Nations of the Earth Report

United Nations Conference on Environment and Development:
National Reports Summaries

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Volume II

Nations of the Earth Report


United Nations

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* OECS covering: Antigua & Barbuda
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  Montserrat
  St. Kitts & Nevis
  St. Lucia
  St. Vincent & the Grenadines
  The British Virgin Islands

** PIDC covering: Cooks Islands
  Fiji (Republic of)
  Kiribati (Republic of)
  Marshall Islands (Republic of)
  Micronesia (Federated States of)
  Niue
  Palau (Republic of)
  Papua New Guinea
  Solomon Islands
  Tokelau
  Tonga (Kingdom of)
  Tuvalu
  Vanuatu (Republic of)
  Western Samoa
Foreword

Nations of the Earth Report, Volume I, was published in time for the Earth Summit in Rio de Janeiro in June 1992. Volume I contained summaries of the first 47 national reports submitted to the UNCED Secretariat as part of the national level preparations for the Conference.

This companion volume contains the second third of national reports summaries. The final volume, likely to be completed by January 1993, will contain the remaining national reports, many of which were received during the Earth Summit itself. These summaries are not official, but are intended to assist the reader in identifying various issues highlighted in the national reports.

Many UNCED staff members have contributed to Volumes I and II. I would like to express my gratitude to the following, in particular, who have worked on the second volume: Mr. Lars Hyttinen, who directed this undertaking, as well as his team of analysts and support staff, Lawrence Anukam, Beatrice Bulwa, Aniket Ghai, Kevin Hill, Tara Lyons, Carole Ray, Nandawula Serwadda and Azza Taalab.

Finally, special thanks go to ECOFUND '92 and to UNDP for continued funding support for the analysis team.

Nitin Desai
Deputy Secretary-General
Officer-in-Charge
United Nations Conference on Environment & Development

Geneva, 18 September 1992
Explanatory note

United Nations General Assembly resolution 44/228 of 22 December 1989 decided to hold a United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992. As part of the preparations for the conference, governments were asked to prepare National Reports presenting their perspectives and experience, together with information on policies, activities and issues at the national level. Detailed suggested guidelines were approved at the First Preparatory Committee meeting in Nairobi during August 1990. These guidelines are reflected in document A/CONF.151/PC/8 and Add. 1 included in this book. The suggested deadline for the reports was July 1991, later extended to mid-November 1991.

Only 15 reports were received by the end of July 1991 and by mid-November the number had risen to 72. These reports total some 11,000 pages (without annexes), with approximately two-thirds in English and one-third in other languages, primarily in French and Spanish. At the time of the Fourth Preparatory Committee meeting in March 1992 in New York some 130 reports had been received and still more were expected. An "Overview of National Reports" was presented to the Fourth Preparatory Committee session in New York as document A/CONF.151/PC/98 dated 12 February 1992.

The UNCED Secretariat continued to receive national reports and several more were received during the Earth Summit itself in Rio de Janeiro. A few reports have been received even later. In total, more than 170 countries and areas/regions, are covered by these reports.

This book is intended as a "Quick-reference Compendium" of the national reports. Summaries of 47 reports were included in Volume I and 50 reports in Volume II covering an additional 61 countries or areas. The reports in this volume were selected, to the extent possible, on the basis of the date of submission of the final version. Available linguistic skills of the analysis team has also played a role. A third and final volume is planned for issuance by January 1993.

The purpose of this book is to give the reader an idea of the main elements and concerns raised in the various national reports. The brief summaries are not official, nor do they necessarily reflect the full and accurate positions of the governments concerned. They are merely indications of the contents of the reports and the reader should refer to the full report of the country/countries in question for more complete information. The summaries have been compiled by a team of analysts from the UNCED Secretariat extracting information under the following main headings which were of particular interest to UNCED.

1. Drafting process
2. Problem areas
3. Past and present capacity building initiatives
4. Recommendations and priorities on environment and development
5. Financial arrangements and funding requirements
6. Environmentally sound technologies
7. International cooperation
8. Expectations from UNCED

The summaries also contain the Table of Contents for each report, under section 9.

The Secretariat has endeavoured to make the summaries as succinct and clear as possible. In some cases reports have been translated by the governments concerned into English, and sometimes the analysts have interpreted the original text in preparing the summaries. Besides English, reports have been received in French, Spanish, Arabic, Russian and Portuguese. Reports received in a non-UN language have not been analyzed. Shortage of time and resources has not permitted full verification of accuracy of translated reports. It should be borne in mind that sometimes new terminology is created in addressing sustainable development subjects. The summaries therefore often use direct quotations rather than trying to condense or interpret the text.

Lars Hyttinen

18 September 1992
AFGHANISTAN

1. DRAFTING PROCESS

National Committee: Editors & Authors:

The Ministry of Planning of the Government of Afghanistan prepared the UNCED National Report. Under the Ministry of Planning and the Ministry of Foreign Affairs, a working group reviewed drafts and ensured coordination of the input of the various ministries involved.

Other Ministries and Government Agencies:

The working group was composed of fourteen members representing various ministries such as the Ministry of Foreign Affairs, Ministry of Planning, Ministry of Agriculture and Land Reform and the Ministry of Public Health. One member was the Chief of the Salam Demining Operation.

NGOs, Grassroots Organizations and Public Involvement:

No specific mention. International NGOs and the government are encouraging the setting up of national NGOs.

2. PROBLEM AREAS

- "The overwhelming single factor affecting every development and environment issue in Afghanistan is the widespread effects of the prolonged 13 year war. War has directly or indirectly destroyed 60% the productive capacity of Afghanistan, virtually paralyzed the economy, uprooted millions of Afghan families and destroyed most of the physical and social infrastructure of the country ... (p 82);"

- Natural disasters such as floods and earthquakes cause considerable damage;
Afghanistan

- The human dimension of war is shocking; the number of the disabled has reached one and a half million. For women, the situation is worse: the report states that "13 years of civil war have left many disabled women, widows, those caring for the disabled and those in poverty ... about 20% of married women are widowed ... 13% of the women surveyed are disabled;

- The female literacy rate is 8.8% while the maternal mortality rate is one of the highest in the world;

- There is an increasing number of war casualties: "it has been estimated that 20% of refugee women have been widowed by war and a 19% orphan rate among one sample suggests that there may be more than a million orphans;

- The Afghan refugee population exceeds five million in Pakistan and Iran and is probably the largest;

- Due to the war situation, there has, in addition, been an internal displacement of 1.5 to 2 million people;

- The infant mortality rate is strikingly high at 182 per 1,000 live births; the under five mortality rate, at 304 per 1,000, is the highest in Asia;

- Nutrition is endemic and long term: "UNICEF reports that the majority of illnesses and diseases are a direct result of poor hygiene, lack of immunization and primary health care" (p 74);

- Increasing water pollution due to poor sanitation infrastructure; safe drinking water is not available to the majority of Afghans and over 80% of the population is exposed to water related diseases;

- War has engendered innumerable problems in agriculture; 43,000 ha of fruit orchids were destroyed; 3 million units of farm equipment were lost together with 60% of the cattle stock;

- Deforestation is a major problem especially in Kunar and lower Nuristan;

- Devastation caused by land mines endangering both human lives and the environment; surveys indicate that 20% of the disabled are victims of mines in Kunar, Logar and Paktika in addition to the loss of agricultural lands;

- Drugs is a source of worry for it has been estimated that 70% of all heroin seized in Europe came from the border areas between Afghanistan and Pakistan. In 1988, WHO estimated the number of heroin addicts to be 5,000 in Kabul only;

- The use of agrochemicals is a cause of concern especially the use, storage and transport of BHC, a highly persistent chemical used to eradicate locusts, though it was banned recently in all countries;

- Destruction of important archeological and cultural sites in the aftermath of war;

- An unreliable demographic data base caused by a deficient administrative infrastructure;

- Mounting urban populations causes overcrowding in major cities like Kabul; while depopulation affects about 82% of Logar and 79% of Paktia's populations;
Dwindling numbers of fauna such as the cheetah and hyena due to indiscriminate hunting and habitat degradation (p 25);

Civil air facilities in Jalalabad, Kabul, Herat and Faizabad were destroyed in the aftermath of war; thus, air facilities were decreased by 45% in Afghanistan;

Basic infrastructure is lacking due to the damage caused by war; for example, schools, health centres, roads and irrigation systems are deficient;

A considerable loss of skills among Afghans for many have left before or during the war while others have been injured or killed.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

"The government has taken measures to draft legislation to restrict hunting during the breeding season and to restrict the collection of birds' eggs ... Present conditions of war make the enforcement of these laws impossible";

One official national park - Bande Amir - has been set up together with Ab-i-Estada and Dashte Nawar water fowl sanctuaries; it is stated that: "The Government of the Republic of Afghanistan will establish the following six areas as National Parks once peace returns to Afghanistan ... Ab-i-Estada, Ajar Valley Wildlife Reserve, Pamir Buzurg Wildlife Sanctuary and Kole Hashmat Khan Waterfowl Sanctuary ... Of these six major protected area candidate sites, it is feared that many of the original values of the areas may have been lost (pp 27-29)"

Minor remedial work has been initiated so as to avoid further deterioration of the 13th Century site of Kuhandazh and Gawarshad mausoleum;

Efforts are currently being deployed by the government to repair the damage made to Share Kunar, the famous medieval city;

The National Commission of Ancient Ruins had been set up by the government; its aim being the enactment of a law on the protection of cultural artefacts and sites - though many have been damaged;

The Ministry of Construction Affairs is doing its level best to keep open the highway linking Kabal and Hairatan on the Oxus river so as to bring in badly needed goods from the Soviet Union;

Despite the war, some schools have been rebuilt and new institutions set up in addition to the reformulation of curricula by the government (p 77);

The National Association for Disabled Afghans (NADA), an NGO, was created in 1990 to help the disabled in the social, economic, physical, legal and vocational fields;

Steps were taken by the government to prepare for the return of refugees; ensuring thus the return of their property and employment as well as providing a six month tax exemption (p 88);

The High Commission of Mine Clearance has launched public awareness campaigns on the dangers of mines;
4 Afghanistan

- Officials from the Ministry of Agriculture with the collaboration of the FAO and UNDP have tried to eliminate the use of BHC from the 1990/91 locust and Sunn Pest Control Programme by obtaining a substitute chemical - Sumi Combi Alpha -;

- Adoption of an ambitious National Reconciliation Policy in 1988 so as to introduce political and socio-economic reform in Afghanistan (pp 99-100);

- Legislation has been enacted by the government to punish those convicted of drug trafficking; measures were taken by various ministries to increase public awareness programmes on the evils of narcotic drugs (p 105);

- The Office for Disaster Preparedness was set up to face up to the problems engendered by floods, storms, earthquakes and fires;

- Forty small-scale projects are currently underway in Kabul, Kapisa and Parwan; they cover the rehabilitation of brick kilns and the construction of small bridges and canals;

- Draft legislation on wildlife and forest protection has been prepared by the government, though without much success, due to the war situation; yet, the government succeeded in preparing labour laws aimed at ensuring a safe working environment.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Legislation: All laws and regulations need revision in accordance with the Afghan constitution;

- Resettlement: Priority should be attributed to the relocation of displaced rural populations (pp 103-104);

- Reforestation: Reforestation programmes are needed immediately; the focus is to be on social forestry;

- Watershed protection: Projects are to be launched for the stabilization of sand dunes and soils;

- Energy: Alternative energy sources are to be developed so as to reduce the use of fuelwood and expensive fossil fuels; implementing energy conservation measures is also required;

- UN role: Its assistance is of utmost necessity especially regarding the supply of safe chemicals;

- Environmental education: Developing materials to ensure environmental education is to be promoted (p 118);

- Training: Government and UN field workers are to be trained on basic map making and reading techniques; the aim of such a training is to prepare information on the resource base in the region;

- Financial and technical assistance: Afghanistan has appealed to the international community to provide financial assistance for agricultural, economic and human resources development, drug control, strengthening research institutions and repairing the telecommunications system;
- The National Reconciliation Policy: Priority is to be given to its enactment;

- Production: Revitalizing the productive capacity of the agro-based industries is required through private sector investment and long term development assistance;

- Investment from the international community is needed so as to improve health in Afghanistan.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The cost of damage brought on all sectors amounts to US$235 billion;

- Total cash requirements for the UN Rehabilitation Programme for 1992 is US$133.7 million together with 95,000 MT of wheat. However, at the time of writing the report, there was a shortfall of US$94.1 million and 61,000 MT of wheat (p 116);

- Assistance required from the World Bank, the IMF and the Asian Development Bank in major reconstruction and rehabilitation projects in addition to the need for advantageous debt repayment arrangements to be negotiated with these financial institutions;

- "Project aid became limited when most donor countries withdrew support from Afghanistan at the outbreak of war and as a result, development expenditure by the government has been cut drastically over the past 13 years. "Foreign and commodity aid, for example, reached Afs 19.8 billion while development expenditure amounted to Afs 18.5 billion (1986-87);

- "Debt service rose from $58 million in 1978/79 to $86 million in 1986/87 ... The former USSR had provided some debt relief to Afghanistan. The Government of Afghanistan has requested a moratorium on debt servicing until war is over and the economy revitalized under peaceful conditions;"

- New funds are requested not only for humanitarian assistance but also for long-term rehabilitation and reconstruction;

- The Office for Disaster Preparedness had obtained Afs 148,880,750 from India, Czechoslovakia, private traders and government agencies whilst in 1990, it had obtained Afs 262,898,981 from international organizations and other countries (pp 105-106).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Natural gas deposits were discovered as far back as 1963; more was discovered in 1979 in North Afghanistan;

- It has been pointed out in the report that there is energy potential from the solar, wind, micro-hydro and bio-gas sources (p 63);

- Photovoltaic technology should be explored for use, whilst potential of biogas needs to be evaluated.
7. INTERNATIONAL COOPERATION

- The USSR was once a major bilateral donor in addition to the help extended by countries from East Europe; Now there are no financial institutions that provide any economic assistance to Afghanistan (p 86);

- Various UN agencies extended their help such as:
  - The UNCHS assisted in community reconstruction through an increased local supply of building materials and the promotion of traditional self-sufficiency shelter (p 113);
  - UNDP financed a limited survey on road rehabilitation needs; it also helped in preparing technical design standards;
  - The ILO, UNDP/OPS launched projects in collaboration with the National Association for Disabled Afghans which encompass the training of orthopaedic technicians, physiotherapists, special education personnel through a community participatory approach;
  - UNICEF collaborated with Afghan women’s organizations so as to improve their conditions (p 115);
  - FAO is currently undertaking in collaboration with the Ministry of Agriculture and the Institute of Cartography mapping projects using remote sensing techniques for the production of map series (pp 110-115);

- International NGOs together with the UN and the Government of Afghanistan have encouraged the setting up of Afghan NGOs.

8. EXPECTATIONS FROM UNCED

- It was hoped that the war would have come to an end by June 1992, when the UNCED convened, so that the rebuilding of Afghanistan would have started with the support of all.

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Appendix 1: List of participants in the preparation of the UNCED National Report for Afghanistan

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References
ANTIGUA & BARBUDA

Full Title: Antigua and Barbuda National Report
Date of Report: 1992
Version: Final
Original Language: English
Other Language(s): -
Total Pages: 51
National Contact Address: Not known to UNCED

UNDP Contact Address: UNDP Resident Representative
P.O. Box 625C
Bridgetown, Barbados
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Fax: (809) 4292448

1. DRAFTING PROCESS

National Committee: Editors & Authors:

No specific mention

Other Ministries and Government Agencies:

No specific mention

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

- Attempts to use abandoned lands to grow crops have not been successful in resuscitating the agricultural base of the economy (p 4).

- The comparative higher real wages of the tourism and related sectors over the sugar industry is a major constraint on the revival of the agricultural sector (p 5).

- The shift of labour to the tourism and construction sectors has resulted in labour shortages in other sectors, notably agriculture and manufacturing (p 6).

- Potential problems lie with the impacts of expanding the tourist sector, notably the environmental impacts of construction, solid waste management, and the increased pressures on coastal and wetland areas (p 8-9).

- There are significant labour gaps and shortages particularly in respect of skilled professions (p 9).

- Immigration to Antigua and Barbuda, declining opportunities for emigration, and the limited absorptive capacity of the country, places a top priority on demographic policy (p 10).

- The capital city of St. John’s has been experiencing many environmental impacts from urbanization and "suburbanization", including vehicular congestion, inadequate waste removal, and shortage of housing (p 12).

- Due to its small size, Antigua and Barbuda cannot practically train persons to meet all manpower requirements in various skills (p 15).

- Deforestation in natural woodlands is the result of the need for firewood, charcoal and fence posts, as well as for boat building components and poles for fish traps. There is also some clearing for small-scale agriculture, housing development, and large-scale hotel and related developments along the coastline has destroyed much mangrove forest (p 21).

- Three centuries of deforestation and intensive agriculture have resulted in the loss of much original vegetation, habitat destruction, and loss of species richness. Species introductions have also resulted in biodiversity and habitat modifications. Antigua and Barbuda’s wildlife is therefore limited to coastal areas and offshore cays (p 21).

- Antigua and Barbuda has low annual rainfall, there are no permanent water bodies, and droughts occur every 5 to 10 years. Water supply is therefore a problem, with increasing demand for many developmental needs (p 23-24).

- Leaching from waste dumps are beginning to result in visible signs of stress from in fringing mangroves (p 26).

- There is much concern about the numerous, sizeable ad hoc dumping sites (p 26-27).

- The numerous sewage treatment plants service primarily private tourist facilities, however many of them are malfunctioning or are overloaded (p 27).

- The majority of residences and commercial buildings use septic tanks. In St. John’s, these effluents, with primary treatment at best, are discharged to street gutters and other open drainage canals (p 27).

- Currently there is no legislative or management system for dealing specifically with hazardous or toxic materials (p 29).

- Distillery wastes and wastes from abattoirs have been identified as significant land-based sources of marine pollution (p 29).

- A desalination plant discharges hyperthermal and hypersaline water into surrounding waters, resulting in severe stress to local benthic communities and destruction of seagrass beds (p 30).

- There is loss of land due to erosion caused by over-grazing, deforestation, and poor agricultural practices (p 31).
3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- The government is pursuing a flexible policy of selective immigration of workers from Caribbean countries (p 9).

- The government is giving priority to the training of nationals in critical labour skills (p 9).

- Efforts are being made to extend and upgrade facilities for technical and vocational training (p 15).

- The National Litter Act of 1983 is the most recent legislative attempt to deal with waste disposal and control (p 27).

- The Pesticide Control Act of 1973 called for the establishment of a Pesticide Control Board for the management of pesticides, but the Board has been practically inactive for some years (p 28).

- A USAID report identified the Ministry of Agriculture's testing laboratory as one of the best equipped and staffed in the Eastern Caribbean (p 29).

- The Development Control Authority and the Physical Planning Office are primarily responsible for the development functions in the country (p 30).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- There is an over-riding need to strengthen the linkage between tourism and the rest of the economy (p 50). Economic growth should continue through efficient exploitation of tourism, such as ensuring suitable infrastructure facilities and accommodation (p 31-32).

- More resources need to be channelled into agricultural research (p 31).

- Strategies need to be developed to penetrate hard currency markets for manufactured exports (p 31).

- Indigenous entrepreneurship to be promoted in all economic sectors (p 33-34).

- The key economic problem is to resolve the debt burden (p 35).

- Several priority issues fall within the terms of reference of the Historical, Conservation and Environmental Commission, including areas worthy of conservation, housing and land development schemes, coastal zone management, pollution, regulation, and public awareness (pp 41-42).

- A government priority is to consolidate past investments in the public sector, adding marginal investments where necessary to enhance the productivity of capital and labour (p 34, 51).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Antigua and Barbuda is concerned about the declining aid to developing countries, and the perception is that this will continue as funds are diverted to the new economies of Eastern Europe (p 16).
The agricultural sector has the priority for receipt of developmental funds (p 46).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

- In the area of community health and particularly for the control of anemia in pregnant women and children, cooperation can be found with UNICEF and the Caribbean Food and Nutrition Institute (p 16).

- The government's Central Board of Health works in cooperation with the Caribbean Environmental Health Institute, particularly for the monitoring of sewage levels since 1990 (p 28).

- With support from UNESCO and CIDA, the Historical and Archaeological Society (a non-governmental organization) established the National Museum of Antigua and Barbuda (p 43).

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:
No specific mention, although the report was issued by the Ministry of Environment and Forest.

Other Ministries and Government Agencies:
Extensive input was received from all ministries and departments.

NGOs, Grassroots Organizations and Public Involvement:
Several NGOs participated although no details were provided.

2. PROBLEM AREAS

Global Issues:

Sea level rise:
- A 100 centimetre rise would result in a loss of 12-18% of total land area;
- The area subject to normal seasonal flooding would increase by 17% (slower drainage of floodwater);
- Salinity of soil and groundwater in affected areas would increase drastically.

Climate change:
- Models suggest a 5-100% increase in precipitation, which would have significant effects on agriculture, flooding, river sediment loads and flood protection.
14 Bangladesh

Tropical cyclones:

- Increased frequency and severity of cyclones are predicted. Affected areas already exhibit extreme underdevelopment (poverty, crowding, exposure and thus vulnerability).

Regional Issues:

- A possible cause of the increase in frequency of flooding may be traced to Nepal and Assam, where the rivers originate. Deforestation in the Himalayas reduces the absorption of the monsoon rains, resulting in flooding and erosion lower down. Also, dams and barrages in India divert water, aggravating conditions during the dry season.

Pollution in the Bay of Bengal:

- approximately 240,000 gallons/year of bilge water are dumped;
- accidental oil spills are a source of concern;
- spillages during handling of crude oil in Chittagong Port, are estimated at 6,000 metric tons a year.

Immediate National Issues:

- The 1991 cyclone resulted in the loss of 140,000 lives, the uprooting of telephone lines, electricity poles, houses and bridges, the flattening of coastal embankments, an increase in vulnerability to future storms, with an estimated total damage of US$2.4 billion;

- A link exists between population, poverty and the environment. High population growth rates lead to more intense use of resources, exacerbating existing scarcities and over-exploitation. Targeting women through environmental awareness, literacy and birth control campaigns will help break the vicious circle;

- Lack of safe water and adequate sanitation is a major problem. 20% of the rural population use ponds. Diarrhoea causes 30% of deaths of children under five years;

- Over-exploitation of groundwater is caused by irrigation and population pressure (drinking and other uses). This results in lowering of the groundwater table in northern and southern parts as well as salination;

- Low surface water flow in dry season results from the extraction of water upstream. This together with salinity encroachment and rapid siltation of river beds affects fisheries and navigation;

- Loss of floodplain wetlands occurs from flood control and drainage for agriculture, resulting in loss of natural habitat and of fish resources;

- Floods are caused by river outflows, congested drainage systems, storm surges, river diversion works, agricultural use of drainage channels, dying rivers, road construction and poor watershed management. The result is loss of fertile land (deposition of sand), crop losses and in the worst situation, deaths;

- Water pollution by industry (leather tanning, chemical industries, distilleries, pesticides) occurs in the discharge of untreated waste directly into aquatic systems;

- River bank erosion is often triggered by floods, resulting in landlessness of entire villages. Over one million people per year are affected;
- Landlessness and land fragmentation cause increasing pressure to clear forests resulting in deforestation, soil erosion and reduction in biodiversity;

- Unplanned land use is a source of concern;

- Deforestation results from fuelwood consumption, population growth/pressures, land-clearing for agriculture, slash and burn practices and salination;

- Agriculture, flood control, road embankments and reclamation of wetlands encroach upon areas traditionally exploited by inland fisheries. Expanding shrimp culture leads to the reclamation of paddy fields, groundwater and soil salination and the clearance of mangrove forests. The contamination of aquatic systems occurs from untreated industrial effluent;

- Agriculture is affected by soil depletion, soil erosion from poor agricultural practices, chemical pesticides, and loss of good land to urbanization;

- Over-reliance on biomass fuels depletes soil of nutrients and results in deforestation. Local commercial sources are not exploited because of lack of accessibility.

Future issues:

- Industrial growth and industrial pollution;

- Urbanization and the associated problems of lack of land zoning, urban pressure on natural resources, unsanitary living conditions and lack of drinking water;

- Desertification.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- The Ministry of Environment and Forest (MOEF) is in the final stages of adopting a National Environmental Policy (NEP). Within the framework of the environmental policy, an Environmental Action Plan, which is also awaiting adoption, has been developed;

- About 45 laws in the different sectors have bearing on environmental and sustainable development issues, but specific standards and enforcement mechanisms are lacking;

- An existing overall strategy for sustainable development is being drawn up, which also includes a flood action plan and proposals for a forestry master plan;

- A National Forest Policy was adopted in 1979 to safeguard and manage forests;

- The industrial policy of 1991 introduced for the first time the maintenance of the environmental balance in industrialization as well as the need to prevent environmental pollution;

- Some 35 government agencies are responsible for the development of water resources, though the Bangladesh Water Development Board has primary responsibility;

- A national research network in agriculture is in place, coordinated by the Bangladesh Agricultural Research Council (BARC).
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

An environmental strategy for sustainable development is being formulated by the government. The strategy would focus on the key cross-sectoral impediments to environmentally sustainable development and convert them into integrated approaches. These integrated approaches would be the focal points from which all sectoral sub-strategies would then be derived. The recommendations of the proposed strategy can be grouped under the three headings of disaster management, population stabilization/poverty alleviation and environmental management.

Disaster management:
- strengthening of disaster preparedness policies by, for example, the building of more cyclone shelters;
- acquisition of better monitoring equipment;
- ensuring rapid and efficient distribution of relief to survivors;
- ensuring preparedness for the possible effects of global warming, such as sea level rise.

Population stabilization/Poverty alleviation:
- improvement of health, especially of mothers and children;
- poverty alleviation through, for example, development of farm economy, decentralization, modernization of cottage industries and formulation of a national human settlement strategy for planned physical expansion;
- enhancement of women’s status and integration of women into the mainstream of development;
- reduction of birth rate.

Environmental management for sustainable development:
- restoration of degraded areas;
- development of environmentally sound methods for both rural and urban development, with a focus on conflict resolution;
- preservation of biodiversity;
- establishment of tools for environmental management, such as environmental impact assessment (EIA), monitoring and pollution control. Regional watershed management initiatives are also included.

Infrastructural support entails institutional development and strengthening, which may be brought about by the actions recommended below.
- Develop consultative mechanisms within government departments and between government, NGOs and the private sector in order to enhance inter-sectoral balance and integration, as well as to increase government/NGO/private sector partnerships;
- Increase community participation via NGOs;
- Increase local level planning and resource mobilization;
Encourage private sector investment;
Increase public sector investment;
Bring women into the mainstream of development planning;
Increase the efficiency of labour;
Increase appropriate technological upgrading;
Enhance environmental awareness, capabilities and management tools in each division, district and upazila;
Improve environmental education and training programmes, develop comprehensive environmental data bases, broaden public information and participation programmes, develop and implement projects dealing with environmental management, promote international cooperation to protect resources, limit transboundary pollution and prepare periodic reports on the state of the environment;
Increase levels of food production among the poor whilst providing more information on proper nutrition;
Focus on food balance, nutrition and local self sufficiency among the poor living off the flood plains;
Attain self sufficiency in food cereals by increasing its yield to 20 million tons of food grain through increased use of irrigation, pesticides and high yielding varieties of rice;
Increase incentives to private enterprises for waste treatment;
Stimulate commercial energy development to meet demand and encourage the use of natural gas; foster energy saving through pricing policies.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Between 1985-1990, external financial assistance amounted to US$7.8 billion (p 11).
The 1991 cyclone caused colossal damages, estimated at US$2.4 billion. Reconstruction requirements are estimated as follows:
- short-term funds: US$621.1 million
- medium-term funds: US$368.6 million
- long-term funds: US$794.4 million (p 26).

Financial aid and technical assistance for specific projects of environmental importance have been received from the World Bank, the Asian Development Bank, UNDP and UNEP (pp 108-109). In bilaterally funded projects, every attempt is being made to carry out EIAs;
Bangladesh hopes that a special environmental fund will be attached to all aid projects (p 114);
Bangladesh would also like the donor community to waive any "green conditionality" with technology transfer, unless new and additional funds are attached to it to cover any additional costs (p 114).
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention (see 5 on previous page)

7. INTERNATIONAL COOPERATION

- Bangladesh has formulated a draft National Conservation Strategy with support from the World Conservation Union;

- The National Environment Management Action Plan receives assistance from UNDP. Priority is given to coastal areas, watersheds, fragile ecosystems, wetlands and protected areas;

- World Bank assistance covers such areas as deforestation, energy, flood control, dry season water shortages, water management and certain institutional and legislative weaknesses;

- The WFP, ESCAP and UNEP are also actively engaged in several projects related to environmental protection in Bangladesh;

- Bilateral development partners like France, Japan, the U.K. and the U.S.A. are involved in major flood control measures for the country. Others, such as the Netherlands, Canada and the Nordic countries, have been assisting projects in the diverse fields of rural development, inland fisheries, health, water management and energy;

- Several bilateral partners have shown interest in channelling environmental aid through NGOs that encourage greater public participation;

- There are still major areas in which environmental concerns urgently need to be incorporated, for example, debt re-structuring, structural adjustment programmes and multilateral trading arrangements. Decisions taken in international fora on these issues will be of interest to Bangladesh;

- An integrated approach to water supply, sanitation and hygiene education is being tried in some parts of the country with the collaboration of CIDA, UNDP and IDA.

8. EXPECTATIONS FROM UNCED

- The Conference should seek to come up with mechanisms and agreements that allow poorer countries to have access to appropriate environmentally sound technologies;

- It is also hoped that the Conference will bring about global conventions on certain issues of global importance, including climate change, biodiversity and possibly forestry;

- Bangladesh expects UNCED to pay special attention to the peculiar and specific environmental and developmental problems of least developed countries. The Conference should be an opportunity to renew the international community’s commitment to technical and financial support for major efforts designed to minimize the effects of natural disasters, which are exacerbated by environmental degradation;

- To address simultaneously the twin problems of poverty/overpopulation and environmental degradation in order to provide a basis for long-term sustainable development, additional resources, both in terms of new and concessional finance and access to environmentally sound technology, on affordable non-commercial terms, should be channelled to countries like Bangladesh;
- It is hoped that UNCED will firmly establish the "Polluter Pays" principle;

- UNCED should come up with a living document that would effectively influence the formation of real partnerships that will enhance efforts to achieve better standards of living in the least developed countries;

- Bangladesh wishes to request that a special environmental fund be attached to all aid projects and be targeted for environmental enhancement;

- UNCED is expected to adopt successfully an agenda in the form of a functional document, clearly proposing national, regional and global initiatives and programmes on the basis of both present and future social, economic and environmental realities;

- It is also expected to clearly spell out the distinct responsibilities of developing and developed countries for achieving the common goal of protecting the global environment from further deterioration, for saving millions from hunger, starvation and poverty, and for ensuring an environmentally safe and sustainable global development strategy for the next century;

- Finally, UNCED is expected to materialize the dream of bringing all nations of the world - rich and poor, north and south, east and west - to appreciate the hard reality that this may well be the last chance for them to agree to work together to achieve a common future for mankind which is environmentally safe and socio-economically sustainable.

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was written by the National Environmental Secretariat, with contributions from the Environmental Core Group. The National Environment Secretariat was established to implement the decisions of the National Environmental Committee (NEC), a high-level cross-sectoral council with long-term objectives of defining and establishing plans, policies, organizations and actions to ensure sustainable development. Short-term goals include the formulation of a National Environment Strategy, the strengthening of understanding of concepts of sustainability throughout the Bhutanese community and the establishment of Environmental Impact Assessment.

Other Ministries and Government Agencies:

The National Environment Committee consists of the following members: Minister, Planning Commission (chairman); Minister of Home Affairs; Joint Secretary, Trade and Industry; Deputy Minister, Ministry of Agriculture, Director General, Forestry Department, a representative of the Royal Society for the Protection of Nature and the Head of the National Environmental Secretariat.

A "group of civil servants from relevant ministries" also participated, although specific details are not given. In addition, assistance was received from UNDP.

NGOs, Grassroots Organizations and Public Involvement:

The report mentions two national NGOs (p 31) but there was no mention of their involvement in the preparation of the report. WWF/UNDP/Bhutan signed an agreement in 1991. The so-called Paro declaration (see chapter 3) refers to community participation.
2. PROBLEM AREAS

Population:
- Decreasing child mortality and longer life expectancy are contributing to an increasing rate of population growth, which unchecked, will lead to greater pressures on existing resources.

Land:
- Almost all arable land is at present being utilized, whilst pressure for new farmland is growing. Forest land has already been cleared for use in farming and unsustainable methods, such as the cultivation of steep slopes, have led to soil erosion on a scale that precludes any further production.

Animal Husbandry:
- Degradation of vegetation has occurred as a result of over-grazing by cattle and yak. As considerable fodder is drawn from the forests, grazing is perhaps "the single greatest threat to the forest since it prevents natural regeneration and since the trampling by cattle on the steep slopes causes erosion". In addition, this sector is disadvantaged by poor genetic makeup and inadequate coverage of animal health facilities. The existing imbalance between feed resources and distribution of livestock is compounded by the traditional value system which encourages the keeping of large herds.

Forests:
- Forest resources are under pressure from numerous demands: grazing, fodder, firewood (caters for some 95% of the country's energy demands), building materials and intensive commercial exploitation by wood-based industries. An estimated 1.1 million cubic metres of fuelwood were consumed in 1989 by local people, in addition to which 150,000 cubic metres of sawn and round timber were cut down. Timber accounts for approximately 9% of government revenue.
- Over the period 1978-1988, annual loss of forest cover is reported to be 0.30 - 0.33%, considerably less than in comparable regions in the Himalayas. Management of forests is further disadvantaged by the lack of an adequate information data base, by a dearth of trained manpower and by an unsatisfactory level of community participation in the protection and management of forest resources.

Erosion:
- There is considerable natural soil erosion that is exacerbated by human activities. The construction of roads and irrigation channels have contributed to erosion, often in the form of landslides during the monsoon.

Water:
- The quality of water is at present threatened by organic pollution from towns, which constitutes a serious health hazard. Furthermore, poor management is affecting the agricultural sector negatively.
Waste:

- Increasing amounts of non-biodegradable waste, such as glass and plastic, are becoming a problem in urban areas. Sanitation is rudimentary in both rural and urban areas although plans are underway for the construction of sewage and solid waste disposal systems in Thimphu and Phuntsholing.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- The Royal Government of Bhutan is currently involved in:
  - the preservation of the country’s bio-diversity by maintaining vegetation cover and by establishing protected areas (20% of the country is under formal protection “although practical management of some of these areas is lacking”);
  - strengthening government institutions to assess better the environmental impact of new activities;
  - stressing the importance of sustainable development in a new formal education system.

- The 7th Five-Year Plan aims at strengthening and developing human resource capacity.

- Water supply schemes are being introduced in all major towns and in 972 villages, with the aim of reducing the incidence of water-borne diseases.

- An effort is being made to install smokeless stoves in rural households, as the smoke from traditional stoves causes serious eye damage and respiratory problems.

- A strategy on Population Planning (p 21) has been presented to the National Assembly aiming at the stabilizing of population with a growth of less than the present 2%.

- To alleviate pressures on forest resources, the government is preparing a Master Plan for Forestry Development. Activities are planned or are being implemented to discourage indiscriminate use of forests, to increase production of fodder, fuel and timber, to protect fragile ecosystems, to develop institutional and human resources and to draft legislation on watershed management. Recent initiatives include the publicizing of Social Forestry Rules in 1990, the return to traditional management of community forest by transferring custody to local people for joint management and the afforestation of degraded forests (11,200 hectares replanted by the end of the Fifth Plan and 7,360 during the Sixth Plan).

