UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

Environment and Economics Unit (EEU)

A SUB-REGIONAL WORKSHOP ON ENVIRONMENTAL IMPACT ASSESSMENT FOR COMMONWEALTH COUNTRIES OF EASTERN AND SOUTHERN AFRICA

Workshop Report

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Livingstone, Zambia
7 March - 15 April 1994

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ANNEXES

1.0 INTRODUCTION

The training workshop on Environmental Impact Assessment (EIA) for Eastern and Southern African Commonwealth countries was sponsored by the Commonwealth Secretariat, London and the UNEP Environment and Economic Unit (EEU) in collaboration with EarthCare Africa, a pan-African policy and environment monitoring institute. The workshop was held in Livingstone, Zambia, 7 March-15 April 1994 and was attended by twenty one participants from Eastern and Southern African Commonwealth countries. The workshop is one in a series of workshops planned to be sponsored by the Environment and Economics Unit of UNEP as part of its EIA programme

1.1 *Workshop objectives*

To provide the participants with an intensive and practical treatment of the principles, processes, procedures and uses of environmental impact assessment, both as a management and policy tool in the context of sustainable development.

To enable the participants develop frameworks of EIA methodologies appropriate to their respective national development needs.

1.2 *Opening of the workshop*

The workshop was opened by the Minister of Environment and Natural Resources whose speech was read by the Deputy Governor of Southern Province, in presence of Senior Chief Mukuni, the traditional leader of the area where the workshop was held. In his speech, the Minister drew attention of the workshop to issues of development projects which tended to ignore the welfare of local communities in which the projects were located. He cited examples where hydropower and water projects which, in some cases, resulted in displacement of communities from their original lands but ended in supplying neither power nor water to these communities. He urged the workshop to address the issue of community participation in development projects and to ensure that national EIA processes incorporate these elements in their procedures.

1.2.1 Dr. Muntemba, Director-General of EarthCare Africa, welcomed the workshop participants and thanked the Zambian Government for supporting and hosting the workshop in Livingstone. She described EarthCare Africa activities and the role it played in promoting environmental sustainability in African countries, highlighting its aim to promote dialogue between governments, industry and the people of Africa in the environment field. She further thanked the Commonwealth Secretariat for sponsoring the workshop and UNEP for co-sponsoring the activity.

1.2.2 Mr. Abaza, Chief of the UNEP Environment and Economics Unit, underlined the role UNEP played in promoting the application of EIA in developing countries as a tool for environmental management and sustainable development; that Agenda 21 of the United Nations Conference on Environment and Development (UNCED) emphasized the need for an effective EIA process and for integrating environment and development and underlined the key role of UNEP as the further development and promotion of the widest possible use of environmental impact assessment, including activities carried out under the auspices of United Nations specialized agencies.

He further stated that challenges facing EIA included its integration at project, programme and policy levels and in the development planning and decision-making process, the use of EIA as a planning tool to achieve sound environmental management and sustainable development, the need for the necessary political will to institutionalize EIA, and to identify the relationship between EIA and other policy reforms, and appraisal methodologies and analysis, including the economic and social aspects of development.

1.3 *Participants*

The workshop was attended by senior-level government officials and NGO leaders. They represented the following countries: Botswana, Kenya, Lesotho, Malawi, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The list of participants is shown in Annex III.

1.4 *Training methods*

A variety of instructional approaches including lectures, field exercises, case studies, group discussion, films, field trips and simulation games were employed in the workshop.

Short lecture presentations were given by resource persons who provided the theoretical aspects of EIA. These were enhanced with examples drawn from real life experiences provided by the participants. The participants also later acted as resource persons during the workshop.

The workshop involved the participants in some exercises to develop and apply EIA methodology. To start with, the participants were requested to develop a preliminary EIA applied exercise, preparing the terms of reference for the hypothetical construction of the Rainbow Lodge, along the Zambezi River, in the Victoria Falls area, where the workshop was in fact being hosted. The exercise was developed by three working teams, who made a reconnaissance of the area and identified the elements which should have characterized the objectives of a preliminary EIA study of the lodge area.

The analysis of the "human environment", involving the environmental and social impacts of the project, its short- and long- term effects, and the analysis of the legal framework, at both the local and national level, emerged as the crucial objectives of a preliminary EIA study of the area. Other impacts included the introduction of exotic species of trees and plants, the development of wood handicraft activities, wildlife and vegetation being affected by increased human activity in the area, the generation of waste and its disposal, noise pollution as a result of increased vehicle and aircraft traffic, scenic considerations due to the building of concrete structures and the social impact on the local population.

After that, the participants took part in an exercise for the Batoka Gorge project and went through all the assessment steps. The transparency of techniques and procedures emerged as a key issue. In fact the Batoka Gorge project involved both a transboundary and an upstream/downstream dimension, which introduced uncertainty in the socio-economic, institutional and environmental components and consequently required a great deal of transparency in the EIA conducted for the project.

Each participant was asked to prepare in advance an environment profile through films, posters, case studies, etc. Every participant had the opportunity to present these to the workshop. This sharing of information and experiences enriched participants in perceptions of the environmental issues in appreciating both the commonality and peculiarity of each issue. Thus participants acted as discussion facilitators, presenters of case studies, of group reports, or of their own experiences. Group discussions and reporting back to plenary occupied a prominent role in the life of the workshop. Field trips, within the environs of Livingstone Municipality, and the others in the last week of the workshop to Kafue, river and industries and the Copperbelt, the industrial and mining area, enriched greatly the participants' understanding and appreciation of the importance of EIA.

Films enabled participants to see and appreciate what was happening in other countries, as each country grappled with development challenges presented by different projects and ecosystems. At the end of the workshop, participants developed an outline of the EIA framework for Africa.

1.5 **Programme content**

The workshop had five major themes. These were treated as modules in their presentation. The themes were:

(i) What EIA is;
(ii) ecosystems and environmental concerns of degradation processes;
(iii) ecosystems and environmental concerns of special habitats;
(iv) environmental appraisal by sector; and

(v) perspectives, pressures and opportunities.

1.5.1 ***What EIA is***

Here emphasis was on the role of EIA as a management tool in minimizing and mitigating the negative effects of development programmes, as well as in alleviating poverty among the people the development projects are intended to benefit. In addition, to be meaningful, EIA had to build on a solid understanding and appreciation of the nature, both qualitatively and quantitatively, of the resource base, as well as the knowledge and practices which the local people used in the management of their resource base.

1.5.2 ***Ecosystems and environmental concerns of degradation processes***

This section focused on: tropical forests, energy, wetlands - lakes, rivers, swamps, freshwater and mangrove; coral reefs, mountain ecosystems, arid and semi-arid lands; island ecosystems. These were treated from a general perspective as well as specifically for each country to illustrate the management, or sometimes mis-management, of these ecosystems.

1.5.3 ***Ecosystems and environmental concerns of special habitats***

This module focused on causes of resource degradation and highlighted measures to mitigate the negative, and to enhance the positive, impacts of development programmes.

1.5.4 ***Environmental appraisal by sector***

This module examined the different approaches to the management of various sectors. The objective here was to facilitate evolution of EIA methods suitable to the African region, taking into account Africa's unique cultural, social, religious and economic factors which must be harmonized with the basic dynamics of the resource base.

1.5.5 ***Perspectives, pressures and opportunities***

This module situated the EIA process derived from the African experience within the global context. It discussed the opportunities available to countries and institutions resulting from their association with external forces. It further examined the pressures on countries and institutions resulting from their association with the same external forces. Emphasized were environmental education and training and awareness-raising among various sectors of society. Capacity building and roles of women in management of resources were highlighted.

1.5.6 Arising out of the above activities and the resulting experiences gained, participants

were now able to articulate on the EIA framework (for EIA) for Africa. The content of the framework emerged from the substantive ideas and recommendations of the workshop.

2.0 THEME: WHAT EIA IS

2.1 *The meaning and significance of EIA in sustainable development*

Focus of this theme was on the link between environment and economics. Highlighted were the following facets:

Africa was acknowledged as having the longest experience humankind has had in the management of its environment. However, in the recent past, the region had experienced degradation of both the human condition and the resource base. There were many strategies and programmes to halt and reverse this degradation. EIA was one such strategy.
EIA was deemed necessary because it enabled policy-makers and developers to know and do what is right for the people and the environment.

2.1.1 *History and background*

This section reviewed the history of EIA, its emergence and evolution across time and countries, and illustrated how the people-environment relationship, or, more broadly, culture vis-a-vis environment, changed with time, and it introduced the concept of EIA as a tool to understand this relationship. Emphasis was placed on the importance attached to the concept of EIA in Agenda 21, as a tool which could be used to integrate environment and decision-making, helping to achieve the ultimate goal of sustainable development.

The experience of European countries was analyzed stressing that EIA approaches had developed in an uncoordinated manner across time and countries. The concept of EIA was seen as a lengthy process, which required a certain level of capacity, particularly in terms of human capital, i.e. practitioners, respondents and project proponents. Within Europe, a strong need had emerged to implement EIA in Eastern and Central European countries, requiring the enhancement of skills and human capital in this field.

A case study in India, which illustrated the evolution of EIA in that country showed that the process had started at least 10 years previously when there was no capacity for the implementation of EIA. Only after a consistent effort in capacity-building was it possible to observe progress in decision-making in that country.

Status of EIA in Africa revealed that there were two driving forces behind EIA application in the

region. On the one hand, EIA was donor-driven, since it had to meet the requirements of the World Bank and its National Environmental Action Plans. On the other hand, EIA had to meet internal needs, stemming from socio-environmental patterns which differed across countries and needed to be analyzed individually. In practice, however, African countries were faced by a lack of internal coordination in EIA implementation, mainly because EIA was "externally driven". There was therefore a strong need to build capacities to develop "internally driven" EIA.

Two considerations emerged from the discussions. First, it was recognized that countries with a heritage of British colonialism showed a strong bias towards land-use planning. Second, it was observed that frequently, in African Countries, EIA had been applied to large projects, and, consequently small projects and their cumulative effects had been almost neglected. It followed that two successful key elements to EIA implementation would be the enhancement of land-use planning policies and a process of democratization, i.e. decentralization in decision-making. It was further revealed that usually EIA in Africa had been commissioned by the project's proponents and donors. Only in rare cases had EIAs been proposed by local communities. The main constraints in the implementation of EIA in Africa had been identified as the lack of political will, lack of funding, and the absence of indigenous capacity.

2.1.2 *Effectiveness of EIA*

The effectiveness of EIA as a policy tool to achieve sustainable development was discussed. In particular, its effectiveness in linking micro-issues to a macro-dimension in environmental economics planning was analyzed. The focus of 'EIA effectiveness' was on the Victoria Falls area, a UNESCO National Heritage Area, and a very sensitive issue for the participants of the Workshop. The Victoria Falls area was protected by specific regulations and the decision-making process in the area was not focused on individual projects, but oriented towards a land-use planning system. The issue of integrating land-use planning systems or other macro-planning policies with EIA procedures for individual projects was raised. The application of EIA to large-scale projects was considered to be an integral component of the decision-making process.

EIA analysis should reflect both efficiency and equity criteria in economic development; the effectiveness of EIA, in its ability to reach targeted objectives and specific social groups, should imply distributional considerations, often neglected during both the design and the implementation phases of projects. The net benefits stemming from any project should accrue to the various socio-economic groups directly and indirectly involved in the project. EIA as an effective socio-economic tool for integrated decision-making, had to reflect intra- and inter-household distribution criteria, taking into account the needs of local communities.

