected areas
4. Laziness
5. Easy money
6. Way of life / traditional utilization
7. Lack of maintenance of boundary fences
8. High number of illegal immigrants
9. Leisure pastime / competition
10. Commercialisation
11. Law enforcement / lack of resources / corruption
12. Lack of employment
13. International demand
14. Disruption of traditional value
15. Warfare
16. Displaces communities
17. No substitutes
18. No formal protection
19. Logging industry / mining / roads
20. Lack of access to public health services / medicinal purposes
21. Easy targets
22. Lack of monitoring / population data
23. Free / cheap meat
24. Use of animal skins
25. Poaching
26. Lack of sustainable resource management skills in community
27. Increasing population
28. Local ownership and control
29. Community / protected area relationships
30. Ritual performance
31. Proximity to Resource users
32. Delicacy
33. Easy transportation / trafficking
34. High demand for Bushmeat

35. Availability of modern hunting equipment
36. Problem animals
37. Cultural values towards livestock

The above list of 37 Bushmeat issues was condensed into priority issues and ranked according to the number of people within the group who thought the issues were of priority. The following list was generated.

Priority issues	Rank
1. Poverty / hunger / lack of economic infrastructure	1
2. Law enforcement / lack of resources / corruption	2
3. Lack of education / awareness	3
4. Lack of employment	4
5. Lack of sustainable resource management skills in communities	5
6. Commercialisation	6
7. Proximity to resource users	6
8. Way of life / traditional use	7
9. Local ownership and control	7
10. Poaching	7
11. Leisure / pastime / competition	7
12. Lack of monitoring / population data	7

The list of Bushmeat issues was used to identify groups of potential learners. Once again the potential learners were generated during a silent period during which each person in the group wrote down their own ideas before sharing them with the group. Every member of the group was given a chance to express their views. Group 3 identified the following target learners.

2. Target learners

1. Policy makers
2. Environmental educators
3. Magistrates and judges
4. Municipal managers
5. Protected area managers
6. Livestock herders
7. Traditional healers
8. Hunters
9. Women
10. Decision makers
11. Customs / police officers / wildlife law enforcers
12. Resource managers
13. Communities (rural)
14. Extension officers
15. Traditional / elected leaders
16. N.G.O's
17. Private sector
18. Conservation agencies
19. School teachers

20. C.B.C. officers
21. Social ecologists
22. School children
23. Urban communities
24. Primary food producers and distributors

The above list of target learners was condensed into four categories.

1. **Leaders** – policy makers; municipal managers; protected area managers; decision makers; resource managers; traditional / elected leaders; NGO's; conservation agencies.
2. **Enforcers** – Magistrates and judges; protected area managers; customs and police officers; wildlife law enforcers; resource managers; traditional / elected leaders; conservation agencies.
3. **Educators** – Environmental educators; extension officers; NGO's; private sector; school teachers; CBC officers; social ecologists.
4. **Consumers** – livestock herders; traditional healers; hunters; women; rural communities; traditional / elected leaders; private sector; urban communities; school children.

3. Training Needs

The last objective of this group session was to derive a list of associated training needs for the target learners. Group 3 was unable to complete this whole task, but the following training needs were listed for the category of leaders:

1. Ex-situ breeding
2. Impacts and modalities of human population relocation
3. Bushmeat crisis – history, causes and impacts, links to poverty
4. Sustainable utilisation management
5. Law derivation
6. Ecological theory / sustainability
7. Moral / cultural values
8. Incentive schemes
9. Auditing and accountability of donor aid
10. Anti – corruption methods
11. Law enforcement capacity building
12. Livelihood strategies
13. Leadership skills / responsibilities
14. Income generation skills
15. Conflict resolution skills
16. Indigenous knowledge / protecting community intellectual property rights
17. Conservation values
18. Census / monitoring techniques
19. Conservation education techniques

CONCLUSION TO THE FIRST WORKING GROUP SESSION

As can be seen from the above the groups came up with very similar input. Consequently there was little debate during the plenary session and consensus was reached very easily. The most important aspect that required consensus was that of the learner groupings as these would be the basis for the next two working group sessions. The priority learner groupings were identified as **community leaders, protected area managers** and **educators**. Law enforcers were also seen as an important grouping but it was felt that the overlap with this aspect of protected area managers would be sufficient to cover group.



Workshop participants discussing group activities over some refreshments.