- A new primary education curriculum was initiated in 1986 and fully implemented in 1990 emphasizing the observation of nature, conservation and the sustainable use of resources. Sherubtse College, Bhutan’s higher educational institution, is developing an environmental studies course.

- "Only recently has a modern system of laws, policies and regulations been developed", although there are a number of Acts in effect or in draft form. In addition, Sectoral Master Plans help in forward planning of utilization of natural resources (p 28-29).
A considerable amount of basic environment-related research has been undertaken or is planned in areas such as watershed management, soil conservation technology and silviculture.

Capacity is being built up for collecting, storing and retrieving data on the environment, mainly within the Survey Department, the Ministry of Agriculture and the Department of Power.

"A benchmark in creating nation-wide understanding for, and acceptance of, the necessity of sustainable development in Bhutan was a workshop held in Paro in May 1990. Virtually every senior government official participated in this workshop and discussed problems in relation to the environment and sustainable development ... The meeting adopted the very strong Paro Declaration on Environment and Sustainable Development (Annex 2)."

The government in its 7th Five-Year Plan has decided to introduce a new land-based integrated development approach termed Renewable Natural Resources Development. This approach integrates the development of crop, livestock and forestry systems within the framework of comprehensive management of watersheds. For example, activities are under way to increase agricultural production on a sustainable basis by introducing multiple cropping to utilize optimally soil moisture, by improving traditional dry-land farming techniques, by reducing crop losses from insects and diseases and by improving management of water resources and introducing upland rice cultivation.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Few recommendations are made in the main body of the report. In the ten pages that comprise Annex 2 (the Paro Resolution on Environment & Sustainable Development of May 1990), a number of issues and priorities for future action are identified. The Resolution contains detailed and lengthy recommendations on the issues of industrial development, urban growth, energy, road construction, pollution, human resources development, education, population, health, sanitation, agriculture, forestry, animal husbandry and nature conservation. To mention just a few of the suggestions made, the Paro Resolution proposes improved raw material extraction technology, afforestation, establishment of environmental impact assessment, land use planning, hydropower development, review of existing legislation on the environment, development of a natural resource data base, fostering of research on environmentally sound technology, reduction of adverse effects of road construction on the environment, greater emphasis on population planning, introduction of environmental subjects in school curricula, improvement of access to safe drinking water and improvement of waste disposal.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Bhutan receives a considerable proportion of its external assistance from India, and to a lesser extent from the Asian Development Bank, World Bank, Kuwait Fund, United Nations Organizations, European Economic Community, bilateral donors and non-governmental organizations. Over the period 1987-92, foreign aid (in US$) totalled 336 million from India; 73 million were grants from UN agencies, 32 million were non-UN grants and 72 million were hard currency loans.
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Hydroelectric power is exploited, in particular through the Chukha Hydel Project which was completed in 1988. The plant has a total capacity of 336 MW, serving some 23,000 households, although the majority of the electricity is exported to India. Bhutan's theoretical hydropower potential amounts to 20,000 MW.

7. INTERNATIONAL COOPERATION

- India engages in extensive collaboration with Bhutan. Ranging from the financing of the first two Five-Year Plans over 1961-72, today cooperation continues in the form of the construction of hydroelectric schemes and the provision of budgetary grants and scholarships. Nevertheless, local resources for development and trained personnel for project coordination remain scarce.

- A list of environment- and development-related projects, funded by a range of bilateral and multilateral donors, is provided on page 36 of the report. These projects concern, amongst others, floral inventory, forestry management, land-use survey, hydroelectric power generation, water supply, sanitation & sewerage, rural housing design and health.

- The report also stresses the need for "international cost-sharing" in which, for example, "mechanisms must be found whereby the single country, district, village or landowner is compensated appropriately in such a way that management systems maximizing biological diversity become an attractive economic alternative to other uses".

- Bhutan has set up an Environmental Trust Fund, together with UNDP and WWF, U.S.A. The Fund will support the training of personnel, the survey of biological resources, development of an information database, enhancement of the protected area system, strengthening of institutional links, improvement of environmental education and the implementation of projects supporting conservation and development.

8. EXPECTATIONS FROM UNCED

- Although not specifically stated as expectations from the Conference, it is reported that Bhutan does "expect that the world community will support its attempts to maintain its rich natural resources" by supporting the country's Environmental Trust Fund and by providing development assistance on a cost basis.

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1. DRAFTING PROCESS

No mention

National Committee: Editors & Authors

The presentation section of the report is signed by the President of the Republic, Mr. Fernando Collor. The Interministerial Commission for the Preparation of the UNCED (CIMA) together with the National Council on the Environment (CONAMA) prepared the National Report of Brazil.

Other Ministries and Government Agencies:

Several bodies which served in an advisory capacity are mentioned such as the Brazilian Institute for Environment and Renewable Natural Resources, the National Space Research Institute, the National Institute for Research on Amazonia, the Brazilian Agricultural Research Company, the National Meteorology Department, the Brazilian Tourism Company and the Secretariat of the Interministerial Committee for Sea Resources (pp 177-182).

NGOs, Grassroots Organizations and Public Involvement:

It is stated that the Forum of NGOs for the 1992 Conference also participated.
2. PROBLEM AREAS

- Soil erosion and compaction especially in the Semi-Arid Zone as a result of intensified economic activities in addition to soil salinity affecting 25 to 30% of soils. Farmlands were degraded due to an increasing use of chemical fertilizers and pesticides;

- The Northeast, and specifically the Polygon of drought, is most exposed to desertification;

- Areas of the Southern Plains are subjected to soil erosion following the destruction of field vegetation and inadequate farming practices;

- Possible environmental disasters resulting from coal mining, oil drilling and the exploration and production of natural gas in addition to urban expansion;

- An inadequate use of technology causing environmental problems such as the leaching of chemical products and the salinization of arable lands in some public irrigation programme sites;

- Natural catastrophes such as irregular rainfall and frequent droughts especially in the northeast of Brazil;

- Mining in urban areas can increase pollution such as a high rate of dust, noise and vibrations;

- Deforestation in the Amazon and Cerrado as well as in Maranhao, Para Cerrado and Mato Grosso is increased by industrial activities such as the pig iron industry in the municipality of Maraba. The rate of deforestation in 1990 was, for example, 14,000 km² down from 21,000 km² in 1978-1986;

- Degradation of the environment caused by rapid mechanization and prospection of mines in addition to rising conflicts with indigenous tribes;

- Escalating urban growth: 60% of the population is living in nine metropolitan areas i.e. Sao Paulo, Rio de Janeiro, Belo Horizonte, Porto Alegre, Curitiba, Recife, Salvador, Fortaleza and Belem. If the same trend continues, about 80% of the population will live in cities by the year 2000. Ensuing urban environmental problems arise due to poverty in addition to high population and industrial concentrations in urban agglomerations;

- Air, water and soil contamination as a result of open-air disposal sites;

- Pollution of coasts such as the deteriorating waters of Guanabara Bay, rivers and springs besides an insufficient treated water supply with a negative impact on public health and the standard of living;

- Erosion, silting and the contamination of watercourses of the Pantanal;

- Large metropolitan concentrations of industries and ports contribute significantly to coastal resource degradation;

- Between 1900-1950, 60 species of birds and mammals have become extinct; whilst endangered species total 14 plant species with 207 animal species;
- Existing knowledge on biodiversity does not allow the adoption of a planning strategy aimed at the definition of a rational approach to the conservation of biodiversity;

- Current devastation of rainforests within the Atlantic Forest as a result of five centuries of colonization, agricultural expansion and the proliferation of Brazilian cities;

- Mining for gold and diamond causes a decline in vegetation, a destabilization in river beds and a mercury contaminated water;

- Damming rivers in the highland region leads to the destruction of embankment forests in addition to disrupting the continuity of river systems interrupting piracema, i.e. fish shoaling;

- Air pollution is one of the most serious urban environmental problems due primarily to carbon monoxide emissions from vehicles as well as from industry;

- Poverty, which hits about 40% of Brazilian families, is gnawing away at Brazil's social fabric; in the Northeast, for example, 6 million children below the age of six are poor (pp 137-138).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- A National Alcohol Fuel Programme was launched in 1975 to primarily overcome increasing difficulties related to oil supply;

- In 1983, the Programme for the Recovery of Environmental Quality in Cubatao was undertaken to increase public awareness to address environmental control in factories;

- Decree 73030 of October 30, 1973, set up the Special Office for the Environment (SEMA) to study the impact of national development and technology on the environment as well as helping environment-related agencies and organizations;

- The concept of reconciling economic development with the preservation of the environment had been introduced for the first time in 1981. Law 6938 provided for the setting up of a National Environmental System including the National Environmental Council whose aim is to advise, study and propose government policy guidelines for the environment and natural resources;

- The Forestry Code is a tool to regulate and discipline land occupation, aiming at protecting forests;

- The Office for the Environment of the Presidency, provided for by Law 8028/90, is responsible for the conservation and rational use of renewable natural resources;

- Two comprehensive programmes are being developed to ensure the enforcement of laws on water quality (a) the Water Quality Programme to recover river basins in critical areas and, (b) the Maritime Environment Management Programme whose task is to manage the coastal strip together with the adjacent zones;
The Air Quality Control Programme's (PRONAR) aim is to limit emissions pollutants. The National Programme for Controlling Pollution Caused by Vehicles (PROCONVE) aims to control pollution levels and the use of fuels;

- 34 national parks, 23 federal biological reserves, 30 ecological stations, 38 national forests, 16 environmental protection areas, 5 extractive reserves and 6 ecological reserves covering an area of 32 million hectares have all been created as examples of the different Brazilian ecosystems;

- Existing legal provisions on prohibiting trade in wild animal products or by-products adopted as one of the protective measures of fauna and flora;

- Measures have been taken by the government to speed up the ecological-economic zoning of the legal Amazon region;

- Wildlife conservation projects and research are being developed by teaching institutions, government agencies and NGOs;

- In 1975, environmental education projects appeared for the first time in Brazil’s municipal and state level schools and in private teaching institutions. Today primary and secondary school teacher training programmes include environmental education in most states;

- A broad survey, helped by radar images, has been carried out on natural resources in the legal Amazon with a special focus brought on minerals and timber;

- A number of environmental groups especially in the South and Southeast regions have a growing interest for the Amazon region, with a view to combatting the destruction of nature;

- Since 1988, a medium- and long-term plan is being developed for in-situ and ex-situ conservation of the genetic resources of animals, plants and microorganisms of Amazonia (p 134);

- In 1988, the Atlantic Forest Consortium was set up with the aims of protecting biodiversity, promoting environmental information and education, and ensuring the understanding of the importance of problems faced by local populations to protect the environment. It also attempts to raise the necessary funds to carry out required activities.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- A rational management of natural resources is needed;

- Environmental protection measures are necessary in planning and operating mining projects such as the elimination of atmospheric pollution from ore transportation as well as the replacement of the searing process by cleaner methods;

- Finding solutions for the treatment and disposal of old industrial waste deposits is required;

- Several actions are needed to strike a balance between the development of transport, the needs of the community and the conservation of the environment;
- Redistributing the national income in addition to expanding the infrastructure of urban services especially basic sanitation so as to raise the levels of health;

- The knowledge of Brazil's indigenous population is to be taken into account in guiding the work on the sustainable use of the Amazon ecosystems;

- Strengthening institutions together with the promotion of studies and research on the definition of alternatives are needed;

- An anti-poverty social policy is to be a priority in addition to reforming organizations and programmes covering the social field;

- The Amazon region is to be exploited in such a way as to upgrade its natural resources in addition to the generation of income;

- More research is to be undertaken to recover devastated forests and to protect water resources in certain regions;

- Preserving biodiversity is to be a priority especially in the Araucaria Woods;

- Developing human resources is to be a top priority in all public social policies; thus, any human resources development strategy should provide an unrestricted access to basic education.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- To increase available funds, market mechanisms should be used, such as surcharges and fees which include environmental preservation costs;

- Debt-for-nature swaps are to be considered an alternative for both governmental agencies and NGOs;

- Bilateral loans and loans provided by multilateral credit agencies continue to be essential for implementing environment and development projects;

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The foundation has been laid for the development of renewable and decentralized energy sources;

- Hydroelectric power registered the highest annual rate of growth in energy supply, i.e. 7.8% from 1975-1989;

- Pilot experiences led by Curitiba, Sao Paulo and Florianopolis in the collection of waste and the recycling of paper and glass;

- An increasing number of enterprises are opting for waste recycling and the re-utilization of residues;
32 Brazil

- Biotechnological systems are gradually being used so as to convert energy forms or chemical substances (i.e. bioconversion);

7. INTERNATIONAL COOPERATION

- Brazil is a signatory to several international conventions and protocols, for example, on the protection of the ozone layer;
- The Brazilian government has an agreement with Germany to set up eight nuclear centres;
- Programmes related to regional seas i.e the Caribbean and the Southeast Pacific are to be reinforced;

8. EXPECTATIONS FROM UNCED

- Brazil is expecting that the Conference lay the foundation for the establishment of new parameters for international cooperation so as to redress any environmental imbalance threatening the planet;
- The Tlatelolco Platform on Environment and Development was adopted in 1991 to express the position of the countries of the region on the issues which form the Agenda of the UNCED (pp 167-170). These are:

1. Protection of the atmosphere and climatic change
   - The Convention on Climate Change must consider the relative responsibilities of countries that produce greenhouse gases and those that provide carbon sinks.

2. Biodiversity and biotechnology
   - Legal instruments should be prepared to protect genetic heritage and regulate trade of the genetic base;

3. Protection and management of the Earth’s resources
   - Forestry management must be the primary objective of activities that prevent deforestation;

4. Soil degradation

5. Protection and management of oceans, seas and coastal zones
   - Measures for scientific, technological and financial cooperation are being proposed by the Platform;

6. Protection of the quality and supply of fresh water
7. Eradication of poverty in human settlements

8. Urban development and the environment
   - Improving housing and infrastructure, eliminating solid and liquid wastes and dealing with air pollution are to be priorities;

9. Environmental management of toxic and hazardous wastes
   - A mechanism must be set up to prohibit the marketing, in developing countries, of dangerous products, processes, and substances which are banned in their country of origin;

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BRITISH VIRGIN ISLANDS

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1. DRAFTING PROCESS

National Committee: Editors & Authors:
Conservation and Fisheries Department, Ministry of Natural Resources and Labour

Other Ministries and Government Agencies:
Conservation and Fisheries Department
Department of Agriculture
Development Planning Unit
National Parks Trust
Tourism Board
Town and Country Planning Department

NGOs, Grassroots Organizations and Public Involvement:
None directly involved (p 4)

2. PROBLEM AREAS

The British Virgin Islands consist of some 36 islands totalling 153km² with a population of some 17 000.

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Land Use

- Modest legislative, administrative, and technical provisions for town and country planning has meant that development planning has been undertaken in a non-comprehensive manner (p 22).

- Mechanisms for implementing development plans have been inadequate, and increasingly been having negative impacts on the human and natural environment. This is especially so for Tortola (p 23).

- There are conflicts with livestock farmers who use lands within, and at the boundaries of, parks for grazing (p 36).

- There is indiscriminate felling of trees, especially mangroves, and removal of rare species from parks and protected areas (p 36).

- Legislation designed to protect lands and trees are not fully enforced (p 36).

- Green spaces and natural landscapes are increasingly being taken up for housing (p 36).

- Increasing numbers of visitors place pressure on the parks (p 36).

- Environmental impact assessments are currently not backed by legislation and those EIAs that are done are often inadequate, requiring a considerable amount of work and expense (p 49).

Agriculture

- Pasture land for livestock on steep slopes are poorly managed and water supply is a problem (p 20).

- Crop production is confined to small scale production of vegetables and root crops with bananas grown in the wetter parts of the island (p 20).

- Agricultural resources are limited by poor soils and low rainfall (p 20).

- A section of the population in farming cannot be gainfully employed in other economic sectors (p 20).

Sea

- The sea is increasingly becoming polluted, primarily from sewage - both from the land and boats. Sewage from main town is treated at the primary level, with an effluent outfall which extends 183 m (600 ft) into the sea (p 31).

- Charter boats also present a pollution problem with their discharges, particularly due to the lack of marina facilities for waste disposal (p 32).

- The British Virgin Islands (BVI) does not have the equipment or capability to deal with a major oil spill, given that a major oil tanker route goes north of the country (p 32).
Coastal Zone and Seabed

- Sand mining and badly placed developments are the major threats to the beaches. The Beach Protection Ordinance of 1985 is inadequate to control sand removal (p 25).

- The beaches are also under threat of potential sea-level rise (p 26).

- The impacts of hurricanes and winter swells are exacerbated by dredging activities and badly placed developments in the active beach zones (p 26).

- There is much soil erosion during periods of heavy rainfall, adversely impacting coral reef ecosystems and sea grass beds (p 26, 31).

- Increasing numbers of visitors, particularly yachtsmen, add to the pollution of the marine and protected parks (p 36).

Mangroves

- Many of the mangroves are severely stressed and are facing increased development pressures, primarily through land reclamation activities. This is worsened by the ad hoc nature of the reclamation (p 26, 27).

- Mangroves are used as garbage dumps, for small-scale fish pot production, and charcoal (p 27).

- Salt ponds and salinas (mangrove-associated water bodies) are also used as garbage dumps (p 28).

Coral Reefs

- Coral reefs are under increasing threat from ship anchors, souvenir collectors, harvesting for jewelry, sedimentation from land-based runoff, dredging, coral bleaching and hurricanes (p 28).

- There is no comprehensive legislation covering coral reefs.

Fisheries

- There is intense fishing activity contributing to the depletion of fish populations (p 20).

- Fish land sites are scattered around the islands, and distribution and marketing are poorly organized and inefficient (p 21).

- Illegal fishing in the BVI, particularly from the United States Virgin Islands, is a major problem, exacerbated by lack of capabilities for the surveillance of the territorial waters and the Exclusive Fishing Zone (p 21).

- Fisheries resources are insufficiently documented (p 21).
3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Institutions

- The Ministry of Natural Resources and Labour was created in 1984, responsible for conservation, fisheries, agriculture, lands, surveys, national parks, and labour (p 40).

- The Conservation and Fisheries Department was created in 1990 with the main functions of application review and environmental planning; environmental monitoring; environmental education and awareness; fisheries management; development of adequate legislation, surveillance, and enforcement (p 41).

- The National Parks Trust was established in 1961, but was only staffed with professionals in 1984 for its management (p 41).

- A Forestry Division is to be set up in 1992 to be responsible for soil conservation, reforestation of Crown Lands and watersheds, and field trials for forest seedlings (p 41).

- A Solid Waste Division was created in 1988 to place more emphasis on the management of solid waste (p 41).

- The Office of Disaster Preparedness was established in 1987 to ensure that natural hazards are properly identified and assessed, the public is educated about their nature, and that measures are taken to mitigate them (p 42).

- The Technical Review Committee, an inter-agency committee, was set up in 1989 to review all applications for the use of the seabed (p 42).

- The Planning and Project Review Advisory Committee, an inter-agency committee, was set up to discuss matters pertaining to economic planning, investment policies, plans, programmes, and projects. It also monitors public sector project implementation (p 42).

- Several non-governmental organizations concentrate efforts on environmental issues, including the Beautification Committee; the Keep BVI Beautiful Committee; the Jost Van Dyke Preservation Society; Friends of the National Parks Trust; the Botanic Society; the Historical Society; the Dive Operators Association; and the Rotary and Lions Clubs (p 43).

- A workshop was held in 1990 to develop a conservation policy document and set up a Conservation Coordination Group (pp 43-44).

- The BVI is in the process of identifying an area to be considered as a RAMSAR site under the convention of the same name (p 44).

Legislation


- The Coast Conservation and Management Bill was prepared with the assistance of the Organization of Eastern Caribbean States to control all development in the coastal zone which extends from 100 yards inland from the high water mark to the limit of the territorial Sea. It is hoped that this Bill will be accepted by the Legislative Council in 1992 (pp 44-45).
A draft Bill for Land Planning and Development was prepared in 1989 with the assistance of the United Nations Centre for Human Settlements and is currently undergoing a series of public hearings (p 45).

Draft legislation is currently before the Executive Council to establish a board to control groundwater resources (p 45).

The Marine Parks and Protected Areas Ordinance was passed in 1991 for the control of activities in marine parks (p 46).

The Ports and Marine Services Act, which contains provisions relating to marine pollution, was passed in 1985 (p 46).

Programmes and Projects

- Coordinated by the National Parks Trust and assisted by various government departments and the public, the BVI has a target to plant 50,000 trees by the year 2000 (p 46)

- A System Plan was prepared and approved in 1986 to prepare detailed management plans in order to declare large park areas. Assistance is being provided by the Caribbean Conservation Association, the Caribbean Natural Areas Resources Institute, the Conservation Agency, among others (p 47).

- With the assistance of the Organization of the Eastern Caribbean States, the BVI prepared a long-term programme for the management of mangrove resources (p 48).

- A five-year plan was prepared to revitalize agriculture (p 48).

- Environmental impact assessments are slowly being introduced into development planning, albeit in a somewhat modified form (p 49).

- As part of a Canadian CIDA funded regional project, aerial surveys were made of the BVI in 1991, with about 80% coverage. These are intended to become part of a Coastal Resources Inventory (p 49).

- The United Nations Centre for Human Settlements is funding a programme to assist the Town and Planning Department to prepare a National Sectoral Plan for the BVI, to concentrate on the different sectors of the economy as they relate to land use (p 50).

- Environmental monitoring programmes have been established, particularly on beach changes, bacterial water quality, turtles, coral reefs, and mangroves (pp 50-51).

- A Geographical Information System is being established, coordinated by the Town and Country Planning and Survey Departments (p 51).

- The government is starting a programme on incineration to resolve the problem of solid waste disposal (p 51).

- The government has embarked on an extensive programme of public environmental education aimed at all levels (p 52).
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- A long-term tourism development plan should be prepared in order that development of the industry proceeds along a pre-determined path and not in an ad hoc manner (p 18).

- The establishment and management of parks and protected areas is viewed as an important means for preserving the natural and cultural heritage (p 32). The BVI would like to see its System Plan implemented as it should provide for habitat conservation critical for the maintenance and enhancement of biodiversity within the BVI and the Wider Caribbean (p 47).

- There is an urgent need to assess the carrying capacities of terrestrial and marine parks and to pass regulations (p 37).

- Improved coordination and communication between environmental agencies, other governmental agencies, and non-governmental organizations is seen by the BVI government as a major goal (p 42).

- A detailed climatic model for the region must be prepared so that likely changes can be quantified (p 58).

- The BVI would like to work with all Caribbean countries to make the Caribbean Sea a Specially Protected Sea (p 59).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Small developing states need to work together in the area of sustainable development, particularly as major aid is channeled through regional bodies, the BVI is not eligible for major aid as it is a dependent of the United Kingdom (p 57).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Special consideration should be given to small island states in the field of technology transfer, particularly since the small population of the BVI does not permit certain economies of scale with the result that the cost of introducing alternative technologies may be so much higher (p 58).

7. INTERNATIONAL COOPERATION

- The BVI, which is a dependent state of the United Kingdom, is a member and participates actively with the regional organizations of the Organization of Eastern Caribbean States, the Caribbean Community, and the Caribbean Development Bank (p 57).

8. EXPECTATIONS FROM UNCED

- The Earth Charter should be strengthened in various ways by emphasizing several points (p 56).

- The BVI is very concerned with the threat of impacts from global climatic changes due to its topography, including sea-level rise, ozone layer depletion, hurricanes and major storms (p 58).
The BVI is unlikely to finance the necessary mitigative measures needed to combat global changes such as sea-level rise and ozone layer depletion without considerable economic assistance (p 57).

The per capita income criteria does not reflect the true level of development or living standards in small states, and suggests its use be removed from international financial institutions. New criteria should be developed and implemented (p 57).

Small island states should be regarded as special sites of biodiversity (pp 58-59).

The BVI hopes that as a follow-up to the UNCED there will be the development of an integrated approach by all Caribbean countries to optimize the benefits, halt the present mis-use, and ensure the sustainable management of the Caribbean Sea’s resources (p 59).

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

A National Preparatory Committee was set up by the Council of Ministers.

Other Ministries and Government Agencies:

All Ministries and State institutions contributed to the report.

NGOs, Grassroots Organizations and Public Involvement:

The Ministry of Environment organized a series of three public discussions on draft versions of the national report. A list of 18 NGOs are listed as having contributed substantially to the report (pp 79-81).

2. PROBLEM AREAS

- Consumption of resources is high owing to inefficient technologies, both in extraction and processing of natural resources and in the production of consumer goods. Industry is typified by the consumption of low-calorie highly-polluting coal.

- Major air pollution arises from power generation, coal burning plants in particular, the metallurgical industry, chemical plants and transportation.

- Waterways have been polluted by industrial waste, usually from chemical plants. The problem is compounded by inadequate treatment and purification. Especially severe is pollution from nitrates, phosphates and heavy metals. Drinking water is becoming "an increasingly acute problem in Bulgaria" both in terms of quantity and quality, despite the national service for planning and control. In particular, the Danube is heavily polluted with nitrates, oil and petroleum products, sewage, agricultural and industrial waste water and discharge from ships.

- Encroachment of arable lands occurs from the construction of building sites and infrastructure. Inappropriate farmlands management in the form of excessive use of fertilizers and pesticides has degraded the quality of the soil. Approximately 47,400 hectares of land have been contaminated by heavy metals. Cultivation on sloped lands has led to soil erosion.
44 Bulgaria

- The Chernobyl disaster has had direct impacts, as well as indirect effects through the contamination of fodder, and hence milk, meat and meat products.

- There are inadequate facilities for the collection, transport and disposal of solid wastes (industrial, domestic and agricultural). In addition, liquid and gaseous releases are problematic.

- Monitoring and quality control standards are inadequate.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Between 30,000 and 50,000 hectares have been afforested over the last twenty years, including the expansion of wooded areas and the restoration of mature forests.

- Fundamental reforms are forthcoming in the sphere of land use, including statutory acts and laws regulating settlement, irrigation and environment planning.

- Expenditure on environmental protection increased from 0.62% of national income in 1975 to 1.07% in 1990 (in nominal terms, it increased more than threefold).

- In 1989, 57,300 hectares of acid soils were treated, 57.4 m leva (US$ = 18.30 leva March 92) were allocated to afforestation and 11.2 m leva were invested in the construction of urban purification plants.

- Over the period 1980-1990, land under irrigation increased by 50,000 hectares.

- The number of reserves rose from 81 in 1970 to 99 in 1990, the total area increasing from 23,500 to 61,000 hectares; national parks increased from 8 to 11, with an increase in area from 44,600 to 113,500 hectares.

- In April 1991, the Bulgarian Council of Ministers assigned the Academy of Sciences the task of developing a programme for the storage of radioactive waste.

- There is periodic and systematic control of the radionuclide content of soil and water basins near the Kozlodui Atomic Power Station.

- A sociological study was carried out on public awareness and on the degree of concern over environmental issues.

- A Yearbook on the State of the Environment was published for the first time in 1989.

- A network providing information on heavy metal soil contamination has operated since 1980.

- Monitoring networks for air and water pollution have been set up.

- In 1971 a centre was set up to coordinate research on the utilization of water resources and the environment, today known as the Centre for Environment Monitoring.

- Environmental education has been introduced at a number of levels: an experimental programme for the 9th and 10th grades at school has been worked out, environmental work has been introduced in scientific and practical extra-curricula activities and a consideration of environmental problems have been incorporated into staff training.

- The Council for Environmental Training and Retraining was set up in July 1991.
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- In order to address the problems of water pollution of the Danube, the following measures should be taken: control adverse effect of the operation of hydroelectric power stations; coordinate national and international efforts for solving the existing problems and reduce emissions of polluting substances.

- Efforts should be made to recycle waste products of mining and quarrying.

- "It is necessary to redesign, build further, extend and re-equip the existing system of environmental monitoring and control".

- A research programme is needed to focus on the development of environmentally-sound technologies, on assessment and forecast of human-induced changes in the environment and on the elaboration of management strategy for the protection of natural habitats.

- "It is urgent to make a fundamental thorough analysis of the health of people in polluted regions and, on the basis of it, work out programmes for prevention and treatment".

- Extraction industries will require substantial restructuring and technological upgrading in order to improve the rate of raw material utilization and to decrease waste generation.

- Power generators should be subjected to reconstruction as soon as possible in order to meet international obligations.

- Environmental impact assessment procedures should be applied not only to new projects but also to reconstruction activities.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Capital and non-capital resources used for environmental protection in 1975 totalled some 88.2 million leva (0.62% of GNP) and increased to 334.7 million leva (1.07% of GNP) in 1990, the bulk of which was concentrated in the forestry sector.

- Under the PHARE Programme, Bulgaria will receive 17.5 million ECUs for equipment and development of monitoring and information systems.

- Bulgaria supports the establishment of a European Environmental Agency and hopes for technical and financial assistance in this area.

- There is a need to subsidize a regional programme for education and staff training in the field of environmental protection.

- Bulgaria hopes to receive financial support mainly as technologies and investments in energy-efficient industries to enable reduction of greenhouse gas emission.

- Bulgaria requires US$600 million to fulfil obligations set out under the Protocol on the Reduction of Nitrogen Oxide (which was ratified in 1989).

- More than US$2 billion are required to meet obligations under the Protocol on the Reduction of Sulphur Oxide Emissions.

- Approximately US$1 billion are required to implement clean technologies, to restructure and to update operating facilities in industry.
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The income generated from economic sanctions against polluters is used for research and development of new environmentally sound technologies.

- Studies have been completed for the construction of a large number of hydro-electric power stations to be built on rivers in northern Bulgaria, adding to the 87 stations in existence.

- "Further industrial developments should involve broad implementation of recycling processes as well as resource efficient and energy efficient technologies."

7. INTERNATIONAL COOPERATION

- Bulgaria participates in many European programmes on the protection of natural resources, including the banning of nuclear tests and prohibition of stockpiling of chemical, biological and nuclear weapons.

- "Bulgaria is ready to support Balkan agreements on any environmental issues".

- The clean-up of the Black Sea is an integral part of the country's regional environmental policy; Bulgaria is the initiator of negotiations on a convention on the protection of the Black Sea. In addition, the country is interested in a convention on the clean-up of the river Danube.

- Progress has been made with leading Western companies to study the terms and possibilities for providing technologies in 12 large thermopower plants.

- In 1991, Bulgaria participated for the first time in the workshop of the Permanent Committee on the Bern Convention.

- Since 1986, within the framework of the UN Economic Commission for Europe, Bulgaria has participated in the international programme Assessment and Monitoring of Air Pollution Impacts on Forests.

- Bulgaria is active in the Eastern European programmes of IUCN.

- The World Bank, the US Environmental Protection Agency and the US Agency for International Development provided assistance in 1991 for the drafting of a National Environmental Strategy.

- Projects are under preparation in cooperation with WWF-International and WWF-UK.

- The Republic of Bulgaria fully supports the activities of the UN, UNEP and UNDP.

8. EXPECTATIONS FROM UNCED

- Bulgaria hopes that the Conference will help create mechanisms for coordinating the regional efforts of the Eastern European countries to overcome transboundary air pollution.

- It is hoped that the Conference will bring about international cooperation to address global environmental problems and ensure sustainable development.
The Conference is expected to promote regional cooperation and the solution of regional environmental problems.

"Bulgaria is expecting the Conference in Brazil to create international mechanisms for assisting Eastern European countries not only in the form of investments but also in the form of training of experts in domestic and international policies and in the form of consultancy during the period of changing the legislative and administrative system."

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

Drafting of the national report was the responsibility of the Secretary of State for Scientific and Technical Research. He appointed a working group of three national specialists from the following, who drafted the report:

- State Secretariat for Scientific and Technical Research
- Ministry of Waters, Forests, Hunting, Fishing and Tourism
- University of Bangui

The preface is signed by the Secretary of State for Scientific and Technical Research. A statement by President André Kolingba, Head of State, is included in the report.

Other Ministries and Government Agencies:

Amendments and contributions to the report were made by representatives of the following:

- State Secretariat for Scientific and Technical Research (six officials)
- Ministry of Economy, Planning, Statistics and International Cooperation
- Ministry of Public Health and Social Affairs
- Ministry of Waters, Forests, Hunting, Fishing and Tourism
- Ministry of Public Works and Territorial Development
- CAR Radio and Television
- Ministry of Primary, Secondary and Technical Education, in Charge of Youth and Sports (two officials)

Documents of the Ministry of Rural Development were consulted.
Central African Republic

NGOs, Grassroots Organizations and Public Involvement:

The following also participated in the national report adoption meeting:

- CAR Inter-NGOs;
- CAR Women's Democratic Union

UNDP, UNFP and WHO representatives were also at the meeting.

2. PROBLEM AREAS

- Unequal distribution of the population over the national territory (3 million people in a total area of 623,000 square kilometres);
- Compared to its economic growth rate of 1.5% per year, the country's population is growing at a very rapid rate of 2.5%;
- High illiteracy rate, especially among women (76%);
- Poverty: One of the lowest per capita GNP in the world (US$260 in 1985 and US$380 in 1988);
- Deteriorating terms of trade are aggravated by the country's lack of direct access to the sea;
- Availability of safe drinking water. In rural areas, water-borne diseases are prevalent because the population draws its water supplies from rivers and wells, which are often contaminated;
- Poor nutritional status resulting from several factors linked to the deterioration of natural resources (depletion of energy sources, reduction in soil productivity, depletion of animal protein reserves, etc.), lack of nutritional hygiene and the persistence of certain atavistic traditions. The mortality rate of children under five is estimated at 22.6% (p 58);
- The country has varied and abundant forestry resources of real and potential economic value, but they are not well managed or optimally exploited. The result is progressive deforestation, most pronounced around villages and particularly around Bangui (p 63);
- Shifting cultivation and slash-and-burn agricultural techniques, uncontrolled deforestation, bush fires, the absence of village agro-forestry projects and the unorganized spread of human settlements exert high pressure on the ecosystem. Furthermore, the absence of systematic ecological monitoring of these activities does not permit assessment of the full extent of the damage or the estimation of the potential of the natural resource base (p 31);
- Soil erosion and loss of soil fertility (p 76);
- Destruction of natural habitats and wildlife due to bush fires, poaching and uncontrolled human migration (p 67);
- Inadequacy of economic and sectoral policies due to lack of a comprehensive policy-making mechanism;
- Inadequacy of legislative and institutional measures, insufficiency of human, material and financial resources as well as lack of public awareness;
Central African Republic

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Environment:

- One of the many sectoral reforms effected in favour of the environment was to create special technical departments within a number of ministries to deal with specific environmental issues (p 85).

- The government has organized a number of studies and seminars aimed at providing the basis for global and sectoral policy formation on matters relating to the environment (p 82).

- Promotion of public awareness campaigns were initiated in the 1960s and environmental issues have been included in the curricula of university studies. Furthermore, the recently created UNESCO clubs in high schools will, among other things, set up groups for sensitization campaigns (pp 93-94).

- NGOs, women and youth organizations are encouraged to play a big role in raising public awareness (pp 97-99).

Safe drinking water:

- In 1982, the Central African Republic committed itself to the International Safe Drinking Water Supply and Sanitation Decade (IDWSSD), with the objective of improving the health of the population by providing water in sufficient quantity and quality. 2,000 new wells were created, existing networks were extended and new urban networks were created in provincial cities (p 71).

Forestry:

- To preserve the natural equilibrium in the forestry zones and guarantee the survival of the forest, a number of specific activities were initiated:

  - aerial photographs were taken of the entire southwest forestry area;
  - an inventory of national forests was initiated;
  - a pilot reform project was initiated (Project for the Development of the North);
  - a public awareness campaign was launched on the negative effects of deforestation (p 65);
  - new forestry maps were established to permit the classification of forests according to their manner of utilization (agriculture, forestry, pastoral);

- Within the context of a re-evaluated and redefined medium and long-term development strategy, a Tropical Forestry Action Plan for the Central African Republic was adopted (p 65).
Wildlife:

- At the end of the 1986-1990 five-year plan, two projects were set up:
  - The Office of Hunting and Inspection of the Northern Forests to support the administration;
  - The Development Programme for the Northern Region (PDRN).