Lack of information among local people and conflict of interests between governments and local communities emerged as key factors which affected EIA effectiveness and apparently characterized most projects and planning policies in rural Africa.

2.1.3 The European and USA experience showed that in order to put in place and implement EIA you need:

(a) legislative authority;
(b) a legal framework;
(c) institutional capacity to undertake and enforce EIA;
(d) public awareness and participation;
(e) political will;
(f) funds.

In Europe, each country had established its own EIA policy guidelines, which had to be adapted to the EEC Directive.

African countries were adopting EIA to help their development planning. Of late, donors had brought pressure to bear on African Governments, via structural adjustment programmes (SAPs) and national environmental action plans (NEAPs). The World Bank was a recent convert to EIA. SAPs seemed to affect the environment more adversely than other programmes. Most EIA processes in Africa were ad hoc and donor-driven. Recent trends showed that enhanced democratization and decentralisation were favourable to EIA, because to be effective, EIA must operate in a democratic social and political environment.

EIA was mainly for big projects. However, incremental effects of small projects may also have affected the environment adversely.The issue here was how to deal with small-scale development projects. Part of the solution lay in equitable land-use policies and plans which would ensure proper location in both time and space of small-scale development projects.

Linking environment and development could be achieved through the use of the following tools:

- Valuation systems and methodologies for materials not traded in the market place.
- Economic and legal guidelines review.
- Integrated environment and economic planning.
- Economic instruments and pricing policy to internalize environmental costs.

2.2 *Theoretical framework: patterns and techniques*

The workshop reviewed the methodology of EIA procedures. Recently, a distinction had been made between EIA and Environmental Assessment, in order to mitigate the negative connotation implicit in the definition. The notion of "impact" would apparently underline only the negative environmental component of projects. But this should be interpreted as a definition problem: EIA must be enhanced as a tool to pursue and achieve sustainability, under a positive approach to environmental evaluation. The EIA model and the EIA methodology within the project cycle were described. The EIA model had identified the main actors in the assessment procedures: the proposed action generated impacts on the human environment, and, through that, interacting responses had been produced.

The EIA methodology developed within the project cycle consisted primarily of two phases: a creative design phase and an implementation phase. EIA started as a preliminary "screening" procedure at the pre-feasibility stage of the project cycle, within the creative design phase. It then developed with the project cycle during the feasibility, design, implementation, supervision, audit and evaluation phases. The various steps in the assessment procedure were illustrated, starting from the scoping, problem identification, analysis of alternatives and formulation phases, up to the evaluation, mitigation, monitoring and management phases.

2.3 *Holistic Approach*

The motives behind a holistic approach to EIA methodologies were explained. The concepts of the 'field domain' and development of EIA were illustrated. The field domain of Impact Assessment had an intrinsic use value, and covered various fields of application: socio-environmental planning involved multiple purposes and was aimed at multiple publics with different interests and perspectives, which reflected multiple criteria and methodologies. Furthermore, depending on its domain, the field development of EIA required a methodology to test the theoretical approach, and the work of professionals, within various institutional scenarios.

The methodology of Impact Assessment could reflect different approaches, which were identified with basic questions and issues-centered and systems approaches. The methodology itself applied to a theoretical framework, which defined the assessment of impacts at the project, programme and policy levels, respectively, on a local, regional and global scale.

A few key questions were raised, in particular regarding which institution should define the proposed action, what role the community effectively played in project identification, and who should be responsible for the monitoring phase. The issue of reconciling donors' interests with local community interests within a democratic decision-making process was emphasized.

2.4 *Situation at national level*

Legislative authority was recognized as an important pre-requisite. It was linked directly to political will which was critical to the formulation of necessary policies to facilitate EIA implementation. The following countries gave briefs about what was happening at national level: Kenya, Malawi, Seychelles, Tanzania, Uganda, S.Africa, Zimbabwe (Annex I).

2.4.1 *These emerged as the general characteristics*:

- Environmental Ministries and /or departments set up or in the process of being set up.
- Scattered environment and nature conservancy laws.
- Umbrella environment law/s in the process of being formulated.

2.4.2 *The following gaps were identified:*

- Absence of EIA regulations and guidelines.
- Government bodies responsible for environment having not strong legal backing.
- Lack of qualified personnel in EIA.
- Lack of umbrella environmental laws.
- Lack of political will to enforce existing laws.
- Lack of transparency among policy-makers and decision- makers.
- Weak institutional capacity.

The roles of external support and political context were discussed. It was observed that most of the activities in EIA were donor-driven, especially by the World Bank, International Monetary Fund (IMF), the various official development assistance (ODAs), UN Agencies, etc.It was emphasized that African countries have to move away from stereotype ways of solving their problems by becoming more innovative and less donor-dependent. This could be achieved on the basis of some of these recommendations:

2.4.3 *Legal base*

- Blend local and foreign expertise (from Africa and /or elsewhere) to draft harmonized regulations and procedures.

- Undertake institutional reforms to set up either an independent/autonomous environmental authority within or outside the Government; or separate environmental bodies/departments responsible for environment in each ministry.

2.4.4 *Training*

- o Train local personnel at home and/or elsehwere.
- o Secure funding for research and development (R&D).
- o Get involved in training personnel from government, the private sector, NGOs and communities.

2.4.5 *Capacity Building*

- o Acquire equipment and compile databases for use by the country.
- o Secure services of local and expatriate consultants to set up the necessary database.
- o Set up the institutions acting as training centers.
- o Initiate and sustain networking among institutions at national, sub-regional, regional and international level.

2.4.6 *Political Context*

An enabling, transparent, accountable and friendly political environment was a necessary condition for building and strengthening the institutional base necessary for proper EIAs and hence sustainable development.

2.5 *Public Participation Defined*

All too often ignored, or paid lip-service to, public participation was an important element of the sustainable development process. Historically, public participation had been understood to encompass four distinct yet closely interrelated concepts - public, participation, consultation, involvement.

Public was defined as comprising individuals and communities who are interested in and affected by the project; who are citizens and residents of the host country. On the other hand, publics was seen as comprising sectoral interested bodies and institutions; the national public and interested international groups or organizations; different and distinct groups in a community, e.g. women, farmers, businessmen/women, and others. Furthermore, community, sometimes used interchangeably with public, was defined as a segment of the public who

share common resources and who may be affected by a project in a similar way.

Consultation - here meant obtaining opinions and information from communities for use in decision-making, and afterwards informing the community about the outcome. Thus Consulting the community does not mount to much.

Involvement expressed the extent, degree or level of consultation and participation. High level involvement came close to but was not participation. The level of involvement would be determined by the nature of the project, the level of democratization in management and decision-making processes in a society.

Participation - here meant starting with the people; the public becoming part of the project process assisted by access to information on the project and representation at all levels; being part of the decision-making structures and processes; being accountable; being involved in running the project and having a sense of ownership and control. Participation was at two levels: within the planning process and decision-making process. The level of participation depended on the nature of the project and country in which the project was to be implemented.

Two case studies of people's participation

2.5.1 *Chief Mukuni's Area*

Senior Chief Mukuni's area was a classic example of hydropower development which confers no benefit to the local people. The Livingstone power station was constructed to fuel industrial development in the country. Chief Mukuni's people lost access to the Falls surrounding lands which became designated as a national park. Thus, they lost their ancestral homes, graves, shrines, etc. The women who were priestesses of the Gods of Mosi-ao-Tunya, i.e. today's Victoria Falls, lost their spiritual and social power when the bridge was built. To this day, Chief Mukuni's village of some 5,000 inhabitants does not have electricity although high tension wires pass over the village. The road is still dirt road. Other amenities - education, health, water supply are rudimentary. Yet thousands of tourists visit the area. The same area is a game (National) park. Before the area became a national park, the local people knew how to cope with drought and food shortage by utilizing wild fruits and other traditional food. Today, in times of drought people are either fed by government or starve. The benefits to the local community did not compensate for the losses due to the development of the area.

2.5.2 *Barotseland Flood Plains*

Before colonization, the management of the flood plains was under the King's Council of Ministers. Special Ministers were appointed to manage and oversee the digging and maintenance of canals, to set aside and take care for fishing rights, including special fishing ponds for women; to manage the forests by ensuring that only specific trees for specific jobs were cut; to manage bush fires, hunting, and local festivals.

These practices were abandoned for one reason or other, all in the name of development. Forests were destroyed due partly to the civil war in Angola; privatization has broken down the communal management of canals, forests, fishing grounds, etc. The environment was being polluted by modern developers.

2.5.3 *Recommendations on popular participation*

1. All local development, e.g. hotels, hydropower, national parks and other economic activities such as factories, should have a net positive benefit to the local people. This must be clearly stated in all project proposals.

2. Local communities must participate in any new developments. Developers must be tied down to legal agreements and not mere verbal promises.

3. Women's participation in development activities is central. They are usually affected more adversely by these development projects and programmes.

4. Developers must respect the people's culture, social organization, religion and their way of life.

5. Community participation was the only sure way to sustainable livelihoods. It should consist of these elements:

    - Explaining to the people what is in for them.

    - Community to be represented on management body of the project.

    - Community participation should, where necessary, result in modification of projects. If developers are not ready to accommodate these modifications, then they should be told to go and be replaced by those who are prepared to listen to the people.

    - Local communities should be equipped with knowledge and necessary technical

known-how through its representatives. NGOs should play a role in this awareness-raising exercise, catalyzing and articulating the implications of the project to the communities.

- o Participation requires well-developed local institutions to mobilize the people.
- o Traditional rulers and culture must not be for tourist attraction. Culture should be lived and traditional rulers should not be paraded for money. (For sustainable tourism see page 27)
- o To ensure effective community participation each country should work out suitable instruments for power sharing between local communities and local government, and between local government and central government.

2.6 *Recommendations to National Governments*

1. Identify genuine development priorities through programmes which assess people's development needs.
2. Establish time frames in which a country can become financially independent.
3. Work out comprehensive training capacity and institution building programmes.
4. Develop strategies and implement plans to mobilize local resources for development.
5. Maximize opportunities provided by donors.
6. Institutionalize EIA processes and procedures.
7. Allow and facilitate people to participate in their own development.

2.7 *Public and Community Participation in EIA Process*

It was acknowledged that the level of public participation was a function of the state of democracy in a given country. The more democratic a country, the more free space there would be for the public to participate in their own development. Non-democratic governments and societies had little room for public opinion and hence participation.

Africa had its own blue-print on public participation in sustainable development which was developed by governments, NGOs and other organisations during an historic conference in Arusha in 1989 organized by the Economic Commission for Africa. While the existence of this document was known, many people and organisations did not refer to it. Although not legally binding on governments, it imposed a moral obligation responsibility on them, while at the same time enabled people to press for their participatory rights in development.

In order to ensure that EIA became effective the following points were highlighted.

1. Local people should participate in formulating a project concept.

2. In case of a project originating from a community, facilitate discussion with them on the likely impacts of the project, and let them work out the necessary mitigation measures and do their own EIA.

3. In case of a project originating from government, the community affected by the project should be involved through consultation. The government should report back to the community its final decision on the project. A dialogue should be initiated and sustained.

4. In big projects, involve community representatives in prefeasibility stage.

5. In feasibility stage, involve community representatives.

6. In design stage, community should be contacted.

7. In implementation, community representatives must be there.

8. Supervision should include periodic monitoring by community and public representatives.

9. Evaluation should involve people's representatives.

10. Public participation should be backed by the force of law, i.e. EIA legislation should clearly state the role of the public in the EIA processes.