INTRODUCTION TO THE SECOND WORKING GROUP SESSION

Each of the working groups was allocated one of the priority learner groupings with the objective of defining training needs (potential modules) in terms of specific Learning Objectives (Specific Outcomes) and core values that would need to be taught to them in order to equip them to address the bushmeat crisis within their constituency. Participants were given the opportunity to elect the learner group with which they felt their contributions would be the most appropriate. Slight moderation was required to ensure an even spread of numbers. As each group was addressing a different learner group the plenary session increased in importance as this would be the opportunity for participants to contribute to the groups they were not part of.

Group One - Objective Two

The group dealing with the training needs of the **community leaders** consisted of:

Theresa Sowry
Albert Machaba
Dave Morgan
Vonjy Andrianjakarivelo
Dr Victoria Nicodemas
Charles Jonga
Douglas Lecholo
Deo-Gratias M Gamassa



This group used the process of brainstorming and discussion of ideas to develop the following set of specific outcomes for each module. The reasoning behind the choice of the specific module for this target group of learners is outlined under each module.

Module 1: Bushmeat crisis vs. sustainable utilization

Reasoning behind this module:

Community leaders need to be educated on, and understand the differences between the crisis that is facing the illegal trade of bushmeat, and the way in which the community can use bushmeat and other natural resources in a sustainable way. A large amount of the trade in bushmeat is taking place in the communities surrounding protected areas. The educated community leader could potentially help educate his community and play an active role in minimising this trade.

Specific Outcomes:

- Understand and explain the history, impact and effect of unsustainable bushmeat activities
- Identify possible markets / outlets
- Species identification
- Basis census monitoring techniques
- Interpret and apply red list data species
- Demonstrate basic understanding of ecology
- Identify and apply sustainable utilisation practices in communal areas
- Basic knowledge of hunting, fishing and methods used

- Understand regional wildlife legislation

Module 2: Rural Community population dynamics

Reasoning behind this module:

The community leader needs to understand that the population of the community he is affiliated with has changed in size and composition. Increased cultural diversity has taken place in rural areas as a result of displaced communities. Community leaders need to understand how these different cultures will interact with each other. He also needs to be able to understand why resources in the community are not as plentiful as they used to be. The community leader is the perfect person to identify areas in the community where bushmeat trade has increased. He needs to be able to understand the mechanisms behind the increase in trade. I.e. what changes in the community could have led to the increase in trade?

Specific Outcomes:

- Understand basic demography (population size and distribution) of area
- Linking distribution of basic resources to population distribution (human)
- Understand logistics of reintegration and rehabilitation of formally displaced people (war etc).
- Impact of population movement on trade (Bushmeat).
- Understanding and identification of cultural diversity in communities
- Understand different cultural values and belief systems
- Understand basic land-use systems

Module 3: Livelihood Strategies

Reasoning behind this module:

Hopefully, the community leader engaged in solving the Bushmeat issue will be required to offer his community appropriate economic and protein alternatives to Bushmeat. He must, therefore, be able to offer his community a wide range of alternate methods of income generation. He needs to understand in depth what these different methods are, and how they can possibly work in the community.

Specific Outcomes:

- Identify and understand alternate methods of protein (chicken; soybean; etc) and income generation
- Understand basics of small business enterprise
- Apply basic land-use planning skills

Module 4: Leadership skills

Reasoning behind this module:

Community leaders are the perfect people to target in the community to help with capacity building within their communities. They need to understand the process around capacity

building and what it really means. They are the leaders of their communities and must, therefore, be educated on the responsibility they have towards their community. They should be active in this role, understanding the needs of their community and activity trying to improve it.

Specific Outcomes:

- Understanding of leadership management
- Application of social responsibility
- Capacity building

The second part of the objective of this working group session was to derive a set of core values for community leaders. The following list shows the core values generated by the group, and the ranking in order of priority of how essential the group considered the core value to be.