These projects are aimed at reinforcing the fight against poaching and at improving national parks and wildlife reserves in the north and southwest of the country (p 69).

Waste management:

- With the assistance of the Aid and Cooperation Fund, some sanitation projects have been initiated in the worst affected areas. An embryonic system of evacuation of public waste was set up, and a system of industrial waste treatment was planned with financing from France’s Caisse Centrale de Coopération Economique.

- At the Office for Sanitation, Health and the Environment, promotional activities have been undertaken in order to increase public awareness. They range from information on the control of drinking water to general hygiene (p 73).

Soil erosion and degradation:

- The National Office of Pedology and soil conservation was created, pedological studies on the Central African Republic were undertaken, and a National Plan for soil and water conservation was adopted (p 77).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The Central African Republic’s main objective is to guarantee a healthy standard of living for the population. The operational objectives include:

  - Better understanding of the natural patrimony through surveying, monitoring and fighting pollution and other forms of environmental deterioration;
  
  - Better management of the national patrimony through elaborating a reform programme, implementation of a resource accounting methodology, decentralization of decisions and activities and guaranteeing greater productivity of natural resources;

  - Educate, train, inform the people, especially women:

    - integrate environmental considerations in school programmes;
    - develop and provide women with appropriate endogenous technologies;
    - promote actions oriented toward women in the area of environmental hygiene;
    - encourage the use of more environmentally sound technologies;
    - reform institutions and legislation;
    - implement the international conventions ratified by the government;
    - strengthen cooperation;
    - create an environment fund;
Integrate the policies of population and resource management by ensuring food self-sufficiency, improving health and ensuring a decent environment for vulnerable groups (women and children);

- Improve on nature conservation;
- Guarantee environmentally sound energy and technological development (pp 128-129).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

The following loans are incurred by the Central African Republic (US$ = 252 CFA francs in February 1991):

**Education:**

The total amount is 16,724,300,000 CFA francs (US$66.4 million) financed by:

- the World Bank: 10,983,900,000 CFA francs (US$43.6 million);
- the African Development Bank: 4,449,400,000 CFA francs (US$17.6 million);
- the OPEC Fund: 1,291,000,000 CFA francs (US$5.1 million);

These funds are used to finance the construction of the Teacher Training Institutes and the repair and construction of primary schools as well as to assist the development of the educational system and reinforce the curricula of schooling at the primary, technical and professional levels.

**Health:**

The French Government financed the Paediatric Pavilion for a total amount of 1,300,000,000 CFA francs (US$5.1 million).

The People’s Republic of China lent 5,781,900,000 CFA francs (US$22.9 million) for the construction of the Friendship Hospital and the Health Centre for the Presidency.

The National Water Company borrowed 2,550,000,000 CFA francs (US$10 million) from France’s Caisse Centrale de Coopération Economique to finance the extension of the drinking water network.

The African Development Fund (ADF) financed the construction and the equipment of the Faculty of Health Sciences and the National Hospital Centre at the University of Bangui for a total amount of 3,725,100,000 CFA francs (US$14.8 million). ADF also financed the sanitation and safe drinking water project for a total amount of 1,191,500,000 CFA francs (US$4.7 million).

The State owes the French Hospital System fees for services delivered in respect of Central African citizens who were evacuated to France for treatment (1,446,113,300 CFA francs = US$5.7 million).

**Environment:**

France’s Caisse Centrale de Coopération Economique lent 1,050,000,000 CFA francs (US$4.2 million) to UCATEX to purchase water purification equipment.
In 1990, the Central African Republic and the World Bank signed a Sectoral Adjustment Programme, "Management of Natural Resources", for the amount of 6,336,500,000 CFA francs (US$25.1 million). The loan is aimed at:

- improving the country's capacity to protect and manage its forest and wildlife resources;
- improving the management of the cynégetic sector;
- conducting an inventory of the country’s forest resources and developing new agro-forestry techniques.

The total amount of the State's obligation in this sector is 40,105,413,300 CFA francs (US$159.1 million) or 24.9% of the public debt managed by the Autonomous State Debt Amortization Office (CAADE) (Source: Direction Générale de la CAADE, February 1991) (pp 104-105).

Forestry:

The implementation of the Tropical Forestry Action Plan requires the mobilization of significant amounts of finance beyond the capacity of the State budget (p 66).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

- The Central African Republic adheres to a number of international agreements, conventions, protocols and treaties relating to environmental protection (p 82).

Safe drinking water:

- Between 1967 and 1970, the European Development Fund set up a programme of well drilling: 53 fountains were created and 3,888 wells were dug.

- Between 1970 and 1982, many projects by the United Nations Capital Development Fund and the American Peace Corps were undertaken by CAR’s development partners. 5,000 wells were drilled (p 71).

Research:

- In the 1980s, research activities in such areas as fish farming, livestock farming, pedology, solar energy and hydrology were resumed with the support of French cooperation organizations (ORSTOM, Pasteur Institute) and of multilateral cooperation organizations (UNDP, World Bank, FAO, UNESCO, ACCT) (p 96).

See 5. Financial Arrangements and Funding Requirements
8. EXPECTATIONS FROM UNCED

The Central African Republic recommends to the United Nations Conference on environment and development to:

- support national environmental and development strategies;
- pay special attention to those countries that are most hit by the adverse effects of environmental deterioration;
- bring about sustained sensitization of international organizations and donors for a readjustment of their intervention policy with regard to environmental needs;
- encourage scientific and technological cooperation for better ecological monitoring of the planet and rational use of its resources;
- create an international fund to benefit the poorest and the most affected countries;
- assist countries in drafting and implementing national environment and sustainable growth strategies (p 144).

9. TABLE OF CONTENTS FOR REPORT (English version)

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COLOMBIA

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Apartado Aereo No. 091369
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1. DRAFTING PROCESS

National Committee: Editors & Authors

The National Report has been prepared by the Government of Colombia on the basis of various working papers developed by different public and private organizations and takes into account the views of civil representatives.

Other Ministries and Government Agencies:

It is stated that "the Colombian Government wishes to express its most sincere appreciation for the financial support received from the government of Canada in the preparation of this report".

NGOs, Grassroots Organizations and Public Involvement:

See above

2. PROBLEM AREAS

- Atmospheric and noise pollution in cities like Bogota and Medellin;
- River pollution from industrial and household waste in Bogota, Medellin, Cali and Cartagena Bay;
- The technology used in coffee growing can damage ecosystems as the soil is left unprotected;
- Soil erosion due to deforestation and soil misuse;
- Some 1,000 species of plants and 24 bird and mammal species are being threatened due to deforestation.
3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Some examples of capacity building initiatives:

- The Government has a duty to protect the diversity and integrity of the environment and to encourage education. Ethnic, cultural and ecological diversity is guaranteed.

- As from 1959, most Amazon forests, the Andean zone and the Pacific coast were declared forestry reserves while coral reefs were declared reserved areas only from the mid seventies;

- In 1973, Colombia passed a law concerning the preparation of a National Resources and Environment Code, the first of its kind in Latin America;

- INDERENA, an agency in charge of renewable natural resources and the environment was established in 1968, as an autonomous sub-division of the Ministry of Agriculture;

- To increase public participation, the government has appointed honorary environmental inspectors and set up local Green Councils to resolve local environmental problems; an effective measure since there are now 350 of the latter representing 30% of municipalities;

- The National Environmental Education Plan for 1991-94, launched in 1991 by the Ministry of Education with the help of INDERENA and the Environmental Studies Institute of the National University includes a project for environmental education at primary level;

- 43% of Colombia's woodlands especially in the Amazon and Pacific coast are being preserved;

- "Colombia has proposed a culturally based model for the conservation of the Amazon jungles"; 50 indigenous groups were awarded "18,000,000 hectares of tropical forest as communal projects", (i.e. 35% of all woodlands);

- Peasant community forestry was introduced 15 years ago with a view to better managing deteriorating catchment basins. This involved tree planting along with the setting up of fish breeding ponds and animal breeding enclosures;

- A ban on the acceptance of nuclear and toxic waste has been introduced.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

The 1991 Constitution contains some progressive ideas, principles and legal structures:

- Priority is to be given to the Amazon basin, Pacific seaboard and the ecosystem of the Andean highlands;

- Regional cooperation needs to be strengthened;

- Supporting scientific education is necessary as is the need to set up new research centres and carry out environmental studies (p 50);
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The report states that "the proportion of the GDP allocated to environmental management will be doubled in the next three years from property taxes as well as from levies charged for pollution and the use of natural resources";

- Foreign funding is being negotiated; it includes strategic funding for the Forest Action Plan, debt for nature swaps, soft loans as well as resources from the Global Environment Facility;

- Colombia has recommended that "agencies providing funds, technical assistance or other forms of cooperation review the criteria for the selection of beneficiaries and for the evaluation of the results of these cooperation programmes";

- Funds "must come from countries and social groups, adhering to unsustainable consumption patterns" so as to be given to developing nations to achieve four main objectives: the promotion of sustainable patterns of consumption and production, compensation for pollution victims, diversification of local markets and the provision of adequate training for scientists and technicians.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Ecopetrol is examining various alternatives with a view to adapting motor gasoline specifications to the environmental needs of different parts of the country. As a first step, the addition of lead tetraethylene was discontinued domestically and a ban imposed on the importing of leaded gasoline;

- Informal recycling of urban waste especially of paper, glass and scrap metal was practised by the "cartoneros" (waste paper collectors) especially in urban areas (p 32);

- Colombia is currently seeking technical support for pilot projects, the aim of which is the production of electricity from solar energy.

7. INTERNATIONAL COOPERATION

- In 1991, a Special Coffee Fund for the Protection and Restoration of the Environment was set up funded by a four year exemption of the 4% customs duty on EEC coffee imports (p 39);

- Colombia is a signatory to a number of bilateral, multilateral and regional agreements and protocols covering threatened wildlife species, the Law of the Sea as well as hazardous wastes. Bilateral agreements were concluded with Brazil, Peru, Ecuador and Guyana on fauna and flora protection;

- Colombia is currently supporting the work done at the United Nations by the Centre for Transnational Corporations (UNCTC) especially regarding the supply of information on any environmental and health risks engendered by the introduction of new techniques and products;

- Colombia considers that its Programme for International Cooperation and the Environment is a priority requiring international support and the participation of local communities; the aims of such an ambitious programme can be resumed in the following areas: strengthening specific projects in the Amazon basin, conserving the Sierra Nevada de Santa Marta and the Sierra de la Macarena and promoting technical cooperation in ecological tourism etc. (pp 41-42);
Regional cooperation has been achieved, for instance, through the activities carried out by the Rio Group (which includes 13 Latin American and Caribbean countries); the Group of Three composed of Colombia, Mexico and Venezuela (formed in 1989) and whose current activities are made up of an international power grid, a free trade zone and transnational gas pipelines; The Andean Group and the Organization of American States.

The Tlatelolco declaration is of prime importance; it was adopted in March 1991 at a regular preparatory meeting for the UNCED; it includes the guiding principles for Latin American and Caribbean countries with respect to international cooperation.

8. EXPECTATIONS FROM UNCED

Colombia’s position is based on the UN General Assembly resolution 44/228 which "treats biodiversity, global climate change and forests as a single integrated problem, closely linked to environmental matters and development models" (pp 53-57);

It is stated in the report that Colombia will work with the UNCED on the formulation of new development models based on three conditions: the need to change present consumption patterns, the transfer of sufficient funds for the conservation of the developing countries’ ecosystems as well as a strengthened international cooperation so as to provide developing countries with a scientific and technological infrastructure which would enable them to raise their standard of living (p 57);

Colombia has proposed some Principles to be included in the Earth Charter that touch upon, for instance, the need to respect ecosystems to achieve a sustainable human and planetary development national sovereignty, cultural diversity, and the setting up of an infrastructure for technological research and development as well as legal recognition of the rights of indigenous and other minority groups (pp 36-37);

Both the Earth Charter and Agenda 21 require a redefinition of international cooperation.

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Global Climatic Change and Mining and Energy
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Ecological Debt: The Value and the Cost of the Environment
Colombia’s Challenge
THE CZECH & SLOVAK FEDERAL REPUBLIC (CSFR)

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

This report was prepared under the direction of the Czechoslovak Preparation Committee for UNCED, and by both the Environmental Commission of the Czechoslovak Academy of Sciences and the Federal Committee for the Environment.

Other Ministries and Government Agencies:

No specific mention

NGOs, Grassroots Organizations and Public Involvement:

Before 1989 the government leadership "ignored and actively suppressed the right of citizens to be fully informed". The activities of NGOs were therefore limited. NGOs today are mostly active in education, and in 1991 they organized two major events. Whilst the principles for public participation exist such participation is "far from being functional or deeply rooted". The report makes no direct mention of NGO participation in the national report process (pp 138-41).

2. PROBLEM AREAS

- There is a lack of professional information about the environment (p 37).
- Media does not contribute to environmental protection and awareness (p 38).
- Centres able to solve partial theoretical problems of environmental management and assess environmental damage lack financial resources (p 38).
- Environmental data are not consistent and differ in credibility (pp 38-39).
- Information gained from monitoring is not critically evaluated and deduced results are inconsistent (pp 135-136).
- The current period is one of legislative chaos, not favorable to a healthy environment (pp 39, 119, 130).
The CSFR is not a signatory to many essential treaties on environmental protection, and is unable to comply with obligations of resultant treaties, agreements, and protocols (p 125).

A serious obstacle to a structural adjustment mechanism is the large burden of internal loans and the inability of many companies to pay debts (p 130).

Environmental pollution fines are either lacking or currently inadequately imposed or enforced (pp 131-132).

Air:

- Air pollution is an acute environmental problem resulting from heat and power generation facilities, and production of iron and other metals (p 81)
- Sulphur dioxide emissions are one of the highest in Europe and the most hazardous pollutant in the CSFR (pp 81, 86).

Water:

- Water consumption is high and increasing quicker than the population (pp 47-48).
- Water for irrigation of small agricultural lands is inefficiently used (p 48).
- Some important water pollutants are not included under a long-term monitoring system (p 49).
- The main types of water pollution are decomposable organic substances, nutrient loading, salt contamination, heavy metals, and organic toxic substances, largely from industry (pp 48-49, 74-75, 90-97).

Waste:

- The waste problem is largely the product of contemporary cleaning technologies, faulty solid waste disposal, and illegal dumping causing water and soil contamination (pp 74-75, 98).
- Hazardous and radioactive waste management in particular are serious problems which are still to be solved (p 98).
- Almost every residential area in The CSFR has waste disposal problems (pp 98-99).

Forests:

- Extensive damage to forest resources, in particular alpine forest stands, results from air pollution, over-harvesting using heavy machinery, neglect of forest education, inappropriate use of biocides, poor maintenance of roads and hydrological networks, among others (pp 54, 100).

Land:

- Agricultural land area is decreasing. Agricultural land productivity potential is decreasing even more rapidly as the most fertile lands are being used for non-agricultural purposes (p 59).
- Soil pollution by acidification and heavy metals contributes to the deterioration of forest ecosystems (p 100).
- Mining and wood production and transport intensifies water trenching and aerial erosion of soil (p 101).
The Czech & Slovak Federal Republic

- About 700,000 hectares of agricultural land are adversely affected by soil, water, and air pollution, caused by non-agricultural activities (pp 101-103).

- Mining and processing for ores, non-ores, and construction material devastate the country with their mines, quarries, waste storage and dumping grounds (pp 43-44).

- Great pressure is put on the soil by heavy agricultural machinery, including soil pollution due to leakage of oil products (p 102).

Biodiversity:

- Most wild species are not protected at all (p 64).

- There is minimal connection between red lists and legislation for protected species (p 64).

- Deterioration of natural areas and loss of biodiversity is the result of excessive and incorrect use of fertilizers and pesticides, acid rain, large-scale drainage, introduction and invasion of non-native species, and river pollution (pp 64, 104).

Health:

- Lung cancer is a major cause of death, particularly in areas with acute air pollution (p 109).

- Air pollution has a greater impact on respiratory diseases, mainly in children (p 109).

- The poor health of the Czechoslovakian population is partly due the air, water, and food contamination, carcinogens in the environment, as well as use of dangerous building materials and a deteriorated social environment (pp 110-111).

Energy:

- The variety of natural primary energy sources in the CSFR is very limited (p 70).

- In comparison with Western standards, safety measures in existing nuclear power plants are not adequate (p 72).

- Poor quality lignite, of which the CSFR has large reserves, is the greatest environmental pollutant of all primary energy sources, devastating mining areas and residential areas which burn coal for heat (p 72).

Industry:

- Industrial activities account for the most significant environmental devastation in the CSFR (p 74).

- A high degree of depreciation of plants, obsolete technologies, and insufficient use of secondary inputs and recycling technologies contribute to increasing waste production (p 74).

- Industrial pollutants are only sporadically monitored, compared with other countries (p 74).

- Obsolete plant and equipment are a major factor in the high polluting nature of industry (p 74).

- Disposal of the substantial quantities of industrial solid wastes threatens water resources and land (pp 74-75).
Numerous problems hampered the construction sector, including inappropriate and irrational allocation and distribution of industrial, agricultural, utility, and other projects (p 76).

Intense transportation and the development of road networks contribute significantly to air and noise pollution (pp 76-77).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- A programme to end uranium mining is underway (p 42).
- During the past 50 years, many river reservoirs have been constructed for energy production, industry, agricultural irrigation, water works, and flood protection (p 46).
- Discussions are underway to elaborate a federal forest policy (p 57).
- The network of protected areas began in the 19th century and, since the 1955-56 laws for state nature protection, has been systemically built (pp 64-64).
- Lists of endangered animal species are being or have been prepared. A survey of endangered plant species has been prepared (p 64).
- Extensive research on the protection of the environment has been initiated (pp 65-67).
- The CSFR's goals and principles for environmental protection policy are stated in "The Concept of the State Environmental Protection Policy" and "The Principles of the Environmental Protection Policy of the Slovak Commission for the Environment", issued after the fall revolution of 1989 (pp 116-117).
- The document "Economic Reform Scenario", approved in August 1990, calls for deep structural changes for a transition to a market economy (p 118).
- Since November 1989, new and significant Acts concerning environmental protection have been approved (pp 119-120).
- Legislation now in preparation is aimed at approximating the European Community's legal norms as much as possible (p 119).
- The Environmental Act is one of the most important legal norms (p 119).
- The Federal Agency for Metering and Normalization has the primary role of assessing the current use of technologies with a view to compliance to European Community standards (p 120).
- The reformed Federal Assembly now has environmental protection committees in both its chambers (p 121).
- Decentralized state authorities for environmental protection are established at regional levels (p 121).
- Institutions of the integrated State Environmental Protection Agency control, regulate, and supervise compliance with all environmental protection regulations (pp 121-122).
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- A new concept of forestry is needed to establish a state of forest management which balances all forest functions (p 56).
- The return to environmentally sustainable agriculture systems is a current key task (pp 58-60).
- Particularly urgent is the problem of national parks and preparation of a new law to protect them (p 65).
- The Czech Ministry of Environment proposes a limited use of nuclear energy in the interim period until, among others, a long-term solution to radioactive waste storage can be found (p 72).
- The Slovak Government Environment Commission requests an analysis of non-nuclear development possibilities consequent to finalizing the energy programme until the year 2005 (p 72).
- It will be necessary to increase the use of solar heating to meet local demands for thermal energy (p 72).
- A number of industry problems, notably air pollution, will be solved by restructuring and by the process of reducing energy demand (pp 75, 87).
- New transportation systems must be designed, its current state becoming an obstacle to economic growth and integration with the rest of Europe (p 78).
- Prevention of wastes at their source through recycling, and assuring environmentally sound waste disposal (p 99).
- The implementation of an environmental impact assessment system (p 130).
- Legal regulations concerning the management of water, soil, and forests are to amended in the near future (p 120).
- More active participation in programmes and projects of international organizations should be increased (p 126).
- It is necessary to prevent the conservation of existing and emerging new monopolies in the privatization process (p 130).
- An environmentally aware market needs to be established (p 130).
- Several fundamental principles should be part of an appropriate system of economic tools (pp 130-131).
- A new taxation system should be introduced in early 1993 (pp 132-133).
- Special attention should be paid to monitoring components of the food chain (p 136).
- A general change in the priorities of people's values is necessary, following similar principles of environmental policy (p 138).
- Environmental education should be used to develop considerate behavior toward nature and society (pp 138-139).
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The State budget of the Czech Republic allocated Csk 5.8 billion on environmental protection whilst that of the Slovak Republic amounted to Csk 4.4 billion in 1991. The federal government budget allocated Csk 305 million to environmental protection (p 123) [US$1 = approx Csk 28 - 1.1.92]

- Foreign aid is necessary for individual projects of the Joint State Programme for Environmental Protection (p 124).

- Acceptance of foreign aid should be consistent with several aims, including compliance with international obligations and addressing of local problems (p 125).

- The European Community, USAID, and some european countries have aid programmes with the CSFR (pp 126-127).

- The largest ecological aid programme is at present the European Community' PHARE programme (p 127).

- A non-bureaucratic mechanism for financial support of environmental management research is necessary (p 135).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Reconstruction of water supply networks and use of new technologies with a lower water demand is planned (p 48).

- Desulphurization of the decisive atmospheric pollution sources on a high-tech basis is part of the solution to air pollution (p 87).

7. INTERNATIONAL COOPERATION

- There are six biosphere reserves in the CSFR listed under UNESCO's MAB programme. Two proposals for biosphere reserves as bilateral reserves with Poland have been submitted (p 62).

- The European Community helped the Federal Committee for the Environment set up a Programme Implementation Unit to coordinate aid for environmental protection (p 124).

- The workshop "Environment for Europe" in June 1991 initiated closer international cooperation and higher integration of Eastern European countries into an environment-minded international community (p 127).

- Agreements, protocols, and bilateral and multilateral agreements signed by the CSFR are listed (pp 128-129).

- The CSFR's existing information obligations to foreign countries issue from membership in several international organizations's monitoring systems (p 136).
8. EXPECTATIONS FROM UNCED

No specific mention

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DENMARK

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1. DRAFTING PROCESS

The report covers Denmark, the Faroe Islands and Greenland

National Committee: Editors & Authors

The foreword was signed by the Prime Minister, Mr. Poul Schlüter. An UNCED Committee was constituted to define the Danish position and prepare for the UNCED. The Ministry of Foreign Affairs prepared and chaired the meetings of the Committee.

Other Ministries and Government Agencies:
The Ministry of the Environment has participated closely with the Committee. International preparatory work has been done in close cooperation with the Nordic and European Community Countries.

NGOs, Grassroots Organizations and Public Involvement:
The Danish government provided economic support to several NGOs to take part in the preparatory work at the UNCED.

2. PROBLEM AREAS

- Pollution of the aquatic environment with nitrates due to intensive agriculture; ground and surface water quality affected;
Denmark

- Nitrogen run-off to wetlands from agricultural lands affects flora and fauna (oxygen depletion and cloudy water); Number of wild species declining due to extensive use of nitrogenous fertilizers and pesticides;

- Loss of small biotypes in farming land due to changes in agricultural structures and specialization;

- Soil pollution due to thoughtless past management of chemicals and other harmful substances including oil;

- A widespread incidence of algal blooms; aquatic environment threatened by nitrates and phosphorous discharges from agriculture, industry and household sewage;

- Groundwater is threatened by the percolation of pollution from old waste dumps with chemicals and from former and existing industrial sites;

- Soil and land degradation as a result of years of spillage and industrial dumping of domestic waste on land;

- The total area of freshwater lakes has been halved due to drainage and cultivation methods;

- Greenland, for its part, is a recipient of air-borne pollution from industrialized countries which eventually could threaten freshwater. Reindeer and musk oxen populations are carefully balanced with the sparse natural vegetation.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

The Ministry of Environment was created in 1971 and is now responsible for protection and physical planning at the national level. Regional and local responsibility is in the hands of country and local government. Individual sector ministries have increasingly been giving more attention to environmental concerns.

The following are some of the key national and regional capacity enhancing issues:

- In 1988, the Action Plan for Environment and Development was launched together with 150 different initiatives covering fishing, agriculture, industry, cities, construction and transport;

- In 1989, the Danish government and 9 local authorities decided to start the "Green Municipality" project to strengthen cooperation between the population and politicians as well as promote sustainable local development;

- To implement the plan, three more detailed action plans were launched: (1) "Energy-2000-Sustainable Development" with the aim to reduce CO₂ and NOx emissions by 20% by 2005; (2) "Transport Action Plan for Environment and Development"; the aim of which is to reduce CO₂ emissions by 25% and the use of energy in the transport sector by 2030; (3) "Action Plan For Sustainable Development of Agriculture";

- There is also an ongoing development programme for environmental technology. Work has been initiated on the links between the environment and the economy;
A joint committee appointed by the Federation of Danish Industries and the Agricultural Council of Denmark examines ways of reducing industrial energy consumption through demonstration projects, inspections, electricity and energy facilities;

Adoption of specific measures, with state funding, to undertake research into alternative forms of public transport service and into investment on environmentally-sound buses;

The Action Plan for the Aquatic Environment, approved in 1987 by the Danish Parliament, highlights the need to reduce emissions of nitrogen and phosphorus by 50% and 80% respectively;

The revised Agricultural Holdings Act of 1989 aims at facilitating farming tailored more to the individual farmer's needs;

Various aid schemes in the domain of agriculture have been launched to help farmers introduce farming practices compatible with the requirements of environment protection in addition to encouraging them to afforest;

Several plans and regulations have been introduced to decrease the use of pesticides and thus reduce leaching and/or vaporization of nutrients;

Structural initiatives have been launched to stop intensive land use and to encourage afforestation and nature restoration projects;

A new Forest Act adopted in 1989 introduced the concept of "multiple-use forestry", which focuses on the need to integrate timber production with respect for the environment;

Denmark supports international standards for risk assessment and international regulations on gene technologies.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

"Denmark favours the enlarged use of economic instruments in future, market-oriented environmental policy. Any action with respect to the environment must pay due regard to international competitiveness and particularly to economically badly situated industries." The reports mentions, inter alia,

Satellite accounts are to be used on a larger scale to reveal the interconnections between the economy and environment;

Need to promote international cooperation especially within the EC and the International Energy Agency (IEA) on labelling and voluntary agreements dealing with technological development;

To attain the objectives set out in "Energy 2000", research and development should focus on such aspects as developing better methods of oil and gas extraction in addition to that of solar heating technology. Re-evaluation of geo-thermal energy is important;
Denmark

- Strengthening advisory services and guidelines is necessary to help farmers in reducing use of pesticides;

- Improvements in the international trade environment are to be made along with policies on population and credit; greater social recognition of farmers as suppliers is of utmost importance;

- International cooperation for long-distance, regional and transboundary transportation has to be reinforced;

- The use of toxic and bio-accumulative chemical substances must be restricted in accordance with international regulations;

- Environment at the workplace is to be taken into account when cleaner technologies and recycling are being introduced as part of the pollution control of environment as a whole;

- Denmark will strengthen its support for UNEP’s Cleaner Production Programme so as to ensure a better exchange of information on cleaner technology;

- The Faroe Islands: Priority to international efforts to regulate emissions of greenhouse gases, especially CO₂. The Islands are also concerned about the proper use of their marine resources to avoid harm to their ecosystems.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Denmark expects not to use any CFC’s by 1995. A development programme to promote technologies that do not use CFC’s, is costed at US$6.5 million;

- The action plan for cleaner technology has been allocated US$31.5 million for the period 1990-92;

- Denmark had allocated US$1.7 billion to limit emissions of nitrates as well as phosphorous and organic substances, and US$21.5 million for research into water pollution;

- 65 departments at various universities have started working on research projects with a total budget of US$10 million, provided for by the Danish government (1987);

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Clean technology is part and parcel of the 1991 Environmental Protection Act;

- Between 1987-89 almost US$13 million was spent on projects to promote cleaner technology;

- The action programme on recycling aims at recycling 50% of wastes by the year 2000; Taxes have been introduced on waste disposal so as to minimize wastes and encourage recycling;
One of the stated aims of "Energy 2000- A Plan of Action for Sustainable Development" is to increase the use of natural gas, biomass fuels and other renewable sources of energy as well as to ensure low CO₂ emissions; testing of biogas has been launched;

The Danish government has recently launched a new programme called "Industrial application of environmental technology" with an investment of US$18.5 million for 4 years;

Greenland - Heating and electricity is mainly derived from oil. At Nuuk, capital of Greenland, a hydroelectric station is being built to cover a third of its energy consumption needs as from 1994;

The Faroe Islands - a pilot project on the possibility of using ocean currents as sources of energy has been launched in addition to several investigations on the potential of wind power.

7. INTERNATIONAL COOPERATION

The DANIDA Action Plan of 1988 focuses on enhancing the environmental aspects in Danish development cooperation. In addition it formulates strategies on the integration of environmental considerations into planning and implementation of projects in countries receiving Danish assistance;

Denmark aims at:

- Furthering grant and loan assistance to developing countries aimed at financing activities that support sustainable use of natural resources;

- Integrating environmental care more closely into programmes of development organizations;

- Increased international cooperation and coordination of environmental matters and conventions/agreements;

- Sustainable development of natural ecological systems.

Denmark has supported, inter alia,

- The joint UNDP/World Bank Energy Sector Assistance Management Programme (ESMAP) to increase the use of environmentally-friendly energy resources in developing countries;

- A UNEP Collaborating Centre on Energy and Environment had been set up in 1991 at the Danish National Laboratory at Risø; with the financial support of both UNEP and the Danish International Development Agency (DANIDA);

- Denmark has ratified the Geneva Convention on long-range, transboundary air pollution as well as the ECE protocols on limiting SO₂ and NOx;

- Denmark, together with the Nordic countries, has requested the FAO, to reveal the interconnections existing between poverty population pressure and the exploitation of natural resources, in its international programme of cooperation for sustainable development;
- Denmark provides processed cheese and tinned meat products for WFP "Food for work" projects and "Feeding projects" which focus on developing human resources through training;

- In 1991, Denmark set up a 5 year scheme to support enterprises wishing to invest in environment-friendly activities in Central and Eastern Europe with an annual budget of US$14 million;

- Denmark is internationally active in regulating transport of waste including the implementation of the Basel convention;

- DANIDA is supporting a number of urban projects in developing countries such as the project on citizen participation in Sri Lanka, Zambia and Bolivia;

- Denmark participates in the Economic Commission for Europe (ECE), collaborating on research to determine the effects of air pollution on terrestrial and aquatic environments; it takes part in the Nordic Council of Ministers as well as in the European Science Foundation to tackle the issue of climate change (pp 116-118);

- Greenland is currently participating in the Rovaniemi agreement between Arctic States with the aim of protecting their common environment.

8. EXPECTATIONS FROM UNCED

- Denmark has allocated funds to the UNCED Secretariat to cover costs incurred by developing countries to take part in the preparatory meetings, preparing national reports. Denmark has also provided travel funds for national and international NGOs;

- Hopes the Conference will adopt the Earth Charter, Agenda 21, the conventions on Biological Diversity and Climate Change as well as on the mechanisms to be agreed upon for the transfer of financial resources to developing countries and that of technology transfer (pp 147-151);

- Protocols to be signed at the Conference with a view to stabilizing and reducing CO₂ emissions as well as tackle the issue of sustainable forestry;

- A special status is to be thought of for the indigenous populations, as requested by Greenland, including acknowledging their rights to use marine resources sustainably;

- Any transfer of additional financial resources to developing countries is to be based on the principle of equal burden-sharing.

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DOMINICAN REPUBLIC

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UNDP Contact Address: UNDP Resident Representative Apartado 1424 Santo Domingo, Dominican Republic Tel: (809) 531 3404 Fax: (809) 531 3507

1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was prepared by a National Group presided over by the Vice President of the National Technical Forestry Commission (Comisión Nacional Técnica Forestal) and UNEP National Focal Point. The Group was made up of 15 members from different environmental areas; (See Preface of report). Report preparations were supported by UNDP and the OAS as well as a number of governmental institutions;

Other Ministries and Government Agencies:

Different officials and agencies collaborated in the preparation of the report, in particular:

- The State Secretary of Foreign Relations;
- The National Planning Office under the Presidential Technical Secretariat;
- The Under-Secretary of Natural Resources; the Secretary of State for Agriculture.

Other institutions also provided information in relation to programmes and projects:

- The National Institute of Freshwater Resources
- The Dominican Institute of Industrial Technologies
- The General Directorate of Forestry
- The National Institute on Sanitation
- The National Environmental Committee

NGOs, Grassroots Organizations and Public Involvement:

NGOs and national experts in diverse areas have also provided information. The National Group organized a two day workshop to analyze the draft report; participants attending the workshop included both public and private institutions.
2. PROBLEM AREAS

Natural Resources

- Deteriorating biological diversity;
- Deforestation (20 thousand ha/yr of subtropical forest);
- Erosion and soil degradation;
- Degradation of coastal ecosystems;
- Deterioration of river basins;
- Problems due to conflicting practices of land use;
- Negative impact of both mining and agricultural technology;
- Natural Disasters due to climatic upheavals like cyclones, floods and droughts.

Pollution

- Pollution of waters due to industrial and mining wastes and oil spills;
- Excessive use of fertilizers, pesticides and energy which have a negative impact on the environment.

Environmental Quality

- Insufficient drinking water supply;
- Poor sanitation and urban services.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Legislation

- Creation of 22 protected natural areas;
- Different decrees related to the preservation of wild species;
- A decree related to the protection of mangrove ecosystems and estuaries;
- A statute on health, already formulated, contains the most relevant legal provisions related to environmental pollution;
- Various regulations are concerned with pesticide use, solid waste management and noise pollution control;
- A statute on urban planning is being prepared.

Institutions

- In the past two decades, 17 new organs and commissions have been created to deal with natural resources and the environment (Annex III-3);
- A Natural History Museum, a Zoological Park and the Botanical Gardens have been set up;
- There is a Secretariat for Agriculture to regulate, among other matters, the use of agrochemicals in addition to the National Technical Forestry Commission which also includes private bodies;
- An autonomous Institute for Agrarian Reform has been set up to ensure the effective implementation of agrarian reform as well as establishing links with other agro-pastoral institutions;

Policies and Strategies

- A Unit for Environmental Studies has been set up to be in charge of environmental planning;
- Debt for nature swaps have been seriously considered;
- Projects on integrated rural development have been launched like the Sierra Plan which focuses upon the rational use of forests through increased community participation;
- A National Plan on Water Resources is currently being formulated;
- NGOs have been particularly active in environmental management such as the efforts made in protecting biodiversity and carrying out integrated rural development;
- A campaign launched by the Technical Committee on Ecology to address the problem of water pollution;
- Factories shall be asked to set up waste treatment plants;

Environmental Education

- The Zoological Garden and the Under-Secretariat of Natural Resources (SURENA) have been organizing activities on environmental education since 1970;
- Establishment of environmental subjects at a higher education level.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Three premises are highlighted in the Environment and Development Strategy:

1. Development and conservation will constitute a whole instead of conservation being regarded as a secondary activity;
2. Emphasis should be placed on prevention rather than correction;
3. The assumption of responsibility by the polluter (Polluter Pays Principle p 101);

National Level

The strategy elaborated in the report is based on intersectoral components:

- Land Planning;
- Environmental considerations in the production process;
- Institutional development.