3. THEME: ECOSYSTEMS AND ENVIRONMENTAL CONCERNS OF DEGRADATION PROCESSES

This module examined the principal causes of land degradation, land degradation processes, and their effects on peoples' livelihoods and development programmes. In addition, the module examined mitigation measures to halt and reverse degradation, put the people on the path to recovery and development.

3.1 *Background information on ecosystems*

Ecosystems were described as living stable entities with their own internal dynamics, liable to destabilization, degradation, including death. Minor changes could be corrected, but major ones could cause permanent, sometimes irreversible, damage. Permanent changes in ecosystems led to changes in vegetation, e.g. perennial plants may be replaced by annuals and biannuals; incidence of disease may increase in the area. For example, change in flooding regime of the Kafue River resulted in increased incidence of ticks, impacted negatively on transhumance, and permanently changed the ecology of the riparian regime.

This was the starting point. To be able to undertake sustainable management of resources, we must know what we have, and where we are. A quick check among participants revealed that many countries in the sub-region did not have inventories of some of key economic sectors and ecosystems. Work done so far showed these countries had inventoried as follows:

Water : South Africa, Seychelles, Zimbabwe, Malawi.

Wetlands : Uganda, Seychelles

Agriculture : South Africa, SADC countries

Fisheries : Kenya, South Africa

Forests : Swaziland, Uganda (in the process). Most countries have neglected indigenous forests

Wildlife : All the countries have inventories on large mammals

Minerals : Only commercial ones

Settlements : Based on censuses: Botswana (1991); Kenya (1979); Malawi (1987); Swaziland (1989); Tanzania (1988); Uganda (1990); Zambia (1990); Zimbabwe (1992).

3.2 *Processes of Degradation*

The following were identified as the major processes of degradation in the sub-region.

Deforestation - caused by inequitable land-use policies which gave the best arable land to commercial farmers (mostly white) and crowd (the rest of) Africans in land with poor soils. Other causes included poor management practices due to lack of awareness on part of peasant farmers; and economic pressures which push people to cut trees for charcoal. This was caused by development of consumption patterns which left no alternatives for the poor on one hand and careless exploitation of the resources on the other.

Siltation - caused mainly by poor management of river catchments, especially by deforestation and overgrazing.

Pollution - largely from industry, untreated urban sewage and undisposed garbage.

Dam construction. There were many large and small dams in the sub-region. For example small ones no EIA was done. For the majority, little or no monitoring was done.

Fires - natural and man-made. They could cause a lot of damage

Eutrophication - caused by industrial pollution and water weeds.

Poor drainage systems. Discussion on the above processes of degradation revealed these major areas of concern:

(a) The sub-region had fragile soils which were better managed by using organic and intercropping farming practices. However, over the last few decades the tendency had been to use chemical fertilizers to the exclusion of other practices. A balanced mix of different practices was preferable.

(b) Marketing of agricultural produce was seen as a bottleneck. Intra-regional trading and marketing was considered as one way out of the problem. Another was to establish people-to-people markets.

3.3 *Effects of Degradation*

These included: limiting accessibility to a resource; decrease in biodiversity; biomass decline; decline of land-use

capacity; food claims shorten; life-cycles are simplified, i.e perennial plants are replaced by animals; natural patterns become unpredictable; management becomes difficult; diseases tend to occur more frequently, e.g malaria, tick-fever and epidemics as do famines, natural disasters e.g. drought, floods, fires, etc.

Discussion showed that these effects were widespread throughout eastern and southern Africa. For example, in South Africa, there was serious loss of top soil (for every ton of crop produced, 10 tons of soil were lost through degradation). In Swaziland, degradation had reduced water flow in many areas. In Save catchment area (Zimbabwe and Mozambique) heavy deforestation (on Zimbabwe side) had caused siltation.

3.4 ***Shared resources of the sub-region*** - need joint action.

For example, Lake Victoria (Kenya, Tanzania, Uganda, Rwanda) was degraded through pollution (Uganda + Kenya) and water hyacinth. In Malawi deforestation due to agricultural activities had resulted in destruction of fish breeding grounds and reduced fish stocks. Siltation was affecting shared rivers with Mozambique. Lake Jipe (Kenya and Tanzania) was being polluted by agricultural activities in Tanzania while pastoralists used it for their cattle in Kenya. In Zambia, River Kafue was being polluted by industrial, mining, agricultural activities and the water hyacinth. These would soon enter the Zambezi river with serious consequences for both Zambia and Zimbabwe.

3.5. ***Causes of land degradation***

These were principally seen as the causes: Political ideology and systems of governance; affluence and its effect: poverty; lack of awareness and limited resources; poor policies; lack or non-implementation of policies; delinking economics and ecology; external influence and interference in economic management; lack of public power; conflicting land-use practices; poor integration; economic sabotage (e.g arson), civil unrest and strife, including refugees; natural causes and haphazard human settlements.

3.6. ***Restorative work***

This had been undertaken in some countries. In Malawi, restorative work through reforestation of water catchment areas had restored river flow. In Zimbabwe, community work had been undertaken to fill up gullies and turn the areas into arable land. In Save catchment, a joint project (Zimbabwe and Mozambique) was under way to rehabilitate the area.

3.7. *Summary*

(1) The sub-region countries had no individual laws which governed the management and utilization of watersheds. New integrated laws for watersheds should be enacted by each country. Joint laws for shared watersheds should also be enacted.

(2) Concerning farming practices, it was recommended as a strategy to conserve the region's soils to undertake urgently studies on various methods of sustainable agriculture - i.e. organic farming, inter-cropping, agroforestry and other traditional methods, together with combinations of these with modern agriculture - and to ensure that the studies were given the widest publicity and dissemination, especially to the farming communities and policy-makers.

(3) Existing land-use policies should be revised to make them equitable. This would reduce overcrowding and make land more accessible to peasant farmers who constituted the bulk of farmers in the region.

4.0. THEME: ECOSYSTEMS AND ENVIRONMENTAL CONCERNS OF SPECIAL HABITATS

4.1. *Introduction*

This module recognized the fact that there were ecosystems that possess special qualities and characteristics which marked them out for special treatment. These characteristics included: special role in climatic stability; provision for recreational facilities; important reservoirs of biodiversity; high degree of fragility; enormous resources for economic development. These habitats included: wetlands, lakes, coral reefs, mangroves and coastal areas, mountain ecosystems, tropical forests, arid and semi-arid lands (ASALs).

It was observed that because of their high level of natural resources for development, these habitats were prone to over-exploitation and hence to degradation. Another aspect peculiar to some of these areas was the special place they occupy in the lives of local people. For example, mountains, lakes, forests, rivers, etc were treated with reverence by many local people who at the same time derive sustenance from them. Any development activities, therefore, must involve the local communities who not only attached spiritual significance to the habitats but because also they had vast scientific knowledge about these habitats.

4.2 *Lakes and Wetlands*

The roles of lakes and wetlands were identified and discussed. These included: food production, transportation, mitigation of climate change, maintaining balance in the hydrological cycle, hydropower production, irrigation, recreation, tourism, oil exploitation, fisheries, research, medicine, biodiversity, water purification.

The protection of lakes as shared resources was also discussed. Funds for their sustainable management could be sourced from The Global Environment Fund (GEF), but what was needed were international agreements between and among countries for the utilization of each of the lake's shared resources.

It was observed that many of the large wetlands were being threatened with development programmes which often involve dredging and draining. Such activities would pose potential water shortages in future for the riparian and interlacustrine countries. Any plans to exploit wetlands must have comprehensive EIA studies. Each country should have a policy for sustainable utilization of its wetlands.

The large wetlands in the Sub-region are:

Okavango	16,000 ha	Botswana and Namibia
Bangweulu	11,000 ha	Zambia
Barotse	9,000 ha	Zambia
Malagaras	7,300 ha	Tanzania
Kilombero	6,650 ha	Zambia
Chilubi	6,500 ha	Zambia
Kafue	6,500 ha	Zambia
Katonga		Uganda

Uganda presented a report, and a video, on the state of their wetlands. Major problems facing the country included land shortage which had led to swamp drainage. Another practice was the growing of paddy rice which had resulted in large areas of swamp being drained. Rice yields had tended to fall after two years' harvest. Pollution from waste dumping was another threat. These activities had resulted in higher micro-climate temperatures which had affected agricultural produce and gave rise to prolonged and more frequent droughts, followed by floods and famine.

Mitigation measures include: a national policy for the protection of the country's wetlands had been launched and backed by the force of law; a national programme for the sustainable management of wetlands has been launched, with the support of IUCN and the Dutch government; programme for guided conservation of wetlands was under implementation;

demonstration sites on sustainable management of swamps/wetlands were being set up; public awareness programmes, e.g. wildlife clubs, radio programmes, education and training for farmers, media campaigns, and films on wetlands, had been launched.

Kenya, Malawi, Tanzania, Uganda and Zambia presented reports on the state of their lakes. Apart from the smaller internal lakes, the large lakes were a shared resource. It was pointed out that many of the potential uses of lakes were not optimally exploited, e.g for transport, fishing, leisure, tourism and irrigation.

4.2.1 On the other hand, there were management problems which needed to be addressed, they included the following:

1. Comprehensive management plans for the lakes, especially the shared ones.

2. Pollution caused by land-based activities, e.g. industrial and agricultural activities; untreated sewage; siltation caused by destruction of catchment areas (e.g. Lakes Victoria, George, Jipe, Malawi, Kariba)

3. Water-related diseases, including those resulting from pollution.

4. Depletion of fish stocks. This was likely to happen in the near future, especially in Lakes Malawi, Victoria and George.

5. Water weeds, especially the water hyacinth.

4.2.2 ***Measures to overcome the management problems***

1. Establishing baseline data for every lake, including their potential resources for sustainable management and utilization.

2. Proper integrated management plans for the lakes. In case of shared ones, inter-country plans for the same.

3. Local participation in management of the lake resources, failing which they would need policing which is both unnecessary and expensive.

4. Undertaking continuous public education and awareness-raising programmes on the management of the lakes.

5. Using integrated methods to control or eliminate the water hyacinth.

4.2.3 *Coral reefs and mangroves*

Coral reefs were an important resource (of fish and areas for fish breeding: construction materials (coral blocks); recreation and tourism (marine parks and scuba-diving) and aqua culture. Reports on coral reefs were received from Seychelles and Kenya.

The problems facing coral reefs were mostly land-based. They included: desalination caused by land-based runoffs; land-based particulates (sediments) brought by rivers; other land-based pollutants, i.e. untreated sewage from municipal waste and sea-side hotels; organics from industries, etc; degradation by marine-based activities, e.g. boats and ships which use anti-fouling paints, petroleum hydrocarbons; human activities, e.g. recreation; algal blooms which spell death of corals, and dynamite fishing.

4.2.4 *Remedies*

Put in place comprehensive plans for the recreational use of coral reefs. This should include proper supervision and control of numbers of tourists visiting the reefs; control of pollutants, and a clearly stated role to be played by local fishermen.

4.2.5 *Mangroves*

Kenya gave a report on mangrove swamps. Their general uses included: breeding grounds for fish, and other marine fauna such as prawns, oysters, aquatic mammals. They were also connected to corals as they act as filters of suspended materials releasing only clean water into corals. Besides those uses, mangroves provide building materials for houses and boat construction; woodfuel, medicines, and house sacred shrines for local people.