Community Leaders (Core values)	Rank
• Interact easily with people	1
• Able to adapt to variety of social circumstances	1
• Accommodative	1
• Self motivated	2
• Innovative / creative	2
• Ethical person	3
• Preparedness to personal sacrifice	4
• Self-disciplined	5
• Hardworking	5
• Passionate about community issues	6
• Empathetic	7
• Patient / tolerant	7

Group Two - Objective Two

The group targeting **Protected Area Managers** consisted of:

Adam Pires (Scribe)
Kathleen Hay (Facilitator)
James Harding
Andrew Lumbe
Bheki Nkosi
Liyong Sama Emmanuel
Israel Ngarira
Etienne Hatungimana
Cathy Kay
Adoro Mabongana



The silent generation of ideas was used initially as each member formulated outcomes around each specific module. Each group member shared their outcomes in turn, and then the outcomes were discussed amongst the group. It was discovered that discussion between group members and brainstorming produced more constructive results, as certain aspects had to be clarified amongst the group. Many of the group members were unclear on the outcomes based training approach and to differentiate between outcomes & the module outline.

It was decided early on that Field Manager & Law Enforcer training is very similar with regard to the bushmeat crisis, and that Law Enforcement would be included as a module within the course.

The following outcomes were generated for each module:

Module 1 – Introduction to the bushmeat crisis

Bushmeat issues will vary in nature and intensity between different reserves and regions. It is important for all target groups to understand the Bushmeat crisis as a whole and how it impacts the various protected areas. Protected area managers need to understand the impact & causes of the Bushmeat trade in their area, and neighbouring areas, to be able to manage the crisis effectively with sufficient background knowledge.

Outcomes

- Know what is the Bushmeat crisis is.
- Understand the history of the bushmeat crisis.
- Understand the motives behind the bushmeat trade.
- Types of bushmeat use (subsistence versus commercial trade).
- Able to identify the causes & effects of the bushmeat trade.
- Implement solutions and identify alternatives to the bushmeat crisis.

Module 2 – Target Species Management and Monitoring

Protected areas contain species that are specific to that particular area and habitat. Each protected area manager should have a thorough knowledge of the species in that particular area and their current status. The species in demand in the Bushmeat trade vary between regions and each manager should have a thorough understanding of the species that are being targeted in that particular area. They need to know and recognise the parts and derivatives for identification, and the habits, behaviour and general ecology associated with each species in order to manage the crisis.

Outcomes

- Able to identify priority species and their parts / derivatives used.
- Able to effectively conduct research & monitoring activities on target/ priority species.
- Able to implement sustainable utilization of species
- Able to identify symptoms of disease & the implications
- Understand and implement methods of reintroduction and capture techniques

Module 3 – Law Enforcement

Each protected area has personnel associated with the protection of the area against unlawful entry or utilization of species occurring within the reserve. Alleviating the Bushmeat crisis will involve implementing & maintaining effective protection measures of areas & species under threat. The protected area manager will have to be proficient in all anti-poaching measures & legislation, applicable to the bushmeat problem in that area.

Outcomes

- Implement pro-active and reactive anti-poaching measures.
- Implement active law enforcement procedures
- Understand court procedures and relevant legislation.

Group Three – Objective Two

Target Learner Group: EDUCATORS

The members of group the for this session were as follows:

Lesley Greyling (SAWC Facilitator)
Reg Hoyt
Kathy Kay (Scribe)
Dr Will Banham
Moemi R Batshabang
Felisima Langamane
Norman Rigava
Willie Maritz
Ibrahim S Njoya (Group facilitator)



This working group preferred the group discussion and brainstorming approach, where group members put ideas forward, these would be recorded, and then either adopted or rejected after group discussion. Although this approach was time consuming initially, the group kept to their time limits and achieved their objectives. This approach worked because those in the group were more or less equally assertive and contributed equally to the process. The group elected a different group facilitator, scribe, and reporter for each objective to ensure an even flow of participation and responsibility.

The group initially spent considerable time to determine who the educators would be, as it was felt this was a broad category, and it was also agreed the two Target Learner groups being discussed in working groups 1 and 2, i.e. Community Leaders and Protected Area Managers/ Law Enforcement Officer, would also be educators in a way, and this group did not wish to duplicate work being done in those groups. It was eventually agreed that “Educators” would not include schoolteachers, as this was felt to be a specialised field. Educators were determined to be:

- Extension Officers (including those affiliated to industries)
- NGO’s
- CBO’s
- Environmental Educators

This group was lucky to have several delegates who were familiar with outcomes based training approach which made it easier for those who had this knowledge to guide and facilitate the group to be able to differentiate between specific learning outcomes and the course outline or module structures.

