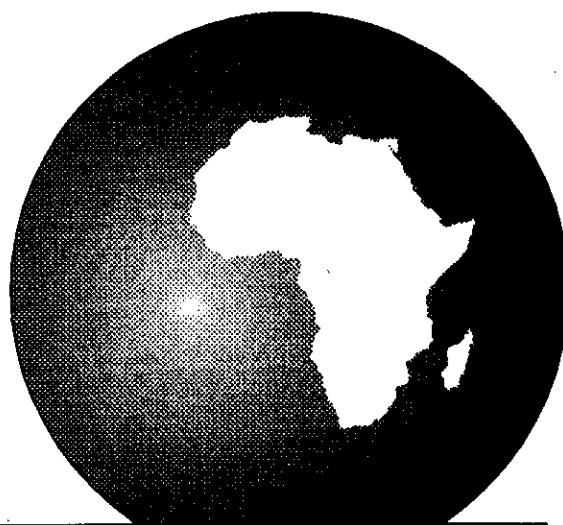




United Nations
Economic Commission for Africa

ECA/MRAG/LUS.MUL/96/008/MR



Multidisciplinary
Regional Advisory Group

**MISSION REPORT ON
A FRAMEWORK FOR THE IMPLEMENTATION
OF NATIONAL ACTION PROGRAMME IN ZAMBIA
IN THE CONTEXT OF THE CONVENTION
TO COMBAT DESERTIFICATION**

(Lusaka, Zambia, 15-26 July, 1996)

**By
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**Addis Ababa
July, 1996**

60686

ECA/MRAG/LUS.MUL/96/008/MR

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I. INTRODUCTION

The African Common Position on Environment and Development which was adopted by the African Ministers of Environment in Abidjan, Cote d' Ivoire in 1991 called for "the formulation and signing of an international convention on halting desertification in Africa by the creation, through collective international effort, of green-belts north and south of the Sahara and the Kalahari deserts."

It was the United Nations Conference on Environment and Development (UNCED), popularly known as the Earth Summit, held in Rio in June, 1992 which requested the United Nations General Assembly to establish an Intergovernmental Negotiating Committee for the purpose of elaborating a Convention to Combat Desertification (CCD) in those countries experiencing serious drought and/or desertification, particularly in Africa.

During the 47 Session of the General Assembly in 1992, a series of decisions were adopted that dealt with the UNCED follow-up including resolution 47/188 which called for the establishment of the Intergovernmental Committee on Desertification (INCD) with a view to finalizing the negotiations by June, 1994.

The CCD was adopted in Paris (France) in June, 1994. The objective of the Convention is "to combat desertification and mitigate the effects of drought in countries experiencing drought and/or desertification, particularly in Africa, through cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas." Zambia signed the Convention in October, 1994 and is in the process of ratifying it.

The CCD comprises of a preamble, six parts and four regional implementation annexes for Africa (RIAA), Asia, Latin America and Caribbean and Northern Mediterranean. The General Assembly also adopted a Resolution on a Framework for Implementing the Urgent Action for Africa during the interim period prior to the entry into force of the CCD. Since its adoption, "several post agreement" sessions have been held and the ninth session of INCD is expected to take place in Geneva in September, 1996. It is hoped that the required fifty ratifications before entry into force of the Convention would be reached in 1996, thus, paving way for the first conference of Parties in 1997.

The Convention and the RIAA stipulate the roles to be played at the national, sub-regional and regional levels through the formulation of the National Action Programme (NAP), the Sub-regional Action Programme (SRAP) and the Regional Action Programme

(RAP). This report is an assessment of Zambia's efforts in undertaking the NAP process.

II. ZAMBIA: COUNTRY PROFILE

Zambia, is a land locked country in Southern Africa with area of about 752,600 Km². It has a population of about 9.2 million people of whom 50% live in urban centres. At the time the country became independent in 1964 only 20% of its population lived in towns and cities. The rapid migration from the rural to urban centres makes Zambia the most urbanized country in Sub-Sahara Africa next to South Africa. It has also a high population growth rate of 3.7% per annum.

State land covers about 3.5% while the traditional land constitutes the remaining 96.5%. Disputes pertaining to boundaries are normally settled through traditional chiefs or through the magistrates. Resources in cultivated communal lands may be communally utilized and this hampers private investment including tree planting or soil conservation measures. Farming is predominantly rain-fed; only 2-3% of land cultivated annually is irrigated. About 40% of the land area of Zambia is classified as potentially suitable for cultivation. The soils are, however, infertile and susceptible to erosion. The dry sub-humid zone of the country, which is the main productive area is also the region which is most affected by soil erosion. Continuous cultivation as well as overgrazing are the primary causes of soil erosion. The slash and burn shifting cultivation system (Chitemene) is practiced in the high rainfall areas. It is estimated that at least 9000 Km² of woodland is cultivated each year using the Chitemene system resulting in the loss of woodland fertility.

Despite a 60% decline in copper prices in the mid-1970's, Zambia derives 90% of her export earnings from the mining industry. Indeed, the mining industry contributes about 10% to the GDP of the country and employs some 50,000 workers, which constitutes 15% of the country's employment figure. The mining industry is, therefore, the second largest employer after government. Agriculture and rural development have now been accorded a high priority as potential sectors that are likely to replace the mining sector.

The country receives its rainfall from November to April. Rainfall decreases southward so that the south and southern eastern receive 600 - 900 mm per annum while the north and northwestern receive over 1000 mm per annum. The rainfall pattern is influenced by the Zaire air mass and the Inter Tropical Convergence zone (ITCZ). Drought episodes have been more frequent in the past decade.

The natural vegetation of the country is the miombo woodlands which cover 24% of the total land area of the country.

III. MISSION OBJECTIVES AND ACTIVITIES

Following a request by the Permanent Secretary, Ministry of Environment and Natural Resources dated 27 March, 1996 to provide assistance in the formulation of the Zambian Action Programme for Combating Desertification within the framework of the Convention to Combat Desertification, the UNECA requested Mr. S.K. Imbamba, Senior Regional Advisor on Environment and Development to undertake the mission. The mission was undertaken from 15 - 26 July, 1996 and funded by the UN Regular Programme of Technical Cooperation.

The mission objectives were as follows:

- Assessment of the status of desertification in the country, including the review of relevant documents as well as undertaking consultations with the stakeholders (line ministries and/or departments), parastatal organizations, relevant University departments, NGOs/CBOs and partners in development);
- Undertake a review of existing and/or proposed projects and programmes relating to combating desertification and the mitigation of the effects of drought;
- Assess the implications of financial resources for the NAP process and prepare a framework support document for the mobilization of the resources;
- Sensitize the local and international partners on the provisions of the Convention and the importance of cooperation and partnership in implementing the Convention.

MISSION ACTIVITIES

In order to obtain a comprehensive and clear picture of the environmental problems and prospects relevant to combating desertification and the mitigation of drought, the mission held extensive consultations with approximately 50 persons (see Annex 2) belonging to the following groups:

- Government ministries/departments/parastatals/colleges
- NGOs/CBOs
- University departments (UNZA and Copperbelt University)

- Partners in development
- Local private sector
- International donors.

The mission also received and reviewed documents from the various groups listed above in order to gain a deeper understanding of the current and/or proposed programmes and projects relevant to desertification and drought (see Annex 3).

IV. **HIGHLIGHTS OF CURRENT PROGRAMMES/PROJECTS RELATED TO DESERTIFICATION AND MITIGATION OF DROUGHT**

The UN Convention on Combating Desertification adopted the UNCED definition of desertification as, "land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities." The major impacts of desertification include poverty, decline in soil fertility and structure as well as degradation of crop land. Desertification control measures should, therefore, aim at arresting the degradation of the ecosystem in order to restore and increase its productivity, and thus, improve the standard of living and health of the people, as well as improving and stabilizing the economies of the areas affected.

In 1985, Zambia with the assistance of IUCN, prepared the National Conservation Strategy. The planning of environment in the country, however, came into force in 1992 with the commissioning of the National Environmental Action Plan (NEAP) process. Following the Earth Summit, issues relating to incorporation of environmental concerns in socio-economic planning process have assumed greater importance at various levels of the government machinery. The relationship between NEAP and NAP in combating desertification as well as the financing mechanisms will be discussed in the subsequent sections of this report.

In this section the highlights of activities and projects programmes, that relate to desertification within the framework of Agenda 21 and CCD are outlined. The mission has also made some preliminary recommendations on some of the programmes/activities and projects which are underway.

University Departments

The Department of Biology at UNZA continues to carry out research under the auspices of the Department of Energy (Ministry of Energy and Water Development), on forest clearing, soil erosion and burning of forest ecosystems. The results indicate that land clearing for agricultural production as well as the expansion of urban centres constitute the main causes of deforestation. Severe

grazing has also been identified as another serious cause of deforestation resulting in savanisation or severe land degradation. In contrast, harvesting trees for charcoal production contributes approximately 5% to the deforestation process in the country. A Handbook has been published on the management of miombo woodlands, which cover 24% of the total land area of the country. A booklet on charcoal making is also available. The study recommends the need for increased capacity building in forestry which would lead to the establishment of an effective forest extension services, resulting in sustainable management and utilization of forest resources.

The Departments of Biology, Geography, Soil Science at UNZA and the Forestry Department at the Copperbelt University offer relevant courses to desertification and drought. Future prospects relating to capacity building should be investigated including the mounting by these departments of an integrated short-term training course (3 - 6 weeks) on desertification and drought. The Department of Soil Science currently offers an in-service training course to mature students including practising farmers, extension and research personnel. The department also conducts research on water harvesting techniques.

Government Departments

The promotion of forest management involving the local communities as well as local district Councils is being undertaken by the Forest Department in Luapula, Copperbelt and Central Provinces. The project, Provincial Forestry Action Programme (PFAP), which is being funded by FINNIDA focuses on participatory methodology; it is action oriented and promotes cooperation and the sustainable management culture. The client groups and stakeholders in PFAP include:

- individuals and households dependent on forests
- rural and urban communities
- private enterprises
- NGOs/CBOs
- forests industry
- mining industry
- politicians

Vegetation mapping (forests) is also an important component of PFAP. The techniques in use include:

- ground surveys
- aerial photography
- use of remote satellite imagery from CSIR, South Africa.

