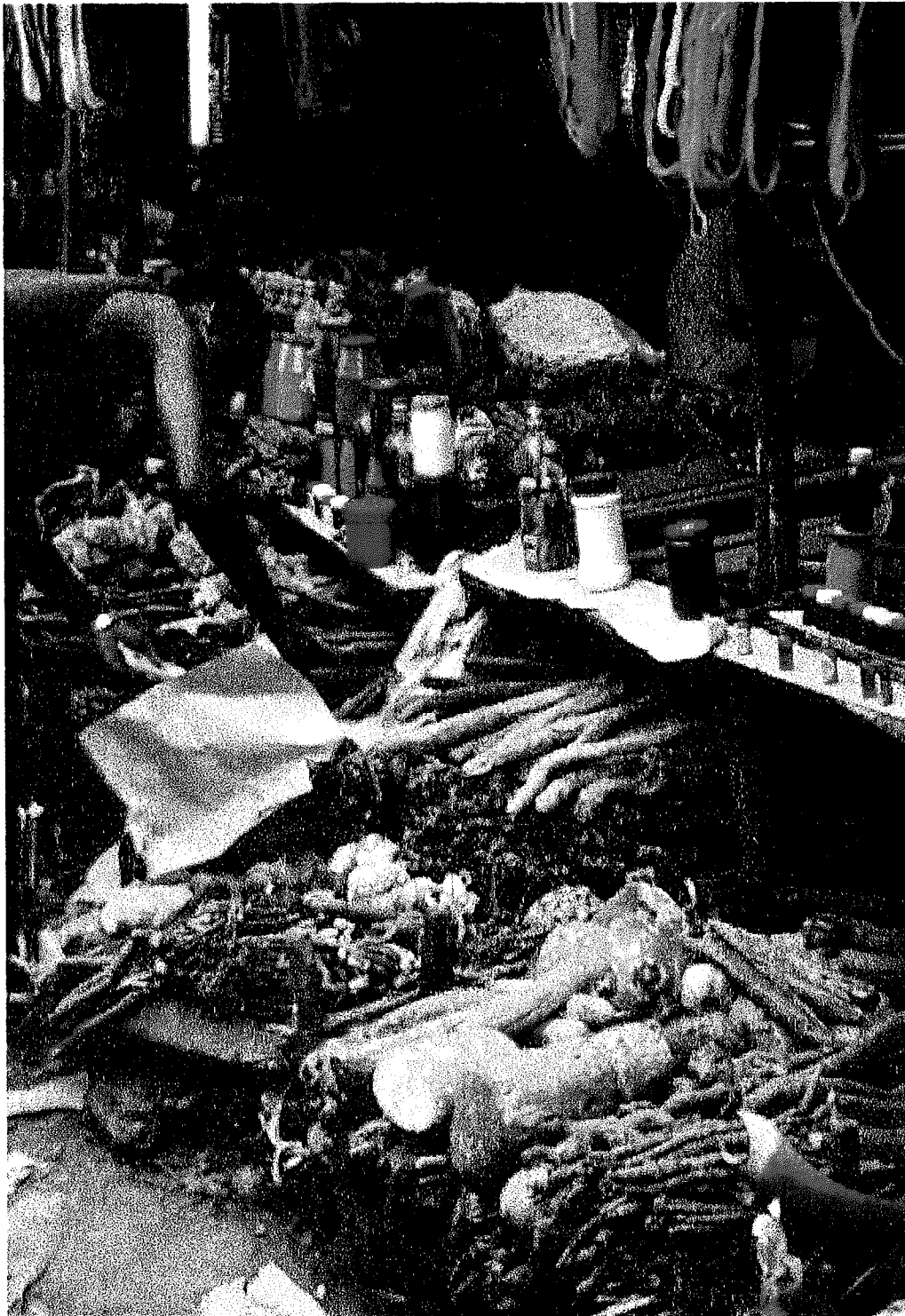


Sustainable Utilisation of Wildlife Medicinals in East and Southern Africa

A Challenge for the Health and Natural Resource Sectors

Proceedings of a workshop held 2-4 December 1998, Nairobi, Kenya.



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Acknowledgements	1
EXECUTIVE SUMMARY	2
WORKSHOP PROCEEDINGS	4
Official Opening	
WORKSHOP OVERVIEW	5
PRESENTATIONS	5
Presentation I: Role of Traditional Medical Practitioners in Conservation and Awareness	5
Presentation II: Potential for Production of Wildlife Medicinals by Local Communities	7
Presentation III: Potential for the Production of Medicinal By-products by Game Ranches	11
Presentation IV Nursery Production of Valued Medicinal Plant Species	13
Presentation V: Industrial Production of Wildlife Medicinals	15
Presentation VI: Research, Marketing and Pharmacology	17
THEMATIC DISCUSSIONS	19
Theme 1: Promoting the Management of Medicinal Wildlife Resources	19
Theme II: Promoting Conservation and Creating Awareness	21
Theme III: Relevant Research	23
Theme IV: Approaches to Policy and Regulations	26
Synthesis of Discussion Highlights	26
Summary of Emerging Issues	27
PROJECT DESCRIPTIONS	28
Group 1: Research	29
Group 2: Policy Development	32
Group 3: Medicinal Wildlife Resources Inventories	37
Group 4: Capacity Building for Conservation and Management	39
RECOMMENDATIONS BY PARTICIPANTS	42
CONCLUSION	42
APPENDIX 1: List of Participants	43
APPENDIX 2: Programme	48
APPENDIX 3: Expectations	49
APPENDIX 4: Recommendations	50
APPENDIX 5: Group Outputs on Thematic Discussions	52
APPENDIX 6: Evaluation Summary	61

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Nina Marshall
21 January 1999
Nairobi, Kenya

EXECUTIVE SUMMARY

Background

In 1996 TRAFFIC East/Southern Africa commenced a two-year survey of trade in animals and plants used for medicine in East and southern Africa. Entitled *Trade in Wildlife Medicinals in East and Southern Africa*, this project covered 19 countries including Madagascar, and was aimed at identifying species in need of research, management and conservation attention. Pertinent information was found for 17 countries, and these data were compiled and published in the report, *Searching for a Cure: Conservation of Medicinal Wildlife Resources in East and Southern Africa*. This research revealed that there are numerous species of medicinal plants and animals that are declining, and that this is a concern for both the health and the natural resource sectors. Funding for this project was largely provided by the United States Agency for International Development; The Office Plant (Pty.) Ltd. funded the South Africa component of the study.

As a follow-up to TRAFFIC's trade survey, a workshop was held to review the conclusions and recommendations raised in the report *Searching for a Cure*. This workshop, *Sustainable Utilization of Wildlife Medicinal Resources in East and Southern Africa - A Challenge to the Health and Natural Resource Sectors*, was again funded by the United States Agency for International Development. Funds for this effort were administered by the Biodiversity Support Program, a USAID-funded consortium of World Wildlife Fund, The Nature Conservancy, and World Resources Institute.

Introduction

The three-day workshop took place in Nairobi, Kenya on 2-4 December 1998. Its focus was to review and supplement the conclusions and recommendations presented in the report, *Searching for a Cure*, and to develop a strategy and specific interventions to implement recommendations. During the workshop participants focused on the five areas of recommendations outlined in the report. These were conservation, awareness, management, regulation and research.

The workshop was attended by 22 participants, comprising 6 women and 16 men (see Appendix 1). Seven Countries were represented as follows: Kenya 8, South Africa 4, Malawi 3, Zimbabwe 2, Tanzania 2, Sudan 1, Uganda 1 and Ethiopia 1. The participants had wide and diverse backgrounds. All had relevant experience that enriched the deliberations on medicinal wildlife resources. Participants were selected on the basis of their diverse expertise which was deemed essential for developing multi-sectoral solutions to the problem of declining wildlife medicinals.

A participatory approach was taken throughout the workshop, and in order to guide this process, a professional facilitator from the consulting agency PRECISE Communications was present throughout. PRECISE Communications was also responsible for documenting workshop discussions and for compiling the final report of the workshop. The workshop agenda is presented in Appendix 2.

Workshop Overview

The workshop commenced with an introductory session in which participants were asked to share with each other their expectations for the workshop. Participants expected to share experiences, to learn from each other and to identify definitive steps that could be taken to address issues related to traditional medicine. Specific expectations are presented in Appendix 3.

The main focus of the first day of the workshop was on plenary presentations. Six participants had been specifically requested to prepare presentations for the workshop. The following topics were covered:

- 1 *The role of traditional medical practitioners in conservation and awareness creation, with specific reference to decreasing supplies of medicinals - Dr. Isaac Mayeng.*
- 2 *Potential for the production of medicinal wildlife resources by local communities. - Gus Le Breton*
- 3 *Potential for the production of medicinal by-products by game ranches - Gavin Robinson.*
- 4 *Nursery production of valued medicinal plants. - Richard Symmonds*
- 5 *Feasibility of factory processing and production of medicinals - Dr. Kofi-Tsekpo*
- 6 *Research, marketing and pharmacology - Dr. Ermias Dagne*

In this report the main points of each presentation are summarized, and the key points raised by participants in the discussions are presented. Participants found the presentations very useful in creating a common basis for dialogue and also acknowledged the utility of learning about new fields.

The second day of the workshop was devoted to thematic discussions. The themes were derived from the main recommendations of the TRAFFIC report, *Searching for a Cure*. An analysis of the discussion outputs and a profile of the emerging issues are in the main report. Groups outputs are contained in Appendix 5.

Participants spent day three developing project concepts. They decided to produce one project concept per issue rather than many small ones. This option was taken as it was felt that it was important to tackle the wider issues. The project concepts are contained in the report. Following this activity, the participants were also given the opportunity to develop and share their own recommendations based on the outcomes of the workshop, and specifically the first two days of discussion. The recommendations covered six key areas. The participants felt that these six areas are critical for ensuring action on the outcome of the workshop. A summary of the recommendations is to be found at the end of the main report, while an amplified version contained in Appendix 4.

The final activity of the workshop was an evaluation exercise in which participants filled in a workshop evaluation form. In general, participants felt that the workshop objectives and their expectations were met effectively. A summary of the workshop evaluation results is contained in Appendix 6.

WORKSHOP PROCEEDINGS

Official opening - Nina Marshall

As convenor of the workshop, Nina Marshall, Senior Programme Officer of TRAFFIC East/Southern Africa, opened the workshop and gave welcome remarks. Nina then gave a presentation on the scope and activities of the two-year project, *Trade in Wildlife Medicinals in East and Southern Africa*. Nina shared her experiences with project design and implementation, and outlined difficulties encountered during the project. Constraints were listed as follows:

- Lack of necessary literature.
- Researchers had different skills and interests.
- Difficulties encountered in how to analyze reports of scarcity.
- Insufficient time to gather biological information on identified species.
- The researchers produced reports of varying degrees of detail and quality.
- Problem of accurate identification without voucher specimens.

In spite of the difficulties experienced, the project did yield useful information. A number of important observations resulted from the study, including:

- There is an increase of the use of traditional medicine due to high cost and inaccessibility of conventional medicine.
- There is an increase in commercialization of traditional medicine and wildlife medicinal materials.
- There is an increase in the scarcity of certain medicinal species, some of which are known to be endangered.
- There is lack of collaboration and cooperative efforts to address issues of scarcity of wildlife medicinals.

Workshop Focus

Nina gave a brief summary of the recommendations contained in the report *Searching for a Cure*, and noted that these would be the main focus of the workshop. The recommendations were as follows:

<i>Conservation</i>	Protection; better enforcement and controls; propagation and captive breeding to reduce pressure on wild populations; promote sustainable harvest.
<i>Management</i>	Propagation and captive breeding; investigate possibility of cooperatives producing wildlife medicinals on a commercial basis; identify by products and resources.
<i>Awareness</i>	Explore the role of traditional medical practitioners associations and possible links with other sectors to increase awareness.
<i>Regulation</i>	Improve regulations to enable better natural resource management.
<i>Research</i>	Undertake surveys of species, countries, etc., where necessary data are lacking.

In her concluding remarks, Nina pointed out that that effective strategies and solutions to address the problem of declining wildlife medicinals will require collaboration and cooperation between sectors. Innovative suggestions on how to link sectors for productive results and action are needed. She pointed out that the purpose of the workshop was

to review the recommendations and conclusions, and to identify ways to implement them if participants think they are appropriate.

WORKSHOP OVERVIEW

Introduction

The facilitator gave a broad overview of the workshop's methods, approaches and process. He then asked the participants to pair up and to introduce themselves to each other by name. They were required to say what country they came from, what they do and what their expectations for the workshop were (see Appendix 3). After this activity the facilitator described the purpose and objectives of the workshop. These were:

Purpose

To bring together knowledgeable individuals to discuss the conclusions and recommendations resulting from TRAFFIC's medicinal trade survey.

Objectives

- To review the conclusions/recommendations
- To develop detailed project concepts that will lead to implementation of the recommendations
- To develop a strategy for implementing chosen recommendations/projects

PRESENTATIONS BY PARTICIPANTS

Six participants gave presentations on topics that TRAFFIC felt others might not be aware of and thus would benefit from such information. This was thought to be particularly important so that participants could carry out informed discussions on aspects of the wildlife medicinals context. Topics selected for presentation were also chosen to set the stage for cross-cutting solutions to the problem of declining wildlife medicinals. Highlights of the presentations and plenary discussions are can be found below.

Presentation 1

Dr. Isaac Mayeng - South Africa

CONSERVATION AND UTILIZATION OF INDIGENOUS MEDICINAL PLANTS IN SOUTH AFRICA

Dr. Mayeng, a traditional medical practitioner and a chemist, shared his experiences from South Africa. He commenced his presentation by posing the questions, "What are the medicinal materials and why are they scarce?" and "Do traditional medical practitioners have a role to play in conservation?". He then stated that medicinals are indeed becoming scarce and gave an example: in the past one could have walked into any forest and collected a handful of African Ginger, but today one has to search for it and pay R120.00 for a small piece.