Threats to mangroves include: privatization of coastal land which had left the management of these wetlands to the whims of private developers; land-based pollution emanated from the large number of hotels and private homes along the coast which were degrading this important and delicate ecosystem.

Remedial measures included: the passing of a law to protect mangroves, outlawing trade in mangrove poles, more stringent laws should apply to private developers who must instal systems to eliminate pollution and protect mangroves swamps as a national heritage. Continuous monitoring of these by independent bodies systems should be inbuilt.

Key players in all the above remedial activities included: Government, local communities, NGOs, project developers, and tourists.

4.3 *Depletion of fishstocks*

There was danger that fish stocks would be depleted in the near future if the current rate of fishing continued. That had already happened in Namibia where big South African companies and other foreign fishing trawlers overfished the area, ignored all warnings by fisheries scientists, and put out of business small-scale local fishermen who fished sustainably.

Possible solutions lay in appropriate management through: assessment of available fish stocks; popularization of sustainable fishing methods; monitoring and controlling pollution; creating awareness among local communities through campaigns; controlling predator populations (e.g. Nile Perch in L.Victoria); regulating investors, both local and foreign.

4.4 *Mountain ecosystems*

Reports of the state of these fragile and high energy ecosystems were received from Kenya, Lesotho, Malawi, Tanzania, and Uganda.

4.4.1 *Uses of mountain ecosystems*

Characteristics: Mountain ecosystems were fragile. They consisted of thin soils liable to erosion, they provided different microclimate because of high altitudes; steep slopes provide high energy potential.

Functions of the ecosystems included: acting as national drainage areas for eventual release of water into the rivers; influencing and moderating climate through rainfall, high altitude, wind direction, temperature, etc; maintaining biodiversity and providing protective function over flora and fauna because of inaccessibility.

Uses included: Recreation and ecotourism: hikes, climbing, and skiing (Lesotho and Uganda); cultural - e.g. for circumcision ceremonies (Uganda and Lesotho); religious shrines, sacrifices and worshipping; rock paintings; source of timber (Uganda, Kenya, Tanzania); source of medicinal plants; agriculture and grazing of livestock (Lesotho, South Africa, Uganda); crop cultivation, e.g. coffee (Tanzania, Uganda); communication (transmitters, satellite receivers); source of minerals (copper - Uganda, Kaolin - South Africa, bauxite - Malawi); water supply to settlements and irrigation; land marks for international boundaries.

4.4.2 Sustainable management approaches: Country reports indicated that the mountain ecosystems were threatened with destabilization through poor management practices, that there were serious constraints in the management of these ecosystems.

1. Tourism. Focus should be on integrated ecotourism with small dispersed tourist sites in which local mountain communities play active roles. Appropriate laws to protect biodiversity should be enforced.

2. Agriculture. Terracing and improved methods should be introduced and enforced through extension education, adult education, etc. Introduction of appropriate crops should be encouraged.

3. Mining. Thoroughgoing EIA should be done before any activities are undertaken. Modern mining methods of "cut and fill" should be used; rehabilitation of mining areas should be undertaken through backfilling, etc.

4. Security. Government should ensure that peace prevailed in these areas as any instability would lead to their rapid degradation.

5. Settlements. Strict control of this. The carrying capacity of the ecosystems was quite low and should therefore be not exceeded.

6. Road construction should follow contours to minimize soil erosion.

7. Tree planing should be an on-going exercise to improve catchment performance.

8. Research and development. There was urgent need to undertake work in this area. Protection of local community knowledge about biodiversity and genetic resources should be enforced, and foreign researchers should be controlled, transparent and accountable to national and local authorities.

9. Key players in maintaining ecosystems management should include local communities (herbalists, foresters, religious leaders, chiefs, local clubs, etc.); forestry departments, adult educators, timber companies, road engineers, researchers, mining companies, security forces, ministries of environment, etc.

10. A comprehensive management plan for each mountain ecosystem should be drawn up in which key players are each given their roles and their performance monitored to ensure they are delivering according to agreed plans.

4.5 *Arid and Semi-arid lands (ASALs)*

Country reports on the state and management of ASALS were received from Botswana, Kenya, South Africa. Characteristics of ASALS were outlined as: low rainfall, with precipitation being lower than evapotranspiration; fragile and porous soils, not suitable for

intensive agriculture; more suitable for pastoralism and ranching activities.

Shortage of land in high potential areas, e.g in Kenya, had forced peasant farmers into ASALS. Not being used to managing fragile soils, these farmers employed the only agricultural methods known to them, the result was mismanagement of these lands.

ASALS were also home for wildlife and big game (good for tourism). There had been a lot of investment in tourism, with special focus on large mammals. The tendency had been to marginalize the local pastoralists and smaller animals.

4.5.1 ***Major problems in management of ASALs***

1. Water was the limiting factor in management of ASALs. There were poor or no rain harvesting methods.

2. The local people were marginalized by commercial ranches, peasant farmers, and national parks which attracted many tourists.

3. There was overgrazing and land degradation which resulted in intensified effects of drought, famine, disease and death.

4. Management technologies of ASALs which were being proposed by donors were either too capital intensive (therefore unaffordable) or inappropriate.

5. No serious investment had been allocated to improve ASALs. Only funds for their exploitation had been spent, e.g. through tourism, mining, collecting rare plants, etc.

6. The combination of the above gave rise to increased desertification of ASALs.

4.5.2 ***Remedial approaches***

1. Labour intensive and home-grown projects and programmes for ASALs reclamation and management.

2. Rain harvesting methods and water conservation technologies including traditional ones.

3. A combination of traditional and modern technologies to manage the ASALs.

4. Involving local communities in design and management of national parks and game

reserves; and to ensure that revenues accrued from tourism were shared equitably between local community and tourism authorities. The profits should be spent on improving the social conditions of the locals, e.g. provision of water, schools, clinics, roads, communication, etc. This would ensure that the locals had a stake in the national parks and tourism, thus reducing and eventually eliminating poaching.

5. Put in place contingency plans to deal with drought, famine and floods, and have reserve food for these emergencies.

6. Introduce sustainable agriculture.

7. Provide adequate and reliable sources of energy through use of woodlots, solar panels, windmills, etc.

8. Ensure that land-use laws and land-tenure systems did not go counter to traditional practices of land ownership. Privatizing land in ASALs would result in total elimination of pastoralists who were used to managing the bulk of the land on a communal basis.

4.6. *Tropical forests and woodlands*

Africa's forests were dwindling rather fast. Their removal exposed vast areas of land to the degradative processes of nature, resulting in resource scarcity, river and lake silting, eventually leading to impoverishment of the people whose principal livelihood activities of agriculture, animal husbandry, forestry, fishing, etc. were based on this natural resource base.

4.6.1. Country reports were presented by Zimbabwe, Malawi, Swaziland, Tanzania and Uganda. The reports revealed the following:

1. The majority of the people (exceeding 80%) in the sub-region used fuelwood for energy needs. The rate of forest utilization was faster than its replacement, i.e. tree planting. There was serious shortage of woodfuel.

2. Deforestation had resulted in silting up of rivers and lakes, gully formation, serious soil erosion, general impoverishment of the people and death of livestock.

3. Land tenure systems: These differed from country to country. However, in those areas where white settlers predominated, Africans were confined to the poorest land. That had aggravated forest cutting and land degradation.

4. Forest policy: In many cases, the focus was on promotion of exotic tree species at the

expense of indigenous ones. Some policies tended to keep the local people away from the forest, sometimes resulted in forest encroachment or poor community involvement.

5. Local use of forests: Forests still offered many things to the local people. Apart from fuelwood and building materials, local people used forests for medicine, wood carving; as source of honey and mushrooms; hunting; as shrines for spiritual and religious purposes.

6. Threats to forests

(i) Opening up land for agriculture;
(ii) fires;
(iii) charcoal production;
(iv) uncontrolled timber felling;
(v) illegal settlements;
(vi) Disease outbreaks among exotic species;
(vii) over-reliance on exotic species.

4.6.2 ***Programmes to combat deforestation***

1. Maintaining multiple roles of forests (integrated management).

2. Greening degraded areas.

3. Promoting efficient utilization of forests.

4. Strengthening capacity in forestry.

5. Developing alternative energy sources, especially for urban areas.

6. Strengthening knowledge base.

7. Combating land degradation through land conservation.

8. Eradicating poverty.

9. Drought and famine preparedness programmes.

10. Research on indigenous tree species and extended planting and utilization.

11. Public participation in tree planting for example:

(a) forest management
(b) rehabilitation activities, etc.

12. Vigorous public education, awareness and extension programmes.

13. Promotion of social forestry.

14. Involving relevant sectoral ministries in forestry activities.

15. Undertake forestry rehabilitation programmes for encroached forests.

16. Biodiversity and germplasm were big issues. A lot of these were obtained from tropical forests, sometimes illegally. The Biodiversity Convention should act as the reference point when dealing with matters pertaining to this subject.

5. THEME: Environmental appraisal by sector

This module dealt with different sectors - natural resources, management, agriculture, settlements, urban development, water and sewerage, industry and attempted to come up with appropriate approaches to EIA. These approaches had to take into account the special characteristics of the sub-regions' traditions in agriculture, settlements and resource management which provided a base on which to build the industrial and urban development programmes.

5.1 *Resource management*

This section dealt with human as well as natural resource management and placed them within the context of EIA processes and procedures.

5.1.1 Human resource appraisal in the context of EIA process was the establishment of the benchmark, starting point on current state of available, or lack of, human resources at institutional, national, sub-regional and regional levels.

There was urgent need to know: types of specialists (all levels); level and diversity of experience of specialists, gaps or grey areas; access to information; documentation, management and unrestricted distribution; availability of specialists; and reconciliation of donor requirements with national and sub-regional policies.

Human resources play key roles in EIA process in a holistic manner and determine the success

or failure of an EIA system at all levels.

The human resources appraisal made certain assumptions. These included: (a) that there was diverse but undocumented pool of human resources at all levels; (b) the abundance or inadequency and even lack of human resources had so far been determined by various factors, namely: need for such speciality, types of national economic bases, e.g. agriculture, manufacturing, mining and processing, servicing, financial management, and/or a mixture of the above; (c) the current assumed lack of adequate human resources in EIA at all levels was mainly due to absence of networking, donor-driven demands and conditionalities, lack of specified human resources needed, language barriers, national policies and international relations.

5.1.2 *Natural resource management*

Judicious resource management was critical to the success of any development projects and programmes. This section focused on understanding the meaning and content of a natural resource and its management.

A resource was defined as anything useful to human beings. A resource could either be man-made or natural. Those that were natural were known as natural resources (land, air, water, plants, animals, humans, etc.) Natural resources were classified as either renewable or non-renewable. Non-renewable resources were those that could not replenish themselves within the lifespan of human beings, e.g. minerals. They took a very long (geological) time to replenish themselves. Renewable natural resources were those that could reproduce themselves within the lifespan of human beings. However, should the rates of exploitation exceed their rate of self replenishment, they became depleted.

Management was defined as a set of rules, regulations and inputs such as labour, finance, technology for a specific location, aimed at appropriately determining the use of natural resources. In terms of execution, management consisted of five principles - planning, organizing, leading, control and evaluation. Planning involved allocating natural resources according to their productive potential in order to obtain optimum benefits. Organizing meant setting up appropriate institutional arrangements to execute the plans. Leading comprised identifying the main actors and ranking them according to their potential responsibilities. Control involved initiation of regulatory mechanisms. Evaluation examined the performance of the project from the early stages (preliminary) to the progress of the project, until the end when a terminal evaluation was conducted.