The first institutional proposal is the strengthening of the National Planning Office (ONAPLAN). Within the framework of institutional capacity building, the State will formulate the National Conservation Plan to articulate governmental and NGO initiatives for this decade. In this context, two initiatives have been proposed: the National Strategy on the conservation of biological diversity worked out by one of the NGOs and a ten year Education Plan.
The aim of this strategy is to consolidate incomplete existing initiatives in the following sectors:

**Natural Resources sector**

- Freshwater resources planning;
- A Code on both forestry and water;
- Tourism land use planning;
- Forestry Action Plan;

**Social Sector**

- A ten year Education Plan;
- A National Health Plan;

- Need to promulgate a Code on the Environment to include the responsibility of both the individual and society;
- Priority is to be given to strengthening of waterworks already in operation as well as the strategies on technology transfer;
- Inserting the environmental dimension in curricula at all levels is required;
- Reducing the dispersal of financial and human resources is of utmost priority;
- Ensure a closer supervision over the enforcement of regulations on the protection of biodiversity, (fauna and flora);
- Efforts will be oriented to attract financial and technical assistance for specific areas like natural disasters and environment-related problems;
- South South cooperation needs to be strengthened in addition to reinforcing bilateral cooperation such as with Haiti with a view to combatting coffee rust, to cite one example.

**5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS**

The report does not specifically elaborate the requirements or resources needed. The strategy of funding is mentioned as one of the necessary elements in order to incorporate an environmental dimension into development. This strategy must orient funds to programmes and projects, the main objective of which is to attain sustainable development. In this context, the report stated that mechanisms to convert debt for nature protection deserve special attention. Moreover, resources must be assigned according to clear priorities (p 103).

**6. ENVIRONMENTALLY SOUND TECHNOLOGIES**

- Need to incorporate environment-friendly technologies in industry and agriculture.

**7. INTERNATIONAL COOPERATION**

The report states that changes in the economic policies of the developed countries have reduced international cooperation, particularly in relation to institutional capacity building. Annex III-4 covers cooperation with different international institutions. The report suggests that efforts should be geared to obtaining technology transfer through International Cooperation (p 122) and that technical assistance should be provided to cover the
most vulnerable areas such as natural disasters, regional cooperation, conservation, development and the environment.

The Dominican Republic has already signed a number of international conventions, protocols and treaties.

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

A National Committee on Environment Protection was established consisting of representatives from a large number of government departments. The report was accepted as an official government document through a Presidential Decree dated 17 December 1991 and signed by H.E. President Obiang Nguema Mbasogo.

Other Ministries and Government Agencies:

Ministry of Agriculture, Livestock, Fishing and Forestry;
Ministry of Culture, Tourism and Artisan Promotion;
Ministry of Education, Youth and Sport;
Ministry of Health;
Ministry of Industry and Energy;
Ministry of Mining and Hydrocarbons;
Ministry of Public Works, Housing and Transport;
Ministry of Labour, Social Security and Promotion of Women.

UNDP/UNV and FAO assisted with expertise.

NGOs, Grassroots Organizations and Public Involvement:

NGOs were consulted including the Asociacion Amigos de Doñana. Information was provided by various bilateral and multi-lateral cooperation agencies (See Annex II, "Organizations and Institutions Consulted" on page 187).
2. PROBLEM AREAS

Major areas of concern include:

- Forest degradation and deforestation due to conversion for agriculture, timber exploitation, overgrazing, forest fires and the indiscriminate use of forests (pp 51-54).

- The decreased biodiversity is principally due to the loss of habitat, resulting from, among others, deforestation, increasing demographic pressures, lack of awareness, and illegal trade and irrational use of resources (pp 57-62).

- Potable water supply in both rural and urban areas is poor due to lack of maintenance of distribution systems, lacking or inappropriate treatment technologies, and increasing demographic pressures (pp 65-71).

- Deteriorating living conditions are primarily due to overcrowding and lack of infrastructure due to poverty, rising demographic pressures and poor quality and high cost of construction (pp 72-76).

- There is a lack of capacity to develop a solid waste treatment system (pp 77-82).

- Unpredictable climatic changes (p 46).

- Loss of the specific cultural traits of some minorities like the pygmies (p 48).

- Unsatisfactory working and living conditions (p 48).

- Degradation of freshwater ecosystems as well as marine pollution (p 48).

- Lack of reliable data on problem areas (pp 144-145).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Institutions (pp 83-87)

- Representatives from eight ministries compose the National Committee on Environment Protection to coordinate inter-departmental cooperation. This Committee is attached to the Ministry of Agriculture, Livestock, Fishing and Forestry.

- The Council of Scientific/Technological Research is an autonomous body directly attached to the Presidency to promote and use science and technology for economic development. Significant funding is required for any improvement in staffing levels and equipment.

- Different departments in various Ministries have only recently started (in the past three years) to tackle environmental issues, among others:

  - A General Directorate on Culture and Artisan Promotion to preserve different cultures;
- A Special Department on Forest Protection and a Department on Protected Areas to regulate the use of natural resources;

- An Environmental Health section within the Ministry of Health.

Legislation (pp 89-100)

- Numerous laws have been promulgated on the environment and development, including:
  - Law N° 8/1988, whose aim is to strike a balance between the economic use of natural resources and the conservation of ecosystems;
  - Law N° 3/1991 on the rational use of forests;
  - Decree N° 55/1991 deals with the prohibition of large-scale wood extraction activities at Bioko Island;
  - Decree N° 99/1990 stipulates the creation of District Committees on Health.

Environmental Education (pp 132-133)

- A gradually increasing role is played by the mass media in informing the public of environment-related issues;

- Activities were held to celebrate the World Environment Day and help in producing and disseminating environment/development material.

Projects (pp 116-131)

- Numerous projects are being implemented with the help of various agencies, including:
  - The establishment of a Natural Science and Ethnology Museum with the aim to disseminate information on the environment;
  - A rehabilitation project on drinking water and sanitation systems at Malabo and Bata;
  - A UNICEF-financed project to provide potable water to rural population;
  - The evaluation and maintenance of forest resources.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Priority problem areas are degradation of forests and deforestation, loss of biodiversity, and deteriorating habitat (p 163).

- Conservation of resources, education and information should be borne in mind when trying to resolve the problems of deforestation, loss of biodiversity and deteriorating habitat.
Equatorial Guinea

Numerous priority programmes, with short-term (3 years), medium-term (5-10 years) and long-term (10 years) objectives, have been identified (pp 165-171).

Conservation measures are urgently needed to ensure the enforcement of laws on the protection of areas with high ecological value.

Measures for the rational use of natural resources should be defined and applied.

An Environmental Impact Assessment process should be established.

Environmental Education and Awareness programmes need to be initiated in the near future.

A Global Plan on Development is of utmost importance and should include as objectives, the acceleration of economic growth, poverty reduction, and prevention of environmental deterioration.

A policy on the rational use of resources is to be formulated.

An adequate legal framework for the protection of threatened species should be set up;

Increase Equatorial Guinea’s participation in international measures to protect the environment, including UNESCO’s International Environmental Education Programme as well as public awareness.

Measures need to be taken to safeguard the various cultural identities.

Adhering to regional and international conventions on the conservation of nature and ratifying them is strongly recommended (p 159).

Promote the exchange of environmental information (p 158).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Equatorial Guinea receives a high level of external financial aid. The existing project budget is equivalent to twice the GDP. Funding is ensured mainly by Spain, France, Germany, United States, Japan, EC and UN Agencies (pp 114-131).

Considerable external financing is needed for the implementation of the various programmes proposed.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

Due to considerable financial, information and technological constraints, environment-friendly technologies have not been put in place.
7. INTERNATIONAL COOPERATION

- Equatorial Guinea is member of the Union Douanière et Economique de l'Afrique Centrale (UDEAC) as well as a member of the Banque des Etats de l'Afrique Centrale (BEAC);

- Bilateral cooperation; with Spain for example on the rehabilitation of the distribution network of the river Ecucu. France, for its part, helped in with the water distribution network at Palé;

- The European Fund for Development channels resources for national and regional programmes such as the conservation and rational use of forests in Central Africa.

- International cooperation is largely through many United Nations bodies and EC, particularly for capacity building.

8. EXPECTATIONS FROM UNCED

- UNCED is a major forum for both developed and developing countries so as to discuss environmental problems. It can also raise the issue of funds required to achieve sustainable development (p 161).

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

A National Preparatory Committee was set up composed of experts from sector ministries, who prepared background papers on major topics and issues. The Committee was chaired by two officials from the Office of the National Committee for Central Planning.

The sectoral reports were consolidated by national consultants into a draft report, which was distributed to government and non-government organizations for comments, after which a final report was prepared in the light of the comments received.

Members of the National Preparatory Committee came from the following:

- Ministry of Agriculture and Environmental Protection and Development
- Ministry of Health
- Ministry of Industry
- Ministry of Mines and Energy Resources
- National Meteorological Service Agency
- Ethiopian Valleys Development Studies Authority
- Water Resources Development Authority

Other Ministries and Government Agencies:

Besides the above, the following also received the draft report for comments:

- The Transitional Government of Ethiopia, Office of the Prime Minister
- Ministry of Foreign Affairs
- Ministry of Justice
- Ministry of Information
- Ministry of Education
- Ministry of Internal Affairs
Ten individuals in the Office of the National Committee for Central Planning (ONCCP) also reviewed the report.

The foreword was signed by the Prime Minister.

**NGOs, Grassroots Organizations and Public Involvement:**

The four national consultants who consolidated the sectoral reports came from Addis Ababa University. Officials from the following reviewed the report for comments:

- Institute of Agricultural Research
- Agricultural University of Alemaya
- Ethiopian Wildlife and Natural History Society
- Ethiopian Orthodox Church
- Catholic Church
- Mekane Yesus Lutheran Church
- Ethiopian Muslim religious Affairs Supreme Council
- UNDP, SIDA, UNFPA and CRDA

2. PROBLEM AREAS

Following are the major environmental and developmental issues which are of concern to Ethiopia:

- War and its aftermath: In the last 17 years, internal strife has cost the country over a million lives and over US$17 billion on arms;

- Drought: In 1991, the compounded effect of the war and drought has left over 8.7 million people victims of food shortage and displacement. (In 1984-1985 700,000 people are believed to have died of famine and in 1973-1974, 250,000 people died);

- Poverty and food insecurity: It is estimated that 60% of the population is below the absolute poverty level;

- Underdevelopment of infrastructure and agriculture due to a dissected terrain;

- Deforestation, overgrazing, soil erosion and land degradation;

- Population growth. According to estimates, Ethiopia's population is growing at just under 3% per annum;

- Debt burden and trade imbalance (pp 85-89).
Other problems:

- Only 8% of the rural population receives safe drinking water and only 4% has access to sanitation facilities. These figures rise to 47% and 52% respectively in urban areas;
- Inadequate health system;
- Inadequate education system;
- Deficit in government revenue. The tax collection mechanism is imperfect and tax evasion is very common;

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- The Transitional Government has issued a Transitional Period Charter of Ethiopia which shall serve as the supreme law of the land for the transitional period of about two years. The government has also issued a transitional economic policy which is liberal in contrast to the policy of central planning of the previous government (p 79). The Charter and the economic policy are designed to correct the lack of incentives and provide appropriate legislation for private initiatives (p 81).

Among other existing institutions:

- the Urban Dwellers Associations run municipalities and have responsibilities for natural resources and environmental matters;
- the Ethiopian Valleys Development Studies Authority (EVDSA) is an independent authority mandated to undertake studies and initiate policies and directives for the development of valleys and for the protection of their environment (p 79);
- the Institute of Agricultural Research (IAR), which is an autonomous institution, is responsible for research into raising productivity in crop and animal production in the country. Other agricultural institutions, mainly universities and colleges, coordinate their research with the Institute of Agricultural Research (p 80).

- Regarding promotion of public awareness, a start has been made in environmental education in schools and media awareness programmes on population and the environment. The Ministry of Agriculture and Environment, the Ethiopian Wildlife Conservation Organization, and the Environment Education Unit of the Ministry of Education are trying to set up wildlife clubs in high schools and other institutions in the country to promote activities in environmental education (p 82). A number of national parks and protected areas exist in the country (pp 52-55).

- About sixty different NGOs operate in Ethiopia and about 23 of them are engaged in conservation work including afforestation, soil and water conservation and livestock development. A few of these NGOs are concerned with public education in conservation (p 83).

- There are now, for the first time in Ethiopian history, three cabinet-level women ministers in the fields of health and education. A Women’s Unit is functioning at the Planning Office where resources are allocated for development projects (p 92).
Major policies, strategies and programmes which are currently ongoing or are under formulation include the following:

- **The National Food and Nutrition Strategy (NFNS),** whose objective is to achieve self-sufficiency, involves over 60 projects and programmes;

- **The National Disaster Prevention and Preparedness Strategy (NDPPS)** is a response to recurring famines induced by droughts;

- **The National Conservation Strategy (NCS)** is under formulation with the assistance of IUCN and other donors;

- **The National Environmental Legislation (NEL),** a component of the NCS, has for objective the provision of a legal basis for the development and protection of the country's natural resources. A review of existing environmental legislation is under way with the assistance of IUCN and UNEP;

- **A system of land use planning and a draft legislation to put it into effect** have been drafted by the Ministry of Agriculture with assistance from FAO;

- **The Ethiopian Forestry Action Plan (EFAP)** is being prepared with the assistance of UNDP, the World Bank and other donors;

- **The National Population Policy and Strategy;**

- **The Water Resources Regulation;**

- **The Wildlife Conservation Strategy;**

- **The Environmental Management Action Plan;**

- **The Settlement Policy and Strategy (pp 93-96);**

- **A crocodile farm was established in 1985 with technical and financial assistance from FAO (p 75);**

- **A national committee on climate change** has been established and has made modest efforts to participate in international fora (p 99);

- **Regarding biological diversity and biotechnology,** the country has a well established Plant Genetic Resource Centre which has recently been assigned additional responsibilities, by UNEP, as the Regional Coordinating Unit of Genetic Resources for Africa. However, its activities have so far been restricted to crop plants, thus leaving animals and wild plants uncatered for (p 99).

### 4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The objectives of the National Forestry, Wildlife, Soil and Water Conservation Programme are to:
  - ensure protection and conservation of marginal and degraded areas;
  - undertake forestry development to meet fuelwood and industrial demand;
  - undertake research and manpower training in the field of natural resources (p 97);
Ethiopia 95

- conduct public awareness programmes in order to enhance public knowledge of natural resources and get the full participation of the public in development and conservation activities.

- To cope with the present population growth and environmental degradation, both permanent and seasonal migration should be promoted by providing subsidized transport, basic infrastructure, publicity campaigns and other incentives. Migration should be from densely populated areas to those with under-utilized land and labour deficits (p 98);

- Environmentally sound technologies that can ease the burden of rural people, especially women and children, should be introduced into rural areas (p 98);

- Ethiopia calls to the international community to provide assistance, including funds and the secondment of trained manpower for the short term and training opportunities for young Ethiopians for the long term capacity building to harmonize care for the environment with development (p 98).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

See 3. Past and Present Capacity Building Initiatives

Ethiopia needs funds, equipment and technical expertise to be able to implement programmes relating to global environmental issues (pp 99-101).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

Research is under way into the development of underground energy resources (coal, oil shale, natural gas and geothermal energy) (p 56).

There is potential for the exploitation of solar and wind energy (pp 56-57).

Agricultural waste biomass (animal waste and crop residues) energy is utilized in some regions of Ethiopia (p 60).

7. INTERNATIONAL COOPERATION

See 3. Past and Present Capacity Building Initiatives

Ethiopia is a signatory of the 1948 IUCN Statutes of Fontainbleau, the 1951 Rome Convention on Plant Protection and the 1968 African Convention on the Conservation of Nature and Natural Resources (Algiers), but it is yet to ratify the latter (p 81).

Global environmental issues:

- Regarding climate change, the government is considering signing and ratifying the Vienna Convention and the Montreal Protocol on protecting the ozone layer. In this respect, international assistance is required for building the national capacity in monitoring climatic change, in research, in data collection and in the implementation of the various national strategies and programmes as well as international networks on climate and the atmosphere (p 99).
Ethiopia needs assistance in establishing institutions, including the training of manpower, and in formulating legislation to successfully formulate and implement a waste management strategy (p 100).

Despite the fact that Ethiopia is one of the major sources of fresh water in the East African Region, only 10% of its population has access to clean drinking water. Development of water resources in Ethiopia is thus an area of high priority in which it is hoped that the international community will play an important and effective role (p 100).

The international community should renew its level of commitment and determination to support national and regional efforts to control desertification. Ethiopia, on its part, undertakes to play an active role in the activities of UNEP and IGADD related to the control of desertification (pp 100-101).

8. EXPECTATIONS FROM UNCED

- The international community should critically review the political, socio-economic and environmental situations of the past two decades, both at the level of each country and at the global level.

- UNCED should recognize the specific environmental and developmental problems and prospects of developing countries.

- UNCED is expected to be a forum for arriving at a world consensus on the unity of the biosphere and on the indispensability of a unified approach to safeguard its integrity.

- Developing countries should be given additional financial resources. Expected measures include:
  
  - cancellation of external debt;
  - allocation of additional financial assistance;
  - improvement of terms of trade in favour of developing countries.

- An agreement should be signed for the transfer to developing countries of knowledge and technology for the sustainable use of natural resources in development.

- An international fund should be created to compensate peasants of Third World countries for the use of their genetic wealth. This fund should be aimed at endogenous research and development in rural areas, and the industrialization of peasant societies as well as the modernization of peasant agriculture.

- Special attention should be given to fragile ecosystems, such as tropical mountainous areas which are prone to erosion, and arid areas which run the risk of being engulfed in deserts (pp 103-105).

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was prepared by local consultants appointed for the purpose by the Ministry of Natural Resources and the Environment.

Other Ministries and Government Agencies:

The consultants worked as a team under the guidance of the Permanent Secretary and Senior Managers of the Ministry of Natural Resources and the Environment (See Preface).

NGOs, Grassroots Organizations and Public Involvement:

In the initial preparatory phase of the report, a workshop was organized by the Ministry of Natural Resources and the Environment (January 25 to March 1, 1991) in collaboration with the local UNICEF Office. It was attended by community leaders and representatives of Government institutions, the private sector and NGOs.

2. PROBLEM AREAS

- Low standard of environmental health arises from limited access to safe water; morbidity and mortality rates are high especially among children in rural areas (p 57).

- Potential health hazards associated with agro-chemicals (pesticides, fertilizers) are very high especially when compounded by lack of awareness of associated dangers.

- Land degradation results from:
  - extensive bush clearing and overgrazing of pasture lands;
  - poor cultivation practices;
  - uncontrolled use of fertilizers, weed and pest control chemicals;
  - intrusion of salt water into River Gambia (p 2, Executive Summary).
According to the Intergovernmental Panel on Climate Change (IPCC) Assessment Report, the Gambia is one of the seven countries in Africa with significant deforestation rates (p 46).

Movement of livestock into and out of villages results in the spread of diseases such as Rift Valley fever and lumpy skin disease (p 4, Executive Summary).

Rapid population growth is exerting pressure on housing which exacerbates overcrowding and growth of shanty towns.

Reduction in rainfall leads to reduced river flow causing salt water intrusion into the estuary and shallow aquifers, vegetation stress and reduction of wetland (fresh water), which in turn impacts negatively on the habitats of migratory birds.

Dumping methods used in waste management result in:
- surface water pollution;
- exposure to flies and rodents;
- human and animal scavenging;
- air pollution.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES


In 1987, a National Environment Management Act was passed creating a National Environment Management Council and a technical advisory body.

In early 1991, a consultative Technical Workshop was held in Banjul to initiate the formulation of a National Environmental Action Plan (EAP). When completed, the EAP, which will be an integral component of the Programme for Sustained Development, representing a long-term strategy for an integrated and holistic approach to environmental management.

Fisheries:

Following a Gambia Government/FAO comprehensive survey of the status of fisheries in the Gambia, a Fisheries Department was created in 1967 within the Ministry of Agriculture and Natural Resources. In 1977, a Fisheries Act was passed to manage and control the exploitation of fisheries resources, which has since been updated. The new Act establishes internationally recommended standards for fish processing establishments and high-valued fish products.

Health:

A Comprehensive Maternal and Child Health Programme with integrated family planning and immunization components was set up.

A Rural Water Supply and Sanitation Project was established in 1976.

A nationwide Primary Health Care strategy was put into effect, based on community operated Village Health Services (p 58).
Forestry:

Divisional Licensing Committees were set up in 1980 at local government level (p 60). Users pay annual licences for commercial produce such as fuelwood and wild fruits. In addition, a fee is charged for every tree which is approved for felling (pp 54-55).

Wildlife:

Wildlife protection habitats are set aside (p 71).

A licence is required for the hunting of certain wild animals.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Major areas in which outside grant capital and technical expertise are especially needed are:

- poverty alleviation;
- food security for all citizens;
- programmes aimed at halting desertification and reclaiming degraded lands;
- transfer of technology appropriate for use in environmental programmes (including staff training);
- legislation and policy review;
- strengthening of institutions dealing with environmental issues (p 9).

There is a pressing need for direct project intervention in the natural resources sectors directed towards conservation and rational utilization through:

- strengthening of environmental education units in the sectors of agriculture, fisheries, forestry, water resources and wildlife;
- bush fire prevention and control;
- management of forests and agricultural lands for multiple uses;
- establishment of a national resource inventory;
- preparation of a national land use plan, backed with adequate regulations and enforcement;
- development of research programmes and facilities.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Forestry:

Between 1979 and 1986, USAID sponsored a forestry project that sought to establish 1300 hectares of fast growing Gmelina arborea, to train forestry staff, to establish 45 hectares of village woodlots and modernize the sawmill at Nyambi. Under a German-funded project commencing in 1980, a national forestry inventory of the Gambia was concluded in 1983 and species site trials were undertaken for 19 indigenous and over 30 exotic tree species. "The realization of policy objectives in forestry matters is however considerably constrained by the unavailability of adequate financing" (p 61).

Fisheries:

A major programme, the Artisanal Fisheries Development Programme (AFDP), was commissioned in 1987 with financial assistance from the Italian Government, the EEC and Japan. Research in locally adaptable oyster culture techniques is being conducted with assistance from IDRC of Canada.
Water resources:

Various programmes are being funded by the Arab Development Bank, Germany, Saudi Arabia, the European Development Fund and the United Nations Capital Development Fund (UNCDF). Soil and water management programmes are receiving financial assistance from USAID and the Gambia Government.

Livestock:

UNDP has funded projects for the construction of livestock watering points (1978) and for development of sheep and goat production (ongoing).

Health:

An Urban Management and Development Project (water distribution system) is funded by the World Bank. "Loan repayment burden has reduced the country's capacity to spend foreign exchange and local resources on environment-related projects. In the Health sector, in particular, the international assistance effort, though very substantial, would need to be augmented" (p 82).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

- Assistance is received from the World Wildlife Fund for Nature (WWF) for conservation and education.
- In collaboration with the Inter-State Committee for Drought Control in the Sahel, projects are carried out on the collection, analysis and dissemination of information on hydrology and meteorology. On a bilateral level, under a Gambian-German hand-dug well construction programme, 331 wells in the rural areas have been dug.
- Within the private sector, a shrimp production farm, initiated and developed by a Norwegian Company, SCANGAM, has, as its primary objective, the establishment of a commercially viable shrimp farm in the estuarine area of the Gambia River.
- In the areas of soil and water management, programmes and projects are under way, jointly funded by USAID and the Gambia Government (on rehabilitation and reclamation of rice fields and reduction of soil erosion on upland fields).

8. EXPECTATIONS FROM UNCED

The Gambia hopes:

- to gain insight into policies and principles successfully implemented elsewhere;
- that the required level of funding to facilitate programme and project implementation will be generously offered;
- that harmonization of International Conventions on management and utilisation of natural resources will be addressed by the Conference;
that the Conference will emerge with definite measures designed to promote food and energy security, in part through development of alternative energy sources;

that the Conference will help to combat significantly the poverty problem in developing countries.

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APPENDIX 1: Guidelines for National Reports
1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was compiled by the National Committee for the preparation of UNCED set up by the Federal Chancellor Dr. Helmut Kohl. The committee consisted of 36 members from the fields of environment and development, science and technology, trade and industry, as well as from trade unions, churches, agriculture, women's and youth groups, the Federal Government, the Laender and the municipal authorities. The Foreword was signed by Dr. Klaus Töpfer, Federal Minister for the Environment. This national report details the development in the Federal Republic of Germany since 1972 and also gives the first ever overview of the United Germany.

Other Ministries and Government Agencies:

See above

NGOs, Grassroots Organizations and Public Involvement:

NGO activities (individuals, women, youth, consumers, industry etc.) in the environmental field are well developed in Germany and their participation has been very active (pp 81-89) although their involvement in preparing the UNCED report is not described in any detail (also see 3 below).

2. PROBLEM AREAS

- Pollution from production of goods and services and private consumption: emissions and emissions: sulphur-dioxide in the new Laender (ex-GDR) (1975 : 4.1 million tonnes, 1989 : 5.25 million tonnes), carbon monoxide, volatile organic compounds (1975 : 076 million tonnes, 1989 : 1.05 million tonnes), dust, carbon dioxide and transboundary flux pollutants (pp 21-39);

- Running waters: residual pollutant impact from sewage treatment plants, storm water flows, diffuse inputs like scouring from agriculturally used areas and air borne pollutants lead to critical levels of pollution;
- River pollution in new Laender due to nutrient concentrations (ammonia and phosphate) causing unstable oxygen balance. Rivers Elbe, Saale, Muddel, Pleisse, S.Elster and Wiesse.

- Ground water pollution in old Laender owing to high degree of industrialization and agriculture production (p 45);

- Constant increase in settlements and infrastructure at the expense of agriculturally used areas and undisturbed areas such as moorland and heathland;

- Pollution of the North and Baltic seas from concentrations of phosphate and nitrogen and illegal discharge of residue from marine engines, the latter causing oil pollution affecting seabirds and causing algae explosion, shortage of oxygen and fish death.

- Lack of disposal infrastructure in the new Laender; a total of 31 million tonnes accumulated in 1987;

- Endangered species: in the old Laender 50% of all higher animal species (vertebrates) and 1/3 of higher flora species (ferns and flowering plants), are endangered by destruction, fragmentation, reduction and devaluation of the habitat;

- Forest damage: there are virtually no completely undisturbed wooded ecosystems left in the old Laender. A 1991 forest damage survey showed significant to moderate damage to 65% of forests.

- Soil damage from pollutants discovered in areas around production and processing plants and changes in the shape of land and landscape characteristics as a result of construction, mining and military activities;

- Noise: road traffic is the chief source; industrial, commercial and construction noise (pp 69-71) rail and aircraft noise are also significant. "Around 70% of the population feel irritated by noise pollution: one in five feels extreme annoyance".

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Environmental protection in the old Laender has advanced in all areas over the last 20 years. Government and Laender have employed and extended the entire spectrum of environment policy instruments;

- Policy measures demand implementation of best available technology;

- The environment policy pursued rests on the principle of anticipatory environmental protection, the "polluters pay" principle and the principle of cooperation (p 74);

- Legislative and administrative competence of government for waste management, air pollution control and noise abatement (p 77);

- At local authority level, responsibilities for urban development planning, creating and protecting green areas and parks, urban sanitation, sewage treatment and waste management;

- Non-government action in environmental protection is a commitment by many individuals and social groups. Over 4 million members of the population belong to local, regional and national environmental protection and nature conservation associations;
Education and publicity work in the sphere of environmental protection is not only carried out by governmental bodies but also by a large number of social groups and media;

A number of women’s organizations have concentrated their activities on consumer and environmental matters actively informing their members and participating at all levels of consumer and environmental protection organizations;

Youth organizations some of which are run by children and young people themselves, have for many years, made ecological learning and education a permanent feature of their activities;

The chambers of industry and commerce have stepped up information on environmental protection at company level and assisted enterprises in structuring industrial processes in a manner conducive to the environment;

Trade unions provide information, contribute towards enhancing environmental awareness among the working population and articulate environmental related demands from the employees point of view (p 82);

Environmental policy programmes, concepts and standards are based on environmental research and scientific advice (p 87), and an environment research institute has been established in the new Laender;

The council of environmental advisers established in 1971, portrays the current state and development of the environment and points out undesirable trends and possibilities of eliminating them;

Churches in their proclamation, communiques, declarations, conferences and theological faculties foster an ethically founded responsibility for creation, strengthening the awareness of values and problems and provide forums for the exchange of information, opinions and ideas. Since 1985 several statements by the churches have been issued and ecclesiastical ecologists carry out important environmental beyond the realm of the churches (pp. 89-90);

Environmental Impact Assessment (EIA) is intended to assess specific public and private projects; their impacts on the environment at an early stage (p 93);

Product standardization by industries in respect of product related environmental protection;

Training and education: Government pursues a policy of intensive environmental education at kindergartens, schools, universities, vocational training and adult education centres. In addition, government provides free access to environmentally related information (p 99).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Environmental problems associated with energy supply necessitate a resolute policy geared towards saving energy and rational energy use - "principle of preventive resource conservation”;

Environmental improvements are necessary on vehicles to curb gaseous emissions, including non-technical traffic policy measures to control, shift and avoid traffic (p 107);
Significant need for action to reduce burdens placed on nature by agriculture. An amendment of Article 21 of the efficiency regulation is being deliberated at EC level with the aim of providing assistance in support of promoting environmentally compatible extensive farming methods at regional level;

The Federal Nature Conservation Act emphasizes more categorically the objective of providing for peaceful recreation within natural surroundings;

Urban ecology initiatives aim at achieving progress in the field of urban ecology and environmentally compatible planning, construction, land use and soil protection.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- DM 6,542 million has been earmarked in the 1991 Federal budget for environment protection and improving the state of the environment;

- A total of DM 250 million was earmarked in the 1991 budget aimed at reducing environment pollution;

- A total of DM 800 million is available for immediate measures as part of the "joint upswing east programme" of the Federal Government (p 126);

- Total investment of the manufacturing industry and public authorities in environmental protection rose from DM 7,300 million in 1975 to around DM 15,300 in 1988. The manufacturing sector alone allocated 7.8% of its overall investments to environment protection; (DM 8,000 million of the total invested DM 102,600 million)

- In 1988 public funds and manufacturing industry provided almost equal amounts on environmental protection which together totalled DM 35,700 million or 1.7% of GNP (pp 120-1)

Funding Requirements:

- Tougher air control regulations on part of industry demand investment in the order of over DM 50,000 million;

- DM 15,000 million need to be invested to reduce the volume of nutrients in sewage treatment plants to protect the North and Baltic seas;

- DM 6,000 million to be invested further by direct industrial dischargers.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

In 1990, work was started on the preparations of scientific research and concepts for the rehabilitation of highly polluted regions and investigations on the cleaning up of the atmosphere:

- Chemicals Act: new substances are tested for hazardous properties before entering the market. The act also contains regulations to label and package chemicals (p 133);

- Plant protection legislation: agents may only be used in accordance with good agricultural practice. It is intended to minimize the use of plant protection chemicals, protection of ground, surface and coastal waters and areas important for biotype. Any person using plant protection agents must be competent and able to prove so (p 134);
Regulations to protect ozone layer: both the legislation (Sep 1988) and law (Nov 1988) were as a result of the Vienna and Montreal Protocol for the protection of the ozone layer. In addition, the government has passed an ordinance to ban CFC's/Halons with hope that by 1995, there will be a ban on marketing, use and in some cases the manufacture of regulated halogenated substances;

Air Quality Control and Climate Protection. Five different components have been introduced to protect people and the environment stipulating precautionary action;

The Federal Emission Control Act covers air quality control addressing plant, area, traffic and product related regulation. Sulphur dioxide has been reduced from two million tonnes, and nitrogen dioxide from one million tonnes to about 0.3 million; carbon dioxide emission reduction and plant safety are also covered;

Legislation for the protection of the aquatic environment involves the following: Federal Water Act, Waste Water Changes Act, Washing and Cleansing Agents Act, Drinking Water Ordinance, Protection of North and Baltic sea. The foregoing are instruments for water resource management, promotion of water friendly technologies and environmentally sound behavior;

Waste water management policy aims at avoiding the development of wastes at the industrial and commercial stage and recycling of waste. It contains the following Acts: waste water and waste management, waste avoidance and waste recycling measures and waste oil management;

Nature Conservation and land scape management embodies the following: Federal nature conservation. Act and law of on nature protection and management;

Soil protection policy has laid down two central approaches for action: the minimization of chemical inputs and reversal of trends in land use;

Noise Control: the Federal Government has extensively supported measures of noise reduction by financing noise embankments on roads, airfields, industrial and commercial buildings, barriers, windows and routing roads through tunnels.

7. INTERNATIONAL COOPERATION

Germany is involved in:

Environmental cooperation and bilateral environmental agreements with countries of Central and Eastern Europe;

Development cooperation with third world countries in programmes for combating poverty, development of national environment action plans, and debt relief to finance environmental protection measures;

Cooperation with internationally experienced non governmental organizations such as IUCN and WWF;

International initiatives aimed at mastering environmental problems, for instance initiation of the Global Environment Facility (GEF);

The International Tropical Timber Organization (ITTO); Tropical Forestry Action Plan (TFAP) and supporting implementation at the national level.
8. EXPECTATIONS FROM UNCED

Germany believes:

- Efforts must be made to ensure progress and improvements in the area of environment and development, particularly with respect to the requirements and possibilities of developing countries and the Central and Eastern European States;

- Rapid preparation of Climate Change Convention and implementation of protocols;

- A declaration containing extensive principles on forests is necessary. Procedures and scheduling of intergovernment negotiations to be commenced immediately following the Conference;

- Resolutions should be made at the 1992 Conference aimed at strengthening environment protection within the UN system, especially the existing institutions.

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GHANA


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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The Ghana UNCED National Preparatory Committee (NATCOM) was formed within the Environmental Protection Council of Ghana (EPC). The EPC, which is specifically responsible for the preparation of the report, has its Executive Chairman as the Chairman of the NATCOM and the Director of Programmes of the EPC as Co-Chairman.

In order to facilitate the preparation of the national report, the NATCOM decided to establish a National Secretariat within the Environmental Protection Council to coordinate and prepare the report with the assistance of a local consultant from the Institute of Statistical, Social and Economic Research (ISSER), University of Ghana.

The NATCOM consisted of twenty members drawn from Government Ministries, Universities, Research Institutions, NGOs and other relevant organizations.

Other Ministries and Government Agencies:

- Ministry of Health
- Ministry of Energy
- Ministry of Agriculture
- Ministry of Foreign Affairs
- Environmental Protection Council
- Meteorological Services Department
- Attorney General's Department
- Forestry Department
To give the report wide public acceptance, reflecting the views and perspectives of various groups, government and non-governmental organizations and other interested bodies in the country, several copies of the draft report were made and distributed for comments. Technical experts from the Ghana Academy of Arts and Sciences as well as representatives of relevant NGOs, such as the Ghana Association of Private Voluntary Organization in Development (GAPVOD), were contacted for their views and comments.

After a first review session which was organized on 7 May 1991, the report was edited and re-appraised by the consultant and the National Secretariat. A national workshop was organized to finalize the report and to obtain full support and approval from the relevant organizations and NGOs concerned.

The report was prepared in the context of the annotated format and with particular reference to Ghana's national development strategies and policies. Inter alia it represents an input into the on-going planning process, administered by the National Development Planning Commission (NDPC) for purposes of coordinating and synthesizing overall development policy through the vehicle of a National Development Policy Framework. This framework will form the basis for the preparation of long and medium term perspective plans by functional and sectoral agencies and districts in the country.

The report was first approved by the National Committee of UNCED, then by the Provisional National Defence Council (PNDC) Secretary for the Ministry of Local Government, which is responsible for the environment and finally by the Chairman of the Committee of Secretaries (pp 64-67).