Dr. Mayeng listed players contributing to the decline of medicinals. He observed that in South Africa TMPs are now estimated to number more than 300,000. There are also commercial gatherers, bioprospecting consortium ventures, and other competing resource users such as foresters, farmers and land developers. He further noted that in South Africa consumers of traditional medicine are thought to be 60-70% of the black population.

Other factors reported as contributing to decline in wildlife medicinals include local and international trade, cross border trade, cultural rites (people using animal skins as regalia), the socio-economic situation which has led to commercial harvesting, and the fact that during training TMPs learn to use certain species, and regardless of where they practice later on in life, they still rely on the species they first learned about during training (hence TMPs often harvest from one area although they may work elsewhere).

Dr. Mayeng ventured to identify new trends that are likely to contribute to the decline in wildlife medicinals in the future. Specifically, he noted an increase in the use of phytomedicines, and a renewed interest in traditional medicine, especially involving animal species. He also pointed out that the World Health Organization (WHO) is encouraging the use of traditional medicine in primary health care programmes, and in South Africa traditional medicine is now mentioned in the national drug policy. In fact, some consumers are even demanding that their insurance schemes pay for visits to TMPs.

As interest in and utilization of traditional medicine increases, conservation awareness should also rise. In the past rural-based TMPs observed certain taboos on harvesting that were in effect conservation techniques (and some continue to do so), but at present the commercial harvesters do not follow these rules. Actions in the future to address conservation issues are likely to include 1) training of commercial gatherers in harvesting techniques that promote conservation; 2) participation of TMPs in the Department of Agriculture activities to raise awareness within government; 3) promotion of farming of medicinals; 4) promotion of participatory projects to raise capacity and conservation awareness among TMPs; and 5) inclusion of biodiversity sectors in various government departments to ensure conservation of medicinal resources.

Plenary Feedback

Participants affirmed the increase in the use of wildlife medicinal resources, and noted that habitats, especially natural forests, are declining due to changing economic priorities thus increasing the risk of losing reliable sources of wildlife medicinals. Some participants felt that local communities were not fully aware of the need to be involved in sustainable management of these resources, but at the same time it was mentioned that local communities would act positively if they were aware that certain methods would be successful. There was some discussion about alternate supplies of medicinals, including promotion of farming to increase supply, as well as investigating other sources such as protected areas. It was also noted that TMPs and in particular TMP associations would benefit from an enabling environment that would allow them to pursue effective programmes. Finally, it was stressed that the WHO promotion of traditional medicine (which includes involvement of the OAU) among national governments is well underway. While poverty is a factor that contributes to use of traditional medicine, it is by no means the only factor contributing to its prevalence as a favoured medical system.

Lessons Learnt

Scarcity of medicinal wildlife resources may increase due to new trends common in most countries where depletion of these resources is prevalent. Other factors influencing the increase and harvest of medicinal wildlife resources include:

- Renewed interest in the use of traditional medicines.
- Promotion of the use of traditional medicine in primary health care centers by WHO.
- Increased activity of pharmaceutical companies in traditional medicines.
- Introduction of traditional medicine in national drug policies.

It was also learnt that extensive and profitable trade in traditional medicine materials happens at internal and international levels in South Africa.

At the end of the session participants agreed that TMPs have a unique role to play in that they interact directly with the sources, users and traders of medicinal wildlife resources. At each level they could play a pivotal role in sustainable utilization of these valuable resources.

EMERGING ISSUES

Involving traditional medical practitioners and local communities

- There is a marked decline in medicinal wildlife resources. Scarcity of wildlife medicinals may increase as demand and exploitation rise.
- Traditional medical practitioners and local communities could play a pivotal role in the sustainable utilization of medicinal wildlife resources.
- Medicinal wildlife resources are not just part of the natural resource, "They are our cultural and health heritage".
- The potential of these resources as part of the natural resource, cultural and health heritage has reached preeminent recognition.

Presentation II

Gus Le Breton - Zimbabwe

OPPORTUNITIES FOR SUSTAINABLE HARVEST AND PRODUCTION OF AFRICAN MEDICINAL WILDLIFE SPECIES AT COMMUNITY LEVEL

Gus Le Breton, Director of the Southern Alliance for Indigenous Resources (SAFIRE), commenced the presentation by noting that when considering medicinals, one must be aware that there is a strong link between human and ecological factors. Wildlife medicinals have a relatively high economic value, and therefore have the potential to be unsustainably exploited, a situation that could result in threat to the species. There is a powerful rationale for investing in the sustainable management of wildlife medicinals, as they provide a significant economic opportunity for rural African communities. There is potential to produce wildlife medicinals for local as well as export markets. If exploited, trade in African medicinal resources could result in increased living standards for local communities.

The presenter gave some examples of rural communities that had successfully developed and implemented sustainable harvesting and management regimes for medicinal wildlife materials. These were from different countries to demonstrate how export trade could be developed.

- In Central America, a rural community in Belize was supported by the Institute of Economic Botany (IEB) in New York, to develop health care products. These products are called 'Rainforest Remedies' and are sold as health products rather than as medicine. They are marketed in the USA.

- In Namibia, 43 rural households are involved in a project supported by CRIAA-SADC which aims to promote the sustainable harvest of Devil's Claw (*Harpagophytum procumbens*). An ecological survey has been carried out and based on its results annual harvest quotas have been set for each household. Due to international marketing linkages, the revenue per kilogram of Devil's Claw has gone up from N\$1 to N\$12 thus benefiting communities.
- In Brazil, the Yawanawa Community Association has formed a joint initiative with the US-based Aveda Corporation to develop commercial products from Anatto (*Bixa Orellana*). Aveda has provided funds for plantation establishment, and has also invested in product development. Aveda now has a steady supply of the product, and the Yawanawa have a steady market.

From these three examples it was noted that certain factors need to be in place to facilitate the success of a community-based operation. These were summarized as follows:

- There has to be an external facilitator.
- There has to be a strong institutional structure at community level.
- There have to be clear ownership/tenurial rights to access and benefits.
- There has to be access to export markets.
- The producer communities have to retain full autonomy and be in control of project design, development and direction.

Opportunities for Supporting Communities

The presenter then indicated that community-based natural resource management offers a broad range of opportunities for promoting sustainable harvesting and production of medicinal wildlife products. He then described ways that external facilitators could support communities to capitalise on these opportunities, and discussed this support under the contexts of 1) sustainable production; 2) adding value, and 3) marketing.

Sustainable Production

Key activities under this topic include:

- Assist in developing local level resource monitoring capabilities. Communities need training in scientific methods for inventorying and monitoring, for developing ecological indicators and improved harvesting techniques, and for setting and enforcing sustainable harvest quotas.
- Support local level institutional development by providing financial assistance, guidance and training.
- Link producer groups to maximize supply and reduce storage and transport costs in order to sustain market interest.
- Strengthen tenurial and user rights of communities to their resources, to allow insiders full authority over use and management, and to exclude outsiders. This may require local level conflict resolution, support for local level process of accountability and national level policy and legislative reform.

- Assist in access to finance for projects on wildlife medicinal resources development.
- Provide support to develop uniform pricing systems so as to maximize revenue opportunities and avoid competition.

Adding Value

Adding value to wildlife medicinal products is a vital aspect in trade. This helps in retaining quality and product presentation esthetics. This is a major weakness in Africa. The inability to address the opportunities for added value before release of the medicinal product to the market by the local community is a challenge. Processing medicinal wildlife resources at the community level has enormous potential for adding value. Some of the ways for adding value were suggested as follows:

- Developing product packaging
- Developing processing technologies
- Certification by a legitimate body has the potential open international markets

Marketing

This represents a considerable challenge to facilitating agencies, since it is this area where they have the least experience. Nevertheless it is essential as profitable sales depend heavily on successful marketing. Some suggested options included the following:

- Assist in identification of market opportunities.
- Assist with linkages to the private sector at local, regional and international levels. Provide training in how to manage fruitful relationships with private sector players (such as distributors, retailers and exporters).
- Advocacy and creation of favorable national policy environment for medicinal wildlife resources.

In conclusion the presenter submitted that existence of medicinal wildlife species in Africa into the 21st century depends on:

- Provision of effective incentives that help communities, to access benefits from these resources.
- The ability to integrate incentives into the land use decisions and practices of the rural farmer.
- Creation of the right policy and economic environment, which will enable farmers to opt for production of wildlife medicinals as a land use decision.
- A change in land and natural resources tenure.

Plenary Feedback

The participants agreed that there was a need to look into the production of finished wildlife medicinal products. Some felt that marketing traditional medicinals as 'health products' as suggested might not be successful in some

countries due the regulatory framework. The participants pointed out some challenges from this presentation that needed to be looked into, i.e. the issue of safety and standards for quality control. It was also noted that if export markets are tapped, we must ensure that local demand for medicinals is still met.

Challenges

- The challenges were summarized as follows:
- How can traditional medicines be marketed within the current context of conventional standards?
- Where would the support of institutions start, at national or at regional level?
- How to address ethical issues of trade versus efficacy of healing practices?
- How to address land tenure issues? In the future, what will the impact be of state versus individual ownership of wildlife and natural resources?

The participants also wanted to know what the indicators of success might be for such projects where local communities would be involved in managing resources for production and trade. It was pointed out that it would be important to ensure that trade did not expose local communities to loss of health, indigenous heritage, or their medicinal wildlife resources, in the interest of trade.

Lessons Learnt

Many local communities have recognized the potential for trade in medicinal wildlife resources. The trade in medicinal wildlife resources is often unregulated, and therefore could result in overexploitation and threat to species. This might lead to permanent loss of medicinally valuable species and indigenous knowledge of these resources.

Where trade exists, medicinal products are primarily harvested and sold in raw form. The way they are handled while in storage, transit and at the market place has raised questions on quality, safety and efficacy of the active agents in the medicinal material.

This notwithstanding, there is great potential in the export market for African medicinal wildlife resources. The potential for highlighting the incentives and benefits in export trade, and involving local communities in production, would help raise their incomes and ideally reduce pressure on medicinal wildlife resources.

The use of controls might generate negative results that are harder to control. To involve the local communities in the propagation, production and trade in medicinal wildlife products is believed to be the most effective approach to conservation and management for sustainable use. For communities to be more involved, four imperatives to address this need were raised:

- to carry out market research on medicinal wildlife by-products,
- to identify incentives and benefits that the communities stand to gain when they exploit medicinal wildlife resources in a sustainable manner,
- to empower communities to learn how to take advantage of market dynamics,

- to create awareness at community level on how to market value-added medicinal wildlife products.

EMERGING ISSUES

Effects of unregulated Trade

- There is unregulated trade that affects protected and endangered medicinal wildlife species.
- The increase in trade of "health care" products purported to be medicinal wildlife products raises questions about the safety of these products.
- There exists untapped potential in the export market for African medicinal wildlife resources. Highlighting the incentives and benefits in export trade, and involving local communities in production, could help to increase incomes thus reducing the pressure of overexploitation on medicinal wildlife resources.
- These issues notwithstanding, there is a great potential for export trade in African medicinal wildlife products.

Presentation III

Gavin Robinson - Zimbabwe

GAME MANAGEMENT

Gavin Robinson, ranch manager of The Cawston Block (Pvt) Ltd, shared his experience of managing wildlife on a game ranch in Zimbabwe. The ranch covers 32,000 acres and is completely fenced. It employs about 70 people and has approximately 5,500 head of game; there are 22 species of game on the ranch. Gavin stressed that game ranching is a business, and must be operated as such to be successful.

An initial step in game management involves carrying out a comprehensive survey of the natural resources on the ranch in order to understand the vegetation, water and soil dynamics. This is essential to ascertaining the potential of the land with regard to which species and how many the land can support. It provides the basis for developing any necessary management activities.

Game management is intensive and involves a solid understanding of the environment. It is imperative that the ranch not be overstocked. In order to figure out how many animals the land can support, one must have intricate knowledge of the water situation, the seasons, the requirements of the species that are on the ranch (i.e. there must be a balanced ratio of browsers and grazers), erosion control needs, fodder stocking needs, disease and poaching pressure. It is absolutely critical that game counts be done regularly so that the ranch knows how many animals are on it.

Activities undertaken by the ranch to ensure the health of the animals and to raise revenue are considerable. For example, in order to control ticks about 100 oxpeckers are introduced to the ranch each year; houses must be built to accommodate the birds so they don't fly elsewhere. There are 13 water holes that can be turned off or on. Salt is provided to the animals. Fodder is provided at certain times of the year. Vegetation is supplemented by the planting of at least 10,000 seedlings per year.

Management involves keeping track of the numbers of animals on the ranch and ensuring that the animals are harvested before they die. This includes monitoring of reasons for why animals die if this happens before they are harvested.

The ranch produces meat, and also raises revenue through photographic safaris, trophy hunting, bird hunting, culling and live game capture. Ostriches are intensively ranched. For every animal produced, there is no waste – every part of every animal is used.

In conclusion, the presenter pointed out that the ranch does not earn any revenue from medicinal wildlife products (neither plant nor animal). Nevertheless the potential is there and they are already working with neighboring farmers to encourage them to manage game.

Plenary Feedback

The participants felt that game ranches could be useful in developing awareness of conservation of natural resources, as well as producing medicinal products (especially plants). Interest was expressed about the possibility of neighbors joining forces with game ranches, in particular to find out what species might be in demand from neighbors and TMPs.