The Zambia Forestry College in Ndola offers training programmes including refresher courses to practising foresters. The college also carries out assessment of training needs to enable modification of the teaching syllabus. The staff of the college also provide technical services in nursery management to the local communities as well as assisting them to establish cooperative societies for the sustainable exploitation of forest resources, including bee-keeping and saw-milling.

The forestry policies need, however, to be modified in order to reflect the new trends of participatory approach leading to sustainable management and utilization of forest resources instead of the old fashioned methods of using forest guards and scouts.

While preparing this report, the mission learnt that the modification of forest policies and various pieces of legislations to reflect the new trends in participatory approach of forest management was in an advanced stage.

The promotion of crop diversification particularly in the 31 drought - prone districts is being undertaken by the department of Agriculture (extension) as a means of combating drought. The department is also promoting the use of drought tolerant indigenous crop species (millet, sorghum and cassava) in these districts.

The Department of Water Affairs undertook the rehabilitation of boreholes and wells during the 1992/93 drought. In 1994 an additional 59 boreholes were drilled and another 64 boreholes and 213 wells rehabilitated. At the same time 8 dams were rehabilitated. Available information indicates that there are about 800 dams in the country, most of which are not functional due to siltation as well as having been choked with water weeds. The department is, however, keen to revive the development of dams and weirs for the provision of water as well as fostering water-shed management through flood control.

The Curriculum Development Centre has recently revised extensively its curricular thereby integrating fully environmental sciences in the primary and secondary school syllabi. Teaching materials are now being prepared for the revised courses. This is commendable bearing in mind the need to instill environmental consciousness in the future citizen of this country. Nevertheless, there are no concrete programmes and projects aimed at creating environmental awareness amongst individuals or groups such as local authorities, NGOs/CBOs, farmers, workers and their unions, business and industry.

The Department of Natural Resources organized a sensitization Workshop of stakeholders on CCD provisions in June, 1995. The Workshop made following recommendations:

- Establishment the National Coordination Committee on Desertification (NCCD), which was mandated to set up a National Fund for activities aimed at combating desertification;
- Requested for the establishment of an Institute of Environmental Studies at the University of Zambia.

Unfortunately, no follow-up of the Workshop's decisions has taken place including the non-holding of any meetings by the NCCD. Moreover, the composition of NCCD consisted mainly of Government departments, including representation from the UNZA and the Copperbelt University and NGOs. Zambia's partners in development, both international and the local private sector as well as the communities that are affected by desertification were not included in the NCCD.

It is strongly recommended that the Permanent Secretary assigns the responsibility of CCD implementation to one member of the ministry's staff who should report to him on a regular basis on the progress being made.

The Natural Resources Department has also been responsible for the implementation of the Kalahari-Namib Project of the SADC-ELMS which was inaugurated in 1989. The over-all strategy of the project is to involve the participation of local communities in the design and implementation of new or improved practices and management systems.

The Department of Meteorology currently has 36 principal weather stations in the country for collection of weather information. The department's target is to have one weather station per district in order to enhance drought monitoring. The department publishes a Crop Weather Bulletin during the rain season and a special issue at the end of the rain season. The department also participates in the National Early Warning System for food security which is part of the Sub-regional Early Warning System of SADC member States.

The NGOs/CBOs

The mission held consultations with the following NGOs/CBOs based in Lusaka:

- Zambia Association for Research and Development (ZARD);
- Wildlife Conservation Society of Zambia (WCSZ);
- Zambia Environmental Education Programme (ZEEP);

- Environmental Population Centre (EPC);
- Chalimbana River Catchment Conservation Subcommittee (CBO);
- Environmental Conservation Association of Zambia (ECAZ).

The NGOs/CBOs have major roles to play in participatory process, particularly in the organization of local communities for effective participation in combating desertification. In the past they (affected people) were ignored in the project formulation and implementation as well as being blamed for causing desertification. The Convention, therefore, advocates the bottom-up approach and also stresses the role of the NGOs/CBOs and, thus, gives them an important role in the implementation phase of the convention.

The consultations revealed that a number of NGOs/CBOs had previously participated in the INCD negotiations including the "Post-agreement Negotiations." They had also participated in the various SADC-sponsored workshops on desertification and the mitigation of the effects of drought. Despite the awareness of the Convention to the NGOs, no National NGO Coordinating Committee on Desertification had emerged, nor the NGO Coordinating Committees at the District level.

In point of fact, none of the NGOs consulted is working strictly on desertification matters. They are, however, working on several facets of environment, including the following areas:

- environmental conservation;
- reproductive health and family planning;
- research for enhancement of development of women, including training of girls;
- collection and dissemination of research findings;
- ecotourism, conservation of parks, and related wildlife issues;
- creation of environmental awareness;
- promotion of community education;
- production of education materials;

In view of the pivotal role of NGOs/CBOs in sensitizing and organizing the affected communities, it is proposed that the MENR organizes a meeting of relevant NGOs with a view to promoting the formation of the National NGO Coordinating committee as well as the NGO Coordinating Committees at the district level. The MENR

through the NCCD should also work closely with the district councils in order to receive the full cooperation and participation of urban populations in desertification control.

In summary, the following priority actions will need to be addressed:

- The establishment of the National NGO Coordinating Committee on Desertification at the national level and similar committees at the district and local levels as well as identifying the available community based structures;
- The National Coordinating Committee of NAP to consult NGOs/CBOs on a regular basis on all matters pertaining to desertification with a view to institutionalizing such contacts;
- The NGOs to aim at facilitating the dissemination of information concerning CCD to the affected populations and in turn they (NGOs) should pass the experiences and feedbacks from the communities to the NCCD;
- Existing information channels to and from affected populations, their CBOs and civil society to be strengthened through the revitalization of government extension services as well as the use of mass media (radio, print and electronic media);
- The Government to permit, through enactment of relevant policies, communities to participate fully in decision making process at local levels for the enhancement of CCD implementation.

V. THE SIMILARITIES BETWEEN NATIONAL ENVIRONMENT ACTION PLAN (NEAP) AND THE NATIONAL ACTION PROGRAMME ON DESERTIFICATION (NAP)

The preparation of the National Environmental Action Plan (NEAP) started soon after the United Nations Conference on Environment and Development which was held in Rio de Janeiro in June, 1992. The NEAP is a comprehensive document covering most aspects of the environmental issues of Zambia. It provides an overview of Zambia's environmental problems, existing legislation and institutions and strategy options for improvement of environmental quality. NEAP also provides updated environmental policies and actions and forms the basis for future development of an investment plan for its implementation.

The NEAP consists of 14 Chapters. Each chapter reviews environmental issues pertaining to the sector as well as providing a plan of action for the sector. Most importantly, each chapter provides a summary of the **recommended actions** as well as the implementation strategy. Of particular relevance to the Convention to Combat Desertification are the following chapters:

- Chapter 3 : Institutions and Environmental Legislation
- Chapter 4 : Economic Development and the Environment
- Chapter 5 : Agriculture
- Chapter 6 : Renewable Natural Resources
- Chapter 10 : Human Population
- Chapter 11 : Energy Resources
- Chapter 12 : Environmental Education
- Chapter 14 : Environmental Issues in the Provinces.

The NEAP Process

The preparation of NEAP was managed by the Ministry of Environment and Natural Resources (MENR). The ministry established a Planning and Technical Committee (PTC) and appointed a full-time National Coordinator. The PTC established several Task Forces which coordinated the preparation of sector papers. A workshop was held in December, 1993 to prepare for provincial NEAP workshops. Both the workshop proceedings and sector papers were subsequently used as background documents in the preparation of the draft NEAP. From October, 1993 to May 1994, nine meetings were held to assess the progress of NEAP process before presenting the final NEAP draft to the National workshop on 24 June, 1994.

NEAP's Special Features

Zambia is one of the few African countries which have formulated the National Environmental Action Plan focusing on integrating comprehensively environmental policies in the development planning process. The benefits to be accrued from this strategy are enormous, including the reduction in having to clean up the "mess" after environmental degradation has taken place.

The integration of environmental issues in economic planning process is in line with the provisions of Agenda 21 which recommended the need for member States to analyze its provisions in the context of national policies, priorities programmes and plans

with a view to harmonizing Agenda 21 priorities with the National Environmental Action Plans.

The NEAP also emphasizes the participation of the public in environmental management. This is also strongly emphasized in the preamble of section III of Agenda 21 on "Strengthening the Role of Major Groups" which states, "one of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision making." It is to be hoped that emphasis will be placed on the need for individuals, groups and organizations to participate fully in Environmental Impact Assessment (EIA) procedures as well as in decision making. Also of importance will be the need for individuals and groups (women, youth, NGOs, CBOs, local authorities, workers and their unions, business and industry, farmers, etc.) to have access to information relevant to environment and development.

A careful review of the matrix in Table I on the measures to be pursued in combating desertification and the mitigation of the effects of drought as stipulated in Article 10, 13 and 14 of CCD and Articles 8(3) and 9 of RIAA resemble closely the recommendations made in the NEAP.

There are, however, some areas which do not feature prominently in the NEAP, for example, the strengthening of the early warning systems which is emphasized in CCD. This would entail, inter alia the following tasks:

- developing strategies to evaluate the impacts of natural climate variability on drought and desertification;
- utilizing predictions of climate variability in an effort to mitigate the effects of drought;
- improving the early warning and response capacities including emergency relief and food aid, food stocking and distribution systems, cattle protection scheme and public works;
- development of sustainable irrigation programmes for both crops and livestock;
- establishment of alternative livelihood projects that could provide incomes in drought prone areas;
- support national centres/institutions by providing them with adequate human resources, better equipment for the enhancement of procurement, processing and dissemination of information about natural disasters, such as droughts and floods.

The other area which is not strongly emphasized in the NEAP's recommendations is the development and transfer of appropriate

technology to the community level. This would entail, among other things, undertaking the following tasks:

- Facilitating access to relevant information on appropriate technologies, knowledge, know-how and practices for adoption to specific needs of local populations;
- Focusing research capabilities of the country on appropriate technology which responds to the needs of the local communities and utilizes indigenous knowledge systems.