Management as defined above fits into the EIA process very neatly. Effective management meant minimum waste of resources and optimization of output with least adverse impacts on

the environment and people.

5.2. *Urban and physical planning*

5.2.1 *Urban centres*

These settlements attracted people from all over because they had the amenities which were not available in rural areas: social services within easy reach e.g. schools, clinics, entertainment, sports facilities, transport and communication facilities, jobs in factories, offices, construction sites, etc.

Most of the raw materials came into urban centers are from outside - these included food, raw materials of industry, energy, water, etc. In addition, people commuted to urban centers everyday for work and other activities.

In turn urban centers produced manufactured goods, information, ideas etc. On top of this, they also produced waste of all kinds - industrial, sewage, domestic, noise, heat, pollution in form of gases, solids and liquids. In all, urban centers were congested, life was fast, resource consumption was high/and very dependent on the outside world.

Due to poor development in rural areas, many young people in the sub-region flocked to urban centers in search of work, which they seldom got, and yet did not return to the rural areas. Those migrants overloaded the urban service systems which were originally planned for fewer people. While utilizing the existing services, the migrants, being unemployed or underemployed, did not pay taxes or rates to urban authorities. In the end, the urban service systems began to collapse, especially from the suburbs where most of the poor lived. Many of the urban poor tried to live by working in the informal sector. But existing bye-laws did not encourage the participation of the poor in the informal sector. There was thus on-going clashes between the urban poor trying to earn honest living in the informal sector and the urban administration which enforced urban laws that did not recognize the informal business sector.

Urban centers in the sub-region faced the following problems: overstretched and collapsing public utilities, poorly maintained transport and communication systems, overcrowded social services, low revenue, uncollected garbage, rising insecurity; increasing pollution of air, water and soil.

5.2.2 *Designing sustainable urban centers*

Given the above unfolding situation for which there did not seem to have a clear solution in the short-term, it was proposed to design a model of a sustainable urban centre which catered

for the needs of the majority while at the same time maintaining the integrity of the environment.

This would consist of the following elements and characteristics:

(a) Urban boundaries would be flexible and could be shifted.

(b) Urban areas would consist of a well-designed center whose needs of food, water, energy, recreation, etc were generated within the city environs.

(c) The center would be the principal commercial hub of finance, some industry, offices, etc.

The environs would consist of: factories which catered for recycling of waste materials; a combination of farms with their biogas plants; factories for food processing, orchards, forests, parks recreational centers.

Houses would each be allocated enough land for kitchen garden agriculture.

There would be communal farming plots for each neighborhood to facilitate the provision of services to the farms, e.g. water, manure, transport for inputs and for harvest, etc.

Governance of the urban centers and the environs would be in the hands of the residents who would be represented in the councils by their elected representatives and attend community meetings to discuss and take decisions affecting their welfare.

Revenue would come from taxes paid in form of direct taxation, rates, levies for different services, and fund raising to cater for specific needs.

Different urban sectors or zones would be responsible for their social services - schools, clinics, libraries, swimming pools, playing fields, parks security, etc. The principle of democratization through decentralization would be applied as a management strategy, with hard work, accountability and transparency as the guiding motto.

New projects and programmes would be discussed and approved by representatives and communities of each area.

Democratization of all decision-making processes and their implementation would guarantee the cleanliness of the city, the dynamism of its suburbs, and the organic synergistic organic links between the city centers and the suburbs. In that way, the lure of the city center would be extended to its rural environs. By providing employment, entertainment, social services,

commercial and industrial facilities in the suburbs the parasitic character of urban centers would be removed, and a new sustainable urban entity born.

It was observed that the above model could be turned into a reality in many of the sub-region's urban centers through training and awareness raising among urban and physical planners, urban councilors and urban residents.

5.3 *Sustainable tourism and ecotourism*

This session examined in some detail the impact of tourism on the socio-cultural and natural environmental scenes. Emphasized were the need for control of environmental and social impacts generated, continuous environment-friendly management and maintenance of environmental quality.

5.3.1 *Positive impacts of tourism*

The following were identified as positive impacts: improvement of conservation; increasing environmental awareness; preserving archaeological sites; improving environmental quality; provision of infrastructure and services; provision of employment; increased government revenue; preservation and promotion of cultural practices; increased markets for agricultural produce; some environmental policies and control measures.

5.3.2 *Negative impacts of tourism*

Ecological disruption, especially in the parks; pollution (air, water, noise, visual, socio-cultural, etc); poor methods of garbage disposal (especially in the parks and on beaches); exclusion of local people; over- commercialization and bastardization of local culture; spread of sexually transmitted diseases, especially AIDS; crime, drug abuse; prostitution, etc.

5.3.3 *Ordinary mass tourism vis-a-vis ecotourism*

Ordinary mass tourism, when contrasted with ecotourism, showed clear qualitative differences. Ecotourism emphasized personal or small size group tours oriented towards nature and/or culture; respect for nature and local culture; tour guides have environmental ethics; there would be nature friendly facilities, e.g. small hotels and lodges; benefits to protected areas and local communities.

On the other hand, mass tourism usually; tended to emphasize recreational group tours; tended to have negative impact on nature and local culture; tour guides lacked careful consideration for nature and local culture; used large-scale and nature-unfriendly facilities,

exploited nature and local communities.

During discussion, it became apparent that most countries in the sub-region were focusing on and using mass tourism to earn foreign exchange. Characteristics and impacts of mass tourism were evident in nearly all the countries.

5.3.4 ***Planning for tourism and ecotourism***

It was emphasized that in planning sustainable tourism and ecotourism, the following should be focused on: visitor information and education; role of tour guides; accommodation; visitor benefits; cultural resources; arts and crafts; performing arts; cultural events; traditional life styles; local cuisine; local language and cultural artifacts.

In planning for tourism, EIA should therefore consider the carrying capacity of an area, optimal levels of tourism development, balanced economic, environmental and social benefits.

The issue of wildlife conservation vis a vis local communities was discussed. It was observed that many conservation practices, with few exceptions e.g. CAMPFIRE of Zimbabwe, tended to ignore, and subsequently alienate, local communities. The results were invariably local hostility to game parks and reserves; increased poaching by local people. In some of the cited cases, wildlife was valued more than human life. Such a philosophy and practice was unacceptable and environmentally unsound.

5.3.5 Several recommendations put forward included:

1. Local participation in setting up and demarcating game reserves, national parks, etc.

2. Making local people (e.g. in Botswana) have a shareholding stake in wildlife management.

3. Enabling local people have an equity in the business.

4. Respecting people's sacred animals, plants and objects of veneration.

5. Ploughing back (reinvesting) funds from tourism into local development.

6. Allowing local people to get involved in culling of animals and consuming the meat at a reasonable price.

7. Maintaining friendly relationship between local communities and national parks, game reserves, sanctuaries, biosphere reserves, etc.

6. THEME: PERSPECTIVES, PRESSURES AND OPPORTUNITIES

6.1 *Development projects*

Development projects as their name suggests, should be the vehicle of development. Yet, past experience had shown these projects, had produced the opposite of intended results. They had degraded the environment, increased poverty and generally left countries more indebted than they were before such projects were embarked on.

The workshop found it necessary to articulate those important aspects which every project should include in its profile in order to make it viable. The aspects were grouped under the headings: economic, social political and environmental.

6.1.1 *Economic aspects*

Every project should increase the income of the people within the project area and introduce fair distribution of incomes through the creation and improvement of employment opportunities, improve standards of living and diversify economic base; be financially viable, i.e. produce profits; create long-term balanced economic growth; improve food security; consider opportunity costs and compare the net future benefits with alternative projects. For example, the project is best suited for that area, or whether another project would realize more profits; as much as possible utilize locally available materials; use local technology or adapt technology to local conditions. The macro-economic implications of the project should also be analyzed such as reduction of the dependency on imports; improvement of the economic infrastructure, i.e. roads, energy, rail, communication, etc, a training component to ensure continuity and sustainability.

6.1.2 *Social aspects*

Development projects should: alleviate poverty and meet basic needs; increase local participation in decision-making; protect basic human rights; maintain rural and cultural values; improve conditions of discriminated social categories ; reduce incidence of disease; provide equity in host community; provide equal job opportunities; increase options for employment.

6.1.3 *Environmental aspects*

The projects should have a transparent environmental policy; carry out minimal extraction of resources and employ sustainable utilization of the available resources; enhance productivity of the environment; correct past errors of environmental damage; generate minimal waste materials; recycle waste; have EIAs in which public participation is prominent.

The above elements constituted a benchmark for development projects. Using this benchmark, policy-makers and developers would endeavour to ensure that EIA, as a management tool, was incorporated to bring out most of the above elements.

6.2 *Donor involvement in EIA*

This section examined the role of multilateral development banks (IMF, the World Bank, African Development Bank, East African Development Bank,etc) their conditionalities and their impact on the EIA process. It also looked at the policies of official development assistance (ODAs) and those of the United Nations system. Also examined were policies of regional and sub-regional organizations e.g. OAU, IGADD, PTA, ECOWAS, etc.

6.3 *Role of recipient country*

1. To ensure that natural resources management issues were accorded high priority by government.

2. To assign a lead ministry to coordinate donor assistance i.e Ministry of Finance or Planning.

3. To avoid changing government policies on natural resource management from moment to moment.

4. To set up strong institutions on environment.

5. The government would ensure that donors provided aid programmes that had been found to be priorities as per environmental profile (recipient-oriented and need-driven).

6. To ensure that donor coordination was enhanced if the various arms of government met frequently to agree on priority areas, e.g. updating of programmes and priorities.

6.4. *Role of the donor*

To ensure that a recipient country was familiar with operational details of the donors fund for natural resources management.

Recipient country needed to know, and should be informed, about:

- objectives and guidelines of a grant or loan;
- financial frame of the grant or loan;

- administrative set up of the grant or loan;
- administrative routines.

It was discussed and recommended that concerning awareness-raising, donors should be urged to support environmental education and training programmes, media programmes, campaigns, dissemination of project results and information to affected groups. Awareness-raising was critical in ensuring that the public participated and made positive inputs in development programmes.

6.5 *The role of NGOs*

NGOs played an important and cost-effective role in development. Being relatively small, many of their projects did not need EIA. However, their incremental effects could damage the environment. Hence the need for projects undertaken by NGOs to have screening and scoping exercises to establish the need for EIA. NGOs could play an impartial role in EIA by representing communities directly affected by the projects.

Attempts by governments to control NGOs compromised their independence and autonomy. While in most countries, donors separated aid given to governments from that given to NGOs, it was not clear whether NGO direct funding was reflected in the overall allocation from donors. It was important for NGOs to be autonomous but it was equally important for them to be democratic, transparent and accountable watchdogs of the people.

6.6 *Examples of some donors' concern with EIA*

6.6.1. The Netherlands published 1990/91 guidelines on ODA and defined sustainable development as the main policy objective. The policy emphasized importance of natural resources through protection and conservation and improved management. The policy noted the application of EIA as one means of achieving this objective. The Dutch guidelines set out the following rules and procedures to support EIA requirements:

- o Institutional building in environmental field in developing countries.
- o Increasing environmental expertise within the Dutch Ministry and embassies.
- o Collecting data on state of environment in developing countries by environmental profiles, carrying out EIAs on projects; activating a network of external experts, i.e. experts drawn from within the sub-region or region.
- o The need for "environmental screening" and "development screening".