Concern was voiced about land ownership policy. For example, one could farm endangered species, but then because of current legislation, one wouldn't own the animals or be able to harvest. For initiatives to be successful regarding farming and ranching of some species, policy reform is needed. Some participants stated that in some countries this is a major problem for wildlife in general, and that game ranches will cease to produce game if they cannot be assured that they will own it and be able to profit from it.

The participants noted that there is a great potential for game ranches to harvest and produce valued medicinal plants. With regard to animal species, it was observed that production of medicinal by-products from larger species would be quite possible, but that for some of the smaller species (such as African Civet) that it would not be practical for ranches because these species would require intensive management in cages.

Lessons Learnt

In game ranching, there is a great potential for producing species from which medicinal wildlife products can be obtained. This would go beyond the conventional approaches and would require innovation and collaboration with people that game ranches don't traditionally deal with.

Instead of clearing brush and possibly destroying valued medicinal plants, selective clearing which encourages effective production and harvesting of medicinal plants could be encouraged.

It would benefit game ranchers if the production of animal, plant and some aquatic species were adopted as an additional business line.

EMERGING ISSUES

Game Ranches as a source of medicinal wildlife products

- Game ranches have the potential to produce wildlife medicinals which could serve to enhance ranch revenue.
- Innovative thinking and collaborative efforts with non-traditional partners would be helpful in producing medicinal wildlife products on game ranches.
- There is need for policy review to ensure ownership of species produced on game ranches.

Presentation IV

Richard Symmonds - South Africa

NURSERY PRODUCTION OF VALUED MEDICINAL PLANT SPECIES

Richards Symmonds of Silverglen Nursery in Durban shared his experience of producing medicinal plants. Silverglen propagates about 400 plant species including 16 of the 20 most threatened medicinal plant species. The nursery conducts a number of projects which include:

- Production and propagation of medicinal plants.
- Providing training for TMPs in knowing and growing medicinal plants.
- Research into propagation techniques.
- Monitoring the medicinal plants in the marketplace to ascertain demand and scarcity.

Richard noted that the trade in medicinal plants in South Africa is enormous, and stated that at least 4,300 tonnes of plant material is traded through KwaZulu Natal each year. Commercial collection is an important factor which is causing natural populations of plants to decline. The nursery's most successful effort to address this problem is the provision of training to TMPs and local communities in propagation of medicinal plant species. TMPs come to the nursery to learn and share experiences, and this also offers Silverglen the opportunity to gather information about what species are in demand and becoming scarce, and hence on which species they should be focusing their research efforts.

The presenter concluded his presentation by showing a video on medicinal plant trade.

Plenary Feedback

Contributions from participants suggested that there is need to:

- Monitor medicinal potency of the propagated plants.
- Find out if this type of propagation affects the medicinal quality and content in plants.

- Seek ways of increasing information sharing through sharing experiences.
- Venture into finding out whether they can develop diversity in the strains of species of medicinal plants.

The plenary responses pointed to the potential for documenting indigenous knowledge on medicinal wildlife resources. It was also noted that Silverglen's training programmes would be extremely useful in other parts of the region. It was further noted that it would be useful to examine the role of tissue culture as this method of propagation could assist with supply. In Kenya for example, it is difficult to get seeds of certain species.

Lessons Learnt

Nursery-based propagation and training holds the potential to enhance the creation of awareness among traditional medical practitioners and local communities on the need for sustainable use of valued medicinal plants. This interactive process can also be valuable in documenting indigenous knowledge of medicinal wildlife resources.

Medicinal plant nurseries have the potential to conducting a wide range of on-site research initiatives related to propagation, as well as effective methods and techniques of storing germplasm. Other areas of potential research include ecology and biodiversity. Research into potency of nursery-propagated plants the would also be useful.

EMERGING ISSUES

Nursery production and research on valued medicinal plant species

- Medicinal wildlife nurseries have the potential to conduct a wide range of on-site research.
- Nursery-based production, propagation and training for traditional medical practitioners and local communities will enhance the creation of awareness about the need for sustainable use of valued medicinal species.

Presentation V

Dr. Kofi-Tsekpo - Kenya

INDUSTRIAL PRODUCTION OF WILDLIFE MEDICINALS

Dr. Kofi, a chemist and the Chief Researcher on standards and safety at the Kenya Medical Research Institute, focused his presentation on industrial production of medicinal wildlife products. He observed that at present health care delivery is quite good, and people are living longer and they have a better quality of life. As a result, there is great demand to treat any sort of condition that people might have. Traditional cures are being sought with more frequency.

Dr. Kofi then addressed the issue of efficacy and noted that many traditional medicines have been proven to be effective and safe.

With regard to production, he noted that it must be demand driven. This involves determining market forces. If one were to produce medicinals on an industrial level, the demand must be there. Dr. Kofi then pointed out that there must be a good supply of raw material. Products produced should be modern pharmaceutical preparations (and appear in the form of tablets, oils, creams, powders, etc.). In addition, pharmaceutical research must be carried out to ensure safety and bioavailability.

It was observed that these points are based on conventional practice and regulatory controls for medicine. In his presentation the presenter said Africa is not ready to meet this challenge because of the amount of research and finances required. On the other hand, the presenter observed that Africa might be ready to begin factory or industrial processing of medicinal wildlife material due to the amount of focus and demand on traditional medicine at the moment.

The presenter suggested that the best approach to break into the factory production would be:

- Empower traditional medical practitioners and communities.
- Develop control measures for medicinal wildlife resources.
- Determine market forces.
- Research and development through pilot production of dosage forms of medicinal wildlife resources.
- Find out if there is adequate volume and availability of raw material.

The presenter went on to point out that specific standards for regulating factory processing of medicinal wildlife products do not exist. As a result, they are evaluated on the basis of the conventional code of western medicine.

Despite the fact that medicinal wildlife products have been used effectively over many years in Africa, they cannot be sold over the counter or as conventional prescriptions due to the issues of safety, quality, efficacy and ethics. Manipulation of market forces and opposition from conventional health care product manufacturers also inhibits mass production of medicinal wildlife products.

It was also pointed out the regulatory control framework is varied in different countries so it is important to look into:

- Monitoring medicinal wildlife products for any negative product.
- Protection of raw materials.
- Conservation of medicinal wildlife resources.
- Quality, efficacy, safety of medicinal wildlife products.
- Important to collaborate with other sectors and stakeholders.

In conclusion he said collaboration with other sectors and stakeholders locally and regionally is very important in all the steps.

Plenary Feedback

Participants noted the need for developing a policy framework that could promote factory processing of medicinal wildlife products.

Participants observed that there is need for research to document indigenous practices and knowledge. They also noted that indigenous technologies for processing and preserving medicinal products were not well researched. Research in such aspects could contribute to a greater understanding about the species, and conservation of a wider variety of species that have better and higher levels of potency and active agents.

Lessons Learnt

When promoting factory based production of medicinal wildlife products, there could be opposition from the existing health care product manufacturers.

Formal standards to regulate factory processing of medicinal wildlife products do not exist. As a result, they are evaluated on the basis of the conventional code of western medicine.

EMERGING ISSUES

Factory processing and production of medicinal wildlife resources in Africa

- The processing of medicinal wildlife material should be demand-driven.
- Medicinal wildlife products cannot be sold over the counter or as conventional prescriptions due to the issues of safety, quality, efficacy and ethics and also the fact that they are evaluated on the basis of the conventional code of western medicine.
- Manipulation of market forces and opposition from conventional health care product manufacturers also inhibits mass production of medicinal wildlife products.
- Research is needed to document indigenous practices and knowledge; this could assist in developing technologies for factory production and storage.

Presentation VI

Professor Ermias Dagne - Ethiopia

RESEARCH, MARKETING AND PHARMACOLOGY

Professor Ermias Dagne, a chemist, shared from his experience in Ethiopia on verification of the efficacy of medicinal wildlife resources. He said that in Ethiopia, use of traditional medicine has an extremely long history. The focus of his presentation was on using research techniques to verify medicinal plants. Professor Ermias described the process of identifying plant species in the marketplace, and explained the difficulties encountered. In the markets, plants are identified with local names, and the process of identifying the scientific name of the plant is often a lengthy undertaking which requires the researcher to follow the product chain back to where the plant was originally collected to ensure accurate identification.

Professor Ermias gave detailed examples using slides of some traditional medicines whose efficacy had been verified through research. Initial data collection involved gathering information on preparation, route of administration, frequency of use, dosage, additives and related details. It was noted that many medicaments are comprised of numerous species, thereby complicating analysis.

Some medicaments contain additives or adsorbents such as milk, butter, honey, and fat. Other additives are considerably less palatable, for instance chicken bile, urine etc. Issues of potency, safety, quality and side effects are also addressed during research. The outcome could provide the basis for the development and networking of country and regional inventories that have such indigenous knowledge.

The presenter raised two important points for the researcher. Firstly that names of medicines in the open-air market may be confusing and that is essential to start from the market and trace the material back to the source. Secondly, it was noted that when conducting pharmacological research, that one needs to be aware that the handling and storage processes may reduce the quality and efficacy of the medicinal material found in the market. For example, plants that sit out in the sun lose their potency.

The presenter concluded the presentation by describing a natural product database that has been set up for Africa which contains bibliographic references dealing with chemistry, ethnobotany and pharmacology of African plants. At present the database contains about 7,000 entries. Attempts are now being made to put the database on the internet.

Plenary Feedback

The participants observed that research on traditional medicine is inhibited by the limited level of resources available to support it. It was suggested that research initiatives should focus more on indigenous knowledge, traditional methods and technologies of preparation, and use of the medicinal products.

The participants noted that regulatory frameworks are not pro-traditional medicine. In this respect to get the kind of support required for such research might not be possible at present.

The participants pointed out that empowerment of traditional medical practitioners is essential in the process of research and documentation of healing agents.

They also noted that returns on research investments are not easily realized, as medicinal wildlife products cannot be marketed and sold as easily as conventional medicine and other health care products.

Lessons Learnt

In open-air markets the medicinal efficacy is reduced because of the way medicinal materials are stored or handled.

Not one single material or extract is necessarily the direct healing agent. The key factor is the preparation of different medicinals in combination with others.

Because policy is unclear or silent, this has promoted contradictory tendencies of interpretation and application in regard to medicinal wildlife resources.

There is a clear difference in the regulatory framework between conventional medicine and health care products, but at present there is no clarity on medicinal wildlife resources.

EMERGING ISSUES

Research, marketing and pharmacology

- Research on traditional medicine is inhibited by the limited level of resources to support it, and returns on research investment are not easy to realize.
- Existing policy and regulatory frameworks have not been pro-traditional medicine.
- Research initiatives need to focus on indigenous knowledge and the traditional methods and technologies of preparation and use, as well as issues of potency, safety, quality and side effects.
- There is a need to carry out country and regional inventories of indigenous knowledge relating to wildlife medicinals.

THEMATIC DISCUSSIONS

On the second day, participants discussed the recommendations contained in the report, *Searching for a Cure*. The purpose of the discussions was to clarify key steps that could be taken to effectively respond to the issues therein. The thematic discussions were conducted in small groups. Below is a summary of highlights from the discussions.

THEME 1:

PROMOTING THE MANAGEMENT OF MEDICINAL WILDLIFE RESOURCES

Participants observed that wildlife medicinals are extremely valuable resources yet there is no organized or formal management system for this important sector. There is a marked decline in the status of some species of wildlife medicinals, and it is apparent that the potential of these resources as part of the region's natural resource, cultural and health heritage has not been recognized.

For the management of these resources to be effective, it should be based on viable incentives. Incentives will tend to attract and motivate TMPs as well as local communities. Incentives could be financial or otherwise, but they should motivate the target population to participate in the management process.

Management strategies need to be adequately developed and initiated among the people who benefit directly from medicinal wildlife resources. As an approach to strategy setting, identification, selection and prioritization of species on the basis of demand or level of threat to the species are required. Some other factors to consider when prioritizing include rarity of species, re-introduction or translocation, and conservation options.

As a follow-up to this step there is need to identify potential stakeholders who have adequate levels of interest and knowledge, including indigenous knowledge about medicinal wildlife resources. In addition, consideration should be made for promoting management through on-farm and on-ranch farming of priority species. A proactive yet continuous process of species identification and prioritization should be kept in place as part of effective species monitoring activities.

After species identification, the specific management needs associated with prioritized species must be ascertained. This process would also include identification of the needs and expectations among the different levels of stakeholders and potential players in the management process.

Opportunities for increasing awareness and knowledge, and developing management skills relevant to medicinal wildlife resources among stakeholders, should be emphasized throughout. After this there is need to mobilize and make provision of adequate resources to facilitate management.

Developing Community Participation in Management

It is noted that incentives play an important role in promoting interest. Tenurial rights on land and ownership of medicinal wildlife resources have the greatest potential to elicit motivation for management. A necessary prerequisite to community participation is the preliminary investigation (environmental scan) into the local status of stakeholders, priority species' inherent needs for management and use of natural resources.

Specific to investigating species, participants felt the need to assess and establish the significant pressures placed on species, diversity, ecology, distribution, profiles of decline or increase of threatened species and so on. Another area

of investigation could be that of assessing the social, cultural and economic value of medicinal wildlife resources. One of the discussion groups proposed a model for addressing management needs:

A MANAGEMENT MODEL

- Take inventory of market trends, existing management practices, institutional capacity among stakeholders, ownership of natural resources, and land tenure.
- Identify the management needs and opportunities at all stakeholder levels.
- Identify any inherent management gaps among the stakeholders and beneficiaries at community, national and the regional levels, marketing opportunities, and existing practices so as to develop new management strategies.
- Look into the policy, legislation and regulatory context and address the needs for harmonizing policy, legislation and management strategies.
- Identify, develop and mobilize resources to support management, taking into account technical, human and financial resources. Focus specific issues on gender parity, empowerment and institutional capacity building among TMPs and the community.
- Implement the management strategies, monitor and evaluate, then redesign as necessary.