Finally, the whole area of information collection, management and exchange appears also to have been given inadequate attention; particularly in view of the fact that NEAP has identified some 23 agencies that are involved in environmental management. Because environment is inter-sectoral, arrangements ought to be made to improve and increase the collection, management and sharing of environmental information and experiences.

Table 1

The relationships between the general Programme areas of the National Action Programme (NAP) as provided for in Articles 10, 13 and 14 of CCD and Articles 8 and 9 of RIAA and the recommendations of the National Environment Action Plan (NEAP).

Programme Areas relevant to Zambia National Action Programme (NAP)	Recommendations of the National Environmental Action Plan (NEAP)
1. Improving and/or establishment of the Early Warning Systems (EWS).	
2. Establishment of food security systems.	2. Ensuring household and national food security through dependable annual production of adequate basic food-stuffs at competitive costs (Chapt. 5.2)
3. Strengthening drought preparedness and management	3. To develop and implement a strategic plan to minimize the impacts of drought and floods and national and community levels (Chapt 6.1)
4. Strengthening of capabilities for assessment and observation of hydrological and meteorological services.	
5. Promotion of drought tolerant tree and crop species/ varieties as well as establishment of alternative livelihood projects.	5. Promotion of crop/animal diversification through research and conservation of local animal breeds and crop varieties and their wild relatives as well as providing credit facilities and extension services to small-scale farmers and women (Chapt. 5.1)
6. Development of sustainable irrigation programmes.	6. Require EIAs prior to the construction of dams and other hydroschemes to be evaluated by the Water Affairs Dept. and ECZ (Chapt. 6.1)
7. Promotion of sustainable management of natural resources.	<p>7.(a) Development and enforcement of integrated river basin management plans to rationalize utilization, conservation and management of water and other natural resources (Chapt. 6.1)</p> <p>(b) Development of a framework for community and private sector participation in forest management (Chapt. 6.2)</p> <p>(c) Development of forestry protection strategy for biodiversity and ecosystem conservation (Chapt 6.2)</p> <p>(d) Development of separate wildlife policies for national parks and GMA including local community involvement and private sector participation under the administration of NPWS (Chapt. 6.3)</p> <p>(e) To asses wildlife resources and depletion costs for future policy development and investment (Chapt. 6.3)</p>

<p>8. Promotion of sustainable agricultural practices.</p>	<p>8. (a) Assess the impact of incentives such as input subsidies on land husbandry and sustainable production (Chapt. 5.1) (b) Land degradation arising from ill-defined or uncertain property rights should be replaced by secure property rights (Chapt. 5.1) (c) The need to promote research and use of natural pesticides as well as the establishment of a framework for the disposal of agrochemicals and their residues (Chapt. 5.1)</p>
<p>9. Promotion of efficient use of various forms of energy, including the development of alternative energy sources.</p>	<p>9. (a) To assess rural and rural urban woodfuel consumption, and the environmental impact of its uses (Chapt. 11.1) (b) To introduce economic incentives for the adoption of non-polluting energy sources (Chapt. 11.1) (c) To expand urban and rural electrification to reduce use of fuelwood and fossil fuels (Chapt. 11.1) (d) To research and develop renewable sources of energy such as solar, wind and biogas (Chapt. 11.1)</p>
<p>10. Establishment of institutional and legal frameworks.</p>	<p>10. (a) Establish a Planning Unit in MENR to assist in monitoring implementation of the NEAP (Chapt. 3.1) (b) Designate environmental officers in line ministries and local authorities to ensure that environmental issues are considered during project development and implementation (Chapt. 3.1) (c) Review and harmonize the sectoral biased environmental laws with the EPPCA which is the principal environmental law (Chapt. 3.1) (d) Environmental Impact Assessment must be demanded from investors and developers and evaluated independently (Chapt. 3.1) (e) To establish an institute on Environment at UNZA to carry out research and training in line with NEAP (Chapt. 12.1)</p>
<p>11. Promotion of capacity building, environmental education and public awareness.</p>	<p>11. (a) Create Environmental Coordinating Committee under ECZ to promote environmental awareness in business or the informal sector (Chapt. 3.1) (b) To incorporate environmental education into existing school curricular and technical and University teacher training programmes (Chapt. 12.1) (c) To strengthen science teaching in secondary schools through improvement of facilities (Chapt. 12.1) (d) To strengthen NGOs and CBOs as effective vehicles for environmental programmes (Chapt. 12.1)</p>

12. Monitoring and assessing ecological degradation including salinisation, water logging, overgrazing, deforestation, mining, soil and wind erosion.	<p>12. (a) Establishment of long term monitoring of land degradation process especially soil degradation due to erosion and acidification (Chapt. 5.1)</p> <p>(b) The Water Resources Dept and the NCSR to carry out water resources inventories and to immediately carry out a comprehensive inventory of the water resources of the Kafue basin with a view to developing and implementing programmes to increase water availability and quality to all sectors (Chapt. 6.1)</p> <p>(c) Assess forest resources and costs of depletion (Chapt. 6.2)</p> <p>(d) Assess environmental impacts of small scale mining and develop data base on mining pollution (Chapt. 8.1)</p>
13. Acquisition and adaptation of relevant technologies to alleviate pressure on fragile natural resources	
14. Promotion of national research capabilities and collection, processing and exchange of information.	

Integration of Environmental Concerns in Socio-economic Planning Process

A fundamental objective of NEAP is the integration of environmental concerns in socio-economic development planning process of the country in order to achieve sustainable development.

In its various chapters, NEAP has made certain recommendations on how the integration process will be achieved. Some of the main recommendations include the following:

- To establish a Planning Unit in MENR to assist in monitoring the implementation of NEAP;
- To designate environmental officers in line ministries and authorities to ensure that environmental issues are considered during project development and implementation;
- To ensure that Environmental Impact Assessment is undertaken by investors and developers and that it is evaluated independently;
- To establish an institute on Environment at UNZA to carry out research and training in line with NEAP;
- To review and harmonize the sectoral biased environmental laws with Environmental Protection and Pollution Control Act which is the principal environmental law.

It must be emphasized that the integration of environment and economic policies is a pre-condition to sustainable development. In addition to the policy strategies listed above, it will also be imperative to include, costing and funding of environmental policies and not only their consideration during the planning process. Furthermore, it will be crucial to restructure economic and environmental policies as well as pricing environmental natural resources.

Although each sector reviewed in NEAP provides a detailed account of the environmental issues of the sector, it is to be hoped that each sector will play its part in the implementation of NEAP. Each sector must, therefore, be made directly responsible and accountable for ensuring that their policies, programmes and budgets support the implementation of NEAP. This will naturally require a change in the way decisions are made, so as to integrate economic and environmental issues comprehensively, making sustainability the ultimate goal at all levels. In other words, developing an environmentally sound agenda to which all sectors of society must contribute. In view of the fact that environmental degradation curtails all prospects for future development and alleviation of poverty, environmental conservation will need to be pivotal to all development planning process. In this connection the major economic sectors will need to:

- (a) introduce resource accounting in their programmes;
- (b) undertake sustainable development audits; and
- (c) analyze the impact of macro-economic policies on the environment.

Mention has already been made of the need to introduce EIA in appropriate future development projects as a means of ensuring sustainability of environmental resources. In this connection there will be need to develop and enhance capacity building in the following critical areas:

- (a) Environmental economics and accounting
- (b) Environmental law
- (c) Environmental monitoring and assessment.

The current staff members of MENR particularly those who will be responsible for the Planning Unit as well as those who will be designated as environmental desk officers in line ministries will need to be well versed in the above programmed areas. This may entail providing short-term training courses to the personnel of the MENR and line ministries as well as mounting regular short-

term courses at UNZA to ensure that local authorities, NGO/CBOs are also trained in these skills.

PROPOSED STRATEGY FOR NAP PROCESS

In the previous section, we discussed the formulation of NEAP and showed clearly that the principal programme areas of NAP as outlined in Articles 10, 13 and 14 of CCD and Articles 8 and 9 of RIAA are consistent with the recommendations of the NEAP. It was also pointed out the NEAP failed to give emphasis to some programme areas particularly the development of early warning systems and the development and transfer of technology.

The purpose of the present section is to propose a way forward in ensuring the implementation of the CCD bearing in mind the already proposed NEAP strategy.

Actions Required at the District and Local Levels

It may be recalled that the National Conservation Strategy as well as the NEAP addressed programmes of land degradation. The government has further put in place programmes for the implementation of land conservation, including the following:

- improving crop production through, inter alia provision of education and training to farmers;
- improving livestock raising, for example, improvement of rangelands/pastures with a view to reducing overgrazing;
- promotion of afforestation and reforestation in degraded areas as well as agroforestry practices;
- promotion of soil conservation measures as well as proper management of irrigation schemes.

In several instances, attempts to combat desertification or land degradation focused more on the symptoms rather than the causes. The programmes and activities put in place sought to reduce overgrazing, deforestation and faulty irrigation. Other programmes aimed at improved crop production through increased fallow periods, improved cultivation methods, the use of fertilizers, as well as drought tolerant crop varieties. These efforts, though well conceived, came to nought due to the fact that they did not address the underlying social and economic pressures that produced the symptoms.

Poverty Alleviation

It has been said that poverty is the cause and consequence of environmental degradation leading in some instances to desertification. The implementation of NAP must, therefore, focus on poverty alleviation and gender issues. In this country poor people are found both in rural and urban environments. The causes of poverty are, therefore, numerous and may include weak internal production structures, weak export markets, adoption of foreign policies and planning strategies and the depletion and destruction of natural resources (soils, forests, water, etc). Also associated with poverty are such factors as population growth, scarcity of water and landholding practices. The practice of raising crops on marginal, steep and poorly drained land enhances land degradation. All these factors result in the reduction of food production, reduction in employment opportunities and social services.

In implementing NAP, the government will need to put in place programmes which are aimed at improving the quality of life of the vulnerable groups. Such programmes are likely to include the following:

- expansion of educational opportunities as well as increasing the number of female teachers in schools;
- identification and dissemination of appropriate labour-saving technologies for women farmers;
- improvement of research facilities and the development of fast growing tree species;
- development of human capital and expansion of employment opportunities.

A Framework for Participatory Approach and the Creation of Environmental Awareness

At the Provincial and District levels the NGO Steering Committees on Desertification will be established to assist in the organization of grassroots communities in carrying out the following activities.