2. PROBLEM AREAS

- Population growth rate stands at 3% per annum for 1987-2000 according to the World Bank population projections. It is estimated that, by the year 2020, given Ghana’s agricultural population of 32 million, the amount of agricultural land per capita would decline from 1.95 hectares in 1988 to 0.43 hectares in 2020 (p 21);

- Endemic poverty aggravated by declining incomes;

- Depletion of forest resources, land degradation, desertification, and loss of biodiversity are due to agricultural expansion, bush fires, fuelwood extraction, mining, charcoal production and logging for export. As a result of the Economic Recovery Programme (ERP), production of logs increased from 560,000 cubic meters in 1983 to 890,000 cubic meters in 1986. Timber exports in 1986 were worth US$56 million as against US$13 million in 1982 (pp 6, 7);

- Increasing desertification especially in the Savanna areas of the country;

- Agriculture is a cause of soil degradation in the form of accelerated wind and water erosion, soil compaction, surface soil crusting and loss of fertility and stability of the soil (p 7);

- The general effect of environmental degradation is declining crop yields and worsening of the already poor living conditions of the majority of Ghanaians. 70% of the population live in rural areas and depend on agriculture for their livelihood (p 7);
Atmospheric pollution, water pollution and solid waste pollution are largely caused by manufacturing industries, 60% of which are located in Greater Accra Region. The quantification of the costs of environmental degradation attributed to industries is hampered by the inadequacy of data;

- Agro-chemicals such as fertilizers, insecticides and herbicides contribute to contamination of water bodies. Mining activities are also a cause of water pollution (p 3);

- Inadequate basic infrastructure especially in rural areas;

- Inadequate housing and lack of important social services such as access roads and safe drinking water. While 93% of the urban population are served with potable water, only 39.5% of the rural population have access to potable water. Water-borne diseases, such as guinea worm disease (Dracunculiasis), are a serious problem in Ghana (p 16);

- Poor waste management, particularly disposal, results in heavy pollution of water resources (pp 34-35);

- Inadequate health system: Government health facilities, which account for 70% of the entire health service delivery system in the country, cater for only an estimated 30-40% of Ghana’s population (p 15);

- Marine and coastal degradation due to industrialization, urbanization, agriculture, fishing and pollution (pp 39-41);

- The construction of a dam and subsequent formation of the Volta lake at Akosombo, for energy purposes, has displaced over 70,000 people and inundated large areas of forest land and animal habitats (p 42);

- Potential of natural disasters such as earthquakes and flooding (p 42);

- Low level of environmental awareness due to ineffective information flow and weak institutional arrangements for the transmission of information (p 16).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Creation, in 1973, of the Environmental Protection Council (EPC), one of the first environmental agencies in Africa to address problems relating to development and the environment (pp 1, 43);

- The Government of Ghana has adopted a number of principles as the basis for its own efforts to secure sustainable development. These principles, which include the polluter pays principle and international cooperation among others, are set out in the Environmental Action Plan (EAP) (p 44);

- A National Environmental Policy has been adopted to provide the broad framework for the implementation of the EAP (p 45);

- To arrest and reverse the serious deterioration in economic performance and to stabilize the economy, the Government of Ghana initiated an Economic Recovery Programme (ERP) in April 1983 (pp 3, 53-54);
In spite of the ERP’s success, the living conditions of many Ghanaians continued to be generally poor and the Government launched the Programme of Action to Mitigate the Social Costs of Adjustment (PAMSCAD) in 1987. The targeted groups were rural households, low income urban households and retrenched workers from public and private sectors. A total expenditure of US$85 million was earmarked for this programme which covers basic needs like water, health, nutrition and shelter (pp 5-6);

New and existing legislation is being formulated or revised to cover Environmental Impact Assessment, Air Pollution Control, Comprehensive Water Law, Waste Disposal, Hazardous Substances Control and Off-shore Marine Pollution (p 47);

Major approaches developed and implemented or due for implementation include (pp 48-57):

- Institution of Environmental Impact Assessment (EIA) process;
- National Plan of Action to combat Desertification, with assistance from the UN Sudano-Sahelian Office (UNSO);
- Land resource management;
- Management of forest and wildlife resources, comprising afforestation programmes and establishment of forest reserves;
- Fresh water management;
- Protection of marine and coastal ecosystems through cooperation with other West and Central African countries among other things. To enhance the country’s preparedness to respond to oil spill emergencies, a National Oil Spill Contingency Plan (NOSCP) was prepared with the assistance of the International Maritime Organization (IMO) and UNEP in 1985;
- Control of industrial and mining pollution and hazardous chemicals. The compilation of a National Register of Chemicals has been initiated as part of this programme;
- Management of the urban environment. One of the strategies is the establishment of an indexed housing finance system. Under this system, about 2,000 housing units will be financed by a Home Finance Company;
- Measures to strengthen scientific research;
- Promotion of environmental awareness through, among others, schools, public environmental forums, NGOs, women’s groups, indigenous peoples, seminars and workshops, media, holiday/youth camps;
- National and regional information network to link the central environmental protection agency with identifiable institutions and groups;
- Environmental monitoring network. Ghana requested for and was granted permission to participate in the Air Quality Monitoring Programme in selected urban areas jointly supported by UNEP and WHO. The air quality monitoring project provides inputs to the Global Environmental Monitoring Systems (GEMS) which is supported by the Environmental Fund of UNEP.
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

The ultimate aim of the National Environmental Policy is to improve the surroundings, living conditions and the quality of life of the entire citizenry. It seeks to ensure reconciliation between economic development and natural resource conservation, to make a high quality environment a key element supporting the country's economic and social development (p 45).

Its specific aims are to:

- maintain ecosystems and ecological processes which are essential for the functioning of the biosphere;
- ensure the sound management of natural resources and the environment;
- adequately protect humans, animals and plants, their biological communities and habitats, against harmful impacts and destructive practices, and preserve biological diversity;
- guide development in accordance with quality requirements to prevent, reduce, and as far as possible, eliminate pollution and nuisances;
- integrate environmental considerations in sectoral structures and socio-economic planning at the national, regional, district, and grassroots levels;
- seek common solutions to environmental problems in West Africa, Africa, and the world at large (p 45).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS


- In 1983 the Government initiated a number of macro-economic and structural adjustment policies which were supported by the World Bank, the International Monetary Fund (IMF) and other donors.
- Yearly commitments in support of the adjustment programmes averaged US$430 million. The IMF provided the largest support to the tune of US$750 million for the programme while the World Bank provided four policy based loans totalling US$274 million together with project lending of US$212 million.

Cost of environmental degradation (pp 6-7):

- The total estimated annual cost of environmental degradation in Ghana was 41.7 billion cedis (4% of GDP) or US$128.3 million in 1988. Agriculture imposes the greatest cost of 28.8 billion cedis or US$88.5 million which is 69% of the total cost of environmental degradation. Forestry imposes an estimated cost of 10.8 billion cedis or US$33.4 million on the economy. In 1988, agriculture and forestry together imposed an estimated environmental degradation cost of 39.6 billion cedis or US$121.9 million.

Environmental Action Plan (p 57):

- To be implemented over a ten-year period, from 1991 to 2000. About fifty individual projects will be implemented by various national agencies under the coordinating role of the EPC. Ghana expects to spend over 200 billion cedis (approximately US$615 million) to implement the plan.
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- International mechanisms need to be established to identify and transfer environmentally sound technology on preferential or non-commercial terms (p 61).

7. INTERNATIONAL COOPERATION (pages 57-58)

- Ghana has participated and continues to participate in multilateral negotiations, some of which have resulted in international legal instruments dealing with environmental issues of global importance and is party to many of them.

  Sub-regional level:

  - Ghana is party to the Convention for the Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (WACAF) and participates in its programme activities.

  - Ghana has encouraged other sub-regional activities aimed at addressing common sub-regional problems such as desertification, eradication of onchocerciasis, creation of awareness and management of internationally shared water resources.

  Regional level:

  - Ghana believes that, given the necessary support, the Cairo Programme for African Cooperation on the Environment (AMCEN) could make significant impact in the management of the African environment to ensure food security for the peoples of the continent. Ghana actively participates in the activities of AMCEN and provides support for the Soils and Fertilizer Technical Cooperation Network of AMCEN which is hosted by the country’s Soil Research Institute.

  Global level:

  - Ghana believes in the need for international instruments on biodiversity, biotechnology, and global climate change and actively participates in efforts towards achieving these goals.

8. EXPECTATIONS FROM UNCED (pages 59-63)

Earth Charter:

Should incorporate the following:

- Inviolability of the concept of sovereignty. Developing countries must retain the right to utilize their resources in a way that they deem most appropriate for promoting the welfare of their peoples;

- Unconditional development aid and financial flows;

- Full recognition of the symbiotic relationship between poverty and environmental degradation;

- Further development and strengthening of "Polluter Pays Principle";
Disposal of wastes within national boundaries. States not yet parties to the Basel Convention should be urged to ratify it;

No State should appropriate any part of the "global commons" to its strategic and economic advantage.

Agenda 21:

Agenda 21 should be an action-oriented document that must define clearly and expressly, specific objectives, programmes, projects, costs and financial modalities for the implementation of decisions to be taken during UNCED;

It must focus largely on the needs of developing countries, i.e. food and energy, security, sustainability of economic growth, poverty alleviation, health and educational programmes. Appropriate measures to combat drought and desertification should be incorporated;

Financial resources:

Developing countries must be given new, adequate, and additional financial resources to enable them to effectively address their development and environmental problems;

Ghana supports the Global Environmental Facility (GEF) but strongly recommends the establishment of individual (and unconditional) funds, specific to internationally agreed instruments of proposed conventions;

Funding mechanisms existing under different programmes of action within the UN system must be further strengthened;

Technology transfer:

Establishment of an international mechanism to identify and transfer environmentally sound technology to developing countries on preferential and non-commercial terms;

It should be ensured that environmentally unfriendly technologies are not dumped on developing countries;

Emphasis should be put on supporting the development of indigenous technology;

Institutions:

Existing international, regional, and sub-regional institutions within the United Nations must be strengthened;

Conventions:

Developing countries should be provided with the resources they need to enable them meet their obligations under the Climate Change Convention;

The convention on biological diversity must contain clearly defined institutional and other mechanisms that would assist developing countries to cooperate with developed countries in the utilization of biological diversity for the benefit of mankind. New, adequate and additional financial resources should be given to developing countries through a global fund to enable them manage their forest resources in a sustainable manner.
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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was published by the Ministry of Rural Development and Agriculture

Other Ministries and Government Agencies:
No mention

NGOs, Grassroots Organizations and Public Involvement:
No mention

2. PROBLEM AREAS

- A poor economic and financial situation, worsened by adopted policies, poor investment policies, expansionist budgetary and financial policies, including negative balance of payments, among others (pp 9-11);

- Deforestation due to over-exploitation and mis-management of forest resources and bush fires. About 40,000 hectares of vegetation are destroyed every year by bush fires (pp 19, 25);

- There are no protected areas such as parks and natural reserves (p 3);

- Lack of cultural communication between rural and urban populations (p 8);

- Extreme dependance on external technical and financial aid for industrial development (p 14);

- Polluting wastes are disposed of in marine environments (p 22);
The lack of traffic signals for marine navigation threatens human lives and increases the risk of oil spills (p 22);

- Acidification and salinization of rice fields (p 27);
- Salt-water intrusion, up to 150 km inland, seriously threatens groundwater resources (pp 20, 21);
- Illegal industrial fishing in areas authorized only for artisanal fishing is frequent (p 20);
- Waste management.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- In 1987, the government initiated a Structural Adjustment Programme to stabilize the financial situation, create an economic climate that is conducive to investment, and to promote medium-term sustainable growth (p 9);
- A law was promulgated to fight bush fires and another law regulates hunting and delineates reserves (p 28);
- In 1986, following the first meeting on the environment held by Portuguese-speaking African countries, different inter-ministerial commissions were set up to manage natural resources in a rational manner (p 28);
- Various programmes are being established for tourism, water resources, fisheries, agriculture, planning and the coastal zone (p 28);
- In 1990 the first national workshop on environment was held in Bubaque, resulting in the creation of the National Commission for the Environment (p 28).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT (pages 30-33)

- Reduce the budget deficit (p 9).

Priority areas for action include:

- The rational exploitation of natural resources;
- The protection and conservation of the environment;
- The strengthening of institutions;
- The strengthening of regional and international cooperation;
- The rational distribution of the population over the territory;
- The raising of public awareness through training and dissemination of information;
- The conducting of research and surveys (pp 30-33).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Agriculture, cattle ranching, and fisheries are the principal sectors for the export market, needed to reduce the deficit of balance of payments (p 16).
The government intends to work closely with funding organizations to promote economic development and sustainable use of resources, including (pp 30-33):

- bilateral and multilateral donors;
- private industries;
- national and international NGOs;
- local organizations;
- all citizens interested in the protection of the environment.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

To reduce the pressure on forest resources, a number of measures have been taken, including (p 29):

- substitution of butane gas for fuelwood;
- introduction of improved stoves;
- review of households’ and small industries’ sources of energy so as to identify the principal problems and propose solutions.

7. INTERNATIONAL COOPERATION

Guinea-Bissau is party to the RAMSAR and CITES conventions, among others. It is also a member of the Permanent Inter-State Committee on Drought Control in the Sahel (pp 22, 28).

The former Soviet Union and the EEC have signed agreements with Guinea-Bissau relating to industrial fishing rights (p 14).

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

Guyana Agency for Health Sciences Education, Environment and Food Policy
Guyana Natural Resources Agency
Ministry of Foreign Affairs

Other Ministries and Government Agencies:

Various Ministries and Agencies

NGOs, Grassroots Organizations and Public Involvement:

No mention

2. PROBLEM AREAS

Industry

- All waste water from sugar production is discharged into drainage canals and eventually flows into rivers and the sea;

- Distilleries are a potential source of water pollution;

Agriculture

- Declining levels in rice production have been attributed to inadequacy of machinery, deterioration in infrastructural works, and climatic conditions;

Human Settlements

- There is a large demand for housing, with a projected need of 7,000 new units per year to meet expected requirements in the year 2000. This has led to overcrowding and squatting;
The provision of housing to the non-income group (unemployed and unemployable), which totals up to 30% of the population in some countries, is a major problem;

Sewage
- Untreated sewage is disposed of at a "safe" distance into the mouth of the Demerara River;
- Urban decay in the capital city is due to uncollected and improperly disposed of domestic and hospital wastes and blocked drainage canals, the latter of which are due in part to excessive aquatic weed growth and river sedimentation;
- Lack of environmental health personnel makes it difficult to monitor sanitation standards;
- Malfunctioning and leakage of sewerage systems create environmental health hazards;
- The blockage of drainage canals coupled with the low-lying topography of the capital city results in the increased incidence of flooding. Breaches of sea defenses cause flooding of septic tanks and pit latrines, exacerbating contamination of drinking water supplies;
- There are significant increases in the incidence of water, food, and vector-borne diseases since 1985;

Coastal Zone Management
- Mangrove destruction is caused in part by cutting for firewood and for the tanning industry;

Climate
- A concern is the potential sea-level rise due to global warming;

Forests
- There is a lack of data relevant to sustainable forest management.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES
- The Guyana Agency for Health Sciences Education, Environment, and Food Policy was created in 1988 for the development of environmental policy, environmental monitoring and coordination, and training (p 45);
- The Guyana Natural Resources Agency was created in 1986 for the development of natural resources including mining, fossil fuel development, and forestry (p 45);
- The Inter-Agency Committee on Environment and Development is a high-level policy/technical cooperation mechanism among agencies and ministries with terms of reference which include the formulation of national environmental policies and plans (p 46);
- The Advisory Environmental Council was established in 1988 consisting of key environmental ministries, agencies, and non-governmental organizations to ensure that actions taken by one ministry are coordinated with those of others (p 46);
- The Inter-Agency Sub-Committee on Biological Diversity set up initially to enhance its participation in the Intergovernmental Negotiations Committee for a Convention on Biological Diversity, has been expanded to include a country study on the costs, benefits, and unmet needs of biodiversity conservation (p 47);

- The National Forestry Action Plan 1990 - 2000 addresses sustainable management of forest ecosystems and wildlife by local personnel, keeping as an aim the increase of timber production for foreign markets (p 18);

- The Commonwealth-Government of Guyana Programme for Sustainable Tropical Forestry; 300,000 hectares of Amazonian Rainforest set aside as a pilot project on sustainable forest management and conservation of biodiversity (p 19);

- The Institute of Applied Science and Technology has been in the forefront of research on solar energy for agricultural purposes (p 22);

- The Mahaica-Mahaicony-Abary / Agricultural Development Authority Project covers a land area of 171,000 hectares to increase agricultural production (p 27);

- The Government of Guyana and World Wildlife Fund US; developing a management plan for the Kaieteur National Park (p 29);

- The government of Guyana's Aided Self Help provided 2,527 homes for low-income families in 1986 (p 30);

- The University of Guyana continues to be involved in the areas of environmental chemistry, geomorphology, forestry, environmental research, among others. It is also involved in the Tropenbos Project on forest management in the Mabura Hills; the Flora of the Guianas Project in cooperation with the Smithsonian Institute of the USA on the biological diversity of forest areas; the Amerindian Research Unit on the relationship of native indians with the environment; and Water Resource Management on the relationship between potable water supply and coastal defense mechanisms against flooding (p 33);

- The Sea Turtle Recovery Action Plan; under the auspices of Wider Caribbean Sea Turtle Recovery Team, partially supported by the UNEP Caribbean Programme (p 35);

- The Women’s Affairs Bureau, assisted by the non-governmental umbrella organization Conference on the Affairs and Status of Women in Guyana (p 53).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Biodiversity

- To make inventories of flora and fauna; monitor ecosystems; analyze endemism; develop a system to protect elements of biodiversity; estimate values of biodiversity (p 37);

Coastal Zone Protection

- To sustainably manage mangroves; control coastal pollutants; coordinate an integrated coastal zone management plan; monitor aid policy; improve information systems (p 38);
Climate Change

- Control greenhouse gas emissions; increase use of environmentally sound technologies; increase consideration of alternative energy sources; monitor and assess climatic and sea-level changes; initiate short-term construction programmes for enhancing flood protection and drainage (p 39);

Forests

- To create an institution to concentrate efforts on applied forestry research and improved forest management and a separate organization on research, production, wildlife, and parks; introduce an incentive system on timber resources associated with mining claims; increase vertical development of industries; encourage employment of nationals in large timber companies; establish a system of protected areas; utilization of forest resources should be through joint ventures and not solely through foreign capital investments; safeguard the rights of the Amerindians (p 41);

Pesticides and Toxic Chemicals

- Pursue an integrated pest management programme; finalize the Pesticide and Toxic Chemical Act (expected for late 1992); improve guidelines for the handling and disposal of pesticides and toxic chemicals; implement a monitoring programme to determine the effects of pesticides on the environment and the environmental impacts of gold mining operations (p 42);

Human Settlements

- Accelerate implementation of national policies to improve incomes to least privileged groups to enable them to satisfy their housing and related needs; promote cooperation among the public, private, and community sectors and government agencies; formulate policy to enhance rural development; develop and implement policies for solid waste management, sanitation, and environmental health; increase funding of specific projects (p 43);

Wildlife Resources

- Increase surveys on wildlife resources; develop a system of wildlife monitoring; improve training of personnel (p 44);

Air Pollution

- Create a system for monitoring air pollution (p 44);

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The National Environmental Action Plan for Guyana, a programme in three phases and a series of discrete studies (pp 56-67);

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Research is currently done on solar energy for agricultural purposes (p 22);
- Increase the use of environmentally sound and pollution control technologies (p 39);
7. INTERNATIONAL COOPERATION

- The United Nations as the main forum for international cooperation on environment and development (p 55);

8. EXPECTATIONS FROM UNCED (page 68)

- New and additional financial resources, and their distribution through efficient international institutions, monitoring of compliance to agreed regulatory instruments;

- Transfer of relevant technology, including biotechnology;

- Regulation on the access, research, safety, development, and profitable use of genetic material;

- Training and information programmes, citizen participation and cooperation in programmes, data dissemination;

- Programmes for poverty alleviation, reduction of debt and service commitments, and correction of the unfavourable balance and conditions of trade and most favourable terms of technology transfer;

- To address the negative impacts of climatic change, particularly sea-level rise and coastal zone management.

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(CONAMA) and with the help of UNDP.

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Consultations were held with the Public Sector and private associations working on environment and development.

2. PROBLEM AREAS

- Significant amounts of financial resources have not been destined to environmentally-oriented programmes or projects (p 64);

- Research studies have been slow in evolving due to a faulty educational system and a lack of funds for specific projects (p 41);

Land resources

- Government institutions involved in land management have gradually been losing credibility, mainly from the lack of a defined framework for sectoral organization (p 2);
The planning framework of the organizations involved in land management is weak (p 2);

Soil erosion is due to land-use practices in rural areas (p 1);

An estimated 41 fauna species are threatened with extinction (p 16);

Increase in agriculture and cattle-raising has reduced the forest area from 4 million hectares in 1964 to 2.7 million in 1986 (p 7);

Freshwater resources (page 9)

The authority on water resource development and management is not clearly defined institutionally or regulatory;

Seas and coastal resources (page 11)

The lowlands of the Atlantic littoral have suffered from intensive deforestation and extensive contamination caused by the indiscriminate use of fertilizers and pesticides, lack of controls on industrial emissions as well as the problems of untreated waters, oil spills and solid waste;

Degradation of marine, coastal, and lagoon resources, and destruction of mangroves, is due to poor management (p 28);

71,000 hectares of wetlands are vanishing from the coasts of the Gulf of Fonseca, with the disappearance of much wildlife;

Over-extraction of marine turtle eggs;

Energy resources (page 13)

The irrational and indiscriminate exploitation of the forest biomass for fuel has an enormous negative impact on the environment;

The government’s energy policy has lacked a clear definition, and most actions were taken in response to transitory circumstances and problems;

Mining resources (page 14)

The mining industry causes environmental problems, including:

- Production of chemical contaminants;
- Contamination of spring water near mining production centres, through the discharge of residues without partial water treatment;
- Deforestation through the use of firewood in the production process;

Ecosystems and biological and cultural heritage (page 16)

Lack of legal framework for the protection and management of many ecologically important wildlife areas;
Inadequate national system to regulate the establishment and management of wildlife areas;

Wildlife management and preservation is incipient and inefficient;

Insufficient human and financial resources;

Limited public participation and a lack of awareness of the value of biological and cultural resources;

The number of human settlements in urban areas have reached worrisome proportions. Urban growth has been disorderly. Urban slums account for about 56.3% of the population of Tegucigalpa in 1990;

Housing conditions in rural areas are very poor: 81% of rural dwellings lack potable water, 88% lack sanitary services, and 85% lack electricity;

Air pollution is the result of lack of filter systems for processing plants, motor vehicles, also from firewood burning and forest fires, among others, all of which contribute significantly to respiratory illnesses;

Legislation introduced to maximize the use of natural resources, while taking account of their importance, lacks coherence and responds to partial and sectoral views of the problems (p 59);

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

In 1987, reforestation projects were launched nationwide through the educational social work carried out by high school graduates;

In 1990, the Commission for Environmental Affairs was established to prepare an Environmental Education Manual for pre-school and primary levels;

The Honduran Forestry Development Corporation (COHDEFOR) is the organization of the Social Forestry System to protect and manage forest resources and is the institution more deeply involved in environmental education, and has carried out seminars and workshops on forestry resources in addition to its support to the National School of Forestry Sciences (pp 7, 34);

COHDEFOR's legislation reorganized the State Forest Administration and established a system of public intervention in all forestry activities (p 7);
The Department of Scientific Information at the National University has promoted the dissemination of scientific information and has given support to environmental research studies;

NGOs have actively participated in providing environmental education through the holding of conferences, workshops, seminars, publication of bulletins and journals, and production of videos on different environmental topics;

Research and technology (page 41)

Research in the forest sub-sector deals with topics related to basic environmental problems such as deforestation, use of forest wood as a domestic fuel, and extensive grazing;

Research in the fishing sub-sector has focused on the modification of technology so as to enhance artisanal fishing, aquaculture, and an in-depth study of the marine ecosystem;

Nature conservation (page 45)

The Copán is of prime importance as it has been designated as a site of World Heritage;

Several sites acquired a special status from an ecological and environmental standpoint, although little has been done for their protection and management (p 56);

An experimental eco-tourism programme carried out at La Ceiba and the Bay Islands has been launched (p 46);

Collaboration with the private sector began with an administrative agreement with the Honduran Ecology Association (an NGO) for the administration of La Tigra National Park and the United Nations Park (p 19);

A private foundation is in charge of the Cuero and Salado Rivers Refuge (p 19);

Institutions

The Organization of the National Environmental and Development Council (CONAMA) is headed by an Advisor to the President on environmental issues (p 53);

A national network of environmental NGOs was constituted with the participation of fourteen organizations (p 54);

Legislation and Programmes (page 59)

The Constitution lays out the framework for the adequate organization of natural resources and the environment in general;

Decree No. 81/84 of 1984 facilitates the creation of museums and associations for the protection of the cultural heritage (p 18);

Decree No. 87/87 of 1987 designates different areas of the country as national parks, wildlife refugees and biological reserves, establishing different regulations for their management;
- The Mining Code of 1968 contemplates the establishment of temporary or permanent "reserved or banned zones" for mining activities to protect forest, archaeological, and zoological assets. The Code also bans the pollution of rivers, lakes, ponds, and other national waters by mining residues;

- Legislation on fishing contains regulations related to the protection of the aquatic ecosystem;

- Regulations were formulated for the registration, importation, production, stocking, transportation, marketing and use of pesticides and insecticides;

- The 1971 and 1974 legislation on forestry management have the aim of conserving, managing, and using forest resources;

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Structural adjustment strategies should be harmonized with environmental policies that introduce new concepts of environmental macroeconomics (p 30);

- Environmental policies have been proposed so as to promote scientific and technical development and tourism as well as to provide environmental education and improve the standard of living in human settlements;

- The Educational Action Plan must assign top priority to education, dedicating financial and technical resources to those projects directed to the advancement of environmental ethics (p 40).

- Efforts and actions of various different institutions need to be coordinated in response to the need for a comprehensive education plan (pp 40-41);

- Technological development strategies must take into account the importance of the market, principles of equity, and sustained development (p 43);

- A National Energy Plan must be prepared to spell out clear energy policies and contain actions which correspond to activities of the Environmental Action Plan (p 44);

- To encourage strategies for eco-tourism development, actions must be taken to, among others, promote investment in the tourism sector and continue financing of infrastructure works (p 47);

- Endeavours must continue to improve living conditions, including, among others, the extension and improvement of health services, preparation of a long-term programme for water treatment, collection and treatment of municipal wastes (p 51);

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Bilateral and multilateral aid (e.g. Japan, USA, EEC, OAS) have been forthcoming for projects with environmental impact, including those that address water pollution, sanitation, forestry development, and agriculture (pp 64-65);
Potential funding sources for environmental projects includes debt-for-nature swaps (pp 66-67);

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Many export producers have their own technical assistance services, maintained with new technological advances (p 3);

- An integrated pest management system is in use for the production of Cucurbitacea (cucumber family produce, mainly melon) (p 4);

- Agricultural expansion programmes have helped the adoption of new technologies, including, among others, use of agro-chemicals and abandonment of slash and burn practices (p 6);

- The lack of technological advances in Honduras is related to an inactive private sector, to an inadequate specialized infrastructure, inadequate quality of academic/scientific centres, and the lack of explicit government policies to promote technological development (p 42);

Fishing (page 41)

- Research efforts have been directed towards modifying technology in order to improve artisanal fishing, develop aquaculture, and in-depth study of the marine ecosystems;

Recycling

- Some informal recycling takes place, converting trash into industrial products such as glass and cardboard (p 21);

7. INTERNATIONAL COOPERATION

External resources destined to environmental projects have been supplied through donations or technical assistance programmes in various fields such as the provision of basic services and water in rural areas, water pollution control and reforestation. The main country donors and agencies are the following (pp 65-66):

- COSUDE (Swiss Cooperation for Development);
- OAS (Organization of American States);
- USAID (United States Aid for International Development);
- EEC (European Economic Community);
- WFP (World Food Programme);
- CIDA (Canadian International Development Agency);
- Japan;
- IICA (Interamerican Institute for Agricultural Sciences);
- UNDP (United Nations Development Programme) and the FAO (Food and Agricultural Organization);
- GTZ (German Technical Cooperation Agency);
- China.
8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

This report was compiled under the supervision of the Ministry of Foreign Affairs. Chapters 3(1), 3(4) and 4 were prepared by the Environment Agency based on the drafts prepared by the ministries concerned. In preparing the draft, various views from academic societies, environmental and business organizations were duly noted. The Government's draft report was made public and, prior to finalizing the report, the Ministry of Foreign Affairs sought the views of the Japanese Global Environmental Committee consisting of over 150 members from academia, the press, local governments, environmental and consumer groups.

Other Ministries and Government Agencies:

The Ministries which contributed to the drawing up of the report are the following: the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Education, the Ministry of Health and Welfare, the Ministry of Agriculture, Forestry and Fisheries, the Ministry of International Trade and Industry, the Ministry of Transport, the Ministry of Labour, the Ministry of Construction, the Economic Planning Agency, the Science and Technology Agency, the Environment Agency and the National Land Agency.

NGOs, Grassroots Organizations and Public Involvement:

"Citizens" activities have been playing a crucial role in the history of environmental conservation, particularly pollution control in Japan, "... but NGOs history of international environment protection is still short compared to that of Europe and the United States ...". In addition to community based conservation activities, NGOs have started their own activities.
2. PROBLEM AREAS

- Serious air pollution causing health damage as a result of fossil fuel consumption, urbanization and industrial production. The first industrial complex Yokkaichi built in 1955 started causing health problems, which in turn led to law suits and legislation.

- Water pollution due to heavy metals, organic pollutants and domestic effluents which account for 70% of Tokyo Bay's pollution for example;

- The problems of global warming and the depletion of the ozone layer have emerged as global issues: Japan's emission volume of CO₂ in 1988, for example, is the fourth highest in the world (4.7% of global emissions);

- Traffic noise pollution problems due to heavy concentrations of population and production in urban areas;

- Over 600 species of vertebrates and non-vertebrates are endangered due to past reckless hunting, and also changes in land use, urbanization, desertification etc.

- Soil pollution on farmlands as well as in urban areas;

- Food contamination from the use of DDT, BHC and organic mercury agents;

- Increasing marine pollution due to the discharge of water ballast including oil and cargo space cleaning water;

- Dwindling forests and wetlands with deteriorating habitats;

- Natural disasters such as floods and landslides can cause considerable damage;

- Frequent water shortages due to low levels of rainfall.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Forests have been designated as protected; thus, they have increased from 6,880,000 ha in 1972 to 8,166,000 ha in 1989; in addition, since 1983, the Forestry Agency has been working on revamping and increasing the protection of the forest system besides designating Forest Biosphere Reserves;

- The Export-Import Bank of Japan made preparations to set up a system respectful of the environment in the formulation of environmental manuals and reference books;

- "Japan maintains a high level of fisheries production by actively protecting and fostering resources by marine launching while providing for the conservation of fishing grounds as well as keeping fishing activities under control by limiting the number and tonnage of fishing boats."

- The adoption of tax and financial resources by the government with a view to promoting equipment investment to control pollution from emission gases and waste waters within the framework of pollution control measures;

- In 1991, a fifth five-year programme for the development of Urban Parks was formulated in view of the importance of green spaces to conserve the environment;
- Flood control and other safety measures against disasters are being included in river improvement projects, dam constructions (p 68);

- A "Rural Sewage Project" has recently been launched to improve water quality and the environment in villages, whereby water discharged after sewage treatment is used for farming;

- Forest management and conservation; careful forest road construction, watershed management and erosion control are being implemented;

- The government is expanding and improving social welfare facilities for citizens in need;

- A study was conducted between 1986 to 1989 which lists all wild fauna and flora of Japan to ensure future protection;

- Japan is currently conducting research on effective energy strategies, drawing up masterplans to solve industrial pollution with a view to helping developing countries introduce environmental protection actions;

- Legislation relating to environment is extensive. Examples include the Fisheries Resources Protection Law of 1951 on the protection of water; the Pollution-related Health Damage Compensation Law to compensate air pollution victims; the Air Pollution Control Law revised in 1989 to counter asbestos-related air pollution. Other laws had been promulgated to cover wide areas such as the preservation of the ozone layer, the Water Pollution Control Law revised both in 1978 and 1989 and various ground subsidence control measures. (The report gives details pp 129 - 150).

- Implementation of strict motor vehicle exhaust regulations with a special focus on diesel-powered vehicles; Pollutant Load Control measures have been introduced in three large cities; Tokyo municipality, Yokohama and Osaka;

- Noise control measures have been taken to reduce noise pollution, land use control and construction noise control facilities exist;

- Floating waste and petroleum already discharged in the ocean is retrieved;

- Environmental Impact Assessments are now undertaken for large-scale development operations;

- For the preservation of cultural assets and historic relics, protective maintenance measures have been taken (to promote the use of historic relics such as Asuka/Fujiwara-Kyo);

- The Environment Agency is currently establishing basic wide-area environmental control plans for three major metropolitan regions, Tokyo, Kinki and Chubu, in order to be able to handle transboundary environmental problems;

- The Solar-Terrestrial Environment Laboratory has been set up at Nagoya University to promote research related to global warming;

- Since 1989, the Japan Environment Association has been working towards establishing the Eco-Mark system; a measure contributing to environmental protection;

- In April 1991, the Keidanren Global Environment Charter was compiled by the Federation of Economic Organizations, including 900 representative Japanese enterprises establishing environmental dimension for enterprises;
Environmental education: the government has been staging wide-ranging promotional campaigns on the environment in the form of seminars, symposia, T.V programmes or teaching aid material.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Private sector funds are necessary for the conservation of the environment in addition to a greater use of debt-for-nature swaps;

- Several priority areas for cooperation are recommended such as forest conservation and afforestation, energy saving and development, pollution control, wildlife and soil conservation;

- The Japan International Cooperation Agency (JICA) and the Overseas Economic Cooperation Fund (OECF) are required to bolster their units so as to enhance their environment activities;

- Priority is to be given to the development of sewerage systems by promoting the construction of such systems in small or medium-sized communities; in addition to flood prevention and wastewater treatment (p 70);

- Research must be promoted on rehabilitating mangrove forests and undertaking afforestation;

- Japan will promote effective use of tropical timber as well as play an active role in the International Tropical Timber Organization's (ITTO) activities with a view to enhancing the conservation of tropical forest resources;

- International cooperation and coordination must be reinforced to be able to cope with the issue of global warming;

- Efforts must be made to conserve and develop forests and greenery in urban areas, which in turn would become CO₂ sinks.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- A target of 300 billion Yen in aid (US$2.1 billion) was almost reached in 1989 and 1990; (US$ - 141 Yen Jan 92);

- Optimal use of existing funding mechanisms, including the Global Environment Facility (GEF) is recommended;

- The private sector can be used for funds to preserve the environment;

- Japan has funded sectoral programmes in several countries such as Indonesia and the Philippines; Tanzania received 5 million Yen (1990) to support education in protection of wildlife species;

- The Export-Import Bank of Japan extended an untied loan for an unleaded gasoline project in Mexico, June 1991;
Japan has made contributions to various international organizations promoting sustainable development, e.g. Japan gave UNEP US$7.5 million in 1990; it is the third biggest fund contributor to the International Maritime Organization (IMO). In addition IMO received US$1.5 million towards oil contamination treatment in the Gulf;

- Japan is the biggest fund contributor to ITTO with a contribution of US$28.52 million in 1989 and 1990;

- Special funds have been established for the environment at the International Development Association (IDA) as well as the Asian Development Bank (ADB);

- In Japan’s Official Development Assistance, the proportion of bilateral loans is high; areas of bilateral assistance include transportation and communications, river development, in addition to the energy and production sectors (p 118);

- On the private side, funding has been provided, for example, by the Small Business Finance Corporation and the Japan Development Bank.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The proportion of hydraulic power to total primary energy supply was only 4.6% in fiscal year 1989;

- Geothermal energy is abundant;

- Solar heat is being used, accounting for 1.3% of total primary energy supply;

- 2.1 billion m³ of natural gas is produced annually (i.e. 5% of self-sufficiency in 1989;

- Domestic waste recycling is increasing; a law promoting the "Utility of Recyclable Resources" was enacted in April 1991;

- Japanese carmakers are currently undertaking research on electric vehicles;

- Japan is working on CFC substitutes, biological methods for nitrogen removal, and recording technology for reduction of NOx and SOx in acid rain;

- Electric and methanol-powered cars are being promoted.