Using the above model, incentives that have the potential to promote sustainable user attitudes and practices could be identified. This would lead to the creation of awareness campaigns, and advocacy and lobbying initiatives that would be based on sound knowledge of the issues.

In summary, participants noted the need to evaluate policy, legislation and regulatory frameworks in each country so as to work towards harmonization and to create an enabling environment for more involvement by communities in management. Instituting a supportive policy framework is a task that needs to be addressed.

The role of communities and traditional medical practitioners as key stakeholders is an important one. Participation at this level could ensure the survival of threatened medicinal resources. For participation to take place effectively, incentives are necessary. Such incentives need to capture the interest and motivation of the communities as well as the traditional medical practitioners in meaningful ways culturally, socially and economically.

Finally, participants noted that for effective management, up-to-date inventories of management needs and priorities on specific species, communities and countries need to be in place. The inventories would provide information on the status of medicinal wildlife resources in each country and the management strategies required to address needs.

HIGHLIGHTS ON MANAGEMENT

There is no organized or formal management system for this important sector.

- Management has to be based on viable incentives, financial and otherwise that tend to attract and motivate key stakeholders to participate in sustainable management.
- Effective management has to be based on identified and prioritized needs.
- Selection and prioritization of species on the basis of the level of demand or level of threat is imperative for effective management of medicinal wildlife resources.
- Increasing awareness, developing relevant management skills and knowledge among traditional medical practitioners and the community as key stakeholders, is critical.
- Identifying potential stakeholders who have adequate levels of interest and knowledge, including indigenous knowledge about medicinal wildlife resources, is important.

THEME 2:

PROMOTING CONSERVATION AND CREATING AWARENESS

Participants noted that to undertake effective conservation and awareness creation, preliminary assessment is necessary. The assessment should lead to the establishment of the conservation status at local, national and regional levels. It should focus on identifying species under threat and pressures affecting them such as overexploitation, pollution, etc. This activity will lead to a better understanding of the level of availability, diversity, ecology, and distribution of threatened and valued species.

The assessment should seek to identify indigenous conservation methods, regulations, norms and approaches. Indigenous knowledge facilitates communities to identify and use medicinal wildlife resources. Attention should be paid to identifying any existing gaps that local institutions might have and ways of strengthening them.

At the same time, the assessment should identify and link up stakeholders, user groups, conservation agencies, research institutes and government initiatives in conservation. Moreover, there should be a focus on the socio-cultural value of species, production potential at community level, economic status and cost benefit analysis of specific species.

Using the results of the assessment, the next step would be to analyze the impact of past efforts in conservation, as well as the impact of trade and policy on conservation. Based on this, the process for developing short-term and long-term interventions on conservation would start.

The Need for Creating Awareness

Participants observed that there is need to increase awareness on issues pertaining to medicinal wildlife resources. Two areas that featured prominently were harmonizing policy and legislation, and developing effective means for monitoring and evaluation.

A MODEL FOR EFFECTIVE AWARENESS CREATION INITIATIVES

- identify stakeholders,
- identify threatened species and prioritize them,
- identify user groups, and their unique needs,
- include gender level awareness,
- create understanding of alternative action on conservation,
- develop messages and disseminate them to relevant audiences,
- build capacity at community, NGO, private sector and government levels to handle conservation as a cross-cutting issue,
- implement, monitor and evaluate the awareness creation interventions.

In conclusion, participants felt that the processes of conservation and creation of awareness were inter-linked. They also observed that the two aspects form a cross-cutting issue. Highlights of other observations made during discussion of this theme by participants are summarized below:

HIGHLIGHTS AND OBSERVATIONS BY PARTICIPANTS

- There is no regulatory framework focusing on traditional medicinal wildlife resources directly or specifically.
- Medicinal wildlife resources face competition from conventional drug companies.
- Increased trade in health care products purported to be medicinal wildlife resources poses questions on their safety, quality and ethics.
- Where policy is unclear or silent, this has promoted contradictory tendencies of interpretation and application in regard to medicinal wildlife resources.
- There is a clear difference in regulatory framework between health care products, conventional medicine with no clarity on medicinal wildlife resources.
- There is unregulated trade involving protected or threatened medicinal wildlife species.

THEME 3:

RELEVANT RESEARCH

Discussion groups were charged with the task of identifying viable approaches for conducting relevant research on medicinal wildlife resources. Groups pointed to the need to evaluate past research efforts to identify gaps. Needs-driven research on medicinal wildlife resources is necessary. Following identification of gaps, a basis for establishing research priorities at community, country and regional levels would be set. This would lead to the development and establishment of partnerships in regional research initiatives.

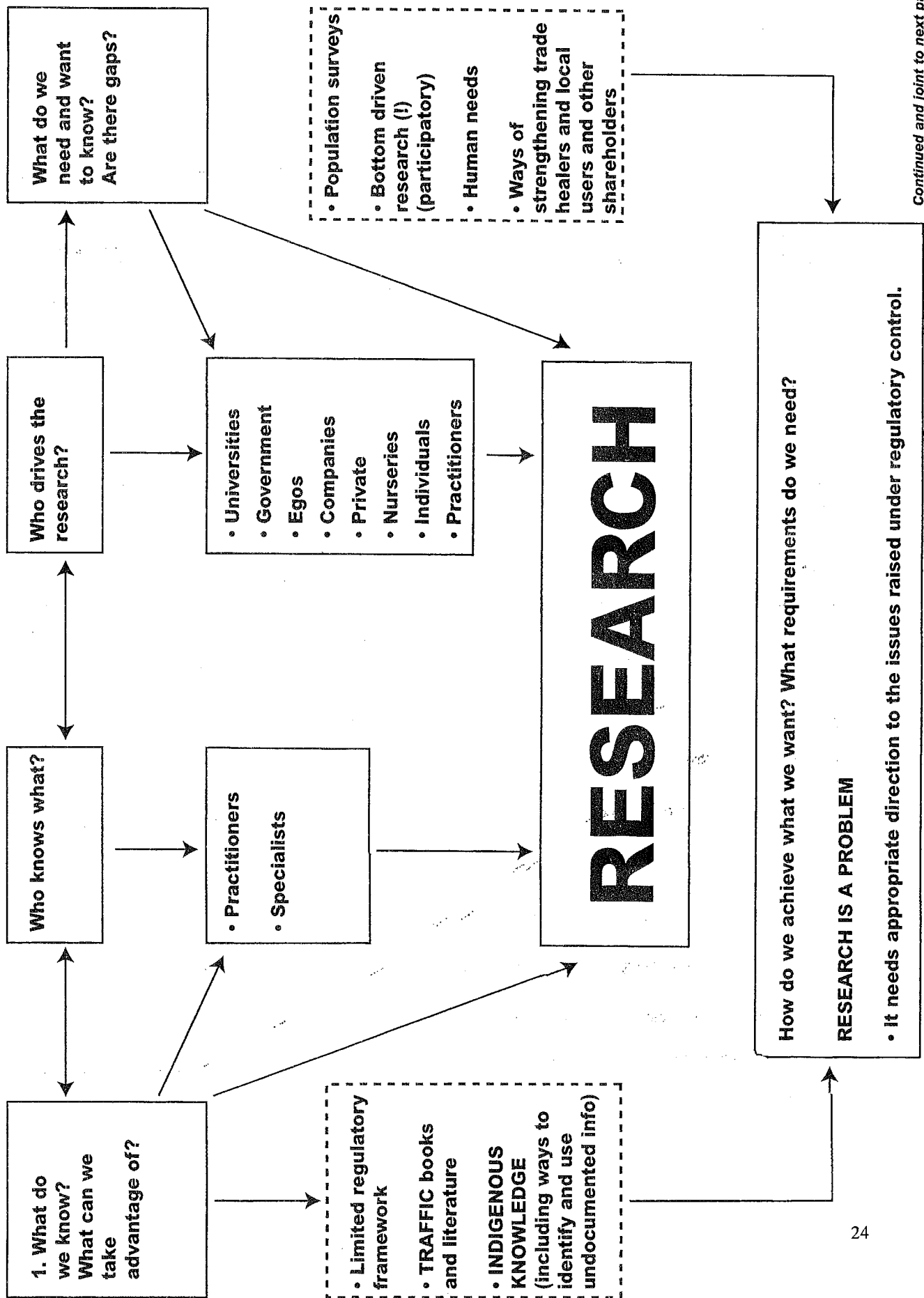
Participants looked at some research aspects they felt were of interest to them. It was noted that research in indigenous knowledge on medicinal wildlife resources has not been addressed or documented effectively at all. Another area requiring attention is that of policy, policy reform and policy enforcement, which is needed to determine the impact on medicinal wildlife resources.

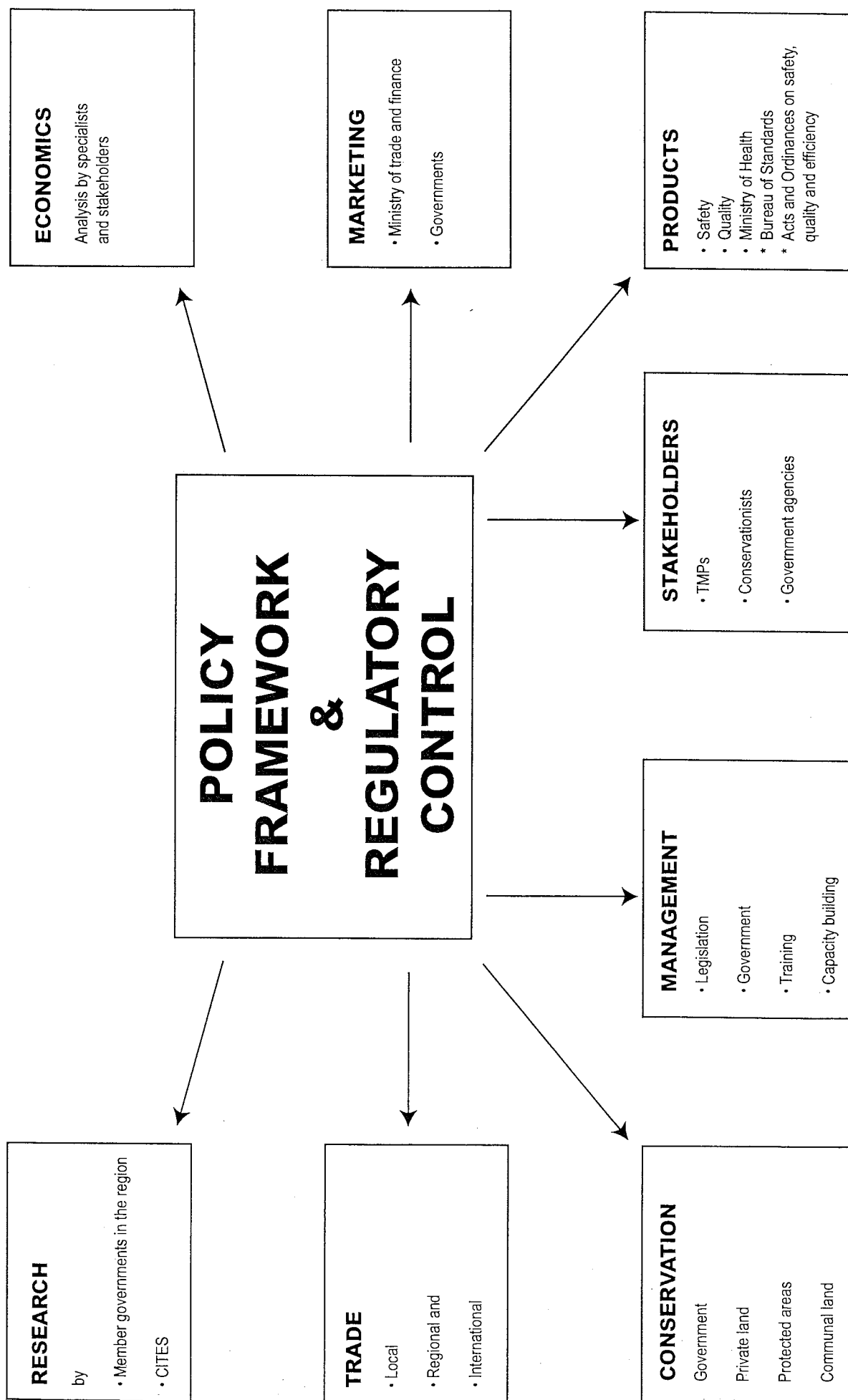
Participants felt that the resources available for research are limited. To resolve this situation, there is need to encourage involvement of communities, governments and other stakeholders so as to mobilize resources and participation.

Research has to be wide and cover issues of policy, equity, quality, efficacy of medicinal material, socio-economics, value-added processing techniques, storage and marketing, affordability and others. It should also cover analysis on tenurial rights on land, natural resources, patents, management needs, etc.

HIGHLIGHTS ON RESEARCH AND POLICY ISSUES

- Adopt the process of identifying gaps and focusing on needs-driven research on medicinal wildlife resources.
- Identify research needs and priorities at community, country and regional levels.
- Set up partnerships for regional research initiatives.
- Research into indigenous knowledge of medicinal wildlife resources has not been addressed or documented adequately.
- Land tenure and ownership of natural resources and medicinal wildlife resources are unclear.
- The impact of policy and policy enforcement on medicinal wildlife resources needs to be researched.
- The process of policy development and policy reform to determine impact on communities needs to be researched.
- Research has to be wide and open to encourage the involvement of communities, governments and other stakeholders.





APPROACHES TO POLICY AND REGULATION OF MEDICINAL WILDLIFE RESOURCES

The task for the groups in this thematic discussion was to identify key steps that could enhance effective approaches to regulation of wildlife medicinal resources. This theme was discussed at the same time as the theme on research.