- Sensitizing and creating public awareness among the community members (women, youth, men, social scientists, religious leaders, local government personnel, etc) concerning the deterioration of their environmental resources and the need to halt and reverse the trend with a view to restoring productivity;

- Undertaking an assessment of the problems and needs as well as analyzing the ecological conditions of the community ecosystems - land, water, livestock;
- Sensitizing the local communities through public education about the benefits of the programmes to enable them to begin to think and devise management strategies for thorny problems such as land and tree tenure regulations, watershed management, reafforestation, policing the use of renewable resources; etc.
- The Government on her part will put in place a viable and vibrant extension service programme as well as providing leadership and full support to the rural development initiatives including capital and technology.

Proposed NAP Activities at the National, Provincial/District Levels in the Context of Combating Desertification

Activities at the Provincial and District levels

Zambia is divided into 9 provinces and 52 districts. It is recommended that the line ministries enter into partnership in order to support the following activities:

- Assessment of status of desertification in Zambia - to determine the districts which are prone to desertification as well as the status of land degradation;
- Establishment of Provincial and District Steering Committees on Desertification;
- Identification of facilitators (resource persons) with emphasis on local ones - to make a reconnaissance of the affected districts/provinces-networking with local government personnel, NGOs, CBOs church leaders, media, in preparation for the provincial/district workshops;
- Organizing sub-regional workshops at Provincial and/or District levels for the purpose of raising public awareness on desertification in the districts/provinces. (The exact number of workshops and the venue - i.e. whether they should be held at provincial or district levels will depend on the survey of status of desertification in the country);
- Establishment of a network for exchange of information and experiences;

- Hosting of a National Workshop (Conference) on desertification with the participation of local and international participants (including partners in development) - to contribute to the development of understanding of desertification in Zambia through paper presentation, posters and participation in discussion groups;
- Production of draft policy and framework for a National Programme to Combat Desertification in Zambia through the identification of key objectives.

Activities at the National Level

As pointed out earlier, the sensitization Workshop under the sponsorship of INCD held in June 1995 identified and formed a National Coordinating Committee for the Convention to Combat Desertification to spearhead the implementation of the Convention. The composition of the committee consisted of representatives from line ministries and/or departments, University of Zambia and Copperbelt University as well as NGOs. The total number of committee members is 21 which, in our view, is too large for meaningful and effective way of resolving issues. A maximum of ten committee members would seem adequate to the mission. The NCCD should be chaired by the P/S MENR or his representative and should undertake to report regularly on its activities to the partners in development, both local and internal.

A number of partners in development who are based in Lusaka have already been appraised by this mission about the CCD and are, therefore, expecting some feed-back from NCCD. It is, therefore, proposed that the composition of NCCD be as follows:

<u>Institution</u>	<u>No. of representatives</u>
Ministry of Environment and Natural Resources (Convenor and Chairperson)	1
Ministry of Agricultural, Food and Fisheries	1
Ministry of Foreign Affairs	1
Ministry of Lands and Local Government	1
Department of Meteorology	1
Department of Water Affairs	1
Department of Forestry	1
Department of Energy	1
Environmental Council of Zambia	1
UNZA (Department of Biology)	1
NGO (representative of National NGO Coordinating Committee)	1

The National NGO Coordinating Committee should, as proposed earlier, be constituted immediately and should liaise closely with NCCD and the grassroots communities on all matters pertaining to CCD implementation. The NGO Committee and NCCD should in partnership carry out the consultative process as well as documentation. It is further proposed that a competent person, whether from Government or NGO should be appointed to serve as the project Coordinator of NAP.

VI. FINANCING NATIONAL ENVIRONMENTAL ACTION PLAN

ENVIRONMENT SUPPORT PROGRAMME (ESP)

As indicated earlier, the purpose of ESP is to support the implementation of the recommendations of NEAP. The ESP process commenced in November, 1994 with the assistance of the World Conservation Union (IUCN). The ESP is now nearing completion, and in the following paragraphs a brief summary of its essential components is outlined.

GENERAL INFORMATION ON ESP

The priority environmental issues identified by NEAP pertain to:

- deforestation;
- soil degradation;
- wildlife depletion in rural areas;
- water pollution, inadequate sanitation; and
- air pollution in urban and industrial areas.

Current conflicts associated with environmental management

The ESP outlines the environmental management problems under the following subheadings:

- Institution and legal framework

Some 19 ministries have environmental responsibilities and 33 pieces of relevant legislation while EIA is only in the draft form. Coordination amongst ministries is weak which is exacerbated by some highly autonomous parastatals which also impact on environment.

Institutions

The Ministries of Agriculture, Food and Fisheries, Environment and Natural Resources, Energy and Water Development, Tourism (responsible for Parks and wildlife), Mines and Mineral Development, Lands, Local Government and Housing and Home Affairs

have been identified as the ones with most significant environmental responsibilities. According to NEAP, the ECZ is responsible for the designation and coordination of environmental officers in line ministries and local authorities. The ESP has pointed out the anomalies and weaknesses relating to the responsibilities and functions of MENR and ECZ. This situation is exacerbated by fragmentation of other actors notably the NGOs, CBOs and the private sector.

- Legislation and regulations

The weaknesses in the legal framework have been ascribed primarily to conflicts, inconsistencies and gaps in the regulations and statutes.

- Environmental education and public awareness

The main problem here is the lack of coherence or interconnectedness between environmental education and public awareness and that no framework or a coordinating agency exists which pulls the various actors together.

- Environmental information network and monitoring system

Although accurate information is a pre-condition for sustainable development planning, most of the country's institutions lack the resources to generate and disseminate accurate and timely data and information essential in decision making for appropriate interventions and mitigation.

THE ESP OBJECTIVES AND APPROACH

The ESP is geared toward the implementation of NEAP and it is expected that it will be supported by a multiple donors effort in line with NEAP recommendations. It will be sufficiently flexible in order to allow for specific sub-components while upholding the principles of transparency and accountability of individual institutions. The programme also aims at the development of local talents. It is designed to avoid duplication and fragmentation of efforts of government institutions, NGOs and the donor community. It will require close collaboration between and within the NGOs, CBOs, relevant public, private, institutions and the donors.

The major objectives of the programme are, therefore, two fold, namely to:

- (a) strengthen the legal and institutional foundations for environmental management and

- (b) initiate a process to enable rural and urban communities to address natural resource degradation problems of local concern.

THE ESP COMPONENTS

The main four components of ESP are outlined as follows:

1. Institutional Strengthening and Legal Framework - to put in place an effective institutional and regulatory framework for environmental and natural resource management. It will have the following sub-components:
 - Institutional assessment;
 - Institutional capacity building;
 - Legal framework and enforcement capacity.
2. Environmental Education and Public Awareness - to raise awareness and the empowerment of local communities to manage their resources sustainably.
3. Pilot Environmental Fund (PEF) -to provide incentives to promote community-based micro-projects and to finance the completion of practically-oriented studies and the development of strategies of national importance such as **drought preparedness**. The PEF would have the following sub-components:
 - PEF Community-Based Fund - for promotion of community-based environmental micro-projects.
 - Environmental Study Fund - for environmental/ecological studies and disaster preparedness.
4. Environmental Information Network and Monitoring System (EINMS) which will consist of:
 - EINMS - to provide action-oriented information to improve planning and decision-making for the commencement of the national environmental information system.
 - Monitoring and Evaluation System for ESP - for consolidation of the results of ESP.

VII. MOBILIZATION OF RESOURCES FOR NAP PROCESS

1. Solicitation of Resources from Partners in Development for NAP

The major activities to be undertaken in NAP process have previously been outlined (see p. 26-27).

The primary objective of the NAP is to assess the magnitude of desertification in Zambia and to sensitize the affected communities about the severity of the problem and the need to halt and reverse desertification in order to enhance productivity. Resources for NAP process will be sought from the international partners as well as ESP as indicated in the project profile (see Annex 1).

Accession of Funds from ESP for community Based Micro-Programmes and Projects on Desertification and Drought

It is anticipated that during the sensitization phase, the affected communities, working in partnership with NGOs, CBOs, local government authority will have identified and designed specific community action programmes to be implemented in the context of CCD. It will be crucial that the local communities be allowed to participate fully in the formulation of the projects to ensure that their perceptions, needs and expectations are catered for.

As pointed out earlier, one of the ESP's programme components is intended for pilot environmental projects including desertification preparedness. It is, therefore, recommended that projects identified by the communities be financed through the Pilot Environment Fund of ESP, details of which are available in ESP.

The Project Coordinator of NAP will, however, need to work closely with the Environmental Education and Public Awareness Coordinator of ESP to avoid any overlaps in their activities.

Education and Training

As the Curriculum Development Centre has just completed the revision of its curricular and incorporated fully the science based curricular in the overall syllabi, future programmes in education and public awareness will be targeted at individuals and various groups (e.g. local authorities, unions, business, industry, etc). The role of the public media will be crucial in this particular respect. It will, however, be prudent to provide training programmes for journalists on environmental reporting focussing on desertification and drought. The guidelines in the training seminar could encompass the following topics:

- Importance, role and definition of environmental reporting;
- What is desertification? What is drought?
- Historical perspectives of drought/desertification in Africa with emphasis on Southern Africa.
- Causes of desertification/drought and some statistics on ravages caused in the sub-region.
- The CCD and African Protocol.
- Combating desertification, including the bottom-up approach, capacity building, science and technology institutional arrangements, etc.

VIII. A FRAMEWORK FOR IMPLEMENTING NAP THROUGH COOPERATION AND PARTNERSHIP ARRANGEMENTS

The mission appraised the local and international partners in development on the ravages of desertification and drought in the sub-region with emphasis on Zambia during the past two decades. A review of the Convention to Combat Desertification beginning with the Earth Summit in Rio up to the Eighth Session of INCED held in Geneva was outlined. Emphasis was placed on the fact that previous efforts in combating desertification had addressed symptoms of desertification, namely overgrazing, deforestation, etc. without addressing the underlying social and economic pressures that had caused them. The CCD is the only Convention which stresses partnership rather than aid. It underlines the "importance and necessity of international cooperation and partnership" and says that national plans must be carried out "in a spirit of partnership between the donor community, governments at all levels, local populations and community groups." The latter must be fully involved and committed to halting and reversing desertification process. In other words, the bottom-up approach has been singled out by the Convention as the mechanism for implementing CCD.