6.6.2. The OECD in 1991 published EIA guidelines and procedures for funded projects.

- o Environmental considerations should form an integral part of the planning and implementation of projects.

- o EIA should cover the following areas: (a) expected effects on property, public health, natural environment and social effects (b) impact on indigenous people; environment and social effects; (c) EIA should take account of alternatives; (d) apply standards of levels that will achieve minimum levels of non-mitigable negative effects and a maximum level of positive effects; (e) EIA should state clearly significant benefits; (f) off-site effects, including transboundary ones, delayed and cumulative effects should be assessed; (g) Governments bear ultimate responsibility but the "polluter pays principle" should apply to polluted areas; (h) EIA must be integrated into the project cycle.

The EIA guidelines gave project categories as fishing, resource exploitation, farming, hydrological exploitation, infrastructure, industry, extractive, urban and land development. The guidelines also included environmentally sensitive areas: ASALs and areas prone to desertification, tropical forests, wetlands, erosion prone ares, outstanding biodiversity areas, areas used by local people for religious and cultural activities.

6.6.3 The World Bank's environmental objectives and policy guidelines (in 3 big Volumes)

Main objective was to assist member countries in their effort to improve management of environmental resource use while accelerating development. Other objectives were:

- o Assisting member countries in setting priorities, building institutions and implementing programmes for such environmental management.

- o Ensuring that potential adverse environmental impacts from the World Bank financed development projects are addressed.

- o Assisting member countries in building on complementarities between poverty reduction and environmental protection.

- o Addressing global environmental challenges through participation in Global Environmental Facility.

In summary, the World Bank guidelines covered: objectives, historical context, underlying principles, policy evaluation, types of EIA, requirements and procedures, the Bank's

experience, constraints to borrowing countries, categorization and issues.

The World Bank had come into EIA rather late, but with its resources, it could have positive influence. In fact, the Bank was the one which has enforced NEAPs on all countries in the sub-region while others such as IUCN preferred the development of National Conservation Strategies (NCS) rather than NEAPs. The NCS usually overlooked investment projects and plans and who funded them. The Bank's position therefore dominated because it had influence over economic policies of most African countries.

6.6.4 *The UNDP position*

UNDP (Capacity 21) was more comprehensive and up to date than NEAPs. In the process, the World Bank had highlighted some of UNDP's programmes. Capacity 21 had a strong component for capacity building and implemented Agenda 21. The global budget for Capacity 21 was $54 billion. Some of the funds were channelled through the Economic Commission for Africa. In practice the World Bank did EIA and decided on the viability of the project.

Categories of projects

A. Full EIA - for dams, reservoirs, irrigation industrial plants, land clearance, mineral development, oil prospecting, etc.

B. Environmental analysis but no EIA - agro industries, electrical transmission lines, aquaculture, rural electrification, water supply, etc.

C. No EIA, or EA required. Unlikely to have no significant negative impacts, e.g. health, nutrition, institutional development, technical assistance, family planning, etc.

6.6.5 *Capacity-building and the IUCN approach*

The IUCN approach for capacity-building was considered a very crucial element in EIA implementation. IUCN had been active preparing National Conservation Strategies and providing EIA services in Eastern and Central Africa, focusing on capacity-building projects for EIA. The main objective of the IUCN approach had been to deal with the lack of regulations and the lack of capacity in the absence of donors' interventions, even in cases of framework laws for EIA, and with pressure, from both inside the country and from external sources. The solution lay in capacity-building and institutional strengthening, to assist African countries to develop and implement cost-effective EIA procedures.

Despite some practical difficulties in the implementation of this approach, intrinsic to coordination within Governments and to the identification or generation of centers of expertise to mobilize human resources (identified within University institutions in the experience of Botswana), it would generate an EIA capacity indigenous to the countries. It would be participatory, process-oriented, pursuing a "bottom-up" rather than a "top-down" approach, and sustainable, once external support ceased.

6.7 *Capacity building*

The concept of capacity building was defined as an integrated system which includes political commitment, financial support, effective environmental policy, cross-sectoral awareness within governments, laws and regulations, guidelines implementation, development of skills and human capital, creation of centers of expertise providing an information network, research and training, the promotion of EIA modules in education and enhancing media awareness. The implementation of capacity building and institutional strengthening was presented as a long-term process, based on the coordination of several linked activities and on the creation of a "core" group responsible for training, development of EIA guidelines and laws and regulations.

Capacity building was deemed to be of great significance and without which EIA could not be expected to become institutionalized in any country.

6.7.1 There was need for specialized man-power to handle EIA process in its broadest applications. Currently, EIA institutions where they existed were not well equipped with the necessary financial resources, trained personnel, facilities such as laboratories, computers, databases, transport, and the necessary legislative authority. Institutions which could be strengthened to undertake EIA included: universities, research centers, parastatal organizations, government departments, industry, etc.

Above all, there was urgent need for each country to have in place a comprehensive environmental policy and legislation which, among other things, would incorporate an EIA component.

Mechanisms for capacity building

6.7.2 *Financial*

This would include sourcing from government: the national budget; donor agencies: multilateral and bilateral; friendly organizations; local cooperative efforts; industry.

Human resources management and retention through better remuneration in terms of salaries, housing schemes, medical aid schemes, education schemes, pension, other incentives: recognition or merit awards, accessibility to the necessary management tools, database packs, networking to share ideas and experiences through regional, national and international conferences, seminars, and workshops.

6.7.3 ***Training*** - would focus on the levels.

(1) Training of specialized technical staff drawn from fields such as planning, ecology, botany, archaeology, engineering, sociology, geology computers, statistics, biotechnology, etc. This should be done through crash programmes, seminars, workshops; through formal institutional programmes e.g. bachelors, masters and doctoral programmes.

(2) Training for administrators and environmental liaison officers in different sectors at district and extension level. These officers are involved in overseeing implementation of EIA programmes in the field. They require short intensive courses either in or outside the country.

(3) Policy-makers and decision-makers. This would include training of and awareness-raising among, decision-makers drawn from government, NGO, industry, workers representatives, etc.

(4) Decision-makers with the national authority responsible for EIA.

(5) Others would include training of: local communities such as women's groups, youth groups, religious bodies, donors and anybody involved in development work.

(6) Formal education systems.

(7) Training of trainers produces a multiplier effect.

(8) Informal set-ups, e.g. wildlife clubs, environmental clubs, community information systems.

(9) Adult education centers by producing literature with information on environmental issues.

(10) Exchange programmes in the formal and non-formal education systems.

6.7.4 *Indigenous capacity building*

This was an area which was totally neglected. It did not even appear anywhere in either national or donor funded programmes. Yet it was the local people who were the custodians of the natural heritage found in every location. Their exclusion from training programmes relegated them to back seat in resource
management when they should be upfront.

In these situations training was reciprocal, i.e. the community taught, shared knowledge at the same time as it received and acquired new knowledge concerning their environment and its management.

6.7.5 *Content of the training programme*

Knowledge of local species; knowledge of local ecosystems; uses of the species (medical, agricultural, aesthetic, building, cultural, etc) traditional sites of special significance: historical sites, grave sites, religious sloaries; rock paintings. Roles of village chiefs, chieftenesses, elders, priests and priestesses, etc. Traditional management and technologies.

Capacity building called for the involvement of local and indigenous expertise; elders; establishment of inter and intra-village networks; vertical and horizontal integration; integrated follow-up operations; set up documentation centers; improved information accessibility, distribution and networking; worked closely with NGOs and consultants who respected indigenous views.

Constraints: These were quite glaring, especially in availability of information; access to relevant information; financial backing; lack of transparency; problems relating to religion, custom, ideology and general beliefs.

At the information systems level, it was important to use the existing environmental information systems, e.g. mass, print and electronic media; libraries; inventories; Infoterra Information System; Networking; computerized information systems.

6.8 *Role of environmental education and training in EIA*

Overall objectives of environmental education (EE) were: awareness-raising, understanding, change of attitudes, skills acquisition, and ability to take positive action on the environment. The methods used included: project work and problem-solving, field trips, role playing, simulation games, debates, discussions, games, puzzles and hobbies.

Materials used in EE include books/booklets, charts and maps, posters, brochures, leaflets, magazines, videos, tv programmes, computer packs, etc.

Environmental education in EIA process

This was at the center of awareness-raising at individual, community and public level. Timing and organization played a critical role. The EE had to focus on a number of steps, which were to:

1. Identify the need for environmental education in EIA process.

2. Identify the consequences of not using EE.

3. Identify:

   (a) specific role EE would play (e.g. information for awareness-raising, action-oriented, etc);

   (b) target groups;

   (c) methodologies to be used;

   (d) materials, means and resources.

4. Implement the initiative or programme.

5. Monitor and evaluate.

6. Collect results, impressions or outcomes.

7. Feed into EIA process.

Examples of the role of EE were cited. These included the Chipko Movement and Narmada Project in India where communities had played and continued to play a major role as a result of intensive EE on the right target groups.

The main animators and actors in EE for EIA should be principled and objective, especially in awareness-raising activities. It was unlikely that project proponents could fulfil that role. It was argued that NGOs, concerned citizen's groups; institutions, women's groups, youth organizations, etc would undertake that task.

6.9 *Gender issues in development*

Women played a dominant role in resource management. The bulk of food production, domestic work and development work was undertaken by women. For EIA to yield the desired results, there should be popular participation. Since women constituted the majority of resource managers and custodians of indigenous knowledge in many areas of human endeavor, their knowledge and skills should be harnessed and their potential optimized. But this had to be operationalized within the context of gendered social relationships.

Gender in this context referred to different roles men, women, boys and girls played in meeting their own and society's development goals. These varied from society to society, and were influenced by cultural values, religion, social status, class.

The workshop analyzed a number of development activities with a view to finding out the gender roles played by each category of people shown above. The analysis showed that there were variations among societies regarding the work done by women, men and children. Overall, women emerged as the principal actors and movers in soil and crop management, fetching water and fuelwood, marketing, making pots, planting, weeding, harvesting and seed conservation. Men were principal actors in animal husbandry, charcoal burning, brick making and building, fishing, tree lopping and burning branches.

The meeting recommended that gender analysis should be taken into account when designing development projects, in the EIA procedure. This analysis should focus on: who heads households, who owned land; literacy rates; who owned property and property relations; who qualified for bank loans; school attendance; inheritance laws; rate of employment; salary differentials: time available for public meetings, etc.

Such analysis would enable government and development agencies to ensure that gender issues were factored into the development programmes.

6.10 *Water and sewerage*

This topic focused on the crisis which faces African urban
centers concerning the supply of clean water to their inhabitants as well as disposal of sewage in a clean and sustainable way. The discussion which followed the presentation of the topic targeted issues that concerned cities in the sub-region, especially the problems faced by the poor and marginalized residents of the major cities in the eastern and southern Africa.

The workshop identified three problems:

1. Overcrowding which resulted in overloading the capacity of cities' public utilities to serve their residents. This led to a breakdown of these services.

2. Over-centralized services. This applied to most services - postal, electricity, health, education, water and sewerage, etc. There was urgent need to decentralize so that each major geographical sector of the city had its own water and sewerage system for which it paid and serviced.