Participants noted the need to harmonize existing policies that have a bearing on medicinal wildlife resources. It was noted there are no specific policies or regulations that deal with this sector directly.

EMERGING ISSUES

Policy and Regulatory Framework for Medicinal Wildlife Resources

- There is no regulatory framework focusing on medicinal wildlife resources directly.
- Because policy is unclear or non-existent, this has promoted contradictory tendencies of interpretation and application with regard to wildlife medicinal resources.
- There is a clear difference in regulatory framework between conventional medicine and health care products yet there exists no clarity on medicinal wildlife resources.

During the thematic discussions each group presented their outputs on newsprint. A profile of the specific group outputs is contained in Appendix 5 of this report.

Synthesis of Discussion Highlights

To synthesize group presentations, the facilitator asked the participants to write down on flip cards some emerging issues from their perspective. The facilitator then took all the flip cards and pinned them up on the wall. The facilitator together with the participants reviewed the cards, and grouped them in sets that were similar or closely related. The result was three "baskets" of emerging issues under the following profile:

Basket I:

Management and Conservation

Control the use of medicinal wildlife resources.

Management issues need greater development.

Formulation of effective policies on medicinal wildlife resources.

Management for regulatory control of medicinal wildlife resources.

Integrating medicinal wildlife resources into legal and land use options.

Ranches as a source of animals and plants for medicinal materials.

Improving management and conservation of wildlife medicinal resources.

Develop regulatory framework at national, regional and international level.

Need for policy advocacy at national and regional level in support of the conservation of medicinal wildlife resources.

Basket II:

Research

Needs driven research.

Difficulty of selecting research themes.

Community level participatory inventory.

Direct our research towards conservation.

Authentic inventory of traded medicinal wildlife resources.

Inventory research in traditional medicine and indigenous knowledge.

Conservation of not just what is threatened but in general, not to wait until medicinal wildlife resources are threatened:

Basket III:

Capacity Building and Participation

The link between human welfare and ecological sustainability.

Enabling community-based conservation projects of medicinal wildlife resources.

Institutional development for traditional medicinal practitioners.

Empowerment and involvement of local communities in the conservation of medicinal wildlife resources.

The facilitator then provided a summary of the emerging issues the workshop raised. These were presented in plenary and participants discussed them. Issues thought by participants to be the most significant are listed below.

SUMMARY OF EMERGING ISSUES

- Need for coordinated and updated inventories
- Strengthening capacity among all stakeholders
- Promoting relevant research and addressing lack of research
- Promoting policy formulation and advocacy, and lobbying at community, national, regional and international levels.

The summary of emerging issues formed the foundation for project descriptions. The project descriptions were edited by the facilitator and are contained in the main section of this report.

PROJECT DESCRIPTIONS

The facilitator shared the purpose for writing the project descriptions. It was pointed out that the participants needed to think of a project that could actually be implemented in their work context. This would be one way to ensure the recommendations of the TRAFFIC survey and results of this workshop would be fulfilled.

The facilitator shared a project description guide. Based on the emerging issues, the participants felt they needed to write project descriptions in interest groups to enhance networking in the region as a way forward.

The emerging issues were summarized into four areas and interest groups formed for each. The four areas were identified as follows:

1. *Inventories*
2. *Capacity Building*
3. *Policy*
4. *Research*

GROUP FEEDBACK ON PROJECT PROPOSALS

On the third day groups produced one project concept per issue rather than many small ones because they felt it was important to tackle the wider issues. Each group therefore was assigned a working area, and stationery. The groups worked on the project descriptions throughout the morning. Groups consolidated their project descriptions during one hour in the afternoon. The project descriptions are presented below.

GROUP ONE RESEARCH

PROJECT TITLE: A strategy for promoting relevant research on medicinal wildlife resources to achieve sustainable use and management.

1. Brief Background

TRAFFIC's recent publication *Searching for a Cure*, has documented a decline in some species valued as medicines. The decline is associated with an increase in habitat use and degradation, and an increase in use of traditional medicine. The report stresses that there is an urgent need to design measures to halt the decline. Such measures need to focus on conservation, awareness creation, capacity building, and developing supportive policy frameworks and sound research initiatives on medicinal wildlife resources. It is recognized that in designing effective interventions, an inter-disciplinary approach is required.

2. Problem Statement and Justification

Research carried out by TRAFFIC indicates that there is an increase in the trade in medicinal wildlife resources. This has both positive and negative effects. It will be necessary to formulate a policy framework which promotes a supportive environment for conservation, sustainable use and sound management of medicinal wildlife resources.

Research initiatives on medicinal wildlife resources need to be strengthened. For this to happen there is a need to identify areas where deficiencies exist. Three priority areas have been identified which constitute the most critical points to start from. These comprise:

- a) Identification of strategic areas with data deficiency.
- b) Identification of areas of management deficiency.
- c) Identification of policy and legislative shortfalls.

It is recognized that medicinal wildlife resources have not been in focus as a sector. Instead, they are brought to focus under other sectors, which do not necessarily identify medicinal value as a relevant subject to address.

Due to this, the management of medicinal animal and plant species is fraught with weaknesses. Species management is only undertaken when species are recognized as being under threat. In many areas, management for tourism purposes is undertaken, however.

It has now become clear that there is no policy, legislation or regulatory framework addressing the unique needs of the medicinal wildlife resource sector.

There cannot be a sound policy framework at any level unless critical issues affecting wildlife medicinals are clear. Research initiatives can provide specific and critical data and information to support policy development.

3. Project Strategy and Interventions

There is a need to prioritize research on medicinal wildlife resources. Experience in other sectors has shown that research contributes significantly to effective interventions. In the area of medicinal wildlife resources, data and information are deficient on many levels. It is necessary to create awareness among stakeholders at all levels, including donors, researchers, ranchers and the private sector, about research needs and priorities. This will provide an inter-disciplinary network that can promote research. Input from various stakeholders would highlight specific areas of need in which they have an interest. This would encourage needs-based research to be prioritized, designed and conducted.

Awareness about the value of research when it is needs-based increases awareness of its benefits to stakeholders. This would act as an incentive that promotes continuity in research work.

To initiate research, relevant commercial institutional partners at local and international levels are needed. A core network of partners and donors for research will be developed.

4. Objectives

- a) Promote research that leads to the conservation of medicinal wildlife resources.
- b) Harmonize policy, legislation, and regulatory frameworks by:
 - Research on standards, codes of ethics, out-dated legislation, and tenurial rights on land.
 - Research into appropriate means of coordinating policies and legislation nationally and regionally.
- c) Monitor, evaluate and verify medicinal wildlife resources through scientific research by:
 - Conducting inventories of biodiversity, distribution, ecology, levels of utilization, economic value, social and cultural value, and conservation status of medicinal wildlife resources.
 - Identification of stakeholders.
 - Compilation of guidelines for biosafety and medicinal efficacy.
- d) Research and identify trade and marketing opportunities for value added benefits to the traditional medicine industry.
- e) Build awareness at local, national and international levels, and enhance the understanding of cultural and environmental compatibility.
- f) Conduct research on the management options relating to key aspects such as conservation, awareness campaigns, policy management, etc.

5. Activities

- a) Prioritize and identify research activities.
- b) Develop draft research standards, codes of ethics, tenurial rights etc. Conduct research on appropriate means for coordinating policies and legislation nationally and regionally.

- c) Design inventories of biodiversity, distribution and ecology.
- d) Identify levels of utilization, economic value, social and cultural value and conservation status of medicinal wildlife resources. Identify stakeholders for each research activity.
- e) Research and identify market opportunities, ways of giving value added benefits to the traditional medicinal industry.
- f) Compile guidelines for biosafety and medicinal efficacy.

6. Project Outputs

- Document containing research results and database.
- Needs-driven research activities.
- Harmonized national and regional policy, legislation and regulations regarding medicinal wildlife resources, their use and trade.
- Effective monitoring and evaluation systems for determining biosafety, biodiversity, conservation and sustainability of trade in medicinal wildlife resources.
- New avenues of utilization of resources to reduce pressure on medicinal materials.
- Feedback on significant issues e.g. propagation.

7. Pre-requisites for Success in Conservation of Medicinal Wildlife Resources

- Communicate success stories.
- Share information and establish an active network among traditional medical practitioners.
- Publicize results of evaluations of past experiences.
- Use a multi-disciplinary approach to emerging issues in research.
- Employ evaluation, feedback and participation in management and conservation.

GROUP TWO

POLICY DEVELOPMENT FOR MEDICINAL WILDLIFE RESOURCES

PROJECT TITLE: Policy framework for the conservation and sustainable use of wildlife medicinal resources.

Background

Medicinal wildlife resources and the practice of traditional medicine have increasingly become recognized as forming part of curative health systems. "In Africa traditional medicine is our cultural health system, as hospital and doctor is in the west", observed one participant. The World Health Organization in particular has passed resolutions that support the practice of traditional medicine and use of medicinal wildlife resources.

However, there exists a gap on policies, legislation and guidelines related to medicinal wildlife resources. In many countries in Africa, more and more people are turning to traditional medicine as an alternative to conventional medicine. This has resulted in a marked increase in the harvest and trade in medicinal resources.

Some of the species have subsequently become endangered, while others are already very hard to find in some countries. Wildlife medicinal materials are sometimes imported from neighboring countries. Trade in medicinal wildlife resources has become an integral part of the informal trade sector.

The protection, conservation and management of medicinal wildlife resources are not adequately organized. Plants and animals are addressed under the broad policy and legislative framework as either wildlife and tourism, or natural and environmental resources. There is no specific policy, guide or control over medicinal wildlife resources. Protection often only takes place when a plant or animal is endangered or at the brink of extinction.

1. Problem Statement and Justification

It is evident now more than ever, that there exists no policy, legislative or guiding framework on medicinal wildlife resources. The general approach in applying existing policies does not address the specific needs and problems inherent in this sector.

Due to the increased exploitation of medicinal wildlife resources, conservation and sustainable use of medicinal wildlife resources are faced with new challenges. Overexploitation of traditional wildlife medicinal resources is a real danger.

By not including medicinal wildlife resources in the broad framework of the existing policies, these resources are exposed to unregulated exploitation. It is not possible to meaningfully monitor the resources for the purpose of conservation, sustainable use or even management as there are no specific parameters with which to monitor the sector specifically at all levels, that is, harvest, processing, distribution, trade or even dispensing.

Some existing policies, legislation and human activities actually contribute directly to the decline in medicinal wildlife resources. Policies regulating the construction industry are a case in point, where the clearing of sites leads to the destruction of trees, and the consequent loss of valuable medicinal plants.

Current land use options for agriculture, urban development and other human activities pose a danger to medicinal wildlife resources. There exists limited awareness among the majority of people in these sectors about the need to conserve medicinal wildlife resources.

In the majority of lands like national parks, game reserves, state land and ranches, the motivation to manage does not result from regarding medicinal wildlife resources as an important sector. Game ranchers for example frequently clear vegetation by burning or intensive cutting and uprooting. No efforts are made to identify or utilize medicinal plant species. In general, game ranches harvest animals for reasons other than for their medicinal value. Profits that could be made from harvest for medicinal purposes are therefore lost.

Game ranches hold great potential for being an alternative source of medicinal wildlife resources. There is potential for identifying plant and animal species that can be developed at the ranch level for medicinal as well as other values. A ranch could use this approach as an alternative line of business.

There is a need for a policy framework that addresses the importance of medicinal wildlife resources, and that enables TMPs to intervene to address the causes creating a decline in these resources.

2. Objectives

- i) Promote the development and harmonization of laws related to wildlife medicinal resources at national level in line with Article 8 and Article 11 of the CBD.
- ii) Identify disincentives and other omissions in existing regulatory frameworks, then set in place measures and incentives to overcome them.
- iii) Conduct case studies in countries selected through COMESA, SADC, IGADD, then present results to the secretariats for regional consideration, collaboration and cooperation.
- iv) Promote the development of a greater awareness of the significance of the wildlife medicinal sector at national and regional levels, among policy makers and implementers.