The mission further reviewed the critical role of NGOs/CBOs in organizing local communities as well as the dissemination of information concerning CCD to the affected populations as well as passing their experiences to the National Coordination Committee on Desertification. Finally, the mission outlined to the donors the status of CCD implementation in some selected SADC countries (South Africa, Zimbabwe, Botswana, Namibia, Tanzania and Swaziland).

The mission held consultations with the following international partners represented in Zambia as outlined above as

well as the actions Zambia was taking in implementing the Convention:

- World Bank
- FINNIDA
- NORAD
- JICA
- DANIDA
- GTZ
- IUCN

Regrettably the mission was unable to hold discussions with CIDA because of shortage of time.

The mission also held consultations with Barclays Bank of Zambia. The following is a brief summary of the outcome of the discussions:

- World Bank, NORAD, MENR were partners in the formulation of the NEAP of Zambia, which calls for integration of environmental concerns in socio-economic planning process, and that capacity building in the MENR and institutional building were major components of NEAP.
- The Environmental Support Programme (ESP) prepared by IUCN on behalf of the MENR is aimed at supporting the implementation of NEAP. However, the details of ESP had not been made available to various partners in development.
- That NAP could access funds from ESP I, and that the modalities of the accession should be carefully examined once the formulation of ESP is completed.
- The mission was invited to assess other programmes and projects aimed at desertification control in the country, including the following:
 - Minimum tillage in the agriculture sector; funded by World Bank;
 - The Provincial Forest Action Plan supported by FINNIDA which aims at fostering cooperation and sustainable management of forests using participatory approach;
 - The formulation of national water development master plan up to the year 2005 supported by JICA covering the major catchment areas;
 - Support of some 20 districts in the area of soil conservation involving local communities (CIDA);

- The forest resource management study with emphasis on teak forests in Southwest Zambia (JICA);
- Development of rural water supply - involving the construction and rehabilitation of boreholes (JICA).
- That DANIDA can make resources available for the implementation of UN Conventions. In the case of combating desertification, integrated approaches encompassing several areas of interventions would be desirable.
- The MENR appeared to be weak in comparison to other Ministries (e.g. Defence, Health, Education) and that's why donors were shying away in supporting it. Because of weakness of the MENR it was probably not possible for it to utilize effectively any resources which could be made available to it.
- There are a number of issues which the Government must address in connection with land degradation which the CCD is primarily concerned with, such as land tenure and extreme poverty.
- A number of partners were particularly anxious to support environmental programmes of MENR including combating desertification and the mitigation of the effects of drought and requested for further details on the envisaged programmes and projects in the context of CCD that required assistance. The mission agreed to prepare the document brief for subsequent circulation to them.

IX. RECOMMENDATIONS

1. Designation of Officer in MENR for CCD Follow-up

Zambia has participated in nearly all the Sessions of INCD. Zambia has also participated in various fora organized by SADC-ELMS on CCD (Swaziland, 30 May - 6 June 1994; Pretoria, South Africa 8 - 10 March 1995; Windhoek, 16 -18 January 1996; Maputo 27 - 29 May 1996). A scrutiny of the names of Zambians who participated in the meetings shows clearly that different individuals have attended different meetings. It is recommended that one officer in the MENR be designated as the Coordinator of CCD matters. Even if the officer does not participate in all the INCD sessions and the SADC-ELMS meetings, he/she should be charged with the responsibility of the follow-up of CCD implementation through the NAP process.

2. Establishment of an Institute of Environmental Studies at UNZA

The June 1995 workshop on National Awareness on CCD under the auspices of INCED recommended, inter alia, the need to establish the Institute of Environmental Studies at UNZA. Chapter 12 of NEAP also recommends the need to establish such an institute at UNZA to provide training as well as conducting research.

It is the view of this mission that such an institute be established at UNZA and should be broad-based, encompassing various disciplines. In addition to undertaking research, the institute should offer short-term training programmes including the following:

- Environmental Economics and accounting;
- Environmental law;
- Geographical information systems for environmental planning, monitoring and management;
- Environmental impact assessment (EIA);
- Remote sensing techniques for the study of environmental processes.

3. Establishment of the National NGO Coordinating Committee on Desertification

The NGOs/CBOs have major roles to play in participatory process, particularly in the organization of local communities for effective participation in combating desertification. Because the CCD advocates a bottom-up approach, the role of NGOs becomes even more critical. It is, therefore, recommended that the Permanent Secretary of the MENR organizes a meeting of relevant NGOs with a view to promoting the establishment of the NGO Coordinating Committees at the National and District levels - particularly in the 6 and 9 districts of Western Province and Southern Province, respectively.

4. The Relationships between NEAP, NAP and ESP

It has been demonstrated that the Zambian NEAP and the programme areas of NAP as outlined in CCD and RIAA are very closely linked (see Table 1). It will be crucial that the implementers of NEAP and NAP work closely in order to avoid duplication and effort.

The ESP's role is to finance the implementation of NEAP particularly with respect to:

- (a) Institutional strengthening and legal framework

- (b) Environmental education and public awareness (EEPA)
- (c) Establishment of a pilot environment fund for community based projects
- (d) Environmental information network.

Since the principal tasks of NAP are related specifically to items (b) and (c) above, it is possible that the NAP could access funds from ESP for EEPA as well as for micro-projects to be designed and implemented by the grassroots communities. In any case, the implementation of NAP and ESP should be carried out in harmony.

5. A Framework for Combating Desertification through Partnership and Cooperation Arrangement

The CCD underlines the "importance and necessity of international cooperation and partnership" and adds that national plans must be carried out "in a spirit of partnership between the donor community, governments at all levels, local populations and community groups." Consultations with international partners in the implementation of NAP clearly indicated that they were agreeable to supporting the implementation of the Convention. A number of them, however, raised certain serious weaknesses concerning the MENR which needed to be addressed in order to ensure the effective utilization of any resources that may be made available for sustainable management of the environment.

6. Project Profile

The draft proposal which is attached as Annex 1 to this Report is a working document. It is suggested that the Permanent Secretary of the MENR should study it carefully so that it can be finalized by ECA before it is submitted to the local donors, who are expecting it anyway. A formal request to ECA in the usual manner will be necessary.

A FRAMEWORK FOR PARTICIPATORY APPROACH AND CREATION
OF ENVIRONMENTAL AWARENESS IN THE CONTEXT OF
THE CONVENTION TO COMBAT DESERTIFICATION

I. BACKGROUND

The agrarian crisis which is engulfing Sub-Sahara Africa can be attributed to several causes, including environmental degradation arising from the unsustainable utilization of resources, namely soils, forests, water and air. The other and equally important causes include the excessively high human population growth rate, lack of technological advancement leading to stagnation or even to the decline in food and agricultural production and climatic variations - especially during the last three decades, resulting in reduced precipitation. In the SADC countries, the agro-ecological systems are further threatened by intense human activities such as accelerated deforestation and inappropriate land use including physical alteration of land and the destruction of water catchment habitats. The quality of environment in most of the SADC countries is, therefore, severely stressed and is continuing to experience further degradation.

The United Nations Conference on Environment and Development (UNCED), popularly known as the Earth Summit, which was held in Rio de Janeiro in June 1992 requested the United Nations General Assembly (G.A.) to establish an Intergovernmental Negotiating Committee for the purpose of elaborating a Convention to Combat Desertification (CCD) in those countries experiencing serious drought and/or desertification, particularly in Africa.

During the 47 Session of the General Assembly in 1992, a series of decisions were adopted that dealt with the UNCED follow-up including resolution 47/188 which called for the establishment of the Intergovernmental Committee on Desertification (INCD) with a view to finalizing the negotiations by June, 1994.

The Convention to Combat Desertification was adopted in Paris (France) in June, 1994. The objective of the Convention is, "to combat desertification and mitigate the effects of drought in countries experiencing drought and/or desertification particularly in Africa, through cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view of contributing to the achievement of sustainable development in affected areas." Zambia signed the Convention in October, 1994 and is in the process of ratifying it.

The CCD comprises of a preamble, six parts and four regional implementation annexes including the one for Africa (RIAA). The General Assembly also adopted a Resolution on a Framework for Implementing the Urgent Action for Africa during the interim period to the entry into force of CCD. Since its adoption several "post agreement negotiations" have been held. The ninth session of INCD is expected to take place in September, 1996 in Geneva.

The Convention and the RIAA stipulate the roles to be played at the national, sub-regional and regional levels through the formulation of the National Action Programme (NAP), the Sub-regional Action Programme (SRAP) and the Regional Action Programme (RAP).

The Department of the Natural Resources of the Ministry of Environment and Natural Resources (MENR) organized a sensitization Workshop of stakeholders on CCD provisions in June, 1995. The Workshop made the following recommendations:

- Establishment of the National Coordination Committee on Desertification (NCCD);
- Setting up of a National Fund for activities aimed at combating desertification; and
- Establishment of an Institute of Environmental Studies at the University of Zambia.

The Kalahari-Namib Project

Zambia has also participated in the Kalahari-Namib Project of SADC-ELMS which was inaugurated in 1989. The overall strategy of the project is to involve the participation of local communities in the design and implementation of new or improved practices and management systems.

In the Kalahari-Namib Project an inventory of the national resources of Liangati in Senanga District of Western Province has been carried with a view to putting in place appropriate strategies for their management and sustainable utilization.

II. PROJECT OVERVIEW

At the Rio Conference on Environment and Development African Governments committed themselves to take bold decisions aimed at managing demographic changes and population pressures, achieving food self sufficiency and food security,

ensuring equitable use and sound management of water resources, securing greater energy self-sufficiency, conserving endangered species and ecosystems, preventing and reversing desertification and mitigating the impacts of drought, and undertaking sustainable management of forests and woodlands. The attainment of these laudable objectives has, however, eluded many African Governments. A number of constraints have been identified that have hampered the effective management of the African environment; they include:

- (a) difficulties in establishing genuine partnership at the grassroots level in the formulation and implementation of resource management initiatives;
- (b) limited capacity (human, institutional and infrastructural) by governments to absorb and administer the aid offer;
- (c) lack of land tenure.