The following outcomes were generated for each module:

Module 1 – Introduction to the Bushmeat crisis

- Understand the concept of Bushmeat
- Understand why there is a Bushmeat crisis
- Understand the history of the Bushmeat crisis.
- Understand the types of Bushmeat use (subsistence versus commercial trade).

- Implement solutions and identify alternatives to the Bushmeat crisis.

Module 2 - Bushmeat Products

- Able to identify basic Bushmeat products and by-products
- Able to show others how illegal meat products can be identified by law enforcement officers

Module 3 - Relevant Environmental Legislation

- Able to demonstrate an understanding what treaties and conventions are, and how they affect Bushmeat trade
- Able to demonstrate an understanding of basic environmental legislation as it relates to the Bushmeat crisis
- Able to explain to communities and those they come in contact with how endangered and threatened species are protected by legislation

Module 4 – Sustainable Use of Natural Resources

- Able to explain different concepts of sustainability
- Explain sustainable harvesting methods
- Understand conservation values and benefits
- Understand the consequences of over-exploitation
- Able to teach others how to utilise legally obtained Bushmeat products sustainably and effectively

Module 5 - Research and Monitoring

- Able to communicate the need for research and monitoring and how it relates to the Bushmeat crisis
- Demonstrate a basic understanding of the different research and monitoring methods
- Help communities perform basic monitoring and census taking for research
- Help communities to verbalise their cultural knowledge and expertise in a research and monitoring context

Module 6 – Potential Alternatives

- Able to identify potential alternatives to Bushmeat use
- Able to demonstrate an understanding of how to evaluate the pros and cons of potential alternatives for their specific circumstances

Module 7 - Conflict Resolution

- Able to understand the concept and cycle of conflict
- Able to explain different conflict resolution methods
- Able to classify and identify types of conflict

Module 8 - Community Development

- To be able to assist communities to identify their own needs
- To be able to assist communities to achieve these

The following core values were determined for Educators:

- A commitment to rousing awareness about the Bushmeat crisis
- A belief that education should be achieved by working in partnership with communities based on mutual trust and co-operation
- A professional and ethical approach to education

CONCLUSION TO THE SECOND WORKING GROUP SESSION

The division of the groups according to areas of expertise proved to be constructive as the plenary feedback session did not generate a significant amount of additional input, even though it had been postponed to the morning of the last day. Comments that were raised were allowed time for discussion and where appropriate were included into the applicable group for further deliberation in the next session.

INTRODUCTION TO THE THIRD WORKING GROUP SESSION

The working groups resumed as they had been for the second session and continued where they had left off. The objective for this third and final session was to expand on the agreed Learning Objectives (specific outcomes) by suggesting study units and module structures for each of them.

Group One – Objective Three

The group of participants for the community leader target group remained unchanged except for the addition of Liyong Sama Emmanuel who joined this group to help with translating English to French. Once again this group found it a better approach to brainstorm ideas rather than generating individual ideas first. Ideas were brainstormed and discussed, and the following study units (and module structure shown under study units) derived to meet the specific outcomes of each module.

Module 1: Bushmeat crisis vs. sustainable utilisation

1. Bushmeat crisis
 - 1.1 History
 - 1.2 Causes
 - 1.3. Impacts (incl. transmission of disease)
 - 1.4. Hotspots
2. Basic ecology and monitoring
 - 2.1. Introduction to basic ecology (definition and concepts)
 - 2.2. Species identification and distribution
 - 2.3. Red list data species
 - 2.4. Monitoring techniques
3. Sustainable utilization
 - 3.1. Definition and concepts (incl. threats to biodiversity)
 - 3.2. Utilization techniques
 - 3.3. Examples of sustainable utilization (incl. CBNRM)
 - 3.4. Non-consumptive sources of wildlife utilization
4. Wildlife legislation
 - 4.1. Existing policy, legislation and procedures

Module 2: Rural community population dynamics

1. Population demography
 - 1.1. Definition and concepts
 - 1.2. Rural population models
 - 1.3. Examples (including distribution of NGO's associated with communities)
2. Population displacement management
 - 2.1. Causes
 - 2.2. Composition
 - 2.3. Travel

- 2.4. Time span
 - 2.5. Impacts
 - 2.6. Responses (to all the above)
- 3. Understanding cultures
 - 3.1. Definition and examples of indigenous knowledge
 - 3.2. Cultural diversity + examples

Module 3: Livelihood Strategies

- 1. Comparative introduction to conventional and non-conventional farming practices
 - 1.1. Methods
 - 1.2. Examples
 - 1.3. Concepts
- 2. Introduction to micro-enterprise
 - 2.1. Principles of small business management
 - 2.2. Business principles, legality, procedures
 - 2.3. Examples (such as ecotourism)

Module 4: Leadership Skills

- 1. Conflict resolution
- 2. Communication skills
- 3. Negotiation skills
- 4. Social ethics

Group Two – Objective Three

Again a brainstorming approach worked best during this session. Once the framework began to take shape, it became clear that several of the outcomes had to be rephrased and a couple of outcomes added in, in order to correspond with the course outline.