3. There was need to introduce integrated water and sewerage systems to produce biogas and fertilizer, while at the same time putting in place mitigation measures to minimize the negative impacts of such processes, e.g. ensuring that the fertilizer did not contain heavy metals such as lead, mercury, zinc, etc, or that hydrogen sulphide gas was removed from methane-hydrogen sulphide mixture. The cost of installing biogas plants was considered to be rather high, but could be offset by the savings on imported petroleum products.

The location of sewerage treatment plants was considered. It was observed that there was a tendency in some cities to locate them near city slums, or rather the poor city residents tended to crowd around these areas because of the free space around sewerage treatment plants. There was every reason to consider that the overcrowding around these treatment plants was injurious to the people, and every attempt should be made to locate them to a healthy environment.

6.11 *Simulation games*

These were designed to enable participants grasp the basics of EIA principles and processes by working on hypothetical development projects based on real life experiences through role playing and simulation games. The game below was video-taped for future use as a training method in simulation games. The video-tape will be distributed to participants.

"A large corporation has acquired land, in a remote area along the Kariba lake in Chief Mutonga's village, Omay district. The area, within the Omay National Park is run by the government department of National Parks and Wildlife. The park boundary extends 8 km into the lake, encompassing two islands (uninhabited), 100 km along the lake and 30 - 160 km inland and includes 3 village enclaves of which Chief Mutonga's is the largest. The villagers are basically fishermen, and until five years ago have been involved in a CAMPFIRE programme: very little farming takes place and this is entirely done by women.

A 15-storey, five star, hotel complex with casino and disco will be constructed in Mutonga village, as one way of boosting tourism in the area which is famous for its 200 year old mission, now a national monument; the unique wildlife and fish species, the golden sands and

the lakes crystal clear waters which allow viewing of the brightly coloured fish up to depths of 6 meters. The proposed hotel site is the slaughter place for cropped game and the hotel park area will extend to the monument site."

6.12 *Field trips*

Field trips were undertaken for different purposes: to do some screening exercises, to acquaint participants with environmental problems in and around Livingstone town, to enable participants to see for themselves the industrial developments in and around Kafue township, to visit the Copperbelt and to learn how the mining industry tackles its environmental problems.

Livingstone Municipality was a case where the basic infrastructure was almost broken down, resulting in untreated sewage flowing into River Maramba and onto the Zambezi. The slum areas close to the rivers also dumped their waste there: an obvious case for new sewage treatment works.

A visit to Kafue Nitrogen Fertilizer Plant revealed that the township sewage treatment plant had broken down for some months. The fertilizer factory and other industries were located upstream of the point where Kafue township and Lusaka city drew their drinking water. That clearly showed that those industries did not have a proper EIA. The gas emissions loaded with particulates from Chilanga Cement Factory had adverse affects on the inhabitants of the township. In fact, respiratory complaints among the locals were higher than national average. The Kafue bridge area revealed sad effects of omission of EIA in development projects.

The Konkola Mines in Chililabombwe represented a good example of the mining industry's care for the environment. The whole process of mining and disposal of tailings had been designed to release harmless liquids and solids into the environment. In fact, when traces of toxic substances find their way into the soil, natural methods, especially plants, were used to extract the heavy metals, and afterwards burned to recover these metals.

The disposal of waste and tailings from Nkana Mine in Kitwe, on the other hand, left a lot to be desired. There, insufficiently treated tailings were dumped into a huge lake which had transformed hectares of former green meadows into a desert with lunar landscape appearance. Participants advised the management of Nkana Mines to redesign and instal new treatment facilities for the tailings.

In summary, the field visits made it more abundantly clear to all the participants on the need for mandatory EIA for all large-scale development projects.

7.0 CONCLUSION

The following conclusions were drawn from observations by the participants, resource persons and meeting organizers during discussions in the first week of the workshop:

7.1. The workshop revealed that there was clear evidence of local talent and capacity to work on EIA, but very often this potential needed to be strengthened. It was also evident that there were different levels of understanding of EIA in the sub-region.

7.2. EIA emerged as a process which involved integration of the socio-economic and environmental aspects of development in the project cycle. The process required the assessment of various steps at different stages of project development and involved a continuous investment in professional manpower.

7.3. EIA should be regarded as a planning tool and not as a stumbling block for development in Africa. That also applied to the identification of sectors, programmes and policies requiring EIA.

7.4. The role of donors and external forces driving the EIA schemes in African countries was debatable and the need to promote an "internally driven" EIA was emphasized.

7.5. Institutions entrusted with EIA and the role they play should be clearly identified and integrated into the system, with financial provisions in government budgets for conducting EIAs.

7.6. Questions were raised as to whose responsibility it was to take the initiative in setting up the EIA frameworks and implementing and monitoring EIA. The preparation of EIA guidelines for the sub-region was identified as a task for future work. Regarding the institutional structure and set-up, the options of vertical versus horizontal integration within the system were explored and the need for an autonomous body emerged.

7.7. Inadequate legislation on EIA or the complete lack of it was identified as one of the constraints in promoting the use and application of EIA in the sub-region.

7.8. Gaps and weaknesses in EIA applications were identified with lack of internal coordination at the national level, strictly linked to the lack of the political will to address EIA issues and with the lack of homogenization of the legal and institutional framework across countries. This was recognized as one of the main causes behind the lack of indigenous capacities to conduct EIAs in Africa.

7.9. Stress was laid on the need to make politicians aware of the value of EIA as a tool for development, in order to fill the institutional and capacity-building gaps.

7.10. The need to build expertise and strengthen capacities would require a networking among institutions and experts, at national and regional levels, to enhance what was defined as a "cross fertilization" process. The institutional and legal set-up and the capacity-building processes emerged as two interdependent key issues in EIA development and implementation.

7.11. The "cross fertilization" process among institutions should contribute to dissemination of EIA "culture" and to the integration of EIA into the educational system, by developing training programmes and centers of expertise, the fulcrum of human capital investment in this field and capable of creating databases and directories of institutions that specialize in EIA issues.

7.12. EIA must develop within the framework of an interactive relationship between the human environment and the economy.

7.13. EIA must incorporate quality changes in the human environment as well as their quantitative measurements, involving valuation and techniques of cost-benefit analysis;

7.14. The micro-dimension of EIA at the project level should be linked to the macro policy level, and become part of environmental policy planning on a national and regional scale;

7.15. It is necessary to enhance the participatory and holistic approach to EIA, and involve local communities and indigenous skills from various socio-economic groups from a very early stage of EIA. Public participation, gender issues and the adoption of more equitable criteria were explored.

7.16. There was a clear need for continuous follow-up on EIA efforts in the sub-region.

7.17. EIA needs to be included as part of the environmental education curriculum. The development of a training module was also identified as one of the activities for future work.

7.18. The donors' role with respect to EIA, the concepts of democracy and public participation were identified as key issues which needed to be carefully addressed. EIA had to function in a democratic and transparent system with the involvement of NGOs and women.

7.19. Popular participation in achieving sustainable livelihood security, and in which women played a significant role, was highlighted as the driving force behind rural Africa's sustainable development.

7.20. Africa's fragile ecosystems needed an integrated development approach in which human needs were balanced with judicious resource management.

ANNEX 1

Institutional set-ups in selected African countries

Institutional set-ups in selected African countries

BOTSWANA

The formulation of a National Environmental Conservation Strategy started in 1985 and was only approved in 1990. Its main focus was on the monitoring of existing utilization of natural resources and harmonization of existing lands, and included the issues of environmental education and EIA. EIA was carried out individually by ministries under the National Conservation Strategy. A statutory process on EIA did not exist, however. A draft of EIA legislation is now under preparation, with the help of IUCN, which was also involved in the preparation of the National Conservation Strategy. The enforcement of the legislation is a sensitive issue, often in contrast to local and tribal tradition, such as in the widespread phenomenon of overgrazing.

KENYA

In 1974 the Department of Human Environment was established. This was transformed into the Department of Environment and Human Resources in 1979. This relatively long involvement in environmental issues testifies to an attempt to develop national environmental policies and laws, which so far, however, have been scattered and fragmented. In 1974 an Interministerial Committee on the Environment was created, together with the National Environment Secretariat (NES). The latter deals with natural resources, pollution control, education, chemicals, environmental law, marine ecosystems, and human settlements. EIA is handled by the various units, although without any fixed methodology or procedures. The NES are operating in an advisory capacity, but decisions are taken at a higher level, i.e. ministerial level. The National Environmental Action Plan is currently under preparation.

MALAWI

Decisions on EIA are taken by the National Committee of the Environment. At present there is no environmental law in the country, and the National Committee of the Environment is working on a framework of legislation, with the assistance of UNEP. The Committee prepares the EIA terms of reference for donor-driven local proposals. It is envisaged that small environmental units and environmental committees at the district level will be introduced. Most public projects are subject to EIA, while in the private sector EIA is still required. There is need to distinguish the role of the Committee from the Environment and Development Planning Division, which approves projects after the National Committee of the Environment has approved it.

SEYCHELLES

An Environmental Protection Act was prepared and circulated for comments and is expected to be passed before the end of 1994. At present an environmental lawyer takes care of environmental law; a document exists which incorporates a proposal for EIA, defining who should do EIA, who should approve and control EIA procedures, and who reviews mapping of the sensitive areas and updates land-use plans. All EIAs would be channelled through the Environmental Department but this is not compulsory. The Environmental Department consists of the Pollution, Environment and National Parks Units, and involves thirty people.

SOUTH AFRICA

The Council for Science and Environment has developed EIA procedures, but in practice there is no enforcement or regulation to conduct EIA. EIA application is left to the willingness of the Government. Public involvement in, and awareness of environmental issues is very poor. It was only in 1993 that the African National Congress (ANC) appointed a person to work on environmental issues.

SWAZILAND

There is a relatively new and small department dealing with EIA. In 1992, an Act aimed at establishing EIA guidelines was passed, in order to integrate environmental considerations in the planning process. A draft document is ready and will be finalized with World Bank support. The World Bank is funding an expert to prepare EIA guidelines for Swaziland. Within the region and across regions, the information flow is very weak.

TANZANIA

The Ministry of Tourism, Natural Resources and the Environment was established in 1990 and includes the environment, wildlife, forestry and fishery divisions. The Environmental Management Council was also set up. A draft for a National Conservation Strategy is under preparation and will be ready in June 1994. A regulation for the Tanzanian National Parks (TANAPA), exists although there is no framework or regulation regarding EIA. An umbrella legislation was drafted but is not yet approved. Most of donor financed projects require EIA and the World Bank is assisting in the drafting of EIA procedures for the mining sector. There is a need to define the EIA regulations to be integrated and harmonized with the existing legislation.

UGANDA

The Ministry of the Environment was formed in 1986, incorporating three departments for water, energy and minerals and environment protection. It was then transferred to the Ministry of Natural Resources which includes the energy, forestry and environmental protection departments. The latter consists of the following divisions: monitoring and control, environmental education, public awareness, information and research, and also deals with EIA. The Investment Authority, which is attached to the Ministry of Commerce, requires the private sector to undertake EIA. Uganda has now completed its National Environmental Action Plan (NEAP), and will be undergoing an institutional restructuring process, with a decentralization which will result in the posting of previously trained environmental officers, at a district level. Training for EIA has not been initiated yet. Shifts in the institutional roles occur depending on the NEAPs initiated by the World Bank. The National Environmental Management Actions (NEMAs) will be handling EIA.