After the Rio Summit, the Government of Zambia initiated the development of the National Environment Action Plan (NEAP). This is a comprehensive programme of action covering most environmental problems of the country. It also provides information on existing legislations and institutions as well as strategy options for improvement of the quality of the Zambian environment. The NEAP has identified priority action programmes as well as indicating those which must be implemented immediately and those that will require to be fulfilled in the short-term or medium to long-term period.

The on-going efforts by the Zambian Government to establish and implement programme areas of NEAP are obviously time-consuming. In order to integrate fully environmental concerns in the socio-economic planning process, NEAP provides laudable recommendations. They include the following: the need to establish a Planning Unit in MENR; designate environmental officers in line ministries and local authorities; establish the Institute of Environmental Studies at UNZA and ensure that EIA is undertaken by investors and developers. Although these recommendations are commendable, it is likely to be sometime before they are implemented.

The Zambian soils have been described as being fragile and susceptible to erosion. The dry sub-humid zone of the country, which is the main productive area is also the region which is most affected by soil erosion. Forest clearing for farming purposes coupled with continuous cultivation of the same plot as well as overgrazing are considered to be the

primary causes of soil erosion. The country has been experiencing devastating droughts for the past three decades.

Fortunately, Zambia and her development partners recognize the fact that agriculture and rural development must now be accorded high priority as potential sectors that must replace the declining mining sector.

Given the growing tendency of land degradation in Zambia and its consequential impact on food security and rural needs, an assessment of the priority programme areas involving the full participation of the grassroots communities including their empowerment, and the use of indigenous knowledge and know-how must begin immediately. The purpose of this approach to resource management will be to test the effectiveness of such an approach and introduce the necessary adjustments and modifications necessary for their successful extension to other districts. The primary objective is to support genuine grassroots management of agriculture and the natural resources in order to halt and reverse land degradation.

Objectives

The primary development objective of this project is to promote the attainment of food security and self-sufficiency in areas experiencing desertification and/or drought without damaging the integrity of environmental resources.

The project has the following immediate objectives:

- (a) To assess the status of desertification in Zambia in order to determine the districts that are prone to desertification and/or drought.
- (b) To sensitize and create public awareness among the community members (women, youth, men, social scientists, religious leaders, chiefs, local government personnel, etc) through workshops, meetings, seminars, networking, concerning the deterioration of their environmental resources and the need to reverse the trend with a view to restoring productivity.
- (c) To evolve a community-based village-level natural resource management mechanism that, with time, can be easily extended nation-wide. Such a mechanism will be expected to:
 - (i) Integrate existing systems of agricultural production (i.e. cropping, agroforestry,

- livestock, forage, etc) in an environmentally sustainable manner;
- (ii) Prevent the degradation of the resource base while concurrently inducing the improvement of soil fertility through enhancement of recycling of renewable resources between sub-systems of production;
 - (iii) Strengthen sustainable management of village ecosystems by adopting appropriate traditional indigenous methods of land conservation and rehabilitation complemented, whenever necessary, by appropriate and relevant new technologies;
 - (iv) Develop, at the village level, simple and easy-to-use environmental protection techniques such as those required for water use efficiency, water harvesting and soil conservation;
 - (v) Introduce agroforestry techniques which can reduce soil degradation arising from, among other causes, run-off and erosion on depleted soils;
 - (vi) Address the immediate food, shelter and energy needs of farmers and the long-term conservation needs of villages.
- (d) Establishment of the "Village Government" including the village Environment Committees (VEC) and the Village Council bearing in mind the gender bias, which would, on behalf of the members of the community, take appropriate decisions.

Design Considerations

(a) Community Participation

In many instances attempts to combat land degradation or desertification have focused on the symptoms rather than causes. The Government put in place programmes aimed at reducing overgrazing, deforestation without addressing the underlying socio-economic pressures that produced the symptoms.

Community participation in the design and implementation of the project is, therefore, essential. Local participation is paramount to achieving sustainable development.

The focus on grassroots participation is supported by compelling logic and impressive evidence. Indigenous communities in Africa have deep and intimate knowledge of their local ecology, flora and fauna, born out centuries of constant interaction with the environment and handed down from generation to generation. Local communities are also in a very good position to assess the relevance and validity of solutions to their environmental problems devised by outsiders. The projects logic is, therefore, centred around the proposition that effective participation of local people in devising and implementing programmes and activities on environmental conservation provides the best guarantee for achieving the objectives of sustainable food security and sufficiency.

The project will, therefore, emphasize:

- meaningful democratic participation by the local people;
- adequate preparation and focus on livelihood concerns;
- use of community structures and organisations;
- reliance on locally available tools, materials and skills;
- use of existing systems of marketing and extension and government and donor support commitment.

(b) The Role of External Agencies and NGOs/CBOs

There are a number of bilateral and multilateral agencies based in Zambia which are financing projects aimed at rural development with emphasis on sound environmental management as well as meeting agricultural needs without destroying the land.

The NGOs have wide experience in dealing with local communities. They are best placed to assist the villagers in:

- (a) undertaking an assessment of their problems and needs as well as analyzing the ecological conditions of the community ecosystems - land, water, livestock;

- (b) organizing public education programmes through training, workshops, seminars and networking;
- (c) preparing the community master plan indicating the interventions to be carried out;
- (d) preparation and signing of the contract between the community representatives and the Government or partner in development.

Many NGOs and CBOs have vast experiences in implementing projects for a variety of donors. In order to ensure sufficient consultation between External Agencies, NGOs/CBOs and Local Government Administration, the NGOs and CBOs involvement in the implementation of this project will be encouraged to integrate fully their activities with those of the present project.

(c) Gender (Women) Focus

In Zambia, women are the most affected by environmental degradation. According to the 1990 Census, the total rural population of Zambia was 4,477,814 out of which 48.3% were males and 51.7% females. The ratio of male to female living in urban centres was about 1:1, out of a total urban population of 2.9 million. The rural women and to a lesser extent the urban women, are responsible for most of the nation's food production. In their capacity as food producers, they have seen the returns of their labour reduced by declining soil fertility, soil loss and overcultivation. The migration of male members of the household to urban centres continues to increase their responsibilities and work load. Although statistics are not available for Zambia, the labour force surveys estimate that the total working time for women in Africa is approximately 67 hours per week (i.e. almost 10 hours a day, including Sundays). Micro-studies suggest that women and girls spend, on average, 5 to 17 hours per week collecting and carrying water and fuelwood with adverse effect on family nutrition and health.

(d) Project Sites

Initially this project will be carried out in 15 districts, six of Western Province and 9 of Southern Province. The project could be replicated in any of the

other 7 Provinces depending on the survey to be conducted to establish the extent and severity of desertification in these provinces.

The Kalahari-Namib desert extends into the Western Province of the country. A survey of the natural resources of Liangati in Senanga District of Western Province was recently undertaken under the auspices of the Kalahari-Namib Project of the SADC-ELMS. Senanga district is typical of the Western Province districts. According to NEAP, the main environmental problems of the province include drought and floods, deforestation, bush fires, soil erosion and famine.

The Southern Province with a population of 355,684 rural women (which places it third after Eastern and Northern) has for the past three decades been experiencing episodes of drought. It is the Southern province which is usually hard hit whenever drought occurs. The NEAP has listed the following as the main environmental problems of the province: deforestation, soil erosion, wildlife depletion and salinization.

Project Strategy

(i) Capacity building

The project strategy at the district level is based on the fact that most African peasants have a greater interest in the integrity of their environment than any outside parties since their very existence and way of life is at stake. Community participation is, therefore, essential if the advantages of these customary system are to be restored.

Capacity building at the district level is, therefore, intended to:

- (a) Provide technical support to enhance the collective resource management operations of the communities involved;
- (b) Provide the needed technical support for the development of human, institutional and infrastructural capacities at local level;
- (c) Establish a national mechanism to facilitate the exchange of information and experiences between and among development workers, institutions, villagers, external donors and non-governmental organizations; and

- (d) Effectively utilize existing technical talents and facilities of participating districts/provinces to build up the desired "critical mass" in the management of agricultural production and the environment at provincial and national levels.

(ii) National Perspective and Networking

Recognizing that environmental degradation and the decline in agricultural productivity are not limited to district frontiers and boundaries, the programme is anchored around a strong national perspective. The thrust of this perspective is to create favourable institutional conditions and mechanisms which are essential for solving common problems of food production and environmental degradation.

III. PROJECT COMPONENTS

1. Education, training and creation of environmental awareness

(i) Purposes and types of training

The purpose of training is to strengthen the capacity of village communities, technical cadres, coordinators, etc. in order to enhance the development of sustainable agriculture with concurrent improvement of the environment in general and the rejuvenation of the resource base. Since the project is inward looking and community based, local level training will feature prominently.

The types of training programmes envisaged will include the following:

- (a) Village level environmental management for development;
- (b) Integrated natural resource management;
- (c) Training of women farmers to enhance development and leadership;
- (d) Planning, management and coordination of projects;

- (e) Crop/livestock/agroforestry/chitemene production systems;
- (f) Training of trainers in project management and communication skills.

(ii) Education

This activity will entail undertaking an inventory of existing environmental educational and public awareness materials on land degradation and desertification as well as the production of additional materials. Future programmes in education will be targeted at individuals and various groups (e.g. local authorities, unions, business, industry). The role of public media will be crucial in this respect. There will be need to mount special training programmes for journalists on sustainable agricultural production and sound environmental management strategies.

(iii) Environmental Awareness

This will entail hosting of district/provincial workshops as well as national workshops. Establishment of net-works and exchange programmes between districts will also be undertaken in order to share experiences and information.

2. Assessment of status of desertification in Zambia

It is proposed that this activity be carried out in seven provinces, namely Central, Luapula, Copperbelt, Eastern, Lusaka, Northern and North-Eastern. Depending on the severity of land degradation, the performance of crops, as well as climatic variations, this project would be extended to those specific provinces.

3. Formulation of micro-programmes and projects on desertification and drought

In formulating programmes and projects an integrated approach will be necessary. The Village Environment Committees of the affected communities, working closely with NGOs/CBOs and the technical support arm of the Government extension services, will be responsible for the following:

- (i) Identification of environmental problems requiring interventions;
- (ii) Determination of scope of interventions;
- (iii) Assessment of the inputs required;

- (iv) Analysis of risks involved;
- (v) Monitoring, evaluating and adopting activities to obtain desired results;
- (vi) Establishment of feedback and interaction with Government and the development partners.