Initially “Ex-situ breeding of species” was decided as a module, but after the plenary session it was agreed that it did not warrant being a module on its own, but rather to be discussed in Module 1 as one of the alternative solutions to the Bushmeat crisis.

An introduction to the Bushmeat crisis was also lacking when formulating the outcomes in the second session and this was introduced as a module during this third session.

The following Course Outline was decided on:

Module 1 – Introduction to the Bushmeat Crisis

1. History of the bushmeat crisis

- 1.1 Traditional customs
- 1.2 Sub-Saharan bushmeat crisis
- 1.3 Continent species extinction comparison

2. Subsistence use versus commercial trade in bushmeat

- 2.1 Poverty and Unemployment
- 2.2 Bushmeat market – supply and demand
- 2.3 Bushmeat supply chain
 - Local
 - National
 - International
- 2.4 Bushmeat economics & economic crisis

3. Causes and effects of the bushmeat crisis

- 3.1 Industrial developments
 - Transport mechanisms
- 3.2 Land reform and encroachment
- 3.3 Loss of biodiversity
- 3.4 Conflicts
- 3.5 Corruption
 - Identify
 - Combating/ reducing

4. Counter effect measures

- 4.1 Mitigation
- 4.2 Community participation
- 4.3 Educating the educators

5. Alternatives

- 5.1 Ex-situ breeding
- 5.2 Introduction of new protein sources
- 5.3 Access to alternative resources

Module 2 – Target species management and monitoring

1. Introduction to target species status

- 1.1 Identification of animal parts and derivatives
- 1.2 Identification of target/ priority species

2. Research and monitoring

- 2.1 Census technology
- 2.2 GIS applications/ Remote sensing
- 2.3 Monitoring techniques/ collection methods
- 2.4 Data Analysis

3. Habitat Indicators

- 3.1 carrying capacity
- 3.2 Animal distribution

4. Sustainable utilization of animals

- 4.1 Quota setting
- 4.2 Commercial and subsistence hunting
- 4.3 Cropping
- 4.4 Cost benefit

5. Disease Control

- 5.1 Human and animal transmissions
- 5.2 Domestic stock and wildlife transmissions
- 5.3 Carcass handling techniques