7. INTERNATIONAL COOPERATION

"Japan now leads the world in overseas direct investment"; "Japan’s official development assistance is at a world-leading level" ... The bilateral loan proportion of ODA is high;

Examples of Japanese support for sustainable development projects include, inter alia:

- A forestry project in the Pantabangan region, the Philippines, (Japan/the World Bank) to conserve forests;

- An afforestation project was completed in South Sumatra, Indonesia;

- A project in Kenya on the selection of appropriate trees for firewood and charcoal to overcome the problem of logging;
Since 1986, projects in Senegal and Tanzania for the promotion of greenery, technical guidance on nurturing plants (eucalypti and acacias) known for their drought resistance;

A technology transfer seminar in 1988 for Mexican officials to address the air pollution problem in Mexico City;

Japan, together with Morocco, sponsored the UN resolution on the "International Decade for Natural Disaster Reduction"; to this end Japan supplied a meteorological observation radar worth 63 million Yen in fiscal year 1986 to Bangladesh for cyclone monitoring;

Thailand has received support for research into changes in tropical forests;

Japan has helped Malaysia and the Republic of Korea with ozone layer expertise; Tanzania and Kenya with wildlife protection, Paraguay with water pollution control; Manila with infrastructure, Nigeria and Oman with agricultural developments;

Japan is currently supporting the Global Environment Facility;

Environmental experts have been sent to the African Development Bank (ADB), the World Bank and the International Energy Agency;

Assistance has been extended to the United Nations Centre of Regional Development (UNCRD) at Nagoya;

Japan is helping with the setting up of environmental centres, for example, in Indonesia, Thailand and China (pp 46-47);

Japan has acceded to a number of bilateral and international agreements and treaties covering wide topics (pp 48-50) and also contributed to the technology and environment programme of the OECD;

Japan participates in the World Climate Research Programme (IGBP) with a view to clarifying biological, chemical and physical processes that govern the globe and their interactions in international joint research programmes as well as observing, monitoring and undertaking research on global environmental problems such as climate change and marine pollution.

8. EXPECTATIONS FROM UNCED

The Earth Charter should be universal, recognizing the principles of sustainable development;

Signing of Conventions on climate change and biological diversity;

A legally non-binding declaration on forests, the aim of which is to reach a global consensus on all types of forests;

Agenda 21 should be an action programme for sustainable development; it could also ensure coordination and cooperation between governments, international organizations, business circles and NGOs;

As to financial assistance, the World Bank, regional development banks and other international financial institutions should be better used;
Existing UN organizations should enhance their efforts. UNEP and other UN organizations should further promote environmental protection. Japan expects the Global Environment Facility and the Multilateral Ozone fund to reinforce its functions as a catalyst and coordinator;

- Guidelines have been proposed for each fishing country through an international framework; furthermore, sustainable development of living resources had been suggested;

- Technology transfer is to be promoted through the private sector, international organizations and bilateral cooperation agencies.

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KENYA

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

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The foreword is signed by the Minister of Environment and Natural Resources.

Other Ministries and Government Agencies:

- Office of the President
- Office of the Vice President and Ministry of Finance
- Attorney General's Office
- Ministry of Agriculture
- Ministry of Commerce
- Ministry of Co-operatives
- Ministry of Culture and Social Services
- Ministry of Education
- Ministry of Energy
- Ministry of Health
- Ministry of Industry
- Ministry of Information and Broadcasting
- Ministry of Labour
- Ministry of Lands and Housing
- Ministry of Livestock Development
- Ministry of Local Government and Physical Planning
- Ministry of Manpower Development and Employment
- Ministry of Planning and National Development
- Ministry of Reclamation and Development of Arid, Semi-arid Lands and Waste Lands
- Ministry of Public Works
- Ministry of Regional Development
- Ministry of Research, Science and Technology
- Ministry of Supplies and Marketing
Ministry of Technical Training and Applied Technology
- Ministry of Tourism and Wildlife
- Ministry of Transport and Communications
- Ministry of Water Development
- Ministry of Home Affairs and Natural Heritage
- Capital Markets Authority
- Kenya Power and Lighting Company
- Kenya Ports Authority
- Kenya Wildlife Service
- National Environment Secretariat
- Lake Basin Development Authority
- Kerio Valley Development Authority
- Tana and Athi Development Authority
- Kenya Bureau of Standards

NGOs, Grassroots Organizations and Public Involvement:

- Egerton University
- Kenyatta University
- Moi University
- University of Nairobi
- National Museums of Kenya
- Kenya Agricultural Research Institute
- Kenya Forestry Research Institute
- Kenya Marine and Fisheries Research Institute
- Kenya Environmental Non-Governmental Organization

Twenty-two sectoral reports were prepared by task forces designated by the Inter-Ministerial Committee on Environment (IMCE).

A workshop held to discuss the sectoral reports drew participants from government ministries, NGOs, and research institutions.

2. PROBLEM AREAS

- Poverty;

- At 3.4%, Kenya's population growth rate is among the highest in the world, exacerbating the already bad housing situation, whereas access to housing finance is constrained;

- Frequent droughts severely affect agricultural production;

- Deforestation;

- Desertification. Approximately 83% of the land is classified under arid and semi-arid lands. Due to low rainfall, these areas are experiencing desert like conditions and are greatly threatened with further desertification due to increase in human activity;

- Soil loss and degradation of land due to inappropriate farming practices;

- Loss of biological diversity;

- Water management and water pollution from domestic waste, sewage and industrial chemical effluents;
- Waste management;
- Inadequate infrastructure;
- Inadequate sanitation;
- Inadequate financial resources constrain the planning and implementation of projects processes.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

In response to the possible effects of climate change, Kenya has adopted two strategies:

- Kenya's National Environment Secretariat prepared a bill aiming at legislating a "clean air act" for establishing acceptable emission standards. Another is being prepared to restrict wanton deforestation.

- A feasibility study has been carried out to identify a suitable location for a Background Air Pollution Monitoring Network (BAPMON) station with assistance from WMO and UNEP. Currently Kenya has only one ozone observation station operating under the Global Ozone Observing System (GOOS) network.

To make rural populations self-sufficient in wood products, Rural Afforestation and Extension Services (RAES) was created within the Ministry of Environment and Natural Resources. Numerous NGOs, private organizations, churches and parastatal organizations are also actively involved in the promotion of tree planting.

To address the problem of land degradation, Kenya launched the National Soil Conservation Programme whose primary objective is to safeguard, enhance and reclaim soil for present and future needs (p 86).

As of end of 1986, the major components of the development programmes for arid and semi-arid land areas included:

- agricultural crop production: mainly crop production and extension services, provision of agricultural inputs, credit and marketing services as well as horticultural production;

- soil and water conservation: construction of cut-off drains, tree seedlings, etc;

- livestock production: construction of cattle dips, artificial insemination and animal health services, operation of grazing blocks, poultry keeping and animal feed production;

- strengthening cooperatives: construction of society stores, purchase of lorries for produce transportation and marketing, milk coolers and credit facilities;

- household water projects: construction of earth dams, development of springs and wells, rock catchments and bore holes;

- environmental protection: afforestation, tree nurseries and extension;

- promotion of small scale industries: construction of industrial estates and working sheds.

In July 1991, a comprehensive policy paper was produced for the development of arid and semi-arid land areas, including the combat of desertification up to the year 2000.

The Ministry of Water Development established a national water quality monitoring programme to provide data on water quality and at the same time control pollution at its source.
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Eradication of poverty:

There is need for the international community to increase resource flows to Kenya to establish enterprises that create more jobs, make agriculture more productive and provide basic needs facilities (p 106).

Land resources:

In protecting land resources, more emphasis should be placed on soil and water management, especially soil conservation, land use planning, improvement of soil fertility and plant nutrition, sustainable irrigation and drainage, as well as appropriate agricultural engineering.

Sound management of land resources:

The international community should assist in the integrated planning for land use and should approve further funding in terms of credit to enable farmers to adopt new technologies that can save the valuable soil and vegetative resources upon which all life depends.

International economy:

Critical re-examination of:

- Uruguay Round of talks under GATT. All trade barriers should be removed by developed countries;
- The advent of Europe 1992. Developing countries’ needs and international trade relations with Europe should not be jeopardized (pp 108-109).

Economic instruments:

Kenya would like to raise the following issues:

- Impact of structural adjustment programmes on human welfare. These programmes only deal with short term macro-economic problems and could in the long term lead to worsening conditions.
- Structural adjustment and environmental sustainability:
  - inclusion of programmes that safeguard the needs of the poor;
  - acceptance of key economic instruments (taxes, subsidies) in providing penalties and incentives for the use of natural resources and for the discouragement of polluters;
  - development of a national accounting system that reflects all environmental costs in economic calculations.

Transboundary air pollution:

The existing atmospheric monitoring systems should be strengthened to provide information on the origins of air pollution, the extent of damage done to other countries as well as provide guidelines and measures to combat this source of environmental damage. Offending countries should ratify the Convention as soon as possible and industrialized countries should take steps to reduce such air polluting emissions.
Protection of the atmosphere:

- Developed countries should take immediate steps (including penalties and regulations) to reduce by half the level of ozone depleting emissions by the turn of the century;
- There is need to strengthen regional and international observational networks;
- All Governments should sign and be party to both the Vienna Convention and the Montreal Protocol.

Combating deforestation:

- All countries should engage in a concerted campaign to green the world by planting trees where they have been cut down;
- Deforestation should be combated through injection of financial resources and manpower into agroforestry, afforestation development and use of energy saving devices coupled with prudent conservation measures with research, education and extension components.

Management of desertification and drought:

- Desertification should be regarded as a global environmental problem requiring concerted efforts to halt its spread;
- The international community should organize aid for drought victims much more swiftly and without any political considerations;
- At sub-regional levels, all efforts should be made to support the activities of the Inter-Governmental Authority on Drought and Desertification (IGADD) and the Inter-State Committee for Combating Drought in the Sahel (CILSS) among others.

Management of waste and toxic chemicals:

- Transfer and sharing of technologies that reduce the generation of hazardous wastes;
- All nations should ratify the Basel Convention which allows for acceptance of liability and compensation;
- Strengthening of international cooperation in the management of transboundary movements of hazardous wastes;
- Total ban of import of hazardous and radioactive wastes under the Bamako Convention.

Protection of oceans and seas and conservation of biodiversity:

- Financial and technical support should be given to developing countries.

Protection of the quality and supply of fresh water resources:

- Should be treated as a matter of international concern and facilities should be provided for easy access to safe drinking water among the urban poor and in the rural areas.
Transfer of technology:

- International mechanisms for free transfer of technology should be established.
- The current negotiations under GATT with regard to Intellectual Property Rights should be speeded up with the view to:
  - making it easier for developing countries to have access to new technologies;
  - doing away with the punitive use of the protection of Intellectual Property Rights in international trade;
  - covering inventors from developing countries under the rules of international protection of Intellectual Property Rights and rewarding their efforts.

Use of energy resources:

- Support should be provided to developing countries in terms of research and technology transfer to develop renewable energy technologies. Environmental Impact Studies should be carried out.

Human settlements:

- Urban growth in Kenya stands at 5-6% a year - rapid urbanization is quickly followed by slums. Healthy urbanization as a means to providing facilities for modern economic operations should be promoted. Thus assistance should be given to developing countries to properly plan urban settlements;
- The United Nations Commissions for Human Settlements should be further strengthened and provided with sufficient resources to spearhead research and development in the area of human settlements.

Adherence to international protocols and conventions:

- All countries should adhere and be party to all international conventions and protocols in support of global environmental preservation. The principles and obligations should be incorporated in the Earth Charter;
- An international mechanism for monitoring the effective implementation and adherence to these principles and obligations should be set up and should report annually to the UN General Assembly.

Financial resources:

- An International Environment and Development Fund or "Green Fund" should be established and be devoted specifically to activities of promoting sustainable development. The governance of this fund should be on equity with no political strings attached;
- The fund should be over and above and incremental to resources already available for current activities;
- In order to achieve focused attention on the more immediate global environmental issues, separate funding should be made available for each Protocol;
The existing Global Environmental Facility (GEF) "should be kept separate and its governance should be independent of the existing cooperating UN institutions i.e. the World Bank, UNDP and UNEP". Its membership should be expanded.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

In its commitment to develop arid and semi-arid land areas, the Government spent over Kshs 175 million (US$6.14) complemented with external bilateral support. In this respect, it is estimated that under the Rural Development Fund, a total amount of over Kshs 780.9 million (US$27.4), mainly from Denmark, Sweden, Norway, the Netherlands and UNDP, has been spent on the development of these areas.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

Attempts have been made to utilize the dissolved sugar in the molasses (sugar cane liquid waste) by turning it into power alcohol, acetic and citric acids as well as production of baker’s yeast. The first plant for this purpose was set up in 1975, with a capacity for production of 20 million litres of power alcohol per year. Management problems, however, have dogged this factory since its inception, and for most of the time, it is either closed or working at half capacity, thereby discouraging other potential investors in this field.

7. INTERNATIONAL COOPERATION

At the regional level, Kenya is a member of the African Ministerial Conference on Environment and Development (AMCEN), the Nile International Basin, the Preferential Trade Area (PTA) and of the Indian Ocean Affairs Cooperation (IOMAC). Kenya is also party, among others, to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region of which she is the depository State.

Kenya has spearheaded the formulation of the Convention on Biological Diversity. The Government has participated in all the negotiating sessions and would like to ensure that the Convention, among other elements, covers the management of forests, technology transfer, technical assistance, financial mechanisms, international cooperation and sovereignty over biodiversity.

See 5. Financial Arrangements and Funding Requirements

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

A vice-ministerial Committee was established in March 1991 to draft the report. A consultative task force composed of senior government officials was also established in July 1991. The foreword was signed by the Minister of Environment Mr. Kwon E-Hyock.

Other Ministries and Government Agencies:

The committee included government officials from all relevant ministries.

NGOs, Grassroots Organizations and Public Involvement:

Research institutions and experts from the private sector were consulted. Academics from several universities also participated in the drafting process.

2. PROBLEM AREAS

- The four major river basins, the Han, Nagdong, Geum and Yeongsan, all receive a significant input of waste water, which in turn delivers substantial pollutant loads into the coastal waters into which they empty. The sources of drinking water from these four rivers are still evaluated as second-rate quality (3.0 mg/l). Eutrophication has also been witnessed, especially in the Masan-Chinhae Bay.

- The water quality of the Yellow and the South Seas is no longer satisfactory, because of inland urban and industrial pollution being emptied into the seas, and because of the poor pollution diffusion arising from shallow waters and slow tidal movements. In 1990 an average of over 10 million tons of sewage water and over 7 million tons of industrial waste water were discharged each day into rivers and coastal waters.
Current sewage treatment is inadequate, and existing facilities need repair and replacement.

Emissions from traffic contribute significantly to air pollution. Noise and congestion from traffic have also become serious problems in cities. In spite of recent improvements, the government anticipates difficulties in the future owing to projected increases in the number of automobiles and industrial facilities.

Korea has witnessed intense urbanization, the flow of people to Seoul being "at flood levels for the last twenty years". Associated problems of overcrowding and human settlement have been manifest. Urban poverty was identified as a primary cause of environmental degradation and unsustainable urban development in a UNDP-sponsored seminar held in May/June 1991.

Agricultural lands near metal mines, smelters and industrial complexes showed traces of pollution in a 1987 investigation carried out by the Ministry of Environment.

Energy consumption has increased dramatically over the last twenty years, and is a major cause of the nation's air pollution problems.

As a result of pesticide and fertilizer use, soil acidification has occurred.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Forestry:

- In 1973, the Government initiated a series of 10-year Forest Development Plans. Under the First Plan, large-scale reforestation was undertaken, using fast-growing high value nut-bearing species. The nationwide campaign resulted in the reforestation of 1.08 million hectares in the first 6 years. The Second Plan reinforced the reforestation programme and also created new economic regions of productive forest. Current policies include the establishment of reserve forests, establishment of large-scale commercial forests, erosion control, watershed management, protection of forests from fire and control of forest diseases and pests.

Legislation:

- 1977 saw the enactment of the first major environmental statute, the Environmental Preservation Act, which has since been amended several times to incorporate new features of environmental protection. Additional statutes were enacted in 1990 and 1991. New legislation for environmental protection is being proposed.

Institutions:

- In 1980 the Environment Administration was set up as a sub-cabinet agency of the Ministry of Public Health and Social Affairs, to be replaced by the Ministry of Environment in January 1990. The Ministry of Environment supervises two public corporations, the Korea Resource Recovery and Reutilization Corporation, a non-profit plastic recycling organization, and the Environment Management Corporation, which disposes of hazardous industrial wastes. The Ministry's research is undertaken by the National Institute of Environmental Research. In July 1991, the Central Environmental Disputes Coordination Commission was established to assess environmental pollution damage claims. Responsibilities for various aspects of environmental protection lie with several other ministries (pp 72-75).
Instruments:

- Environmental impact assessment and mechanisms based on the "Polluter Pays Principle" are used by the government. Environmental cost is being incorporated into price structures.

Conservation:

- The Act Concerning Protection of Wildlife and Game was passed in 1967, to regulate hunting. The Act was revised in 1984, and now the First Wildlife Conservation Plan (1987-1991) is being implemented.

Land use:

- The 1972 National Land Use Management Act restricted the unfettered use of private land. The First Comprehensive National Physical Development Plan (1972-1981) attempted to improve the efficiency of land management and utilization. The Second Comprehensive National Physical Development Plan (1982-1991) focussed on urban problems, in particular over-crowding in Seoul and bipolarization of land use. The Plan is supplemented with urban development and environmental management guidelines. Starting in 1982, Integrated Regional Settlement Areas were established, aiming to correct regional disparities and encourage people to stay in their local areas by the provision of employment opportunities and educational facilities.

Air pollution:

- In face of growing numbers of motor vehicles, Korea has been promoting low emission vehicles, substituting diesel fueled vehicles with gasoline fueled ones in the light-duty category and has reduced the permissible emission of smoke for diesel-fueled vehicles from 50% to 40%. The use of clean fuels, such as liquefied natural gas, has been promoted. In 1981, low sulphur fuel oil was supplied for the first time, and the use of coal for heating commercial and office buildings was prohibited. Efforts were rewarded by a drop of sulphur dioxide concentrations in Seoul from 0.094 ppm in 1980 to 0.051 in 1990. Measures to reduce Total Suspended Particulates have also been successful (pp 76-77).

Health:

- The nation's medical system and health facilities have been improved and professional health workers have increased steadily to meet the needs of the population. Effective implementation of the national family planning programme has resulted in a fall in population growth rate to 0.98% from its 1960 level of 2.9%. In addition, Medical Insurance, National Pension Schemes, Livelihood Aid Programmes and Social Welfare Services have been implemented.

Energy:

- Since the first oil price shock, an array of programmes have been implemented aiming at the reduction of consumption of energy. Current policy focusses on long-term power development plans, the promotion of efficiency in energy usage, active overseas resource development, the improvement of price structures, the promotion of energy R & D and the structural adjustment of energy industries.

Water:

- The government has initiated a plan to expand the construction of regional domestic water supplies, to construct separate water supplies to assist industrial activities and to improve dated facilities and water supply infrastructure (pp 77-80).
Public Awareness:

- The government has been providing information on environmental protection through direct campaigns, mass media and through the distribution of booklets and pamphlets. The news media, business communities and non-governmental organizations also contribute to increasing awareness.

Environmental Education:

- In 1987, as a result of government-sponsored research, new environmental education programmes were introduced at primary and secondary school levels. Environmental protection textbooks have been published for schools as well as for teachers.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The environmental effects of the massive intensification of agriculture must be studied, and greater attention must be given to the development of more ecologically sustainable and sound alternatives to current pesticide, fertilizer and mechanization practices.

- The problems arising from rapid urbanization need to be addressed, in particular by developing indicators to assist the planning processes.

- The government aims to supply all households with safe water in sufficient quantity by the year 2001.

- Cooperation in environmental monitoring and the exchange of environmental information is urgently needed to address the regional problems of transboundary pollution and marine pollution of the Yellow Sea.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The government will support the Forestry Association Union and private foresters with a 50 billion Won forestry development fund (US$ = 750 Won in 1991).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Korea hopes to "develop 'Super Clean' cars, which could also fulfill international markets needs for the development of motor vehicles with low or even no, greenhouse gas emissions. This could provide the opportunity for Korea to become a world leader in the development of vehicles powered by electricity/solar-electricity, and hydrogen/solar-hydrogen".

- The Ministry of Environment has decided to introduce an "Eco-Mark" to be attached to consumer products which are manufactured by environmentally friendly processes.

7. INTERNATIONAL COOPERATION

- Korea intends to participate in the international community’s effort to protect the environment.

- Many international treaties have been signed (pp 95-96), and more will be signed as soon as domestic enforcement mechanisms are in place.
Membership and participation in international environmental institutions includes UNEP, WHO, the Global Environmental Monitoring Programme and the INFOTERRA programme. Korea is preparing for participation in the Human Exposure Assessment Location project. Through UNDP and ESCAP, projects have been carried out on exchange of environmental information, development of human resources, national studies and inter-country programmes. Korea has been a member of IUCN since 1985.

All countries in the region have agreed to begin a programme for regional environmental protection, to address issues such as the pollution of the Yellow Sea, which is itself a part of the North China Sea. In this regard, the assistance of the United Nations and other interested parties would be welcomed.

A number of bilateral environmental cooperation programmes have been conducted. In November 1987, the First Korea-U.S. Environmental Cooperation Symposium was held in Seoul. Three Korea-Japan Environmental Science and Technology Symposia have been held, in 1988, 1990 and 1991 respectively. Korea and Japan are conducting joint research to improve the management of the Han River Basin of Korea, to protect the waters of the dam from over-nutrition and to improve water quality of the river.

8. EXPECTATIONS FROM UNCED

UNCED should serve as an important vehicle for establishing an innovative strategy for sustainable development.

"... Korea desires that the following five points be duly reflected in drafting Agenda 21 and international environmental agreements:

- The special situation of developing countries and the unique situation of newly industrializing countries like Korea must be taken into account;

- Any control measures for the protection of the global environment should only be imposed in full guarantee of the innovative funding and technology transfer mechanism;

- Capacity building in developing countries is critically important, however, it may not be used as an excuse for not making the cleaner technologies available;

- Environmental concerns may not be interpreted as a disguised instrument for impeding the developmental needs of developing countries;

- Environmental regulations may in no situation be used as non-tariff barriers against developing countries’ exports."

Korea welcomes the drafting of the Earth Charter as an expression of a new code of conduct for global sustainability.

"... Agenda 21 should highlight concrete action plans for environmentally sound and sustainable development equipped with visionary goals and workable implementation modalities..."

It is very important to address the cross-sectoral issues of technology transfer, the funding mechanism and the institutional framework necessary for follow-up of the Conference. Environmentally benign technology should be made available and accessible, whilst redefining intellectual property rights to resolve the contradiction between accessibility and interests of
the owners of the technology. An innovative funding mechanism should be created to provide adequate and additional financial assistance to developing countries. The current institutional mechanism should be reorganized and better coordinated to adopt a more integrated approach to the environment and development, in particular through the strengthening of the roles of ECOSOC and UNEP.

"The framework convention on climate change should provide general principles with regard to the stabilization of greenhouse gas emissions rather than the setting up of concrete control schedules. It is hoped that the control measures of CO₂ emissions and afforestation or reforestation issues should be provided in separate protocols to be developed after UNCED".

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1. DRAFTING PROCESS

National Committee: Editors & Authors:
No specific mention

Other Ministries and Government Agencies:
No specific mention

NGOs, Grassroots Organizations and Public Involvement:
No specific mention

2. PROBLEM AREAS

- Shifting cultivation due to slash and burn practices leading to unsustainable logging operations which in turn cause the depletion of forest cover;
- Decreasing ground water level;
- Recurrent floods, flash flooding and droughts;
- Soil erosion due to logging, shifting cultivation and new human settlements;
- Air pollution from vehicle emissions, dust and forest fires;
- Various problems accruing from inappropriate sewage disposal as well as from inadequate domestic and industrial waste disposal;
- Lack of legislation on the management of minerals;
- Lack of funds, qualified manpower and equipment on forest management;
3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Initiative taken by the government to suspend logging;

- Several decrees have been promulgated to encourage environmental protection such as forest land protection and the prohibition of logging; a number of regulations on the trade in endangered wild fauna and flora have been issued as well as those dealing with the management and protection of fish;

- A forest inventory has been carried out; the aim of which is to establish conservation of forests, national parks and botanical gardens;

Sectoral initiatives have been taken by the government; they are as follows:

Agriculture

- Land use planning and zoning have been adopted;
- A National Programme on soil conservation has been set up;

Biodiversity

- Efforts are being deployed so as to establish a protected area system as well as support programmes on the conservation of medicinal plants;

Forestry

- Implementing a Forestry Action Plan;
- A forest extension service has been established with a focus on developing participatory forestry;

Irrigation

- Training farmers on dry season irrigated cropping in addition to supporting their associations in the management of resources and facilities;

Livestock and Fisheries

- Developing programmes on the extension of fisheries as well as developing pastures in addition to improving livestock management;

Industry

- Introducing mandatory environmental impact assessment for new industries and mining;
- Adopting the "Polluter Pays Principle";

Urban environment and drinking water supply

- Developing the institutional framework;
- Developing appropriate clean water systems for people living in rural and urban areas;
Lao People's Democratic Republic

Education, Culture and Public Health

- Introducing environmental education in school curricula at all levels;
- Preparing a master plan for the restoration and conservation of the cultural heritage;
- Improving the provision of health services and preventive curative medical services;

Environment

- Developing and implementing flood and drought prevention programmes.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- An inventory on natural forests and wildlife is needed;
- A suitable watershed management system is to be developed;
- Policies are required to include environment protection measures in any socio-economic development plan;
- Ensuring effective implementation of environmental laws and enforcement mechanisms is required;
- Improving forest management is of utmost necessity;
- Priority is to be given to urban sanitation, waste water treatment and clean water supply;
- Several programmes are to be highlighted like the Programme on Limiting Deforestation, the Forest Conservation Programme which includes the setting up of National Parks in Vientiane and Savannakhet Provinces, the Drought and Flood Prevention Programme in Champasale province and lastly, the Programme on Urban Planning and New Settlements.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Lao PDR has appealed to developed nations to provide financial support to developing countries to cover the costs of environmental protection.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Laos has a large potential for hydropower and natural gas; moreover, the largest hydro-power plant is the Nam Ngum Dam; the second is the Xeset Dam;
- The government is promoting the use of "green manure", compost and botanical pesticides to increase agricultural production;
- Research is ongoing into renewable energy sources such as solar energy;
- Programmes have been initiated to recycle all animal and crop residues as well as urban wastes.
7. INTERNATIONAL COOPERATION

- On the international front, the government's intention is to contribute to all activities pertaining to the protection of the ozone layer;

- International cooperation and technical assistance are needed for the exchange of information, personnel training and the establishment of environmental protection programmes.

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

At the request of the Minister of State for the Environment the report was prepared by the Director General of Urbanism and a Professor of Environmental Law at the "Ecole Supérieure d'Ingénieurs" (St. Joseph University).

The report was formally approved by the Minister of State for the Environment.

Other Ministries and Government Agencies:

The two authors consulted administrative officials from the following organizations and departments:

The Council for Development and Reconstruction (CDR)
The National Council for Scientific Research (CNRS)
The Ministry of Hydraulic and Electrical Resources
The Ministry of Public Works and Transport
The General Directorate for Housing

NGOs, Grassroots Organizations and Public Involvement:

No mention

2. PROBLEM AREAS

- The war brought a number of projects to a standstill and completely wrecked others;
- There is a lack of up-to-date statistics;
- There is a lack of a structure and regional development plan to halt the rural exodus trend;
Although no accurate statistics are available, demographic pressure is manifest in urban areas (about 60% of total population); population displacement as well as housing problems have arisen as a result of the war;

Schools and universities were destroyed or damaged by the war; population displacement requires construction of new schools and reintegration of pupils and students;

Urbanization of agricultural areas has lead to Lebanon importing most of its food products "and if strict measures are not taken by the authorities, the agricultural sector will be under the threat of disappearing in Lebanon" (p 78);

Non existence of a purification network for waste water causes a permanent threat to springs, underground water and beaches, and therefore to health (p 78);

Fuel of low sulphur content costs 20% to 30% more than the type presently used. The treatment of pollutants is also costly and would represent substantial increases to the cost of energy (p 78);

Municipalities could play big role in waste collection, control of means of transport and protection of municipal forests, but their role is limited and at times nonexistent due to lack of financial and human resources.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Elaboration of a development policy during the 1960s motivated public authorities either to create new ministries, autonomous offices or public departments (for example, hydro-electric resources, industry and petroleum, housing and cooperatives) or to activate existing ministries and branches to implement development projects (p 86);

The Green Plan was created in 1963 to rehabilitate abandoned lands, establish road networks, construct water reservoirs for irrigation, and implement reforestation projects (p 88);

The Six-year Plan of 1972-1977 established electrification, drinking water for 95% of the population and improvement of communications system at village level (war broke out in 1975 which meant providing for new development and reconstruction procedures);

The Council for Development and Reconstruction, created in 1977, succeeded despite the war, in implementing projects on road construction, town planning, housing, transport, education and industry;

The National Council for Scientific Research (CNRS) was created in 1972 to implement a research programme on environment in collaboration with the Ford Foundation. The CNRS launched 17 research projects on air pollution, water pollution, fauna, flora, and pesticides. Results of the projects were supposed to be published in 1975, but this was forestalled by the outbreak of war;

The Office of Agronomic Research was created to foster agricultural development;

In 1973, the Beirut Municipality organized a conference on pollution (World Intercommunal Conference for the Protection of the Mediterranean Sea against Pollution, Beirut, 4-6 June 1973) (p 89);
A number of legislative texts, some of them dating back to sixty years ago, have been promulgated in various domains relating to the environment (forestry, tourism, housing, pollution); a number of them, however, need to be amended to reflect reality (pp 90-94);

A long-term (40 years) forestry action programme is in effect including conservation and restoration of existing forests.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Modernize existing legislation, formulate standards to combat pollution, systematically and fairly enforce the law regardless of individual interventions, reinforce and apply coercive measures against those who pollute, destroy or spoil the environment (p 94);

- Develop, modernize and improve on the transport system (pp 97-99);

- Carry out impact studies before implementing projects dealing with expropriations, industrial installations and urbanization;

- Improve the housing situation through a study of the construction industry, the establishment of a property policy and increased available credit at the various lending institutions;

- Reconstruct and rehabilitate schools destroyed or damaged between 1975 and 1990 and build new schools in villages and underdeveloped areas;

- Encourage afforestation, development of irrigation, research, development of agricultural credit system and improvement of marketing techniques;

- To avoid negative effects from tourism, delimit protected areas, set regulations on the use of natural sites, establish legislation relating to listed areas and rehabilitate archaeological and historical sites (pp 106-110).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

"At different periods between 1972 and 1990, and particularly between 1977 and 1990, Lebanon received assistance that can be subdivided as follows:

- Capital donations [Tunisia, USA, EEC, UNDP, the Netherlands, Australia];

- Financial protocols and bilateral agreements with France, the EEC, Italy, Hungary, Czechoslovakia, Belgium, Germany;

- Loans from international organizations [the World Bank, the Arab Fund (FADES), Abu Dhabi Fund, Islamic Bank];

- Commercial loans: USAID, Bankers' consortium.

... however, political circumstances prevailing during the period did not permit, in some cases, the possibility of fully profiting from the granted assistance" (p 124).
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

"Apart from the few hydro-electric power houses which total a nominal theoretical production of 280 MW approximately, Lebanon depends essentially on fuel oil as a source of energy for the production of electricity. ... For reasons of security in the supply of energy, energy sources have to be diversified and, for added environmental reasons, renewable and non-polluting sources of energy have to be encouraged such as, for example: hydro-electric power, solar energy and wind power" (pp 96-97).

7. INTERNATIONAL COOPERATION

A number of surveys have been carried out by international organizations including UNDP and WHO. For example, between 1980-82 the Council for Development and Reconstruction drew up "The Master Plan for Waste Water Management" and "The Master Plan for Solid Wastes Management" with the assistance of UNDP and WHO (UNDP LEB/77/033 and WHO LEB/BSM/001). These plans, however, have not yet been implemented (p 52).

FAO and UNICEF are also involved in a number of projects in Lebanon.

Other forms of international cooperation include technology transfer and international training sessions (p 125) but "the war has not allowed Lebanese structures to take full advantage of these technologies." (p 126).

8. EXPECTATIONS FROM UNCED

- An opportunity for Lebanon to observe the state of environmental management in various countries of the world and profit from their knowledge and experience;

- Further international cooperation in solving and limiting environmental problems (depletion of the ozone layer, waste management, pollution of rivers and seas, exportation of dangerous chemical products used in agriculture);

- Assistance of the United Nations in the field of environment (e.g. technical cooperation and financial aid) (pp 128-131).

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FIRST PART: EXECUTIVE SUMMARY

SECOND PART: DEVELOPMENT TENDENCIES AND IMPACT ON THE ENVIRONMENT

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Chapter 2: Analysis of the socio-economic evolution
Chapter 3: Sectoral analysis of social and economic activities
THIRD PART: ANSWERS TO DEVELOPMENT AND ENVIRONMENTAL PROBLEMS

Chapter 1: Policies
Chapter 2: Institutions
Chapter 3: Legislation
Chapter 4: Objectives
Chapter 5: Action programme
Chapter 6: International co-operation

FOURTH PART: EXPECTED RESULTS OF THE CONFERENCE FOR LEBANON

FIFTH PART: PROCEDURE
LESOTHO

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

A National Steering Committee was established to prepare the report, consisting of members of the ministries listed below. Technical assistance was received from UNDP.

Other Ministries and Government Agencies:

The following ministries were represented on the National Steering Committee: Water, Energy & Mining; Agriculture; Works, Transport & Communications; Highlands Water; Trade & Industry; Education; Health; Interior, Chieftainship Affairs & Rural Development; Planning, Economic & Manpower.

NGOs, Grassroots Organizations and Public Involvement:

Non-governmental bodies involved in the preparation of the report included the National University of Lesotho and the Lesotho National Council of Non-Governmental Organizations.