ZAMBIA

Environmental management and planning in Zambia is undertaken by the Ministry of the Environment and two statutory bodies, Zambia Forest Industrial Corporation (ZAFICO) and Environmental Council of Zambia (ECZ). The latter incorporates an EIA unit, and, on the basis of the Environmental Pollution and Control Act, it is committed to require EIA procedures. It identifies projects, plans and policies for which EIA is necessary, and can request other institutions to undertake EIA. The formal legal requirement is based on the Act, but there are no formal regulations to enforce the EIA act, in terms of who should undertake EIA and who should review it. The process is still under development. Currently work is being undertaken to enhance local capacities in EIA and in the drafting of regulations.

ZIMBABWE

A blueprint for a National Conservation Strategy already exists. The legislation includes 18 environment-related acts which need to be merged under an umbrella Act. The system has been empowered to implement EIA. The approval of EIA is the responsibility of the National and Economic Planning Commission for public investment projects, and of the Zimbabwe Investment Center for private projects. The 1991-95 National Development Plan states that no projects would be implemented without EIA.

ANNEX II

AGENDA OF THE WORKSHOP

AGENDA OF THE WORKSHOP

WEEK 1

WHAT IS EIA?

Monday 7 March

Official Opening
Meaning and significance of EIA in sustainable development

o Link between environment and economics
  Brundtland Commission
  Agenda 21
o Approaches and definitions
o Environmental planning and management as a basis for sustained development

Tuesday 8 March

Theme:Approaches and methodologies of EIA.

o Holistic approach
o Public participation
o Scope of EIA

EIA methodologies

o Preliminary activities
o Impact identification
o Baseline study

Wednesday 9 March

EIA patterns and techniques

o Monitoring and evaluation
o Mitigation measures
o Comparison of alternatives
o Documentation
o Decision-making and commissioning
o Post auditing

Developments and institutions

o The legal framework for EIA in Eastern and Central African countries
o Capacity building

Working Group discussions

Thursday 10 March — ***Theme: Case Studies***

Developed countries experiences
Developing countries experiences
by resource persons

Contributions from the floor
Experiences from participating countries

Friday 11 March — ***Major conclusions of the week (Working Team, Module Coordinator, resource persons and a few participants)***

On the basis of this, see how to organize the rest of the workshop

WEEK 2

ECOSYSTEMS AND ENVIRONMENTAL CONCERNS OF DEGRADATION PROCESS

Monday 14 March — ***Land degradation loss of biodiversity and watershed change***

Tuesday 15 March — ***Soil erosion***

Lakes, wetlands, coral reefs, salinization, reduction of stock fish

Wednesday 16 March — ***Panel discussion***

Group discussion

Thursday 17 March — ***Pollution: air, water, soil***

The environmental impact of chemical fertilizers and pesticides

Friday 18 March — ***Panel discussion***
Pulling out the issues

WEEK 3

ECOSYSTEMS AND ENVIRONMENTAL CONCERNS OF SPECIAL HABITATS

Monday 21 March	*Tropical forests and woodlands*
	Mountain ecosystems
Tuesday 22 March	*ASALs*
	Island ecosystems
Wednesday 23 March	*Lakes and wetlands*
	Coral reefs
Thursday 24 March	*Energy*
	Projects undertaken elsewhere in Africa
Friday 25 March	*National environmental policies*

WEEK 4

ENVIRONMENTAL APPRAISAL BY SECTOR

Monday 28 March	*Natural resource management*
Tuesday 29 March	*Water and sewerage*
Wednesday 30 March	*Tourism*
	Panel discussion Batoka Project Panel discussion
Thursday 31 March	*Development projects*

Friday 1 April	*(Good Friday - Free)*
Saturday 2 April	*Development projects*
	Simulation games

WEEK 5

PERSPECTIVES, PRESSURES AND OPPORTUNITIES

Monday 4 April	*Urban and physical planning*
	Visit to Livingstone Power Station
Tuesday 5 April	*Global initiatives*
	Human resource appraisal and capacity building
Wednesday 6 April	*Popular participation, with focus on the disenfranchised (the poor, women, youth)*
Thursday 7 April	*Environmental education and training as information tools for EIA*
Friday 8 April	*EIA framework and methods for Africa*
Saturday 9 April	*Continue with EIA framework* *Wrap up and wind up in Livingstone*
Sunday 10 April	*Depart for Lusaka* *Spend night in Lusaka*

WEEK 6

FIELD TRIPS

Monday 11 April	*All day visit Kafue, River, Nitrogen Fertilizer Factory, Mundawanga Gardens* Spend night in Lusaka

Tuesday 12 April	***Travel to the Copperbelt*** Spend night in Kitwe
Wednesday 13 April	***Visit Kitwe, Konkola Mine, Chililabombwe and Nkana Mine, Kitwe*** Spend night in Kitwe
Thursday 14 April	***Return to Lusaka*** ***Spend night in Lusaka***
Friday 15 April	***Wrap-up Reception***
Saturday 16 April	***Departure***

ANNEX III

LIST OF PARTICIPANTS

LIST OF PARTICIPANTS

BOTSWANA

Ms. Bothepha Mosethi

Assistant Environmentalist,
Ministry of Works
Transport and Communications
Private Bag 007, Gaborone
Tel: 358500/538, Fax: 313303

Ms. Portia Segomelo

Natural Resources Officer,
National Conservation Strategy Agency
Private Bag 0068, Gaborone
Tel: 302050, Fax: 302051

KENYA

Ms. Janet Mutiso

Senior Environment Education Officer
National Environmental Secretariat
P.O. Box 67839, Nairobi
Tel: 229261 Ext: 35101

Mr. Krispin Wafula

Sector Manager,
Kenya Energy and Environment
Organizations (KENGO)
P.O. Box 48197, Nairobi
Tel: 749747, Fax: 749382

LESOTHO

Ms. Mantu Malataliana

Physical Planner,
Department of Land Survey and
Physical Planning
P.O. Box 876, Maseru
Tel: 322376, Fax: 311340

Ms. Puseletso Ntsane

Physical Planner, Department of Land Survey
and Physical Planning
P.O. Box 876, Maseru
Tel: 322376, Fax: 311340

MALAWI

Mr. James Chimphamba

Principal,
Land Husbandry Training Centre
P.O. Box 233, Zomba
Tel: 522201/522531, Fax: 523058

Ms. Etta M'mangisa

Environmental Officer,
Department of Research and
Environmental Affairs
P.O. Box 30745, Lilongwe 3
Tel: 781111, Fax: 781487

SEYCHELLES

Mr. Andrew Fock-Heng

Senior Project Officer,
Division of Environment
P.O. Box 445, Victoria, Mahe
Tel: 224644, Fax: 224500

SOUTH AFRICA

Ms. Shamala Naidoo

Researcher,
Group for Environmental,
Monitoring (GEM)
P.O. Box 57, Scott Road
Observatory 7925, Cape Town
Tel: 4483543, Fax: 9592989, c/o E. Fourie

SWAZILAND

Mr. Nicholas Matsebula

Forestry Officer,
Forestry Section
P.O. Box 162, Mbabane
Tel: 42731/9, Fax: 44700, Telex: 2343

Mr. Simelane Vusumuzi

Environmental Analyst,
Department of Environment
P.O. Box 57, Mbabane
Tel: 46245 Ext: 146, Fax: 42436/41719

TANZANIA

Mr. Seleman Kisimbo

Environment Officer,
Department of Environment
P.O. Box 72243, Dar-es-Salaam
Tel: 35501, Fax: 23230

Mr. Sanjo Mgeta

Environment Management Officer
Ministry of Tourism,
Natural Resources and Environment
P.O. Box 72243, Dar-es-Salaam
Tel: 25084/37289, Fax: 23230

UGANDA

Mr. Fredrick Kiwazi

Environment Officer,
Department of Environment Protection
P.O. Box 9629, Kampala
Tel: 257979/239241, Fax: 242298

Ms. Norah Namakambo

Environment Officer
Department of Environment Protection
P.O. Box 9629, Kampala
Tel: 257976/239241, Fax: 242298

ZAMBIA

Mr. Lubinda Aongola

Environmental Planning Officer,
Ministry of environment and Natural Resources
P.O. Box 34011, Lusaka
Tel: 252711/253040/253042,
Fax: 222117, Telex: 253045/6

Ms. Georgina Kaluluma

Economist, National Commision for
Development Planning
P.O. Box 50268, Lusaka
Tel: 251862/254124/251370, Fax: 263353
Telex: 250844/251367

Mr. Pathias Muhwanga

Environmental Education Officer
Environmental Council Zambia
P.O. Box 35131, Lusaka
Tel: 286435/224009
Fax: 223123/252952

ZIMBABWE

Mr. Justo Mabenge

Chief Provincial Planner,
National Economic Planning Commission
P.O. Box 256, Bindura
Tel: 171-6855

Mr. Moses Munemo

Deputy Director,
Department of Natural Resources
101 Lomagundi Road, Greencroft
Mabelreign, Harare
Tel: 339306, Fax: 793123

RESOURCE PERSONS

Mr. Hussein Abaza	Chief, Environmental and Economics Unit, UNEP, P.O. Box 47074, Nairobi Tel: 254-2-623372/624051, Fax: 624268
Mr. Ronald Bisset	Senior Associate, Cobham Resource Consultants, 79 mentone Gardens, Edinburgh EH9 2DJ, Scotland U.K. Tel: 44 31 662 0 308, Fax: 44 31 556 0 311.
Mr. Dominic Bwanga	Director, National Centre for Environmental Education P.O. Box 61106, Livingstone Tel: 260-3-320610, Fax: 260-3-320068 Telex: ZA 24100
Mr. Harry Chabwela	Ecologist and Consultant, University of Zambia, Department of Biology P.O. Box 323679, Lusaka
Mr. Patrick Chipungu	Director, Environmental Council of Zambia, P.O. Box 35131, Lusaka. Tel: 260-1-286435/224009, Fax: 260-1-223123
Mr. Walter Filho	Director, European Research Centre on Environmental Education and Development, University of Bradford, Bradford 007 IDP U.K. Tel: 44 274 385259, Fax: 44 274 385391/385259

Ms. Alessandra Goria	Junior Professional Officer, Environment and Economics Unit, UNEP Tel: 254-2-624057, Fax: 254-2-624268
Mr. J.L. Gortworst	Director, GEOPLAN, Emmastr AAT 28, 1075 HV, Amsterdam, Netherlands. Tel: 31 206 716121, Fax: 31 206 646306
Mr. James Kasonde	National Council for Scientific Research P.O. Box 310158, Lusaka, Zambia Tel: 260-1-281081/5
Mr. Nicholas Katanekwa	Director, National Heritage Conservation Commission, P.O. Box 60124, Livingstone. Tel: 260-3-320481, Fax: 260-3-324509
Mr. Mukuni	Chief Mukuni Village Livingstone, Zambia
Mr. Shimwaayi Muntemba	Director-General, Earth Care Africa, P.O. Box 76358, Nairobi. Tel/Fax: 564971
Mr. Edward Rugumayo	Director of Programmes, Earth Care Africa P.O. Box 76358, Nairobi Tel/Fax: 564971
Mr. Stuart Stevenson	Head of Environmental Services, Norconsult (Tanzania) Ltd., P.O. Box 9620, Dar es Salaam Tel: 255-51-67344, Fax: 255-51-67902
Mr. C.P. Wolf	Director, Social Impact Assessment Centre, 423 Broome Street, New York NY 10013 U.S.A. Tel: 212 966 2708, Fax: 212 219 1963