6. Re-introduction of species

- 6.1 Methods of introduction
- 6.2 Capture and relocation

Module 3 – Law Enforcement

1. Applicable legislation

- 1.1 human rights
- 1.2 relevant acts

2. Law enforcement procedures

2.1 Arresting procedures

2.2 Collection, preservation and disposal of evidence

2.3 Court procedures

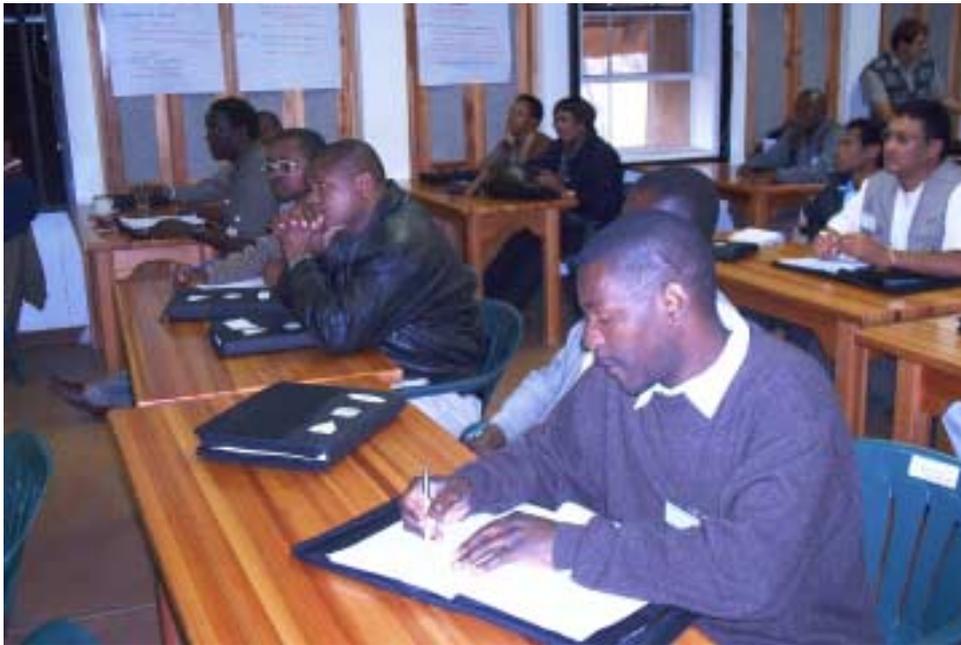
3. Pro-active and reactive measures

3.1 Anti-poaching methods and techniques

3.2 Community relations

3.3 Investigations and gathering of intelligence

3.4 Motivation & use of incentives (principles of)



“Nearing the end” Workshop participants making final notes.

Group Three – Objective Three

Again a brainstorming and group discussion approach worked best during this session. It is important to note that, with all modules except the module on the Bushmeat Crisis itself, the group felt that Educators would only need an overview and would not be expected to become ‘experts’ in the other modules. It was however felt very strongly that the Educators needed the background information provided in the other modules to be able to educate others on the Bushmeat Crisis. The group found time to not only devise a course outline for their target Group, with specific outcomes and units and sub units, but also to rank the units according to priority. Modules are depicted in the sequence with which the group felt they should be presented.

The following Course Outline was decided on:

Module 1 – Introduction to the Bushmeat Crisis

1. History of the Bushmeat crisis

- 1.4 The concept of Bushmeat (BM)
- 1.5 Species involved
- 1.6 Geographical extent of the BM crisis
- 1.7 Macro economic scale of the BM trade (markets, stakeholders, supply versus demand, supply routes, products)
- 1.8 BM hunting and harvesting methods

2. Causes of the Bushmeat crisis

- 2.1 Socio economic factors
- 2.2 Biological factors
- 2.3 Compounding factors
- 2.4. Public Policy and Political Will
- 2.5. Law enforcement

3. Impacts of the BM crisis

- 3.1 Biological
- 3.2 Socio economic
- 3.3 Human health issues
- 3.4 Conflicts

4. Responses to the BM crisis

- 4.1 Global responses
 - BCTF, CITES
- 4.2 Regional Responses
 - TRAFFIC (East, Southern Africa)
 - PAAZAB
 - Lusaka Agreement Task Force (LATF)
 - African wildlife colleges/ BCTF workshops

4.3 Short Term Strategies

- Alternative income and/or protein sources
- Market seller / hunters associations control
- Linkages with industry
- Media and public awareness

4.4 Long Term Strategies

- Policy development
- Education
- Sustainable finances
- Protected Areas

5. Alternatives

5.1 Ex-situ breeding

5.2 Introduction of new protein sources

5.3 Access to alternative resources

Module 2 – Bushmeat Products

1. Types of BM products

The purpose of this module is to give educators an overview and basic understanding of methods of identifying Bushmeat products, and show them examples of products and by-products. Educators would not be expected to actually identify Bushmeat products for law enforcement purposes.

1.3 Bushmeat (fresh, dried, smoked, processed)

1.4 Skins

1.5 Horns / tusks

1.6 Hooves/hands/feet

1.7 Teeth

1.8 Clothes, ornaments, curios

1.9 Medicinal products

2. Basic Identification of Key Species

2.1 Protected species

2.2 Basic methods of species identification

2.3. Protected species

2.4 Basic methods of product identification

Module 3 – Relevant Environmental Legislation

1. Treaties and Conventions (Overview)

1.3 CITES

1.4 CBD Convention

1.5 African Convention

1.6 LATF

1.7 SADC Protocol on Wildlife Management

1.8 And others

2. National Legislation and Policy

2.1 National legislation and environmental policy

- 2.2 Local policy and legislation
- 2.3 Tribal law

Module 4 – Sustainable use of Resources

- 1. Conservation Values
 - 1.1. Benefits
 - 1.2. Consequences of Over Exploitation
- 2. Concepts of Sustainability
 - 2.1. Ecological
 - 2.2. Economical
 - 2.3. Social
- 3. Methods of Sustainable Harvesting
 - 3.1. Hunting methods
 - 3.2. Quota setting
 - 3.3. Closed seasons
 - 3.4. Protected / Closed areas
 - 3.5. Waste reduction methods
 - 3.6. Co-operative-management techniques