2. PROBLEM AREAS

- 54% of croplands in the lowlands, 28% in the mountains and 50-60% of rangelands are subject to severe soil erosion;
- Land degradation is caused by overgrazing;
- Careless road construction contributes to erosion and soil loss;
- The removal of trees and shrubs for use as firewood results in soil degradation and erosion, which in turn leads to reduced water holding capacity;
- Certain mining activities alter ecological habitats and encourage soil erosion;
- The reduction in numbers of most species, particularly reptiles, is a result of the destruction of habitat and hunting;
- Water pollution occurs from small industries and households;
- Air pollution in urban areas originates from domestic coal burning and car exhaust;
- Waste management of sewage, domestic waste and industrial effluent is inadequate;
- Loss in crop land arises from urban sprawl;
- Increasing population exerts pressures on limited land resources;
- The existing system of land tenure encourages bad agricultural practices such as overgrazing;
- Poverty is seen as a central problem (pp 8-9);
- Demand cannot be met for services (water, electricity, sanitation, hospitals and schools) arising from growing urbanization;
- There is increasing concern that Lesotho's alpine vegetation is being affected by transboundary air pollution, particularly from industrial and power stations (p 18).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Lesotho’s Fourth Five Year Development Plan stressed the need to strengthen the education and training system;
- The Lesotho Energy Master Plan is designed to satisfy the energy needs of the country at minimum social, economic, and environmental costs;
- Hydroelectric power is generated as a by-product of the commercial transfer of water to the Republic of South Africa;
- The National Settlement Policy aims to prevent uncontrolled settlement and protect natural resources affected by settlements;
- Lesotho plans to build on environment education by establishing an effective Ministry of Education presence at district and local levels;
- The Government of Lesotho adopted the National Environment Action Plan in 1989 to provide a framework for incorporating and facilitating coordination of the country’s environmental responses to the key environmental issues;
- The National Meteorological Service aims to give proper advice to the government on environmental issues, through, among others, the maintenance and increase of the number of meteorological stations in the existing network of 100;
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The basic principles of Lesotho’s environmental policy include:
  - To ensure the fundamental right to a healthy environment;
  - To conserve and sustainably use the environment and natural resources;
  - To preserve biodiversity;
  - To conserve cultural heritage;
  - To reclaim lost ecosystems and rehabilitate degraded environments;
  - To require environmental impact assessments;
  - To ensure implementation of the Polluter Pays Principle;
  - To ensure that environmental awareness is fully integrated in the educational system;
  - To establish adequate environmental protection standards and to monitor environmental quality and resource use;
  - Develop renewable sources of energy, such as biogas;
  - Introduce grazing fees and encourage culling to reduce animal stocks in order to rationalize the size of farmers’ herds;
  - Exploit environmentally sound energy sources;

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- External assistance for 1989 was nearly US$87.7 million, or US$51.6 per capita (p 6);
- Donor assistance has been secured for institutional capacity building, but more may be required;
- Financial support is needed to promote the development of environmentally sound science and technology;
- Additional funding is needed to continue coordinating environmental concerns in SADCC;
- Funding is required to support existing programmes on food self-sufficiency and on combatting land degradation;
- Finance is required for the application and dissemination of an energy master plan involving clean and sustainable energy sources;
- Support is needed to implement the Lesotho Highlands Water Scheme, particularly the hydroelectric power component;

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- A science and technology council was recently established to advance environmentally sound technologies;
- Preparation is under way to build a Renewable Energy Technologies Research Centre, to assess the potential of solar, hydropower and biogas energy;
- The implementation of Lesotho's Energy Master Plan entails the development of clean technologies and renewable energy resources;

7. INTERNATIONAL COOPERATION

- Lesotho is cooperating on environmental issues on a regional level within the context of the Southern African Development Coordination Committee;
- UNFPA is currently assisting the government in establishing a population policy to ensure that growth is in line with resource availability;

8. EXPECTATIONS FROM UNCED

No specific mention

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MARSHALL ISLANDS

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was prepared by the Environmental Management Sustainable Development/UNCED Task Force in coordination with the Regional Environmental Technical Assistance Project. The chairman of the Task Force is the Secretary of Foreign Affairs and the vice-chairman: the General Manager of the Environmental Protection Authority. Furthermore, an international consultant was provided by the South Pacific Environmental Programme (SPREP) to finalize the report.

Other Ministries and Government Agencies:

The Secretary of Resources and Development and the Secretary of Health Services also participated in addition to the mayors of various municipalities (annexes A & B of the report).

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

- The RMI consists of 34 islands with an average height above sea level of 2 to 3 metres spread over a marine area of 750,000 square kilometres. Sea level rise is of particular concern to the population of 44,000;
- The smallness of the economy and the remoteness creates particular problems;

1 The Marshall Islands are also covered by the Pacific Island Developing Country (PIDC) regional report summarized later in this book.
- Depletion of reef fish around Majuro in addition to the declining numbers of giant and small clam species due to proximity to human settlements;

- Diminishing income from copra production due to inadequate maintenance, ageing of copra plantations and low international copra prices;

- Lack of awareness on the potential of small-scale agriculture;

- Loss of land through erosion besides the sedimentation of coral reefs and the deterioration of coastal water quality;

- High population densities at Ebeye and Majuro; Ebeye’s population density is one of the highest in the world with 59,437 persons/square mile; creating health and safe drinking water problems;

- Deteriorating lagoon water quality due to poor sanitation and an uncontrolled discharge of waste waters;

- High infant mortality: the second highest rate in the Pacific (63 per 1,000) due to malnutrition and prematurity;

- Lack of adequate waste disposal facilities;

- A rising unemployment rate: 12.5% in 1988 in comparison with 9.7% in 1980;

- Poor infrastructure and training of human resources for the development of the tourist potential;

- Of particular concern is global warming and sea level rise because of their threat to ocean resources;

- Inadequate maintenance of catchment systems;

- Disparities between the monetary and subsistence sectors due to reliance on US aid causing a change in consumption patterns which depend on imports.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- A giant clam cultivation project has been undertaken by a joint venture between the Marshall Islands and a local private business;

- In addition a private giant clam venture is currently underway;

- A survey has been carried out by a team of scientists and planners on biological diversity and the ecosystems of six atolls and one island in the north with a view to identifying two atolls, Bikar and Bokaak as potential national preservation areas;

- A feasibility study was undertaken by researchers from the University of Hawaii and the East West Centre on exploring the development potential of the cobalt-manganese crust;

- The government’s stance is to support mariculture development and sea ranching through joint ventures;
Two pilot projects have been launched; one carried out by researchers at Callalin Atoll on the economic potential of seaweed production in the Marshall Islands whilst the second one is a poultry project recently set up at Majuro so as to examine the economic feasibility of egg production;

The government of the Marshall Islands is currently considering the launching of a demonstration project on low polluting tourism on one of the outer islands;

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Developing the fisheries sector is a priority in stimulating exports;

A viable possibility is the development of other products from coconut plantations;

Possible exploitation of some agricultural resources like breadfruit and taro for their positive contribution to the economy as cash crops;

Economic development is a prerequisite for its positive impact on the environment;

Both Bokaak and Bikar should be nominated to be World Heritage sites;

Human resources need to be fully developed through addressing nutritional and environmental health concerns and providing better education and training;

Promotion of trade and the exchange of environmentally-friendly technologies among the countries of the region;

Need to include environmental impact analyses early in development planning and in the selection of alternative development;

Priority is to be given to public education programmes on the environment;

Special attention is to be focused on certain issues like coastal degradation and climatic change both on the domestic and the international fronts;

Policy adjustments are a prerequisite in improving the educational and health standards of the population through concentrating on small-scale agriculture and fisheries which would help in increasing local food resources.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Complete funding for all government activities under the US administered United Nations Trusteeship;

The Republic of the Marshall Islands relies on US aid obtained through Compact funds which are divided into specific grant categories between the national government, Kwajalein Atoll Development Authority and Kwajalein landowners. In 1990, the government received US$56 million dollars;

The US Department of the Interior funded projects on water quality and the Rainwater Catchment Workshop.
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Communication and exchanges about technologies among the countries of the region are important;

- Increased use of composting to enhance the fertility of soils as well as adopt hydroponic agricultural techniques are two specific suggestions.

7. INTERNATIONAL COOPERATION

- The report stresses the importance of regional cooperation and strategies - see also PIDC report summarized separately.

8. EXPECTATIONS FROM UNCED

- Whilst the report was prepared for UNCED, there is no specific reference to expectations from UNCED itself beyond what is included in the general points above.

9. TABLE OF CONTENTS FOR REPORT

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MAURITIUS

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UNDP Contact Address: UNDP Resident Representative
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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was drafted by a team of thirty one experts drawn from twelve ministries and five national bodies, under the editorial guidance of two experts. The report was signed by Prime Minister, Sir Aneerood Jugnauth. The following Ministries were represented:

- Agriculture, Fisheries and Natural Resources
- External Affairs and Emigration
- Environment and Quality of Life
- Education and Science
- Energy, Water Resources and Postal Services
- Housing, Lands and Town and Country Planning
- Industry and Industrial Technology
- Labour and Industrial Relations
- Health
- Local Government
- Works
- Tourism

Other Ministries and Government Agencies:

- Central Water Authority
- Department of the Environment
- Forestry Services
- National Transport Authority
- Waste Water Authority

NGOs, Grassroots Organizations and Public Involvement:

No specific mention. See section 3 below.
2. PROBLEM AREAS

- As an island country, Mauritius has limited land resources and a narrow natural resource base;
- Population increase has created tremendous pressure on land resources;
- Increased economic prospects accompanied by programmes for agricultural diversification, tourism and industry have made demands upon the tertiary sectors and resulting in environmental congestion and depletion of sand resources (pp 24-25);
- Weak planning legislation and absence of a National Physical Development Plan;
- Water and coastal zones pollution through anthropogenic activities, industrial waste, Agrochemicals and domestic waste (pp 62-87);
- Deterioration of the marine environment. Catches from artisanal fisheries dropped from 2,120 tonnes in 1977 to 1,300 tonnes in 1985 (pp 91-93);
- Deforestation resulting in soil erosion has affected reservoirs and causes siltation in river basins (p 77);
- Biodiversity and wildlife - Mauritius is quoted as the third country in the world in terms of the most threatened plant species. Out of 30 endemic species only 11 are left (pp 125-127);
- Air pollution resulting in airborne diseases (pp 192-200);
- Solid waste from crude dumping (pp 203-207).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- As part of its efforts to industrialize and diversity the economy the government has designed a "National Environmental Policy, a suitable environmental protection legislation, and a series of projects" (p 307). Pages 337 to 403 contain the key policy and two acts of legislation;
- A comprehensive investment programme dealing with policy, institutional, legislative and infrastructure aspects was formulated by a joint Government/World Bank team;
- The policy has 28 "attributes" suggested by institutional and administrative mechanisms;
- Institutional strengthening through the establishment of the National Environment Commission (NEC), new Department of Environment in 1989 and Planning Division being strengthened with complementary skills under CFTC technical assistance;
- The government has established various national environmental policies and laws which focus on environmental effects: Forests and Reserves Act and the Wildlife Act 1983, Pesticides Control Act and Chemical Fertilizers Control, Occupational Safety, Health and Welfare Act 1988, the Environmental Protection Act 1991, and Waste Water Authority Act;
- Other initiatives by the government include establishment of National Environment Committee and Commission to look into specific environmental programmes.
- Plans are under way to formulate a new National Physical Development Plan (NPDP) (p 26);
- The Environmental Council of Mauritius represents industries, unions, NGOs, cultural and religious groups, media and others;

- Intense effort to advertize family planning resulting in 75% use among women aged 15-45 (p 48);

- Training courses and workshops on coastal and marine ecosystems sponsored and organized by UNDP/UNESCO (p 94);

- Government promulgated environmental studies as a component of the school curriculum (p 312).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Develop a Marine Environment Management Plan (MEMP) to control the exploitation and preserve its resources (p 328);

- Establish an analytical chemical laboratory (for identification and analysis of potable water);

- An industrial park is needed to concentrate all potentially polluting industries providing facilities to satisfactorily treat and dispose of all liquid and solid waste;

- Establish an intensive education programme to make the population aware of the "nature" wealth and the need for its protection;

- Development of alternative and renewable sources of energy like solar, biogas, tidal wave and nuclear (pp 331-332);

Development Priorities to include the following:

- Industrial and agricultural diversification;
- Improvement of the quality of life and environment;
- Personnel development to address the growing shortage of labour.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The European Development Fund has provided funding for most projects under the Indian Ocean Commission of which Mauritius is a member;

- Population and family planning programs have received financial support from the International Planned Parenthood Federation (IPPF) and UNFPA;

- The following international organizations have provided funds for the protection and management of marine resources and environment: World Bank, International Centre for Ocean Development (ICOD), UNEP, UNDP and UNESCO;

- A Donor's meeting in Paris in January 1990 pledged US$95 million for institutional strengthening of land management and tourism, planning and development, industrial development and wastes, improved use of pesticides and fertilizers, marine and terrestrial conservation (p 26).
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The most serious threat to the environment today in Mauritius relates to industrial activities in particular, the textile and the sugar industry sectors. The aim is to conserve water and control effluents (pp 263-7);

- In the textile sector, low-liquor technology uses one-seventh of water used by traditional methods;

- Within the sugar industry, fewer and bigger factories would give advantages obtained through economies of scale through more energy efficient equipment and processes;

- The report refers specifically to "the Clean Technology Programmes of the Dutch" as being of interest both for sewage treatment and purification of water from tanneries;

- Mauritius is also interested in work undertaken in Thailand and the USA on aerobic and anaerobic microbiological processes for waste treatment;

- The report mentions the following constraints:
  - The cost, organization and equipment;
  - Difficulty in applying standards;
  - Selection of the best technology (cost effectiveness) "in the midst of vendors of technology and associated equipment".

In the area of conservation:

- The Central Water Authority has embarked on an action oriented programme to eradicate water pollution at its source (p 82);

- A captive breeding programme was set up in 1976 for the conservation of flora and fauna. Over 225 birds have been reared (p 129). Other measures include the establishment of protected areas;

- Several areas of native forest representing major plant communities have been selected for intensive management. The areas are fenced to keep out ground herbivores;

- Ex-situ propagation of rare species of endangered plants are grown in nurseries and a plant record system has been developed for the monitoring.

7. INTERNATIONAL COOPERATION

- International conventions and cooperation are covered on pages 319-323. Mauritius is actively involved in several United Nations and other international organizations;

- Mauritius has been particularly active in/or concerned about such areas and issues as: the Law of the Sea, Exclusive Economic Zones (EEZs), UNEP's Regional Seas' Programme and the Indian Ocean Commission;

- Mauritius also works closely with OAU, UNEP, World Bank, UNDP and others.
8. EXPECTATIONS FROM UNCED

No specific mention

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Appendix A National Environmental Policy for Mauritius

Appendix B Environmental Protection Act

Appendix C Waste Water Authority Act
MOROCCO

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was prepared by the General Directorate of Town Planning, National Development and the Environment, which is part of the Ministry of Interior and Information.

Other Ministries and Government Agencies:

The National Council of Environment, chaired by the Minister of Interior and Information, who is also responsible for the environment, was closely associated to the preparation of the report.

Membership of the National Council includes representatives of other ministerial departments which are not specifically mentioned in the report.

NGOs, Grassroots Organizations and Public Involvement:

Two commissions, within the National Council of Environment, and an ad-hoc group composed of academics and environmental specialists were set up to work on sectoral draft reports.

Several scientific and academic institutions as well as NGOs were also involved in the different phases of the preparation of the report.

The sectoral reports were given to a group of experts, members of the National Council, to prepare the first version of the report.

The group carried out widespread consultations so that the final report could reflect national opinion on environment and sustainable development in Morocco. The UNDP Office was also closely associated to the various phases of the drafting process.
2. PROBLEM AREAS

- Population pressure in urban areas impacts on living conditions;
- Deterioration of existing housing and proliferation of unplanned settlements resulting in slums and loss of arable land;
- Water and land pollution from domestic and industrial wastes. About 100,000 tonnes of oxide wastes are dumped annually in the Atlantic coastal zone. Water courses receive about 68,000 tonnes of oxides and the soil about 50,000 tonnes annually contaminating underground water reserves. Agricultural and mining activities as well as road and railway transport are also a source of pollution;
- Oil spills;
- Degradation of water quality through eutrophication thus implying a rise in treatment costs;
- Air pollution (mainly due to thermal stations as well as oil and chemical installations);
- Water borne diseases are the highest cause of morbidity. Unhygienic living conditions and poor food quality also severely affect human health;
- Fragile soils which are affected by erosion. Out of a studied area of 22.5 million hectares, 12.5 million hectares of farming and grazing land are threatened by erosion;
- Degradation of forest resources due to over-exploitation, over-grazing, encroachment of agriculture, firewood, fires and pest attacks;
- Loss of biodiversity due to extensive hunting and fishing; degradation of the habitat due to human settlements and intensive stock breeding;
- Natural disasters such as pests and drought and accidental disasters such as massive discharges from petrol tanks (e.g. the December 1989 explosion of the tanker "KHARQ5" off the Moroccan coast while transporting about 284,000 tonnes of crude oil).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

   Education, information and communication

- To raise awareness, 17 May was declared National Day of the Environment;
- The Hassan II Prize for the Environment was created to encourage any pertinent contribution to environmental protection;
- An educative environmental programme is to be included in school curricula. Educative programmes have also been implemented in the whole country especially within rural areas.

Housing

To stop the proliferation of unplanned settlements:

- a number of housing projects have been completed some of which are financed through international cooperation;
- rehabilitation programmes have been carried out by integrating these settlements into urban areas, restructuring and improving on their architecture;

Establishment of advantageous conditions for financing housing projects and of loans to facilitate real estate acquisition (pp 83-84).

Drinking water

The Office National de l'Eau Potable (National Office for Safe Drinking Water):

- developed a simple test to classify water resources and to determine the quality of drinking water;
- conducted a study on eutrophication and its consequences;
- carried out an awareness campaign on the importance of economizing drinking water;
- participated in the survey of the joint UNEP/WHO/UNESCO/WMO programme on monitoring water quality, within the framework of the Global Environmental Monitoring System (GEMS) (pp 84-85).

Promotion of green spaces

Tree and grass planting campaigns are carried out in both urban and extra-urban areas.

Transport

Some of the measures taken to combat pollution:

- Limiting of exhaust gases through checks done by special centres;
- Obligation of periodical technical visits for vehicles that carry goods and passengers as well as for driving-schools and rented cars;
- Augmentation of the number of technical controlling bodies and the upcoming establishment of a technical visit every five years instead of ten.

As regards air transport, noise-reduction (landing and taking-off) schemes have been established at some airports in the vicinity of urban centres (p 86).

Industry

To encourage environmental preservation, the Investments Code (1982) provides for exemption from customs duties and VAT as well as for a grant of bonuses for industries that invest in techniques that preserve the environment and cut down on water consumption (p 86).

Health

Among other measures:

- Establishment, in December 1988, of an interministerial committee to combat air pollution from motor vehicles;
- Programme to combat food poisoning and food transmitted diseases;
- Elaboration of global strategies of information and education as regards hygiene;
Morocco

- Popularization of Environmental Impact Assessments before any industrial project;
- Control of radioactivity rates on the whole territory (air, water, soil) (pp 87-88).

Fauna and flora

The country already has two national parks and plans are under way for the establishment of more protected areas (pp 88-89).

Rural development

The Programme de Développement Economique et Rural du Rif Occidental (DERRO - Economic and Rural Development Programme of the Western Rif), which was initiated in the sixties, with the aid of the United Nations Special Fund and FAO, has as its objectives:

- to fight erosion;
- to modernize agriculture;
- to enhance natural resources through integrated development methods (p 94).

Reforestation

700,000 hectares of forests have been developed. The national reforestation plan, which was adopted in 1970, intends to reforest 650,000 hectares by the year 2000, i.e., an average of 2,200 hectares annually.

In accordance with the Royal appeal, it has been decided to attain the objective of 60 million trees planted annually by the year 2000 (p 90).

Atmosphere

As a member of the World Meteorological Organization, Morocco participates in research and monitoring programmes on ozone and the chemistry of the atmosphere such as the BAPMON (Background Air Pollution Monitoring Network) programme (p 92).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Three principal elements when implementing the national policy on environment are:

- Evaluation and monitoring of the environment;
- Legislation and establishment of norms for the environment;
- Information, raising public awareness and coordination of efforts amongst environmental agencies (p 120).

Other recommendations include:

- The establishment of appropriate structures for management of the environment;
- Revision of legislation;
- Creation of a structure of Environmental Impact Assessment;
- Promotion of associations for the protection of the environment;
- Creation of a national fund for the protection of the environment;
- Strengthening of international cooperation.
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Since the creation of a department responsible for environment, specific credits have been allotted under economic and social development plans. Other ministerial departments, public or semi-public establishments, cultural associations and organizations as well as the private sector contribute directly or indirectly to the protection of the environment. Local administrations also play a big role in preserving and improving the environment.

- Complementary funding is received within the context of international cooperation for issues of common interest.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention beyond a reference to the importance of acquisition of know-how and access to knowledge.

7. INTERNATIONAL COOPERATION

Regional (pages 108-109)

- As regards the African continent, Morocco plays an active role within the African Ministerial Conference on the Environment (AMCEN) and participates in the implementation of the Cairo Action Plan adopted in December 1985. It also contributes to all the activities organized either by UNEP or the AEC and participates in the work of the Ministerial Conference on Desertification.

- Within the Arab world, Morocco regularly participates in the work of the Arab Ministers for the Environment and also played an active part in the elaboration of the Arab Declaration on the Environment and Development as well as in the Tunis Action Programme.

- With respect to the Mediterranean region, it cooperates with all the regional organizations concerned with the conservation and protection of marine resources, and navigation security. It also participates actively in the objectives of the Action Plan for the Mediterranean.

- Under the Arab Maghreb Union, it is contributing to the elaboration of the Maghrebian Charter on environment and development. Together with Algeria and Tunisia, Morocco contributed to UNDP's regional project (RAB/80/011) between 1981 and 1987.

International Organizations (pages 109-110)

- Besides being member of environmentally oriented international organizations such as UNEP, UNDP, WHO, IMO, FAO, UNESCO, WMO, UNICEF and their sub-agencies, Morocco actively participates, among others, in the activities of:

  - the Intergovernmental Oceanographic Commission (IOC) of UNESCO;
  - the International Oceans Institute in Valetta (Malta);
  - the Sahara Observatory;
  - the Inter-Agency Working Group on Desertification (IAWGD).

- A pilot project in education and public awareness raising is being implemented with the collaboration of UNFPA and UNESCO.

- As regards water resource protection a number of surveys have been carried out, or are ongoing, with the help of UNEP/WHO/WMO.
Morocco is a member of the International Environment Information System (INFOTERRA).

Morocco closely cooperates with certain NGOs such as the World Conservation Union (IUCN) and the World Wide Fund for Nature (WWF).

Bilateral cooperation (page 110)

Regarding environment in general and particularly massive pollution of the sea by hydrocarbons, bilateral cooperation with such countries as France, Spain and Portugal is very active. In this respect, an agreement on cooperation for fighting pollution in the North-East Atlantic Ocean was signed in Lisbon in October 1990;

Germany is giving assistance in the construction of a national laboratory for monitoring pollution and France is supporting a number of environmental projects relating to water, treatment of waste water and scientific research.

8. EXPECTATIONS FROM UNCED

The Earth Charter should include ideas such as:

- the respect of national sovereignty;
- constance of international cooperation and solidarity in environmental issues especially at the regional and global levels;
- the explicit acknowledgement of the responsibility of industrialized countries in the degradation of the global environment;
- confirmation of the link between environment and development;
- the integration of the "environment" dimension in the objectives of the new economic world order;
- the review of the structural adjustment programmes and the redefinition of modalities of developing countries debt repayment;
- the integration of environmental considerations in international trade relations;
- the consideration of the principles and provisions contained in existing charters and declarations, especially at regional or sub-regional level.

Agenda 21:

- Must be universal and integrate everybody's concerns;
- Particular attention must be given to the coherence between Agenda 21 and the Earth Charter;
- A distinction should be made between surveys, activities and projects;
- Priorities should be defined at national, regional and global levels;
- Emphasis should be put on the importance and pertinence of issues such as management of continental waters, management of the marine environment and management of land (soil). For example, particular attention should be paid to rural areas.
Financial resources:

- Additional funding should be provided for environmental programmes or for stimulating development efforts;

- A global green fund should be created to implement the objectives of Agenda 21 and help developing countries. Part of the developing countries' debt should be given over to this fund;

- Countries should assign 1% of the GDP to the ecological action to reinforce national efforts.

Transfer of technology:

- The real needs of developing countries should be evaluated and the modalities of the transfer should be clearly stated. Emphasis should be laid on human resources and training.

Institutions:

- A thorough analysis of the UN system should be made to optimize interaction and enable developing countries to adapt themselves to these institutions;

- The role played by these institutions towards developing countries should be examined when taking the decision to strengthen them or to create new ones.

Conventions:

- Regarding the Framework Convention on Climate Change, cooperation and solidarity are important. An equitable compromise should be sought in the interest of all mankind. Developing countries should get additional assistance and financial resources to reduce the risks of climate change. Cooperation should be established through technology transfer and support for research programmes.

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1. DRAFTING PROCESS

New Zealand’s preparations for UNCED commenced in mid-1990. The Maori Working Group, which advises the Ministry for the Environment, was consulted on arrangements for Maori involvement. It was decided that a Maori perspective on sustainable development would be prepared for incorporation into the national report. The report was to be a bicultural document that represented both Maori and European viewpoints.

A detailed outline of the report, based on the ideas developed during a meeting between the Ministry for the Environment, Ministry of External Relations and Trade and representatives of NGOs, was circulated widely in December 1990. Recipients included government departments, NGOs and industry groups. Only a few responses were received.

National Committee: Editors & Authors:

The first draft of the report was prepared principally by two officials of the Ministry for the Environment and circulated to government departments in May 1991. After over ten broad-based meetings/consultations and five drafts, the national report was presented by the Ministers for Environment and of External Relations and Trade to their colleagues in Cabinet. Government endorsement of the report was obtained on 9 December 1991.

The foreword was signed by the Right Honourable J.B. Bolger, Prime Minister, and the Honourable W. Rob Storey, Minister for the Environment.

Other Ministries and Government Agencies:

The Departments of Conservation, Education, Health, the Prime Minister & Cabinet, Scientific and Industrial Research, Social Welfare, and Statistics.

The Ministries of Agriculture and Fisheries, Commerce, Forestry, Transport, Youth Affairs, and Women’s Affairs.

The Treasury, the Iwi Transition Agency, and Manatu Maori.

Six meetings were held with representatives of government departments to consider particular issues to be covered by UNCED and the report as a whole. Several meetings were held with officials of individual government departments to discuss specific sectoral issues.
A meeting was held with the Maori Working Group and Maruwhenua (the Maori secretariat of the Ministry for the Environment) to consider ways of incorporating a Maori perspective into the report.

NGOs, Grassroots Organizations and Public Involvement:

The first draft of the report (600 copies) was circulated to government departments, NGOs, industry (enterprises and groups), Maori groups and iwi (people), and individual members of the public. Sixty written submissions were received from a wide cross-section of interest groups and individuals. In addition, besides the meetings held with government departments, four public meetings, attended by over 200 people, were held in various cities in May and June 1991. Two meetings were held with representatives of industry and NGOs.

Students were invited to speak at public meetings and the Ministry of Youth Affairs provided some results from a recent survey of the views of young people on environmental issues.

A list of participants in the preparation of the report, including government departments/ministries and the Parliamentary Commissioner for the Environment, is given on page 105 of the report.

2. PROBLEM AREAS

- New Zealand is concerned about the depletion of the ozone layer as well as global climate change (pp 39-41);

- Geological and climatic hazards such as heavy rainfalls, flooding, tropical cyclones and drought as well as minor earthquakes, volcanic eruptions, landslides and avalanches are of concern (p 31);

- Issues relating to the environmental and social impacts of energy use include (p 45):
  - emissions of greenhouse gases from the burning of fossil fuels and the conversion of natural gas to other energy forms;
  - air pollution, particularly by motor vehicles;
  - the impacts of energy production and transmission facilities on scenic, cultural, amenity and other values;
  - congestion and use of land for roads as a result of the greater use of trucks and private cars, rather than rail and public transport.

- Although in abundance, water in New Zealand is distributed unevenly geographically, resulting in costly schemes to deal with this unevenness (p 32);

- Pastoral agricultural development in some unsuitable areas have contributed to soil loss and erosion (pp 50-51);

- Human activities over the past 150 years, resulting in the destruction of natural habitats, hunting, the introduction of predators and competitors, pollution, and overfishing, have contributed significantly to the reduction in biodiversity (p 53);

- Waste management problems include, among others, the high (and increasing) per capita domestic refuse generation; poorly sited, managed, or full landfills; and associated potential health hazards (pp 69-72);
- Marine pollution is mainly caused by sewage disposal and industrial effluents, the discharge by rivers of heavy sediment loads resulting from accelerated land erosion (p 62);

- New Zealand has one of the highest rates of skin cancer in the world, due to exposure to solar ultraviolet radiation (p 76);

- High rate of death and injury from road accidents by international standards. (New Zealand has the third highest ratio of vehicles to population) (p 76);

- Unemployment has increased from less than 1% in 1971 to over 10% of the work force in 1991, the impact of which has been particularly severe on the young and unskilled. 16% of social welfare payments in 1991 were for Unemployment Benefits (p 21).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- To ensure that the interests of all sectors of the community are considered in the nation's affairs, agencies such as the Ministries of Maori Development, Women's Affairs, Youth Affairs, and Pacific Island Affairs have been established (p 81);

- Environmental legislation in New Zealand had been enacted as early as 1854, when the Wellington Provincial Council passed a law to control thistles, an introduced weed (p 22);

- The Resource Management Act 1991, which integrates the provisions of more than 75 earlier laws, provides a new process for the management of land, soil, air quality, geothermal energy, pollution control, noise, and the coast (p 90);

- New Zealand's first national park, the Tongario National Park, was established in 1894 to preserve its three volcanic peaks and surrounding land from development (p 22). Now more than 5 million hectares (19%) of the country's area are under some form of protection, with 12 national parks covering more than 2 million hectares, 21 forest parks covering some 1.7 million hectares and nearly 4,000 reserves. In addition, there are three marine reserves covering over 5,000 hectares, and three marine parks (p 55);

- The Tasman Conservation Accord (1989) between Tasman Forestry Ltd, the Minister of Conservation, the Royal Forest and Bird Protection Society, Federated Mountain Clubs and the Maruia Society safeguarded 52 important areas of native forest throughout New Zealand, totalling over 40,000 hectares (p 47);

- A considerable area of Maori-owned land is now planted in exotic forest, often under joint venture and management arrangements which bring revenue and work opportunities to the owners (p 49);

- Numerous NGOs have been established, whose aims wholly or partly relate to the protection of the environment. They have been extremely influential, through their ability to reflect and mobilize public opinion, and have achieved many major successes in influencing environmental management (p 23);

- Scientists and environmentalists are increasingly recognizing the importance of knowledge held by Maori in understanding New Zealand's environment and natural resources (e.g. medicinal properties of plants etc.). Ways to integrate this knowledge, with the information made available by the Western "scientific method" are being explored, for example, through a review of science and technological education conducted by the Ministry of Research, Science and Technology (p 28);
The Queen Elizabeth II National Trust was established in 1977 to encourage and promote the provision, protection and enhancement of open space for the benefit and enjoyment of the people of New Zealand (p 89);

The Quota Management System (QMS) was introduced in 1986 with the aim of preventing over-fishing and improving the economic efficiency of the fishing industry. New Zealand’s Exclusive Economic Zone is divided into Quota Management Areas (QMA); Total Allowable Catches (TACs) are set for each species and QMA (p 60);

The Office of the Parliamentary Commissioner for the Environment was established in 1986 to provide an independent check on environmental management in New Zealand and on the performance of public authorities in maintaining and improving the quality of the environment (p 88);

By 1991, New Zealand had reduced its consumption of ozone-depleting substances to less than 40% of the 1986 figure. The Ozone-Layer Protection Act (July 1990) requires that by 1993 it will be one-third, and by 1995 only one-twentieth [of the 1986 figure]. Halons became prohibited imports in 1990 (p 40);

New Zealand was one of the first countries to set up a National Climate Change Programme. The structure of this programme was the same as that subsequently adopted by the Intergovernmental Panel on Climate Change (IPCC). It considered the scientific evidence for global climate change, the likely impacts, and appropriate policy options. A National Science Strategy for Climate Change Research is being developed (p 42);

A National Road Safety Plan has been completed recently to help educate drivers and reduce casualty rates (p 76);

Soil conservators have made extensive use of biological and engineering techniques such as block afforestation gullies, provision of windbreaks, sediment detention dams, streambank stabilization by woody vegetation, among others (p 51);

New Zealand is party to global and regional nuclear non-proliferation treaties, and has its own legislation which prohibits the introduction of nuclear weapons and nuclear-powered ships into its territory (p 79);

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

The linkages among key environmental issues require public participation and sound information as a basis for effective decision-making, obtaining commitments from the private sector, and clear guidelines and policies (p 79);

The main components of New Zealand’s policy on climate change are (p 42):

New Zealand should begin by implementing measures which are estimated to be the most cost-effective, to provide the greatest range of benefits regardless of whether climate change occurs or not, to not reduce the country’s competitive advantage with its trading partners, and to have a net benefit for New Zealand society;

To aim for a 20% reduction of 1990 CO₂ emissions by the year 2000;

To consider the reduction of greenhouse gases in the context of the comprehensive waste management strategy that is being developed;
- To consider the best means of protecting and enhancing the role of forests and marine ecosystems as carbon sinks;

- To give high priority within New Zealand’s research effort to research relating to climate change;

- To determine the requirements for a monitoring network;

- To establish an education strategy;

- To maintain New Zealand’s involvement in international discussion on climate change;

The key elements of the National Forest Policy which is being developed by the Ministry of Forestry include (p 49):

- Increasing public awareness of the value of forests;
- A framework for protection and sustainable management of forests;
- Protection of soil and water;
- Protection of natural biodiversity;
- Recognition of the rights and responsibilities of landowners;
- Recognition of forests’ other roles, for example as carbon sinks;

Actions required by government, individuals, and organizations to achieve sustainable agriculture, include (p 52):

- Research into agricultural systems and their sustainability;
- Diversification by individual landowners, for example, into agroforestry;
- Creation of thriving associations, such as the Farm Forestry Association;
- Initiatives to deal with special adverse circumstances, based on partnership amongst individuals and the different levels of government such as FARM (Facilitation of Action on Risk Management) Partnership schemes, land care trusts, among others;

It has called for an end to all nuclear testing, and has made clear its opposition to nuclear testing in the South Pacific (p 79).

There is wide acceptance of the need for improved environmental management, particularly in the areas of waste disposal, pest control, and soil and water conservation (p 81);

The application of economic instruments must be guided by the nation’s broader set of values, established through the political and legal process (p 86);

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- New Zealand has a comprehensive system of health care, funded principally from taxation (p 21);

- New Zealand’s infrastructure includes the Foundation for Research, Science, and Technology, the principal role of which is to administer the Crown’s expenditure on science (p 29);

Research and development performed by business enterprises amounted to NZ$200 million (approximately US$113.6 million) in 1989. Government expenditure on research and development was NZ$436 million in 1990-91 (approximately US$247.7 million) (p 29);
In 1987, 53% of government research and development expenditure was allocated to the agricultural sector and 10% to manufacturing. Social science research accounts for less than 1% of the total expenditure (p 29);

The annual cost of flooding was estimated at NZ$125 million (approximately US$71 million) in 1986. This was in addition to the NZ$30 million (approximately US$17 million) spent annually on flood protection measures (p 31);

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

Exotic forests will play a role in New Zealand’s strategy for reducing net emissions of greenhouse gases. They have the capacity to fix carbon dioxide at the rate of 7 tonnes/hectare per year. At present they absorb about half of the country’s CO₂ emissions (p 49).

7. INTERNATIONAL COOPERATION

New Zealand is committed to participation in international action relating to environment and development, particularly in United Nations fora, the OECD, the South Pacific Forum, and under other bilateral, regional and multilateral arrangements (p 79);

New Zealand is actively supporting trade liberalization in the Uruguay Round of negotiations under GATT (p 80);

The New Zealand Government recognizes the urgent need for international cooperation to achieve sustainable social and economic development. New Zealand contributes to this goal through the provision of Overseas Development Assistance (p 80);

New Zealand recognizes that developing countries have the key responsibility for determining their needs and priorities and ensuring that their development is environmentally sound and sustainable, and that it contributes to an improved global environment (p 80).