3. Activities

- i) Assess national level policy and regulatory frameworks.
- ii) Identify issues that will form a basis for case studies.
- iii) Prioritize issues and prepare a plan to determine methods, implementers, resources etc.
- iv) Implement, report, compile, disseminate and follow-up on feedback from strategic activities.
- v) Communicate results to appropriate national and regional level fora to stimulate necessary action.
- vi) Plan and implement lobbying and advocacy work

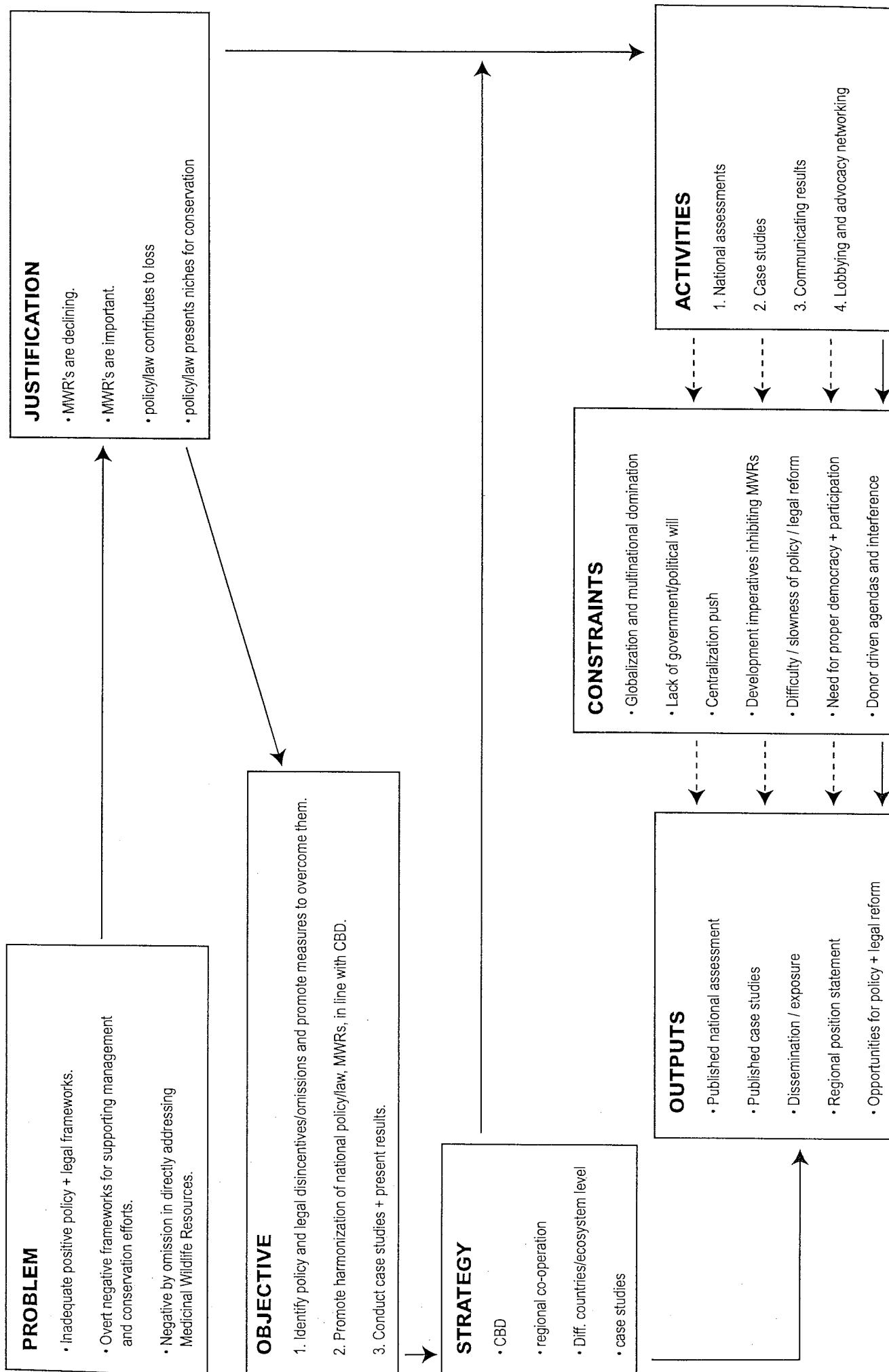
4. Constraints

- i) Globalization and multinational domination.
- ii) Lack of political will by governments and policy makers.
- iii) The push for centralization of development imperatives, which inhibits wildlife medicinal resources.
- iv) Difficult bureaucracy, and the slow speed of policy and legal reform.
- v) Need for democracy and participation, although at times it is slow.
- vi) Donor interference as well as donor-driven agendas.

5. Outputs

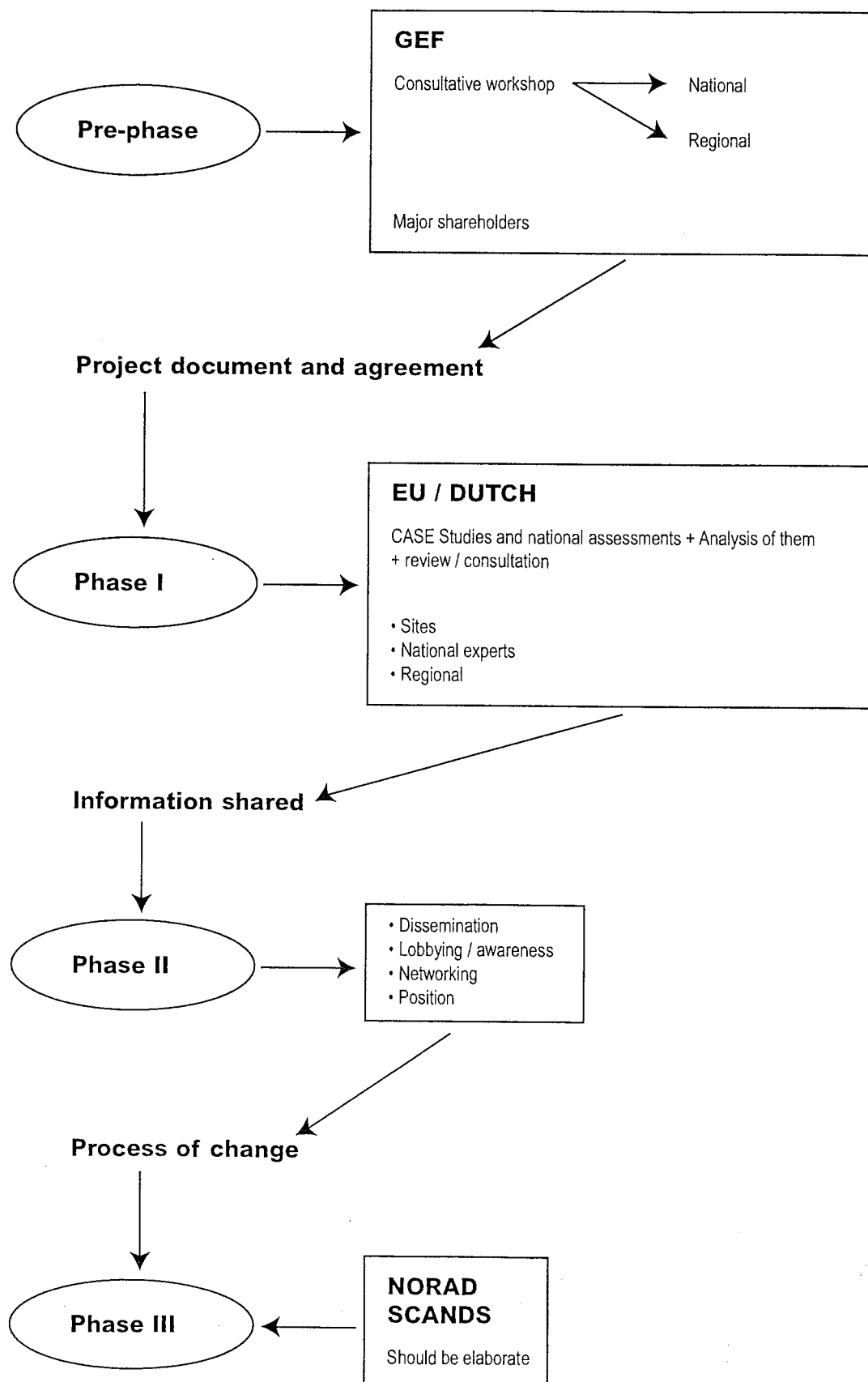
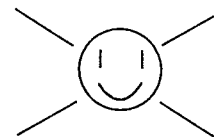
- Published case studies and policies.
- Published national policy assessments.
- Opportunities for policy and legal reform.
- National and regional position statements.
- Dissemination of information to TMPs.
- Exposure of TMPs to supportive policies.
- Formulation of policies specific to the medicinal wildlife sector.

POLICY AND REGULATORY FRAMEWORKS PROJECT



**MANAGEMENT PLAN SUMMARY
POLICY PROJECT DESCRIPTION**

Time scale



12 months

18 months

30 months

GROUP THREE

MEDICINAL WILDLIFE RESOURCE INVENTORIES

PROJECT TITLE: Conservation and sustainable utilization of endangered species based on inventories of medicinal wildlife resources.

1. Problem Statement and Justification

There is inadequate documentation and monitoring of key issues affecting medicinal wildlife resources which include overexploitation of resources, lack of structural accounting systems relating to use of medicinal wildlife resources, and deprivation of local communities of the wildlife resources. The decline in the status of habitat supporting medicinal wildlife resources and the loss of indigenous knowledge are also undocumented.

The lack of a structured accounting system on medicinal wildlife resources is leading to depletion of species in various habitats and ecosystems. These losses have resulted in local communities being deprived of these vital resources as well as a loss of indigenous knowledge. It is imperative that medicinal wildlife resources are reclaimed while indigenous knowledge is recovered and documented so that local communities can maximize benefit. This project seeks to address these issues.

2. Objectives

- i) Develop an integrated database of selected medicinal wildlife resources.
- ii) Develop inventories of medicinal wildlife resources reflecting habitat, ecosystems, uses and so on in each country in the region.
- iii) Establish the basis for ex-situ and in-situ plant conservation technologies through the application of ethnobotanical, pharmacological and agronomic methods.
- iv) Use molecular biology and chemical techniques in the evaluation of bioactive plant and animal constituents in order to determine the effects of geographical, genetic and ex-situ factors on medicinal wildlife resources.
- v) Promote sustainable utilization and conservation of medicinal wildlife resources through scientific research, community engagement, empowerment and stakeholder partnership.

3. Strategy Approach and Methods

The development of databases and inventories of medicinal wildlife resources shall be approached as regional initiatives. The focus shall be to identify and prioritize rare, threatened, endangered and endemic plants, animals, and ecosystems including aquatic habitats.

An environmental scan indicates that throughout the region, various records, resource centers, projects and persons who have indigenous knowledge on medicinal wildlife resources exist. Some have a particular focus on medicinal

wildlife resources, while others have a general or purpose-oriented focus only. These have been identified as being relevant sources of information, useful to the setting up of inventories on medicinal wildlife resources.

The approach to developing inventories shall start with existing sources such as literature, records, herbaria and museums. Fieldwork focusing on traditional medical practitioners, market outlets and various organizations will be conducted to identify and document indigenous knowledge.

Another approach will be to establish criteria for selecting a limited number of species to work on specific needs. These could be species needing protection, conservation, propagation etc. The development of an inventory of successful examples shall be used to profile and promote the use of the inventories.

Specific issues shall be brought to light such as the analysis of market forces at local, national and international levels, review of demand and supply to determine their impact on communities, particular species, prices, etc. This will facilitate developing inventories on verifiable trends that are reliable based on well-documented data and information.

The biology of plants and animals, aquaculture, analysis of propagation, potential cultivation techniques and harvesting, shall be looked into as well. The outcome will be the design and development of an inventory of alternative methods for sustainable conservation, management and availability of medicinal wildlife resources.

4. Activities

- i) Development of an integrated database.
- ii) Raise awareness of stakeholders.
- iii) Assist communities to build capacity appropriately.
- iv) Development of policy framework.
- v) Collection, evaluation, storage of germplasm, cultivation, and propagation of species in nature reserves.
- vi) Ecology
- vii) Examine phytochemical and ethnopharmacological activities related to medicinals.
- viii) Conduct training for community propagators and taxonomists.

5. Output

- i) Nature reserves for endangered and endemic species.
- ii) Dissemination and access to inventories through electronic bulletins, press media, monographs, etc.
- iii) Promote viable and alternative propagation systems.
- iv) Promote the improvement of livelihood of communities.

6. Constraints

- i) Regional size (geographic size) is too large.
- ii) Human and material resources for this work are limited.
- iii) Policy framework in each country is unique and there is need to cooperate and collaborate.
- iv) Financial support for inventory development on medicinal wildlife resources is lacking and also new to many conventional donors.

7. Management outline

The following elements shall be considered when developing the management plan. Regional project leader, national project leader, project agreement and implementation strategy shall be developed at the country level and networked regionally.

GROUP FOUR

CAPACITY BUILDING FOR CONSERVATION AND MANAGEMENT

PROJECT TITLE: Capacity building among local communities and traditional medical practitioners for conservation, management and sustainable use of medicinal wildlife resources.

Background

In the past, local communities and traditional medical practitioners were not incorporated into formal efforts involving conservation and management of medicinal wildlife resources. It is, however, increasingly being realized that local communities and TMPs have a pivotal role in the conservation, management and sustainable use of medicinal wildlife resources. Communities and TMPs have a great wealth of indigenous knowledge which could play a key role in the multi-faceted and multi-disciplinary approaches necessary to ensure the future of medicinal wildlife resources.

A focus on capacity building for local communities and TMPs therefore holds great potential for the medicinal wildlife sector. Empowering communities and TMPs to understand and act in relation to conservation, biodiversity, knowledge, management techniques and methods of sustainable use of these resources, will make a significant contribution to the sector.

1. Problem Statement and Justification

Malawi

In Malawi there are many traditional medical practitioners. Just like every other country in the region, TMPs have not been directly involved in dealing with issues concerning conservation and biodiversity of medicinal wildlife resources in any organized way.

Although their role is increasingly recognized within the health sector, traditional medical practitioners continue to operate in isolation of each other. This weakens the growth of their role and overall profession. Due to the isolated context in which the profession has operated, there has been a tendency towards competition. Cohesion of the professionals has been difficult to develop.

New initiatives in this area have begun to develop recently. This has led to the formation of an umbrella organization. The impact of this organization has been minimal. This is due to low capacity in networking skills, management and to a variety of other reasons.

Kenya

Kenya has valuable medicinal wildlife resources. However, with an increase in human activity, there has been serious encroachment on the forest areas of Mt. Kenya, Aberdare Mountains, Mt. Elgon and Mt. Kilimanjaro in neighboring Tanzania.

These mountain areas have been protected by a variety of policies and laws. However, new policies, interpretation and implementation of others, tea farming, timber extraction, and food production have taken up large tracts of land. As a result there has been phenomenal degradation of plant and animal resources from which wildlife medicinals were formerly derived.

The majority of administrators, decision-makers and users of the forest land seem to have minimal awareness of the need to conserve even the most meager amount of vegetative cover. People appear to be unaware that valuable medicinal plants exist in the forests. Forests continue to be cleared for the above-mentioned purposes.