In preparing the community master plan indicating the interventions to be carried out, it is probable that the remedial measures to be recommended will include some of the following:

(i) Forestry development

- Protection of existing forests. This will encompass the participation of local citizens in management and sustainable utilization of forest resources in line with the Provincial Forestry Action Programme under the aegis of FINNIDA.
- Afforestation, reforestation and agroforestry practices, emphasizing:
 - Seed collection and expansion of nurseries for production of seedlings;
 - selection and proliferation of appropriate indigenous drought tolerant species especially leguminous species;
 - development of fire lines for protection against seasonal fires;
 - promotion of indigenous technologies - terracing, alley cropping and agroforestry;
 - promotion of afforestation programmes in schools and teacher training colleges.

(ii) Land reclamation

Adoption of indigenous techniques in reclamation of degraded land, may include: terracing, contour farming, construction of stone bunds and stone lines, planting grass strips and woodlots, construction of gabions and terraces, intercropping, land fallowing, crop rotation, use of cover crops, use of biological and mechanical techniques in stabilizing sand dunes if prevalent, establishment of village perimeters as well as shelter belts.

(iii) Development of water resources

Promotion of techniques for the development of surface and ground water for humans, agriculture and livestock, such as:

- rain water harvesting and spreading, including damming for interception of seasonal streams, grass and crop mulching;
- promotion of small irrigation schemes as well as adoption of appropriate irrigation methods to reduce salinisation, alkalisation and water logging - e.g. introduction of artificial drainage in irrigated agriculture;
- minimization of adverse effects of agro-chemicals through promotion of integrated pest management;
- drought preparedness programmes including early warning systems for drought;
- small impoundments for rain water.

(iv) Improvement of livestock production and utilization

This would encompass creating pastoral networks through grassroots organisation for the exchange of experiences as well as:

- provision of subsidies to pastoralists;
- promotion of diversification of resource base;
- development and maintenance of water points as well as spacing of boreholes;
- re-seeding of rangelands - rangelands forage and pasture development;
- provision of veterinary services;
- rotational grazing on range lands.

(v) Sustainable rural agricultural transformation

Developmental and use of drought tolerant vegetable and horticultural crop varieties for local consumption and marketing, including:

- promotion of women activities;
- use of appropriate fertilizers;
- development of pricing mechanisms of agricultural commodities as well as market conditions.

(vi) Development of sustainable rural energy

Development and dissemination of low-cost:

- fuel-efficient stoves for wood and charcoal;
- Briquetting of agricultural residues;
- solar drying for preservation of perishable foods, vegetables fruit and fish;
- solar water distillation technologies for water supply;
- wind pumps for water supply and irrigation;
- wind-turbines for grain milling, etc.;
- biomass gasifiers; - biogas digesters;
- production of non-edible and edible seed oils as diesel fuel extenders and substitutes in remote rural areas with suitable ecologies.

Dissemination of photo-voltaic electricity applications for:

- rural health centres;
- water supply and irrigation;
- cottage industries.

IV. **PROJECT IMPLEMENTATION**

At National Level

(a) National Coordinating Committee

It is proposed that a National Coordinating committee on Desertification comprising of one representative from each of the line ministries/institutions/departments be launched. Other agencies and organisations such as Universities, NGOs,/CBOs will also be represented as appropriate. The Permanent Secretary (Secretary General) of the MENR will chair the meetings. The National Coordinator for grassroots environmental activities will serve as the Secretary to the Committee. The functions of the Committee will include the following:

- Provide guidance on the identification and implementation of project activities on sustainable management of natural resources at the village level;
- Review and approve all projects and make recommendations on village level activities and budgets;

- Ensure the provision of support by all concerned agencies including line ministries, research institutions, Universities, NGOs, etc. and establish, maintain and follow-up on the needed relationships between project villages, districts, provinces and the local government.

(b) National NGO Coordinating Committee on Desertification

The NGOs/CBOs have major roles to play in participatory process particularly in the organisation of grassroots communities in combating land degradation. The CCD, therefore, advocates the bottom-up approach and also stresses the role of NGOs/CBOs and, thus, gives them an important role in the implementation phase of the convention. In this regard, it is proposed that a National NGO Coordinating Committee on Desertification be established. In view of the pivotal role of NGOs/CBOs in sensitizing and organizing the affected communities, it is further proposed that the MENR should organize a meeting of relevant NGOs/CBOs with a view to promoting the formation of the National NGO Coordinating Committee. Some of the functions of the National NGO Coordinating Committee would comprise the following:

- Facilitation of dissemination of information concerning CCD to the affected populations as well as passing their experiences and feedbacks from the communities to NCCD;
- Assist local communities to undertake assessment of their problems and needs as well as analyzing the ecological conditions of the community ecosystems - land, water and livestock;
- Provide relevant educational materials on sustainable management of the natural resources and other support as necessary.

At the Grassroots Level

(c) Grassroots Coordinating Committee on Desertification

Each of the districts in Western and Southern Provinces will have Grassroots Coordinating Committees on Desertification (GCCD) whose composition will include:

NGOs/CBOs
Church (religious people)
Women/youth organisations

Chief (local government)
Media personnel
Extension personnel (technical assistant)
MENR or relevant ministry staff - depending on
environmental priority of the Village.

The primary function of each committee will be to review programmes and projects identified and designed by the local communities.

(d) National Project Coordinator

A competent person who should be an experienced Agronomist or Agricultural Economist will be appointed to serve as the National Project Coordinator. The selected person will be the overall coordinator of grassroots activities and as pointed out earlier, will also be the Secretary to NCCD.

Project Inputs and Financial Requirements

Government input

It is anticipated that the government will support salaries and associated expenses for technical staff (extension personnel) and partially for field technicians. Infrastructures, such as office space, furniture, field level facilities, etc. will also be provided by the government. Furthermore, the village communities, the beneficiaries of the project will contribute in kind, in cash, and labour towards the investment on the project. Due to increased amount of work for the government technical staff involved in the project, they will be provided with incentives in terms of travel allowances and related costs to boost their morale, thereby enhancing maximum productivity.

NGOs/CBOs input

As pointed out earlier, NGOs/CBOs have a major role to play in organizing and sensitizing the local communities about the need to conserve and utilize their resources sustainably. In addition, to the organization and sensitization of the grassroots communities, NGOs/CBOs would be expected to participate fully in the identification, formulation and implementation of the various micro-projects. The mounting of workshops and seminars at the grassroots level as well as the establishment of net-works will require strong support from the NGOS/CBOs.

Donor support

The budget proposal for the implementation of the project activities is summarized in Annex "P". The project technical support which includes the development of rural infrastructure, field equipment, the realization of the micro-projects constitutes 34.3% of the total budget. The second major component of the project is education, training and creation of environmental awareness which constitutes 32.9% of the total budget. The coordination and management budget covers costs for village organization functions and travel for the national steering committee as well as additional salary for the National Project Coordinator. Workshops, seminars involving farmers, youth, women, development workers, NGOs/CBOs, researchers will constitute an important activity of this project. These seminars/workshops will constitute excellent occasions for exchange of ideas and information amongst the grassroots participants. Future exchange visits of farmers would be identified on such occasions. Since rural women are the true Zambian farmers, they will be assisted in every way possible to ensure that, appropriate technologies are made available to them to reduce their work loads in order to concentrate on project activities. The budget provides resources (14.4%) for special support to the grassroots women.

Donor support is required in the building of national capabilities; to implement grassroots level activities; to support development of trainers; for organisation of seminars, workshops, etc. at the village, level, district, provincial and national; for management and coordination of project activities.

Project Evaluation and Impact Assessment

The basic strategy of monitoring and evaluation will be designed to: provide district, provincial and national staff with up to date information on the project to assist in decision making; improve communication among and between agencies and institutions involved in the project and provide a benchmark for periodic evaluations of the project's impact. The system is expected to monitor village level organizational arrangements and management interventions to ensure that key implementation strategies are being met.

There will be a semi-annual report describing progress in the implementation of the project as well as reviewing the physical, organizational, and economic progress of the project impact on improving the environment and attaining food

security and sufficiency. The report will assist the communities to improve on their plans and activities as well as being made available to the participating ministries and donor agencies. In any case, the reports will reach the donor not later than three months after the end of each year. It is further proposed that an external and socio-economic evaluation of the project will be carried out at the end of the second year. Depending on the availability of funds, the composition of the evaluating team will include socio-economists, environmentalists, agriculturists, representative of grassroots communities, donor representatives. It is anticipated that ECA would design the monitoring and evaluation system and the terms of reference as well as developing indicators for the impact assessment.

V. EXPECTED PROJECT OUTPUTS

If this project is fully implemented, a positive impact on the environment should be realized within the fifth year of its duration. Its outputs could then be readily measured. The following outputs are expected after the fifth year:

- (a) Enhancement of recycling of natural resources as a result of full integration environmental concerns in different farming production systems;
- (b) Development of sustainable agricultural production systems to meet food, shelter and energy needs of rising village populations, while at the same time building the resource base and improving the quality of environment;
- (c) Development of land use systems that are technically, economically and socially viable in the shorter-term and ecologically sustainable in the long-run; and
- (d) Promotion of the practice of collaborative agricultural development in the village sites involving the three major partners, i.e. the farmers, rural development workers and multidisciplinary research groups.

The success of the project is expected to strengthen the commitment of the Government to extending the approach to other provinces.