Module 5 – Research and Monitoring

- 1. The need for Research and Monitoring
 - 1.1. Establishing the status of resources
 - 1.2. Establishing the level of threat
 - 1.3. Supporting sustainable harvesting
- 2. Methods of Research and Monitoring
 - 2.1. Examples of methods used
 - 2.2. An introduction to PRA and other community based research methods
- 3. Community Based Resource Monitoring
 - 3.1. Census methods
 - 3.2. Quota setting
 - 3.3. Incorporating and making use of indigenous knowledge
 - 3.4 A co-operative approach to managing protected areas

Module 6 – Potential Alternatives

- 1. Potential Protein Alternatives
 - 1.1. Increasing the availability and affordability of domestic meat products (including beef, fish, rabbits, and poultry)
 - 1.2. Legal sustainable harvesting of Wild species'
 - 1.3. Game ranching/ husbandry
 - 1.4. Plant protein cultivation
- 2. Potential Income Alternatives
 - 2.1. Job creation

- 2.2. Micro-credit
- 2.3. Sharing of benefits derived from tourism / trophy and legal hunting/ cropping

3. Evaluating Potential Alternatives

- 3.1. Feasibility
 - Financial
 - Ecological
 - Social / cultural

Module 7 – Conflict Resolution

- 1. Potential conflicts in context to the BM crisis
 - 1.1. Community / wildlife
 - 1.2. Community/ law enforcement
 - 1.3. Community/ community
 - 1.4. Community/ Protected Area Management
- 2. Methods of Conflict Resolution
 - 2.1. Mediation
 - 2.2. Negotiation
 - 2.3. Conciliation
 - 2.4. Arbitration
 - 2.5. Others

Module 8 – Community Development

- 1. Needs Assessment
 - 1.1. PRA methods
 - 1.2. SWOT analysis
 - 1.3. Other needs assessment methods
- 2. Capacity Building
 - 2.1. Business and Project Planning
 - 2.2. Entrepreneurial skills
 - 2.3. Project proposals/funding applications
 - 2.4. Accessing Information on Funding and Funding Agencies
 - 2.5. Training Needs Analysis

CONCLUSION TO THE THIRD WORKING GROUP SESSION

The overall sense from the plenary discussions at the end of the third working group session was one of satisfaction at a job well done. Although it had been an intensive three days of workshopping, participants were constructive to the very end. The quality of the group contributions was evident in the way in which the alternate groups received that which was presented. There was no doubt that all had been achieved what was set out to be achieved and that the Southern African Wildlife College has an appropriate and constructive template from which a curriculum to address the Bushmeat Crisis training needs may be produced.

APPENDIX A: LIST OF PARTICIPANTS

NAME	AGENCY/ ORGANIZATION	CONTACT INFORMATION	COUNTRY
Douglas Lecholo	BOCOBONET	P/Bag BO 166 Gaborone Tel: 09267 585081 bocobonet@mega.bw	Botswana
Moemi Batshabang	DWNP	PO Box 131 Gaborone Tel: +267 341 705 Fax: +267 312 354 mbatshabang@gov.bw	Botswana
Ibrahim Soaré Njoya	Director, École Pour la Formation des Spécialistes de la Faune de Garoua	BP 271 Garoua Tel: +237 227 3135 ecolefaunegaroua@iccnet.cm	Cameroon
Etienne Hatungimana	Instructor, École Pour la Formation des Spécialistes de la Faune de Garoua	BP 271 Garoua Tel: +237 983 2271 Fax: +237 227 2022 ecolefaunegaroua@iccnet.cm	Cameroon
Emmanuel Liyong Sama	SAWC Student AND Korup National Park, Cameroon	BP 36 Mundomba, Cameroon Esama-1@yahoo.co.uk	Cameroon
Kopano Maleli	LHDA Nature Reserves	PO Box 333 Botha-Bothe Tel: 09266 461 223	Lesotho
Eusebia Mabongana Adoro	Lesotho National Parks	PO Box 92 Maseru 100 Tel: 09266 310515	Lesotho
Jocelyn Rakotomalala	National Park Network ANGAPA	BP Box 4000 Toliara Tel: +261 209 443 570 Fax: +261 209 443 032 angaptle@dts.mg	Madagascar
Vonjy Andrianjakarivelo	WCS Madagascar	Antananarivo (101) PO Box 8500 Tel: +261 227 2856 wcsmad@dts.mg	Madagascar
Felismina Langaname	DNAC/MITUR	Av. 25 de Setembro No. 1018 Tel: +258 1 303650 Fax: +258 1 303633 coutadas@turismo.moz.com	Mozambique
Dr. Victoria Nicodemus	NWR	Tel: +064 61 285 7000 NWR@MEB.com.na	Namibia