Most traditional medical practitioners prefer to obtain medicinal materials from the forest areas discussed above, as they have in the past. In the markets, there has been an increase in the volume of medicinal material that has been harvested by local communities for purposes of trade. It is evident that in Kenya the level of exploitation of medicinal wildlife resources is high.

South Africa

In South Africa, there has been a tremendous increase in demand for traditional medicine. The result has been a rise in trade in medicinal wildlife resources of all types. In some areas demand is so significant that some material is imported from neighboring countries.

In some cases, certain medicinal plants have been overexploited. The Durban City Council has initiated a program to identify and propagate species that have become threatened. The programme also provides training to traditional medical practitioners on site. The training programme has a strong focus on the propagation of medicinal plants.

The impact of the programme has not been fully assessed. However, based on the interest and enthusiasm of TMPS who visit and network with the programme, it appears to have great potential. By and large, the TMPs have expressed interest and appreciation in knowing about how some of the plants grow and how to propagate them.

Indicators based on the experiences of the Durban City Council project are that its full potential has not been realized. It also recognized that as its existence and results become better known it would become a center for the propagation of medicinal plants.

2. Strategy and Interventions

The project shall establish rapport with already identified traditional medical practitioners and shall utilize existing cultural dynamics to extend its services. The potential to include communities in propagation and conservation of medicinal wildlife resources through farming and ranching systems shall be explored. The involvement of local communities in awareness building, focusing on biodiversity, conservation and management, shall be pursued.

These experiences shall be shared among key stakeholders for awareness building at local, national, and regional levels. Experiences and expertise from each of the countries shall be documented and shared adequately. This shall form a basis for networking, information exchange and training of traditional medical practitioners and communities.

The project shall develop a strategic plan. The focus of the plan shall be to prioritize key components of capacity building which need to be addressed first. Organization, networking and linkages for joint programmes shall be developed beginning with community level activities that focus traditional medical practitioners. This shall evolve to national and regional levels.

The capacity building programme shall seek to develop empowerment among local communities and the traditional medical practitioners in decision making, conservation, management and sustainable use of the medicinal wildlife resources. Skills for advocacy on conservation and sustainable use and equitable trade linkages shall be developed.

Assessments shall be conducted to identify and prioritize key incentives that would raise the interest and motivation among stakeholders. Awareness on the accruing benefits to stakeholders shall be raised so as to get them to commit resources for capacity building and empowerment of local communities and traditional medical practitioners.

Where possible, interventions based on market research shall be developed to link trade to on-going community initiatives in conservation, management and sustainable use of medicinal wildlife resources.

It is believed that as communities and TMPs become aware of incentives and benefits, this shall empower and galvanize them towards conservation and management for sustainable use of medicinal wildlife resources.

RECOMMENDATIONS BY PARTICIPANTS

The participants were given the opportunity to develop and share their own recommendations based on the outcome of this workshop, and specifically the first two days of discussion. The recommendations fell into six key action areas:

- a) Implement the project concepts developed in the workshop.
- b) Network more in the region.
- c) Involve stakeholders especially TMPs and consumers in policy issues, and conservation of medicinal wildlife resources.
- d) Proactively get involved to influence medicinal wildlife resources policy formulation at community, national, regional and international levels for the development of an enabling environment and specific policy framework that supports conservation, research, sustainable management and use of medicinal wildlife resources.
- e) TRAFFIC to organize follow-up workshops.
- f) Conduct market research to support a sustainable trade in wildlife medicinals.

CONCLUSION

At the end of the workshop, participants were given the opportunity to evaluate the workshop. A form was distributed to facilitate this process. The facilitator analyzed the evaluation outputs. Based on the analysis it could be said that the participants were fully satisfied with the workshop. The workshop objectives were fully met.

Participants' expectations were met in that they found the workshop content relevant to their context. Participants observed that the workshop process was facilitated adequately well and the venue was appropriate. The experiences shared and gained through the survey by TRAFFIC and from the workshop itself were highly appreciated by participants.

Special commendation was made to the convenor for the choice and group mix. The workshop brought together a diverse group of people, and it increased the potential for a wider application of the lessons learnt. Perhaps TRAFFIC might wish to consider holding similar workshops in the future, as these would be useful in developing a greater network of stakeholders, scholars and other interested entities in the medicinal wildlife resources sector.

Appendix 1

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**APPENDIX 2 SUSTAINABLE UTILIZATION OF WILDLIFE MEDICINAL RESOURCES IN EAST AND SOUTH AFRICA
REVISED PROGRAMME**

DAY	SESSION ONE 8.00 a.m. - 10.00 a.m.	SESSION TWO 10.30 a.m. - 12.30 p.m.	SESSION THREE 2.00 p.m. - 3.30 p.m.	SESSION FOUR 4.00 p.m. - 5.30 p.m.
DAY ONE	<ul style="list-style-type: none"> WELCOME AND OPENING. Introduction and sharing of expectations. Sarah Overview of workshop purpose objectives and process. Ndiku. Searching for a Cure by Nina Marshall. 	<p>B</p> <ul style="list-style-type: none"> Role of TMPs in conservation and awareness about decrease and shortages of medicinals. Isaac Mayeng. <p>R</p> <ul style="list-style-type: none"> Plenary response and feedback. Potential for production of medicinals by local communities. Gus Le Breton. Plenary response and feedback. 	<p>B</p> <ul style="list-style-type: none"> Potential of game management focusing medicinal by-products. Gavin Robinson. Plenary of nursery production for valued medicinal plants. Richard Symmonds. Plenary response and feedback. <p>R</p>	<ul style="list-style-type: none"> Feasibility of factory processing and production of medicines for traditional use. Kofi. Pharmacology Ernias Dagne Day's synthesis and Wrap up. Nina Marshall
DAY TWO	<ul style="list-style-type: none"> Recap of key issues. <p>Thematic Discussion and Interaction: Promoting the Conservation of Medicinal wildlife resources.</p> <p>Group Work.</p> <ul style="list-style-type: none"> Plenary response on main issues. 	<p>E</p> <p>Thematic Discussion and Interaction: Designing awareness creation programmes that target key audiences on Medicinal wildlife resources.</p> <p>Group Work.</p> <p>Conducting relevant research on Medicinal wildlife resources</p> <p>Group Work.</p> <p>Plenary response on main issues.</p>	<p>E</p> <p>Thematic Discussion and Interaction: Approaches to Management and Regulation of Medicinal wildlife resources on the exploitation.</p> <p>Group Work.</p>	<ul style="list-style-type: none"> Emerging themes and issues and prioritization. Group Work Reflection on lessons gained from thematic discussions. Linking emerging themes. Kisuke Ndiku
DAY THREE	<ul style="list-style-type: none"> Recap of Day two. Preparation of project descriptions by regions or interest groups. <p>Group Work.</p>	<p>A</p> <ul style="list-style-type: none"> Preparation of project descriptions by regions or interest basis. <p>Group Work.</p> <ul style="list-style-type: none"> Presentation of project abstracts. <p>Group Work.</p> <p>Plenary feedback.</p>	<p>A</p> <ul style="list-style-type: none"> Revision of project descriptions. <p>Group Work.</p> <p>Finalize and submit project descriptions.</p> <p>K</p>	<ul style="list-style-type: none"> Developing recommendations by participants on how to proceed with project work plans Kisuke Ndiku Conclusion, summary and Wrap up. Closing of the workshop. Nina Marshall

APPENDIX 3

EXPECTATIONS

Sharing of experiences.

Sharing experience from work done.

Sharing experience in herbal medicine.

Sharing experience on conservation of medicinals to promote welfare.

Sharing concrete ideas of developing a project on medicinal plants and animals.

Gain exposure and enhance a more integrated awareness on issues about medicinals.

Learning from each other

Learn with an open mind during the workshop proceedings.

To learn what is going on in different regions and apply it back home.

To obtain concrete ideas and motivation for conservation of wildlife medicinals in the region.

Learn how indigenous knowledge is used in other countries focusing on enhancement of local communities.

Examine how awareness could be created among communal farmers on game management as a viable commodity.

Learn from the specialty backgrounds represented in the workshop and obtain ideas about what to do in regard to scarce medicinal plants and animals.

Capacity issues

To strengthen capacity building for traditional healers.

Examine how nursery production enhances propagation of medicinal plants.

Identify scientific linkages for innovation in biotechnology and medicinals.

Explore the standardization of medicinals and how to identify a sustainable supply of medicinals.

Trade in medicinals

To see communities benefiting from wildlife resources.

How to implement and improve trade in natural resources while we alleviate poverty.

Examine how wildlife medicinal trade could be developed in the Africa region.

Future perspective

Interest in documentation of indigenous knowledge.

To see us making a steps toward the problem of conservation of medicinals.

APPENDIX 4

RECOMMENDATIONS BY PARTICIPANTS

The participants were given the opportunity to give recommendations based on the outcomes of this workshop. The recommendations fell into four main categories:

a) Implementing the project concepts developed in the workshop

- Project implementation.
- Prepare project proposals.
- Implement these projects.
- Put beef on the proposals.
- Importance of facts and figures.
- Action related to sustainable utilization.
- Define all project activities from objectives.
- Designed projects are implemented in each country in the region.
- Refine project concepts and introduce to various stakeholders and donors.
- For all participants to actively get involved in the various activities discussed.
- Identify a core of institutions to carry each proposal forward (balance of local and international).
- We should all strive to do whatever we can on our own to address which ever priority problem we are capable of.
- It will take a while until we develop the major projects we agreed upon. In the meantime ways and means should be found to initiate and implement small but significant projects (i line with the major themes).

b) Networking

- Establish strong linkages at all levels (national, international and regional) with various partner institutions on wildlife medicinals.
- Networking.
- Develop an informal network of researchers and practitioners in the field of wildlife medicinals.
- Exchange of successful project ideas coordinated by TRAFFIC.
- Future networking to follow up on ongoing activities that would arise from this workshop.
- Establish realistic linkages within the East and Southern Africa region to implement the proposed projects.
- We should share the outcome of this workshop with other stakeholders to motivate them.
- To this end the TRAFFIC coordinator should liaise with each particular point to keep the ball rolling and work towards the search for successful initial, preliminary projects.

c) Involve stakeholders especially practitioners and users

- Involve practitioners and users of medicinal wildlife resources in these projects.
- Capacity building of all stakeholders at local, national, regional and international levels.
- Involve all categories of stakeholders in wildlife medicinals in all stages of project design.

d) Proactively get involved to influence policy

- Formulation of policy and regulations specifically for medicinal wildlife resources.
- Policy development or monitoring to facilitate sustainable utilization of wildlife medicinal resources.
- Pursue the development of policy and regulation frameworks that will result in an enabling environment to address decrease in medicinal wildlife resources and problems experienced by traditional medical practitioners and their immediate local communities.

e) Organize follow-up workshops

- Organize a review workshop in March funded by USAID and organized by TRAFFIC.
- Organize more workshops after the report of this workshop is published to address key issues e.g. funding, project implementation and budgeting.

f) Conduct market research to support trade in wildlife medicinals

- Conduct market opportunity research.

g) Raise funds to implement workshop objectives

- Source funding for proposal implementation.
- Fund raise for implementation of projects determined in this workshop.
- Develop strategies for funding the projects determined in this workshop.

APPENDIX 5

GROUP OUTPUTS ON THEMATIC DISCUSSIONS

Promoting the Management of Medicinal Wildlife Resources.

Group Feedback

Participants were asked to discuss the theme and identify key steps that could be taken to effectively respond to the management of medicinal wildlife resources.

Group Outputs

Sodom Apple group

The group categorized the medicinal wildlife resources as terrestrial plants, animals, birds, and aquatic plants. The group suggested that the resources could be managed where they are or can be artificially reared.

How to manage by artificial propagation

The group highlighted the need to select species of high priority according to demand or level of risk. Identify potential propagators building on existing knowledge. Identify potential outlets, and then monitor. The following approaches were raised as potential interventions in the process:

- Re-introduce or plant priority species.
- Include propagation in farming as in ranching.
- Re-introduction and translocation of important species.
- In-situ management.
- Ex-situ management

Points to be considered

The group looked at stakeholders and suggested the following:

- The process should be made viable financially for the people involved.
- The government and donors might chip in but management of medicinal wildlife resources should remain a public service.
- The medicinal wildlife resources have great potential hence the need to promote management.

Acacia group

The group recommended the following steps as crucial for any management of the wildlife medicinals.

1. Take inventory of: -

- Trends in trade and markets.
- Existing management practice.
- Medicinal wildlife -products.
- Inventory of institutional capacity.
- Tenure of land and land rights.
- Ownership of natural resources.

2. Identification of management needs and opportunities at each level as follows:

- Identify the status of the intended beneficiaries, community, nation and region.
- Marketing opportunities.
- Support for existing practices where they are effective.
- Development of new management strategies.

3. Mobilization of resources to support management:

- Technical resources required.
- Human and financial resources.
- Institutional capacity building particularly empowerment.

4. Harmonization of policy and legislation:

- Environmental Impact Assessment.
- International Conventions.

5. Implementation of management strategies on tenurial rights of:

- State land and communal land.
- Ownership of natural resources on land.
- Protected areas.
- Council land.
- Private land.
- Wasteland.