Budget Proposal (in US\$) for the Project

Project Activities	Year 1	2	3	4	5	Totals	% of Total
Project Technical Support (Micro-projects)	250,000	400,000	600,000	790,000	900,000	2,940,000	34.3
Training/Education, Awareness, Creation	160,000	180,000	290,000	350,000	500,000	1,480,000	17.3
Workshops and Seminars	120,000	200,000	250,000	370,000	400,000	1,340,000	15.6
Women's Special Project Support	90,000	150,000	280,000	340,000	370,000	1,230,000	14.4
National Project Co-ordination and Management	200,000	220,000	260,000	300,000	320,000	1,300,000	15.2
Publications	20,000	50,000	50,000	70,000	90,000	280,000	3.3
Totals	840,000	1,200,000	1,730,000	2,220,000	2,580,000	8,570,000	100

PEOPLE MET

1. Mr. Peter Mwamfuli, Permanent Secretary, MENR
2. Mr. P. Chola, Chief Water Engineer, Water Affairs Department
3. Ms. Rosemary Makano, Planning Officer, MENR
4. Mr. Mathias Banda, Director, Natural Resources Department, MENR
5. Ms. Emily F. Chingo, Director, Curriculum Development Centre, Ministry of Education
6. Mr. Albert M. Muchanga, Assistant Secretary/Director, Ministry of Foreign Affairs
7. Ms. Chiseche M. Mutale, Planning Officer, MENR
8. Dr. Mark C. Mulenga, Department of Geography, UNZA
9. Mr. Gear M. Kajoba, Department of Geography, UNZA
10. Mr. John Volk, Department of Geography, UNZA
11. Mr. E. Hachileka, Department of Geography, UNZA
12. Professor Emmanuel N. Chidumayo, Department of Biology, UNZA
13. Dr. Benson H. Chishala, Head, Department of Soil Science, UNZA
14. Dr. Olusegun A. Yekokun, Lecturer, Department of Soil Science, UNZA
15. Dr. Willie Mulonga, Lecturer, Department of Soil Science, UNZA
16. Ms. Irene Kamanga, Permanent Secretary, National Commission for Development Planning
17. Mr. F.C. Banda, Central Statistical Office, Agricultural Section
18. Mr. John Kalumbi, Central Statistical Office, Agricultural Section
19. John Monze, Secretary, Chalimbana River Catchment Conservation Subcommittee (CBO)
20. Ms. Salma Gimualla, Zambia Association for Research and Development (ZARD)

21. Mr. Leighton J. Mwale, Assistant Director (Extension) Department of Agriculture
22. Mr. Charles Akashambatwa, Field Education Officer, Wildlife Conservation Society of Zambia
23. Mr. Musenje Kapumba, Assistant Coordinator, Environment Conservation Association of Zambia (ECAZ)
24. Mr. M.R. Muchinda, Meteorologist, Department of Meteorology
25. Mr. Sepiso Mwangala, Deputy Director, Department of Meteorology
26. Ms. Wanga G. Mumba, Executive Director, Environment and Population Centre
27. Mr. Wilfred Serenje, Acting Director, Department of Energy
28. Mr. Dawson Sonkasonka, Lecturer, Agroforestry, Zambia Forestry College
29. Mr. Cypriano Ng'ona, Lecturer, Forestry Survey/Mensuration, Zambia Forestry College
30. Mr. Timothy Chupa, Beekeeping Officer/Mwekera, Beekeeping Division, Forestry Department
31. Mr. J.S. Akapelwa, Chief, Conservator of Forests, Department of Forestry
32. Mr. F.M. Malaya, Deputy Chief Conservator of Forests, (Development) Department of Forestry
33. Mr. A.S. Banda, Deputy Chief Conservator of Forests, (Administration) Department of Forestry
34. Mr. P.C. Manda, Chief Forest Extension Officer (CEO), Department of Forestry
35. Mr. D. Siame, Acting Chief Management Officer, Forestry Department
36. Mr. I. Akalalambili, Forester, Data Management, Forestry Department
37. Ms. Rodah Chintu, Provincial Natural Resources Officer
38. Mr. Peter Fushike, Agricultural Dean, School of Forestry and Wood Science, Copperbelt University

39. Mr. Richard M. Beardmore, Deputy Resident Representative, World Bank (Zambia Resident Mission, Southern Africa Department)
40. Ms. Marianne Bergstrom, First Secretary of Embassy of Finland (FINNIDA)
41. Ms. Anette Ferdinand, Programme Officer, NORAD
42. Mr. Iain Knapman, Managing Director, Barclays Bank, Kafue House
43. Ms. Anastasia Mhango, Public Relations Manager at the Head Office of Barclays Bank, Kafue House
44. Mr. A. Chaponda Daka, Technical Cooperation Secretary, JICA
45. Mr. Axel Pedersen, Counsellor, Development Royal Danish Embassy (DANIDA)
46. Mr. Kelevi Tikkanen, Senior Programme Officer (Agriculture) Embassy of Sweden (SIDA)
47. Mr. George Conn, Zambezi Teak Forest Project (GTZ)
48. Mr. Maswabi M. Maimbolwa, Country Representative, The World Conservation Union (IUCN)

DOCUMENTS CONSULTED

1. State of Environment Report, 1994 Zambia edited by P.M. Chipungu and Douglas M. Kunda
2. National Environmental Action Plan (NEAP), June 1994 Ministry of Environment and Natural Resources
3. Report on the National Awareness Workshop on the Convention to Combat Desertification (22 - 23 June 1995) Natural Resources Department, MENR
4. Overall Work Plan for the Provincial Forestry Action Programme (August 1995 - August 1998)
5. Down to Earth: A simplified guide to the Convention to Combat Desertification, Why it is necessary and What is important and different about it.
6. National Symposium Proceedings on a Systems Approach to Long Term Soil Productivity (February 7 - February 10 1995) University of Zambia, School of Agriculture
7. Handbook of Miombo Ecology and Management by Emmanuel N. Chidumayo, University of Zambia
8. Responses of Miombo to Harvesting: Ecology and Management by Emmanuel N. Chidumayo, Department of Biology, University of Zambia.
9. "NGO National Action Plan", Prepared by Environment and Population Centre, P.O. Box 35614, Lusaka, Zambia.
10. Population Pressure and Urban Environment in Zambia: A Case Study of Misisi Compound in Lusaka Urban, June 1995, Environment and Population Centre.
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16. Liangati Integrated Development Project Survey Report, Senanga District, Western Province, Dept. of Natural Resources MENR (1996)
17. National Energy Policy, Ministry of Energy and Water Development, Lusaka, Zambia (1994)
18. National Water Policy, Ministry of Energy and Water Development, Lusaka, Zambia (1994)
19. Strategy for Danish Regional Environmental Assistance in Southern Africa, Ministry of Foreign Affairs, Department of Information, DANIDA (1996)

**TENTATIVE PROGRAMME FOR MR. S.K. IMBAMBA: THE FORMULATION OF
ZAMBIAN ACTION PROGRAMME TO COMBAT DESERTIFICATION
IN THE FRAMEWORK OF THE CONVENTION TO
COMBAT DESERTIFICATION (CCD)**

MONDAY, 15TH JULY, 1996

- | | | |
|-------------|---|--|
| 08:30 hours | - | Meeting the Permanent Secretary, Ministry of Environment and Natural Resources |
| 09:30 hours | - | Director of Water Affairs |
| 10:30 hours | - | Director of Agriculture (Extension) |
| 11:30 hours | - | Commissioner of lands |
| 14:00 hours | - | Director of Environmental Council of Zambia |
| 15:00 hours | - | Director of Energy |

TUESDAY, 16TH JULY, 1996

- | | | |
|-------------|---|--|
| 08:30 hours | - | University of Zambia - Biology Department |
| 09:30 hours | - | University of Zambia - Geography Department |
| 10:30 hours | - | University of Zambia - Soil Science Department |
| 11:30 hours | - | National Council for Scientific Research |
| 14:00 hours | - | National Commission for Development Planning |
| 15:00 hours | - | Central Statistical Office |

WEDNESDAY, 17TH JULY, 1996

- | | | |
|-------------|---|--|
| 08:30 hours | - | Director, Natural Resources Department |
| 09:30 hours | - | Curriculum Development Centre |

- 10:30 hours - Ministry of Foreign Affairs
- 11:30 hours - Coordinator, ZFAP
- 14:00 hours - Coordinator, NEAP
- 15:00 hours - National Tourist Board

THURSDAY, 18TH JULY, 1996

- 08:30 hours - Zambia Association for Research Development (ZARD)/Chalimbana River Catchment Conservation Subcommittee (CBO)
- 09:30 hours - Wildlife Conservation Society of Zambia
- 10:30 hours - Human Settlement of Zambia
- 11:30 hours - Environmental Conservation Association of Zambia (ECAZ)
- 14:00 hours - Zambia Environmental Education Programme (ZEEP)
- 15:00 hours - Director, National Parks and Wildlife

FRIDAY, 19TH JULY, 1995

- 08:30 hours - Meteorological Department
- 09:30 hours - Ministry of Local Government & Housing
- 10:30 hours - Provincial Forestry Officer (PFO) Lusaka
- 14:30 hours - Environment and Population Centre (EPC)

SUNDAY, 21ST JULY, 1996

Travel to Ndola

The Chief Conservator of Forests made a programme for Mr. S.K. Imbamba's tour on the Copperbelt for the period 22nd to 23rd July, 1996.

SUNDAY, 21ST JULY, 1996 ARRIVE NDOLA

MONDAY, 22ND JULY, 1996

09:00 - 10:00	-	Discussions with the Chief Conservator of Forests
10:00 - 11:00	-	Discussion with Chief Extension Officer
11:00 - 12:00	-	Discussion with Management Division
12:00 - 13:00	-	Discussion with the Provincial Forestry Action Programme staff
14:30 - 15:30	-	Zambia Forestry and Forest Industries Cooperation (ZAFFICO)
16:00 - 17:00	-	Provincial Natural Resources Officer

TUESDAY, 23RD JULY, 1996

08:00 - 09:30	-	Discussion with Provincial Forest Officer, Kitwe
09:00 - 15:00	-	Copperbelt University - School of Forestry
16:00 - 17:00	-	Discussions at Zambia Forestry College and Beekeeping Division, Kitwe

WEDNESDAY, 24TH JULY, 1996

<u>Time</u>	<u>Organisation</u>
10:30	NORAD
12:00	Barclays Bank, Kafue House
14:30	World Bank
15:00	FINNIDA

THURSDAY, 25TH JULY, 1996

09:00	JICA
10:30	DANIDA
11:30	GTZ
14:30	SIDA
15:30	CIDA
16:30	IUCN

FRIDAY, 26TH JULY, 1996

15:00	-	Debriefing the Permanent Secretary - Ministry of Environment and Natural Resources
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