Yolan Friedmann	Endangered Wildlife Trust and CBSG-South Africa	BO Box 731 Lanseria 1748 Tel: 27 11 701 3811 cbsgsa@wd.co.za	South Africa
Fanie Greyling	Executive Director, Southern African Wildlife College	P/Bag x3015 Hoedspruit 1380 Tel: +27 15 793 7300 Fax: +27 15 793 7314 fgreyling@sawc.org.za	South Africa
Lesley Greyling	Southern African Wildlife College	P/Bag x3015 Hoedspruit 1380 Tel: +27 15 793 7300 Fax: +27 15 793 7314 lgreyling@sawc.org.za	South Africa
James Harding	VODACOM	P/Bag x9904 Sandton, 2146 Tel: 011 653 5628 James.harding@vodacom.co.za	South Africa
Kathleen Hay	Southern African Wildlife College	P/Bag x3015 Hoedspruit 1380 Tel: +27 15 793 7300 Fax: +27 15 793 7314 khay@sawc.org.za	South Africa
Cathy Kay	Wildlife and Environment Society of Southern Africa	PO Box 52 Portshestrone Natal 4240 Tel: +27 393 155 757 Fax: +27 393 155 755 ckay@venturenet.co.za	South Africa
Andrew Lumbe	CIS-SANPARKS	P/Bag x01021 Phalaborwa 1390 Tel: +27 13 735 6508 Fax: +27 82764 5808 andrewl@parks-sa.co.za	South Africa
Adam Pires	Southern African Wildlife College	P/Bag x3015 Hoedspruit 1380 Tel: +27 15 793 7300 Fax: +27 15 793 7314 apires@sawc.org.za	South Africa
Willie Maritz	Pan African Association of Zoos, Aquariums and Botanical Gardens	PO Box 984 East London 5200 Tel: 043 705 2637 willie@elaquarium.co.za	South Africa
Dave Morgan	Pan African Association of Zoos, Aquariums and Botanical Gardens	5 Steyn str, Prence van Rynveld Centurium Pretoria Tel: 012 662 1854 davetsp@iafrica.com	South Africa

Bheki Nkosi	Mpumalanga Parks Board	PO Box 846 Caroline 1185 Tel: 017 843 2603	South Africa
Deo-gratias M. Gamassa	Principal, College of African Wildlife Management, Mweka	Box 3031, Moshi +255 742 783887 dgamassa@yahoo.co.uk	Tanzania
Will Banham	Consultant, College of African Wildlife Management, Mweka	Box 3031, Moshi +255 742 783887 wb@mwekawildlife.ac.tz	Tanzania/UK
Natalie Bailey	Program Coordinator, Bushmeat Crisis Task Force	8403 Colesville Rd., Suite 710 Silver Spring MD 20910 Tel: +1 301 562 0777 x254 Fax: +1 301 562 0888 nbailey@bushmeat.org	USA
Reg Hoyt	Senior VP, Conservation & Science, Philadelphia Zoo (BCTF Steering Committee)	3460 West Girard Ave Philadelphia PA 19104 Tel: +1 215 243 5309 hoyt.reg@phillyzoo.org	USA
Norman Rigava	WWF-SARPO	Box Cy 1409 Causeway Harare Tel: +263 4 252 533 nrigava@wwf.org.zw	Zimbabwe
Charles Jonga	CAMPFIRE Association	Box 661 Harare Tel: +263 474 7436 Fax: +263 474 7470 campfire@ecoweb.co.zw	Zimbabwe
Israel Ngarira	National Parks, Zimbabwe	5141 Hwange info@sawc.org.za	Zimbabwe