6. Monitoring, Evaluation and Research:

- Impact monitoring of the strategy
- Ecological monitoring

Marula Group

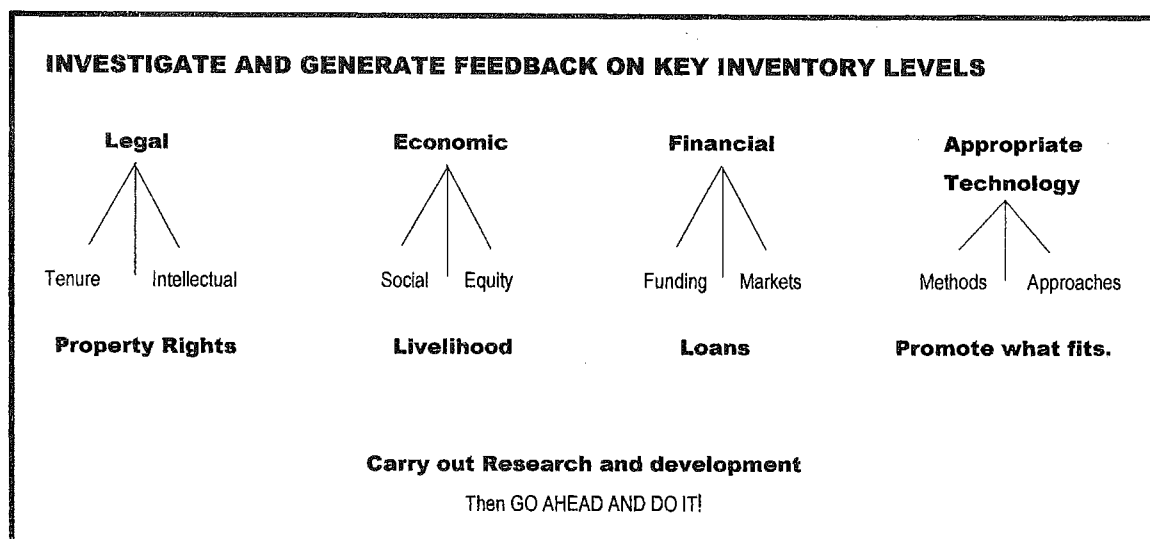
The Marula group reported that the single most important thing to begin with was to generate an inventory. The following aspects need consideration in the process of inventory development:

Inventory of resources, people and use:

- Assess extent of resource utilization by whom, of what, why, how much and when.
- Assess context of utilization, social, natural, availability, and scarcity.
- Identification of issues and need, as well as long-term and short-term actions.
- Set up instruments and mechanisms for creating an enabling environment e.g. legal, policy, etc.
- Address awareness levels and identification of awareness gaps, strategic planning with stakeholders in-situ/ex-situ.
- Create awareness and information exchange on existing resources between potential stakeholders with resource managers.

Marula group presented a model for use in developing an analysis on inventory as follows:

AN INVENTORY DEVELOPMENT MODEL FROM MARULA GROUP



Promoting conservation and creating awareness of medicinal wildlife resources

The groups discussed the above theme. The purpose was to identify key steps for responding to conservation and creating awareness.

Group Outputs

Marula Group

This group gave three key steps to promoting conservation and creation of awareness.

1. Preliminary assessment

Preliminary assessment was seen as a key step comprising the following:

- a) Assessment of the conservation status at local, national, regional and the international levels as well as assessing the distribution of medicinal wildlife resources.
- b) Identify the diversity, abundance, distribution and ecology of species.
- c) Assess economic status, costs and benefits analysis.
- d) Assess value at social and cultural levels.
- e) Identify threats to conservation created by human, pollution, land use options and tenurial rights.

2. Conservation

To instigate effective conservation, the following key considerations were brought forward.

- a) Determine the appropriate balance between culture and protection mechanisms that might create resistance and uncontrolled open access.
- b) Mobilize stakeholder involvement, awareness, information and participation.
- c) Prioritize species specification, habitat specification or community specification.

3. Re-assessment

Monitoring and evaluation of conservation efforts would need re-assessment to confirm success level. New interventions could be designed as a result.

4. Creating Awareness

On creating awareness use a strategy that involves participation of the stakeholders and beneficiaries. The strategy has to be gender sensitive. The following considerations were raised:

- Creation of understanding and of alternative action for conservation. Building the capacity of communities, NGOs, government, private sector and others etc., to be a crosscutting issue.
- Dissemination of information through media, education centers, cultural initiatives, religious centers, workshops publications etc.
- Revision, evaluation of impact and new design and new information levels.

Acacia group

The group gave the following key steps on how to promote conservation of medicinal wildlife resources:

1. Community level participatory inventory:

- Look at the medicinal wildlife resource distribution.
- Assess existing conservation strategies.
- Assess key existing conservation threats.
- Identify medicinal wildlife resource rehabilitation and production potential.
- Assess existing resources available for institutional management.
- Look at the threatened species for which there are market opportunities.

2. Community level institutions

- Strengthening accountability and transparency monitoring.
- Strengthening financial management skills.
- Political process.

3. Strengthening tenurial and user rights on land.

- Supporting cultural rules and regulations that promote conservation.
- Promoting community level by-laws.
- Advocacy for policy reform.

4. Sustainable economic incentives

- Inter-sectoral linkages.
- Enabling access to markets.
- Exploit value-adding opportunities.

- Facilitation of access to finances.
- Arrangements that enable community development and access to equity.
- Enabling, fair contractual arrangements between countries and other partners.

5. Harmonization of policy and legislation

6. Implementation of conservation strategy

7. Monitoring, evaluation and research.

Awareness Strategy

The group presented the awareness strategy as follows:

1. Identification of target audience and declining species of medicinal wildlife resources.
2. Develop the awareness creation messages.
 - a) Prioritize the list of endangered species and economic opportunities.
 - b) Appropriate presentation to groups.
 - c) Identify cost effective mode of presentation.
3. Resource mobilization and launch campaign.
4. Implementation of awareness campaign.
5. Monitoring and evaluation.
6. Re-design awareness campaign to focus on new levels of need and groups.

Sodom Apple group

Promoting Conservation

The group summarized the key steps as follows:

1. Identify endangered species.
2. Assess conservation status and identify pressures.
3. Identify stakeholders, user groups, conservation agencies, research institutions and initiatives by Governments.
4. Evaluate policy and legislation.
5. Develop and implement long-term and short-term strategies.

Awareness strategy

For creating awareness the group summarized the steps as shown below:

1. Identify target groups.
2. Develop messages specific to each group.

3. Identify methods of research to address the unique needs of each group.
4. Monitoring and feedback.
5. Identify financial and personnel requirements.
6. Conduct campaigns and consider the two points below:
 - a) Use the market forces as a measure of incentives
 - b) Make the implementation of campaigns a public service

Relevant Research and Policies on medicinal wildlife resources

The facilitator introduced the next thematic discussion. The participants had an opportunity of changing groups as well as group names. They formed four new groups with names of animals.

Group Outputs

Tilapia Group

The group gave the following steps as essential to ensure relevant research:

1. Baseline research

- Assessment of past and present research outputs.
- Identification of gaps, constraints and needs etc.
- Situation analysis using literature, oral, survey etc.
- Setting priorities for research.
- Assess and use outcomes and impacts of research.
- Assess social-economic status on policy.

Focus of inventory research on:

- Species and types of medicinal wildlife resources.
- Conservation status.
- Diversity, abundance.
- Distribution of species.
- Ecology, life history cycles etc.
- Utilization by stakeholders and trends in trade.

2. Further Aspects for Research

Consider short-term, mid-term, and long-term issues such as the following:

- Biological
- In situ - sustainability, restoration.
- Pharmacological properties of medicinal wildlife resources.
- Maximizing alternative resource utilization.

- Environmental and anthropogenic threats on medicinal wildlife resources.
- Ex-situ - artificial intensive propagation, germplasm storage.
- Variability of active components in different and alternative medicinal wildlife resources.

Under Socio-economics, research should focus

- Value adding techniques.
- Marketing, processing, storage, etc.
- Institutional dynamic on medicinal wildlife resources.
- Tenure, rights and policy on land use and ownership of natural resources.
- Opportunity costs (alternate opportunities) and inherent incentive.
- Partnership models in research within the region.
- Indigenous and cultural knowledge on traditional medicinal preparation, trade, use etc.

Regulation and control (Policy)

The group pointed out that there is no regulatory framework on medicinal wildlife resources and gave the following key steps towards establishing a policy baseline studies:

- Identify problems (sector-based laws etc)
- Harmonize policies and update
- Formulation of policies that promote fairness, equity sharing (involvement of communities)
- Policies on biosafety, safety, quality, efficacy, affordability, availability, cultural compatibility, environmental compatibility.

Sable group

General steps for policy analysis

This group gave the following steps for policy analysis:

1. Look for explicit reference to medicinal wildlife resources.
2. Look for general reference that would impact on medicinal wildlife resources.
3. Determine other laws that impact upon the law under scrutiny.
4. Use field research to gauge level of enforcement.
5. Assess impact of law on medicinal wildlife resources and their conservation status accompanying the written law with practice.
6. Identify opportunities for legislative reform where legislation might be inappropriate.
7. Identify opportunities to improve enforcement where legislation may not be appropriate.
8. Consider relevant international conventions.

Regulation control (Policy)

The group identified relevant aspects of legislation to be analyzed using the steps identified above.

Policy analysis should focus the following aspects:

- Land tenure.
- Mining rights.
- Transport regulations.
- Legislation relating to taxes, fees etc.
- Legislation prohibiting traditional medicine.
- Medical control (drugs, practice, dosage etc.).
- Environmental Impact Evaluation regulations.
- Ownership of natural resources (forestry, wildlife, aquaculture).
- Patent legislation needs to network with international patent registration.
- National environment action plan and national conservation strategy.

Relevant Research

The group identified the following key steps to relevant research.

- Development of national research priorities.
- Development of national research protocols.
- Strengthen links between institutional and traditional medicinal practitioners.
- Encourage government financial support for institutions and programs focusing on medicinal wildlife resources.

Summary of Emerging Issues

On the basis of the forgoing thematic discussion, a summary of emerging issues was developed as follows:

1. Need for coordinated and updated inventories.
2. Strengthening capacity among all stakeholders.
3. Promoting relevant research and address lack of research.

Promoting policy formulation, advocacy, lobbying at community, national, regional and international levels.

APPENDIX 6

EVALUATION SUMMARY

The following is a summary of the evaluation of the workshop by the participants.

1. Extent to which workshop objectives were met

77.7% or 14 out of 18 participants indicated that the workshop objectives were completely met (Score 4-5), while 22.3% or 4 indicated that workshop expectations were fairly met (Score 3).

2. Extent to which expectations were met

66.6% or 12 out of 18 participants indicated that their expectations for the workshop were completely met. 27.7% or 5 indicated that their expectations were met, while 5.5% or 1 participant indicated that their expectations were not fully met (score 2).

3. Extent to which facilitation methods and approaches were helpful for learning and sharing of experiences.

77.7% or 14 out of 18 participants indicated that facilitation methods and approaches were extremely helpful. 22.3% or 4 out of 18 indicated that the methods and approaches were helpful for learning and sharing of experiences during the workshop.

4. Extent to which the content of presentations was relevant and helpful

83.3% or 15 participants out of 18 indicated that the content was appropriate, relevant and very helpful, while 16.6% or 3 indicated that the content of presentations was helpful.

5. Most helpful and relevant presentations

55.5% or 10 participants rated the presentation on the role of Traditional Medical Practitioners (TMPs) in conservation and awareness building to be the most helpful and relevant to their context.

44.4% or 8 participants rated the presentation on nursery production of valued medicinal plants as helpful and relevant to their context.

33.3% or 6 participants rated the presentation on wildlife ranching and production potential of medicinal wildlife resources in ranch management as fairly helpful in their context.

27.7% or 5 participants specifically singled out and rated marketing and added value to medicinal wildlife resources by communities as very helpful and relevant, while another 27.7% or 5 rated the potential for production of medicinal wildlife resources by local communities as helpful and relevant to their context.

22.2% or 4 participants rated the presentation on feasibility of factory processing and industrial production of medicinal wildlife resources as moderately helpful and relevant to their context.

Another 22.2% or 4 participants rated the presentation on research and pharmacology medicinal wildlife resources as somewhat helpful and relevant to their context.

The video on medicinal trade in South Africa and the outputs of the project descriptions featured as relevant to at least two participants each.

6. Comments on workshop venue

- i) Accommodation was described to be "excellent, cozy, comfortable convenient quiet and clean".
- ii) Meals were cited as "great, very satisfying". One person felt they could be improved.
- iii) Workshop rooms were described to have been moderately satisfactorily good but the meeting room needs to be better ventilated.
- iv) Participants gave commendation to the staff in the Trisan hotel describing them as "wonderful, friendly and efficient".

7. Suggestions for improvement

- i) The most frequent suggestion was that of repeat workshops in different countries. A particular suggestion for a follow-up workshop to evaluate and share experiences based on the project descriptions of this workshop was made.
- ii) There was a suggestion to affirm the need to adhere to the schedule. At the same time, some participants suggested an extension of the workshop by about a half to one full day for future workshops. The majority of participants felt that the workshop was very well organized but suggested that attention be given to relaxation and informal sharing of experiences.
- iii) One participant felt that the organizers should have considered providing out-of-pocket allowances or paying for drinks.
- iv) There was a suggestion that the presentations be interspersed with other sessions and another that the facilitator uses more energy.

8. Other comments

- i) Participants emphasized their desire for more similar workshops in the future.
- ii) Many participants gave strong positive compliments to the organizers and facilitators. The choice of venue and mix of the group of experts and the ability to keep them motivated and focused were cited as strong points in this.
- iii) One participant expressed the hope that a report reflecting the workshop deliberations would be produced and distributed to all participants soon.

Remarks

Based on the foregoing analysis it could be said that the participants were fully satisfied with the workshop. Their expectations were met; they found the workshop content relevant to their context.

The workshop process was facilitated adequately well and the venue was appropriate.

Special commendation to Nina Marshall for the choice and group mix as it contributed effectively to diversity of opinion and application of the lessons gained through the survey by TRAFFIC and from the workshop itself. The workshop objectives were fully met.

Perhaps TRAFFIC might wish to consider what future value similar workshops would have for the development of greater networking of stakeholders, scholars and other interested entities on traditional medicinal wildlife resources.