8. EXPECTATIONS FROM UNCED

After widespread discussions, particularly at public meetings, on the purpose of UNCED and what is to be expected from it, the following is the summary of expressed opinions:

The most optimistic expectation possible is an international commitment to move towards true global cooperation, to create a sustainable society and a sustainable world environment, as a matter of such urgency that the watershed between decline and recovery is reached by the end of this century” [Pacific Institute of Resource Management] (p 98).

The Earth Summit and Agenda 21 will provide impetus and a guide for future action. UNCED is a process whose influence will be felt for years to come. It offers a major challenge, and New Zealand is committed to meeting that challenge (p 100).
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1. DRAFTING PROCESS

National Committee: Editors & Authors

The national report is based on the suggestions proposed by the National Strategy on Sustainable Development, Land Use Planning as well as on those proposed in the Forestry Action Plan under the coordination of the Technical Unit. The Swedish International Development Agency (SIDA) and UNDP provided financial support. Supervision of the report was ensured by the Nicaraguan Institute of Natural Resources.

Other Ministries and Government Agencies:

Different government agencies have collaborated especially the Ministry of Economy and Development and the Nicaraguan Institute of Land Studies.

NGOs, Grassroots Organizations and Public Involvement:

More than 1,200 representatives from municipal organizations, State organizations and NGOs participated as well as political and religious leaders. In addition, a large number of specialists took part together with various public and private development agencies.

2. PROBLEM AREAS

The report mentions, inter alia,

- Poverty is a main cause of environmental deterioration: the poor, in their struggle for survival, resort to inappropriate cultivation practices and indiscriminate deforestation;

- High population densities in the Pacific region as well as in the Metropolitan Managua area. More than 60% of the population live in only 1.4% of the territory, thus causing environmental degradation; Nicaragua has one of the highest infant mortality rates in Central America;
Increasing deforestation at 150,000 hectares a year in 1990/1991, causes the destruction of habitats and loss of biodiversity;

A deteriorating ecosystem and soil deterioration in the Pacific region due to intensive agriculture inappropriate cultivation practices (monoculture); excessive use of agro-chemicals and the over-exploitation of resources as well as mining activities;

Water pollution of coasts, rivers and lakes especially of lake Xolotlan and Bambana river due to industrial discharges. The survival of indigenous populations such as the Miskitos and the Sumus is threatened;

The land tenure system is an obstacle to attaining sustainable development;

The institutional framework is weak and science and technology policy is lacking;

Insufficient knowledge of the country’s energy resources;

Declining biodiversity caused by hunting, commercial and industrial forestry;

Rising urbanization engendering various environmental problems such as an insufficient supply of drinking water and urban encroachment on agricultural land;

Volcanoes such as the volcano of Concepción destroying arable land, hurricanes, floods, storms and droughts are all common features. In the flooding, the Rama river destroyed the town of Rama as well as nearby communities;

Underground aquifers are seriously threatened in León and Chinandega by indiscriminate use of agro-chemicals;

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

The National Commission on the Environment and land use planning (CONAMOR) was set up to coordinate between institutions with a view to implementing the strategy on sustainable development;

In the aftermath of the earthquake of December 1972 which devastated Managua, the government prepared a study, the first of its kind, on regional development for the Pacific region. The aim of the study was to achieve decentralization as well as take into account the environmental dimension when planning for development;

Since 1905, several decrees and laws had been promulgated to cover wide areas of concern like forest conservation and the prohibition of hide exportation and hunting;

In 1974, a School on Ecology and Natural Resources at the Central American University was set up to train human resources to address environmental deterioration;

In 1979, the government created the Institute on Natural Resources and the Environment (IRENA) to coordinate between the technical units in different ministries. The mandate of this Institute is to plan, administer, control, investigate and manage natural resources;

Between 1990-1994, IRENA will be involved in 18 land projects and 12 institutional programmes; the aim of the former is to cover reforestation, forest conservation, rural integrated development at El Sauce as well as to introduce agroforestry techniques so as to
reach an ecologically efficient production system. As for the institutional programmes, the purpose is to strengthen the institutional structure, improve environmental education as well as provide for protected forest areas (pp 69-71);

- In June 1987, a new constitution was approved by Parliament that provides for the right of every citizen to a healthy environment and the importance of a rational exploitation of natural resources;

- Several NGOs at the local and national levels have been created since the mid 1980s to carry out projects that would resolve environmental problems;

- There are now more than 300 environmental NGOs working on conservation of natural resources, environmental education, rural integrated development, health and the transfer of agricultural technology (p 80).

- An ongoing mangrove project is considered to be the beginning of a wide scale movement for the rehabilitation and protection of more than 30,000 ha of mangroves;

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Need to reduce dependence on hydrocarbon imports whilst increasing the use of local energy sources such as biomass, solar, wind and hydro power;

- Identify, plant and manage tree species of economic importance;

- Revising sometimes contradictory laws on the environment and natural resources;

- The threat from volcanic activity must be included in land use planning in order to reach sustainable development. Thus, decentralization of socio-economic and administrative activities is needed for population redistribution to safer areas;

- The following are examples of short-term priority programmes: (1) social programmes which highlight the importance of reinforcing environmental education so as to change citizens' behaviour as well as protect their health through corrective measures; (2) productive programmes which can include the following: the rational use of available forests, a sustainable agro-pastoral sector, the development of fishing and aquaculture and ecotourism; for instance, the potential of the fisheries sector, in particular shrimp culture, is under-utilized; (3) support programmes which can concentrate on developing a sustainable energy sector as well as on methods of conserving biodiversity in addition to the strengthening of the institutional framework;

- The State should work towards formulating a new strategy on development so as to include the environmental dimension in their structural adjustment policies. It should highlight the importance of the conservation of natural resources and reforestation in rural and urban areas.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Bilateral donations amounted to US$565 million while multilateral organizations donated US$89 million in 1990 (pp 76-77); it is estimated that about 70% of external aid covers debt-servicing obligations.
The report estimates that funding requirements for 1992-1996 will total US$2,000 million for various programmes like the Social Programmes and those covering forests and sustainable agroforestry in addition to the support programmes which deal with energy and biodiversity conservation (p 122).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- National hydroelectric and geothermal energy sources account for 44% of Nicaragua’s energy needs; whilst organic residues account for 9%. Nevertheless, their exploitation falls short of their full potential;

7. INTERNATIONAL COOPERATION

- The role of Eastern Europe has diminished whilst that of the EEC has increased;
- It is hoped that aid from Denmark, Germany, Norway, Switzerland and the USA for ecosystem and forest conservation will total US$7 million (p 78);
- In 1982, the Danish International Development Agency (DANIDA) helped in setting up a seed bank to meet local and international demand;
- Since 1966, USAID has helped with the publication of an Inventory on the Physical Resources of Nicaragua;
- The Swedish International Development Agency (SIDA) is currently supporting a wood research laboratory;
- Technical and material assistance provided by FAO and NGOs from Europe and North America address several conservation project.

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Author

The report was prepared by the Ministry of Environment in coordination with the Development Council. Subsequent to the promulgation of a Royal Decree No. 117 of 10th December 1991; this Ministry became the Ministry of Regional Municipalities and Environment.

Other Ministries and Government Agencies:

Several government bodies were consulted in the drafting of the report.

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

- Scarcity and salinity of water;
- Diminishing arable land;
Degradation of rangelands as a result of overgrazing;
- A rising incidence of solid and liquid toxic wastes;
- Over-pumping of ground water due to farmers excessive use of artesian wells;
- Pollution of wells and "aflaj" (artificial canal) especially in rural areas;
- Mangroves and sand dunes are being threatened by a galloping urban development, upstream canalization and domestic waste dumping;
- Coral reefs are being threatened by littering and careless fishing practices;
- Some lands are depleted of nutrients through cropping and excessive irrigation;
- Rocky coasts can be endangered by harbour expansions;
- Insufficient regulations and guidelines on the issue of hazardous wastes as well as a lack of experience in the field of biotechnology.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Agricultural Research stations have been set up to study ways of increasing fruit and vegetable yields as well as to conduct research on soil and water. Animal Resource Research Stations have been set up together with a fodder factory and veterinary clinics with a view to increasing the numbers of livestock;
- A Fishermen's Fund has been created to support local fishermen in addition to a Marine Study and Research Centre. To promote marketing of fish, a number of fishing centres have been set up along the coasts of Oman;
- To increase the availability of ground water flood-control dams have been constructed. Furthermore, the government has launched an annual programme on Aflaj repair as well as that of wells (p 25);
- In 1974 the Office of the Adviser for the Conservation of the Environment was established. Consequently, some nature reserves have been protected, such as the Wadi Serin Tahr Reserve in 1975 covering an area of 240 km²;
- Turtle monitoring programmes on Masirah Island and Ra's al Hadd area are currently being implemented (p 34);
- The White Oryx Project was launched in 1980 to reintroduce the recently extinct Arabian Oryx in the central plains of Jiddat al Harasis. Daymaniyat Islands, for their part, have been protected since 1984;
Several Royal Decrees have been declared e.g. No. 10 of 1982 on the protection of the environment and decree No. 68/79 creating the Council for the Conservation of the Environment and the Prevention of Pollution (CCEPP);

Ministerial decisions have also been issued; e.g. Ministerial decision No. 16/79 which imposed a total ban on catching crayfish between 1 May and 15 August of each year. The use of underwater spear guns and explosives for fishing has been forbidden everywhere in Oman. Whilst Ministerial decision No. 9/79 regulates the quarantine conditions for imported plants; another Ministerial decision No. 3 of 1982 covers marine fishing and the protection of some species;

Numerous regulations and guidelines are being formulated to deal with the management of hazardous waste and chemical control (p 35);

Numerous projects and programmes have been undertaken by the Ministry of Regional Municipalities and Environment covering sewage treatment plants, control of wastes in addition to air pollution monitoring;

A National Conservation Strategy is currently being prepared;

The existing Aflaj Pollution Action Plan investigates pollution sources and compiles data before planning for waste facilities;

There is also a current National Programme for the monitoring of pollutants in the Marine Environment in addition to another National Air Pollution Programme;

The Women and Child Care Task Force had been set up in 1987 to improve their general status.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Need to define a national policy to ensure efficient use of natural resources;

International support for the training of personnel on environmental assessment and management is a priority area as well as the strengthening of institutional capabilities;

International trade and commodity agreements are required to provide environmental safeguards where applicable;

Trade in hazardous industrial products must be subjected to regulations to ensure dissemination of information on their environmental and health impacts;

Adjustment of national land-use policies as well as pricing mechanisms need to be made; moreover, efforts are to be deployed to halt land degradation and desertification;
Transfer of pollution control technologies should be promoted through international cooperation;

Food security and the development of the agriculture sector are to be priorities.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Main donors and lending institutions should re-examine their policies in view of the declining living standards in developing countries;

Environment-friendly projects could be allocated more funds through development assistance;

"International financial institutions" ... "should link short-term financial stabilization to sustainable development" in their structural adjustment programmes.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

Oman participates in the Regional Organization for the Protection of the Marine Environment (ROPME) aimed at a common action for the protection of their shared semi-enclosed area;

Several conventions and protocols have been signed among the 8 coastal states of the region (i.e. Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) on the protection of the environment and coastal areas (pp 37-38);

The Arab League, of which Oman is a member, agreed in 1986 to create a Council for the Arab Ministers responsible for environment affairs. It is also a member of the Arab Gulf Cooperation Council;

Oman is a member of UNEP, IUCN as well as several other organizations;

A National Community Development Programme was launched in 1976 with UNDP and UNICEF technical assistance, covering 346 villages and 375 smaller population centres in 15 "wilayats"; its aim is to raise the living standards of local communities through education, income-generating and self-help schemes.

8. EXPECTATIONS FROM UNCED

No specific mention
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REGIONAL REPORT BY THE
ORGANIZATION OF EASTERN CARIBBEAN STATES (OECS)

* ANTIGUA & BARBUDA
THE COMMONWEALTH OF DOMINICA
GRENADE
MONTSEERRAT
ST. KITTS & NEVIS
ST. LUCIA
ST. VINCENT & THE GRENADINES
*THE BRITISH VIRGIN ISLANDS (Associate Member)

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1. DRAFTING PROCESS

National Committee: Editors & Authors:
The report was prepared by the OECS Secretariat, the Caribbean Environmental Health Institute
and ECLAC/CDCC

Other Ministries and Government Agencies:
Technical assistance was received from: United States Agency for International Development and
Agency for Technical Cooperation (GTZ), Germany.

* Countries marked with an asterisk (*) above have also prepared separate national reports
summarized elsewhere in this book.
2. PROBLEM AREAS

- The islands are densely populated, averaging 186 people per sq. km, with much encroachment onto coastal, marginal and environmentally sensitive lands;

- There is a high dependence on invisible earnings, notably tourism. More than one half of foreign exchange generated by tourism sector is lost because of absent linkages with the domestic economy;

- There are limited domestic production and markets. Produced goods tend to be exported while consumed goods tend to be imported;

- There is an inadequate technological base;

- There is a poor endowment of mineral resources;

- There is a general lack of skilled manpower. All OECS countries, for example, lack adequate numbers of trained personnel and equipment to implement systematic pesticide monitoring programmes;

- Small local and regional markets render much economic activity non-viable;

- The per capita income criteria is an inaccurate indicator, particularly due to the high taxation in the Eastern Caribbean, resulting in a misinterpretation of economic transformation of self-reliance;

- The agricultural and agro-industrial sector has generally been in decline during the 1980s;

- The manufacturing sector has performed poorly in recent years except for at least one country (St. Kitts and Nevis).

Forests

- Over-exploitation of forest resources for construction, food, fuel, and folk medicines, and clearing of forests for roads, housing, and agricultural development. In the Windward islands particularly, much forest clearing (often illegal) is done because of pressure to increase banana exports;

- Unlawful shifting cultivation in mountainous, remote regions (St. Lucia, St. Vincent, Grenada, and Dominica);

- Uncontrolled livestock grazing has contributed to land deterioration, deforestation, erosion, and general landscape denudation.

Biodiversity

- Deforestation and land clearing over the past 300 years for intensive agriculture has resulted in loss of much biodiversity and introduction of exotic species. Habitat reduction is the main result of development activities, contributing to forest and biodiversity losses;
- Uncontrolled livestock grazing and accelerated tourism development continue to contribute to the deterioration of plant communities and coast and marine habitats;
- Many endemic species in the islands are threatened or endangered;
- Ecological information on endemic species is largely unknown;
- Limited land area of islands constrains a viable system of parks, protected areas, or reserves;
- Extensive use of pesticides and herbicides contribute significantly to fish-kills, bird mortality, among others. However, lack of toxicological data and ecological information do not allow a full understanding of the scale of the problem;
- There is international trade in endangered plants and animals.

**Freshwater**

- There is declining quality and quantity of water resources. Increasing water demand results in higher extraction rates near urban areas and clustered coastal tourist areas;
- Deforestation on and degradation of important watersheds is critical as virtually all water consumption depends on rain-fed rivers and river basins;
- Water resources are particularly critical in the drier Leeward Islands, and particularly due to the water demands of an expanding tourism-based economy;
- OECS governments have difficulty in exercising authority in controlling non-compatible development activities in most "protected" areas, including surreptitious timber harvesting, charcoal production, and other smaller-scale illicit extraction of forest resources;
- Land-use controls on privately owned land have not been adequate to ensure protection of water supplies;
- Erosion contributes to excessive siltation and sedimentation in dams and streams during rainy seasons, resulting in decreased water quality and quantity (through storage capacity);
- Encroachment of agriculture in catchment areas are increasing concern of water pollution from agro-chemicals, animal, and human wastes.

**Waste Management**

- Although low-cost technologies for water supply, sanitation, and sewage treatment exist, or are well-tried, there is a lack of funds for their wider use in the region;
- As with most small island states, the OECS countries lack adequate treatment facilities, particularly cleaner and more appropriate technology, for nationally-generated wastes;
- Various toxic chemicals found in industrial wastes, pesticides, hospital wastes, among others, pose important risks to human health;
- The international movement of hazardous wastes in the Caribbean Sea has become a matter of concern to small states, whose ecosystems can become irreversibly and extremely damaged by careless dumping. This is of particular concern due to moves to dispose wastes in developing countries and the Caribbean Sea.
Coastal and Marine Environment

- There is a paucity of accurate information on fish landings, fishing effort, fish stocks, and ecology of reef fisheries, making it difficult to estimate yields;

- The coastal zone is the most heavily polluted area in the OECS countries. Almost all industrial activities are situated in the coastal zone. Tourism is dependent on features of the coastal environment, adding to the pressures. Construction, primarily linked to the tourism sector, contributes in large to the removal of coastal vegetation;

- Mechanisms for assessing and sustainably using marine resources are rudimentary;

- There is a general lack of quantitative and qualitative data and information on which to base an integrated sustainable management plan. Systems are not in place to ensure a continuous flow of reliable information to make it feasible.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- For the protection of the potential of the Caribbean Sea for the economic viability of the region, several institutional arrangements have been established, including:

  The Caribbean Action Plan
  The Caribbean Community Ocean Sciences Network (CCOSNET)
  The Caribbean Oceanographic Resources Exploration Project (CORE)
  The CARICOM Fisheries Resources Assessment and Management Programme
  Coastal and marine monitoring programmes
  The OECS Fisheries Unit

  These activities remain sporadic and are considered generally inadequate.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Development of policy for the management and protection of the Caribbean Sea;

- Assessment of the resource base of the EEZ of the OECS Member States;

- Consolidation of an information system on the Caribbean Sea and the establishment of a focal institution as a repository of data and synthesizing information;

- Development of appropriate technologies in aquaculture, mariculture, sea-bed mining, mining and pollution control;

- Strengthening of regional inter-agency communication and information exchange;

- Assessment of potential environmental impacts and socio-economic implication of climate change and sea level rise;

- Strengthening of project activities of the UNEP-Caribbean Environment Programme;

- Development of a strategy for a vibrant and sustained education programme on the Caribbean Sea as a resource, to promote conducive public attitudes and responses.
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

See "Expectations from UNCED" below

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The OECS countries are hampered by a general lack of technical and technological resources for environmental management and development.

7. INTERNATIONAL COOPERATION

- The creation of the OECS in 1981 to enhance the political, economic, and functional cooperation among the following Member States:

  Antigua and Barbuda  
  British Virgin Islands (Assoc. member)  
  Dominica  
  Grenada

  Montserrat  
  St. Kitts and Nevis  
  St. Lucia  
  St. Vincent and the Grenadines

- To pursue the objectives of the OECS, the establishment of the following:

  The Eastern Caribbean Investment Promotion Service  
  The Eastern Caribbean Export Development Agency  
  The Natural Resource Management Unit

- On monetary policy, cooperation with the Eastern Caribbean Central Bank.

- Cooperation the Federal Republic of Germany and the Organization of American States on a cooperative programme in natural resource management;

- The Caribbean Environmental Health Institute, the principal environmental monitoring agency in the Caribbean;

- UNEP/Regional Coordinating Unit, among other UN bodies, non-governmental, private and voluntary agencies;

- The Caribbean Conservation Association, an NGO umbrella group active in environmental education, marine parks, protected areas, a Caribbean heritage programme, environmental profiles.

8. EXPECTATIONS FROM UNCED

General

- The UNCED process should enable the international community to recognize the linkages between environment and development;

- The resolution of global environmental problems will require global partnerships;
222 Organization of Eastern Caribbean States

- Small islands and low-lying developing countries require special attention from the international community, particularly following the concerns expressed at the Commonwealth Heads of Government Summit in Zimbabwe, October, 1991;

Rio Declaration on Environment and Development

- The OECS recommend a short, concise, and inspirational declaration, stronger than the Stockholm Declaration of 1972;

Institutional Mechanisms

- A creative re-structuring of the United Nations must accompany the implementation of Agenda 21, with the required institutional mechanisms clearly identified. The focus of a reform of UN programmes on sustainable development should use Agenda 21 as a base. UN agencies must improve their outreach to the community level;

- The OECS countries suggest a list of principles and prerequisites that should underlie the considerations of institutional mechanisms;

Financial Resources

- Medium and long-term commitments to provide financial resources to implement Agenda 21 should be made by all countries, but principally by the industrialized countries who are largely responsible for global environmental degradation;

- The GDP per capita, as an indicator used by international finance institutions, should be removed;

- The right of small island developing countries to sustainable development should in no way be constrained by conditions imposed on resource flows in the name of global environmental protection;

- The OECS countries support and encourage the consideration of the Trinidad and Tobago Agreement, adopted by Commonwealth Finance Ministers in 1990, in respect of low income indebted countries;

Technology Transfer

- Agenda 21 should be used as a framework for further negotiations under the aegis of the competent UN agency. Developing countries should access environmentally sound technologies on preferential terms, with special bilateral and multilateral arrangements during the interim;

Biodiversity

- The OECS countries can contribute significantly to the conservation of biodiversity through research needs, but the international community will have to provide considerable assistance;

Protection of Oceans and All Kinds of Seas, with Special Reference to the Caribbean Sea

- The OECS countries recommend that the additional principles of combating ocean pollution, sustainable ocean resource utilization, dependence of coastal populations on marine resources, sustainable development of non-living marine resources, and strengthening of national and regional capacities for sustainable management of marine resources, particularly within the EEZ;
Climate Change

- The OECS countries endorse the positions of the Alliance of Small Island States (AOSIS) in the negotiations on a Convention on Climate Change, particularly on the inclusion of the precautionary principle and the polluter pays principle;

- The OECS countries see the need for swift reduction of greenhouse gas emissions and the stabilization at 1990 levels by 1995. Full commitment to a global partnership will be required;

- The OECS countries support the AOSIS proposal at the Fourth Session of the INC on a Convention on Climate Change for an Insurance Scheme funded by industrialized countries;

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REGIONAL REPORT BY THE
PACIFIC ISLAND DEVELOPING COUNTRIES (PIDCs)

COOK ISLANDS
*FIJI, REPUBLIC OF
KIRIBATI, REPUBLIC OF
**MARSHALL ISLANDS, REPUBLIC OF
MICRONESIA, FEDERATED STATES OF
*NIUE
PALAU, REPUBLIC OF

***PAPUA NEW GUINEA
*SOLOMON ISLANDS
*TOKELAU
**TONGA, KINGDOM OF
TUVALU
*VANUATU, REPUBLIC OF
*WESTERN SAMOA

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

National Task forces:

- Principal Environment Officer, Ministry of Home Affairs, Vanuatu
- Secretary to Government, Niue
- Secretary, Department of Environment and Conservation, Papua New Guinea
- Secretary of Foreign Affairs, Marshall Islands
- Permanent Secretary, Ministry of Housing and Urban Development, Fiji
- Secretary for Human Resources, Micronesia
- Permanent Secretary, Ministry of Natural Resources, Solomon Islands
- Assistant Director, Lands and Environment, Western Samoa
- Secretary to Government, Tuvalu
- Secretary for Environment and Natural Resources Development, Kiribati
- Director of Agriculture and Fisheries, Tokelau
- Secretary of Lands, Survey, and Natural Resources, Tonga
- Permanent Secretary, Department of the Prime Minister, Cook Islands
- SPREP Coordinator

N.B. Some of the Island States have prepared separate national reports in addition to the regional report. Summaries for such national reports marked with an asterisk (*) above were included in Volume I of Nations of the Earth Report. Summaries included in Volume II (this volume) are marked **. *** Papua New Guinea will be included in Volume III. Countries with no asterisk have not sent separate reports to UNCED.
Letter from the Chairman by Ratu Ovini Bokini, Minister for Housing and Urban Development, Fiji.

Foreword by Vili A. Fuavao, Director of the South Pacific Regional Environment Programme.

Other Ministries and Government Agencies:

See above

NGOs, Grassroots Organizations and Public Involvement:

No specific mention in the regional report although some national reports in the region mention NGO and community involvement.

2. PROBLEM AREAS

- With an estimated population of only 5.8 million, the PIDCs’ capacity to protect their fragile environments against damage from both internal actions and external influences is constrained (p 10);

- In those countries where the authority of the Chiefs have been eroded, conservation practices are either no longer fully applied or enforced (p 11);

- The economies and environments are fragile in part because of their vulnerability to natural disasters such as cyclones (p 12);

- Substantial trade deficits occur annually and are sustained by large external finance inflows (p 12);

- The isolation and dispersion of people coupled with a lack of basic infrastructure in the South Pacific mean that transportation, communication, and servicing costs are disproportionately high compared to other regions (p 12);

- Integrating the monetary and subsistence economies is a dilemma that is being faced on the path to sustainable development in the Pacific (p 12);

- Global warming and sea-level rise are the most serious environmental threats to the Pacific region. Serious likely effects include the loss of mangrove forests, loss of agriculture areas, loss of fuelwood resources, coral mortality, saltwater intrusion and accompanying freshwater supply reduction (pp 13-15);

- Island countries are particularly vulnerable as populations depend on scarce water supplies, have important economic activities in coastal zones, have very limited areas of arable soil, and are at great risk from natural events such as earthquakes, cyclones, volcanoes, and tectonic forces (p 13);

- Migration from the mountains to the coasts, from the outer islands to the seats of governments, and from rural to urban areas is largely a result of inadequate schooling, medical and other facilities. This is proceeding so fast that governments cannot keep pace with facilities and services (pp 15-16);

- Due to land development laws, shanty towns of squatters develop, agricultural lands are lost, and forests, lagoons, and reefs are further degraded (p 16);
Solid and liquid waste disposal is a major problem (p 16);

For a few countries, a substantial loss of population through emigration to metropolitan centres and countries creates severe human resource shortages (p 16);

The atoll nations are poor in natural resources, their sole major economic development opportunity being confined to marine resources (p 17);

The difficult and high cost of access to most of the atolls limits prospects for an increase in tourism (p 17);

The working age population is growing rapidly but it generally lacks the vocational and technical skills needed for modern service and production activities (p 17);

Poverty is partly a result of urbanization, the shift to a monetary economy, and over-exploitation of natural resources (p 18);

Small isolated communities are particularly vulnerable to the rapid spread of infection and to the adverse effects of local environmental degradation. This is largely a result of poor supply and quality of freshwater (p 18);

The region has no capacity for monitoring the pollution from toxic or hazardous substances. There are inadequate laboratory facilities and lack of trained field sampling and analytical staff (p 19);

The two main problems in the area of education are the motivation of teachers on environmental matters and the lack of teachers well-informed about the environment (p 19);

Most teaching materials are from industrialized countries, making it difficult to communicate about issues of local importance (p 19);

A lack of understanding of the ecological and cultural importance of trees has been a significant cause of agro-deforestation (p 20);

Women are rarely consulted about the use of natural resources and youth are rarely given important environmental information (p 20);

Pacific island countries are not well-endowed with the technical infrastructure necessary to promote and achieve the effective transfer of new technology. Many countries lack the necessary capabilities to provide on going maintenance and repair (p 21);

Environmental impact assessments (EIA) have yet to be used routinely to appraise cabinet submissions or project proposals. A major constraint is the lack of trained staff among decision-makers to assess or monitor EIAs (p 21);

Commitments to environmentally sound development is not mirrored in the institutional framework, with inadequate staffing and funding allocations (p 21);

Detailed information on ecosystems and resources is rarely available to decision-makers (p 22);

Current legislation is either outdated or unwieldy, and very difficult to administer and enforce (p 22);
Increasing dependency on imported fossil fuel is seen as a major constraint to sustainable development. The region's dispersed population and long distances between major population centres make efficient energy production and distribution a fundamental problem (p 22);

The development of economically sustainable, renewable, and moderate-scale energy production technology is constrained by the lack of resources, skilled staff, and effective technology cooperation (p 22);

Land resources and the communities which depend on them are seriously stressed by high population growth rates and introduction of agricultural systems, mining, and forest utilization. This is most serious for the smaller islands, especially atolls (p 23);

Loss of traditional controls, commercial logging, agricultural plantations, cyclones, fire, landslides are among those major factors which contribute to deforestation and reduction in biodiversity. Road construction associated with commercial logging and agricultural projects encourages squatters to move into forested areas (pp 23-24);

Increased expansion of agriculture on marginal lands is a major long-term issue for the region (pp 24-25);

The major problem in the region with respect to mining is the disposal of tailings rich in heavy metals and toxic chemicals used in processing (p 25);

Mining of coral, sand, and aggregate is a problem particular to small islands with fringing reefs (p 25);

Local knowledge is eroding at an accelerated rate due to westernization, industrialization, and urbanization (p 26);

Island biological diversity and its component species are among the most critically threatened in the world (p 27);

The introduction of exotic species is responsible for great loss of biological diversity (p 28);

Existing quarantine units are grossly understaffed for the size and importance of the task before them (p 28);

In the coastal zone, there is over-fishing and the use of poisons and explosives; pollution from sewage, fertilizers and biocides, toxic wastes and oil spillage; mangrove damage through their use as garbage dumps, harvesting for poles and firewood, and improper design of causeways, bund walls, and sea-walls; sedimentation resulting from agriculture, mining, beach mining, lagoon dredging and construction; seepage of contaminated groundwater; souvenir collecting of corals and shells by tourists or their sale to tourists; and trampling across reefs (pp 28-29);

Most islands are subjected to the devastating effects of cyclones, volcanic eruptions, and earthquakes (p 29);

The sustainability of tuna, the principal fishery resource, is threatened by certain fishing practices and techniques, including the use of drift-nets (p 30);

Countries still lack adequate resource knowledge to control and fully utilize their Exclusive Economic Zones (EEZ) (p 30);

The low elevation and shallow water table of many islands mean that pollution rapidly reaches the groundwater (p 31);
Health problems are prevalent due to iodine deficiency in limestone areas and exposure to polluted water supplies and inadequate sanitation systems for the disposal and treatment of wastes (pp 31-32);

All countries share the serious problem of disposing of solid and liquid wastes, particularly from urbanization. Increased urbanization and industrialization is expected to make this situation worse (pp 31-32);

Industrial wastes, sewage, garbage dumps, and toxic chemicals are the main polluters of the marine environment. There is growing concern that toxic and hazardous waste disposal is being brought to the region from industrialized countries (p 31);

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- The Convention on Conservation of Nature in the South Pacific (Apia Convention) (p 9);
- The Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, and its two protocols (p 9);

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The preservation of local languages is vital for the transfer of traditional knowledge to succeeding generations (p 11);
- Education and training have the highest priority in the region’s development strategies (p 19);
- Review of existing legislation is a high priority (p 22);
- Man-induced soil erosion needs to be distinguished from the results of natural occurrences (p 24);

Priority Issues (page 34)

- The critical need for national and regional capacity building;
- The need to inform and involve people at the grassroots level;
- The impact of demographic pressures on the capacity to plan responses;
- The importance of recognizing and respecting the key role of traditional practices, culture, and subsistence economies;
- The difficulties of distance, isolation, dispersion, and national budget constraints in designing and implementing environmentally sound and sustainable programmes;

Principles (page 34)

- The 1972 Stockholm Declaration on the Human Environment and the 1982 Rarotonga Declaration on the Human Environment contain principles that need to be reaffirmed;
230 Pacific Island Developing Countries

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- To ensure effective application of funding from within national budgets and international sources to the protection of the environment and achievement of ecologically sustainable development in the region (p 48);

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- To facilitate the transfer of affordable and appropriate technologies, along with the associated development of human resources, skills and training, research, and information sharing (p 49);

7. INTERNATIONAL COOPERATION

- The South Pacific Regional Environment Programme (SPREP) represents 24 regional member states and 3 metropolitan countries (France, United States of America, and the United Kingdom of Great Britain and Northern Ireland). The SPREP organizes meetings to present consensus statements (p 8);

- The Asian Development Bank;

- The United Nations Development Programme;

8. EXPECTATIONS FROM UNCED

Social and Economic Dimensions

- To assist countries in protecting and improving their shared environment and in managing resources to enhance their quality of life for present and future generations (p 35);

- To adopt population policies which foster sustainable development (p 35);

- To ensure that economic development activities are carried out in an environmentally sound and sustainable manner (p 36);

- To integrate health and nutrition considerations into development planning (p 36);

- To integrate environmental considerations with economic and sectoral planning (p 37);

Conservation and Management of Resources for Development

- To adopt measures which will enable island countries to cope effectively, creatively, and sustainably with climate change and rising sea-level (p 38);

- To manage and plan for multiple-use, ecologically sustainable development and conservation of land, habitats, and resources (p 39);

- To ensure the retention of traditional knowledge and practices which foster sustainable development (p 39);

- To promote sustainable forestry practices even where this requires that existing programmes be changed to ensure that they are environmentally sound (p 40);
- To ensure the sustainable use and conservation of freshwater (p 41);
- To protect biodiversity and promote ecologically sustainable use of the region's biological resources (p 42);
- To manage and plan for the multiple-use, ecologically sustainable development and conservation of coastal areas, habitats, and resources (p 43);
- To prevent, reduce, and control pollution which might result from nuclear testing and from importing, transporting, storing, and disposal of toxic and hazardous wastes and weapons and implement the relevant international conventions (pp 44-45);

Strengthening the Role of Major Groups

- To facilitate access to environmental information for all groups, in particular women and youth, in order to enhance the management of resources and the environment (p 46);
- To encourage the participation of local indigenous communities in the planning and management of programmes for sustainable resource conservation and use (p 46);
- To affirm the right of individuals and NGOs to have access to all available information, to be informed about environmental issues relevant to them, and to participate in the formulation and implementation of decisions likely to affect their environment (p 47);

Means of Implementation

- To ensure effective application of funding from within national budgets and international sources to the protection of the environment and achievement of ecologically sustainable development in the region (p 48);
- To facilitate the transfer of affordable and appropriate technologies, along with the associated development of human resources, skills and training, research, and information sharing (p 49);
- To strengthen national and regional capabilities, institutional arrangements and financial support, to plan and manage sustainable development (p 49);
- To increase through education, training, and information dissemination, the overall awareness and understanding of the environmental and cultural heritage, and to promote positive community attitudes towards the environment (p 50);
- To provide effective international, regional, and national institutions, legal instruments and planning and management mechanisms to ensure protection and environmentally sustainable utilization of natural resources (p 51);
- To ensure that economic development activities are carried out in an environmentally sound and sustainable manner (p 51);
- To encourage research based on national and regional priorities relating to environmental policy, management and planning needs, and decision-making (p 52);
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1. DRAFTING PROCESS

National Committee: Editors & Authors

The report has been prepared jointly by the Environment and Urban Affairs Division (EUAD) of the Government of Pakistan and IUCN, Pakistan. It was supervised by a high level inter-ministerial committee headed by Zulfiqar Ali Qureshi, Additional Secretary, Government of Pakistan. Direct contributions to the report were made by eight experts from different fields such as biology, economics, sociology, institutional development and mass communications (pp iii and v). Financial and technical support was provided by UNDP and IIED.

Other Ministries and Government Agencies:

- Environmental Protection Agency
- PCSIR Laboratories
- Environmental Protection Society of Pakistan
- Planning and Development Division
- Ministry of Food and Agriculture
- Ministry of Foreign Affairs
- National Institute of Oceanography
- Pakistan Council of Research in Water Resources
- Pakistan Meteorological Department
- Ministry of Industries
- Ministry of Water and Power
- Pakistan Atomic Energy Commission
- Ministry of Commerce
NGOs, Grassroots Organizations and Public Involvement:

Consultations were held with researchers, journalists, government officials, industrialists, union leaders, activists from environmental NGOs as well as those working on community development and women. NGOs and the private sector are covered on pages 65-66 and 82-84. NGOs in Pakistan have become increasingly active and the report considers the civil society "dynamic".

2. PROBLEM AREAS

Some of the problems highlighted are:

- Environmental concerns leading to societal responses first made their appearance in the early 1970s;

- "Problems have emerged because of a combination of three factors: accelerating economic and demographic pressures, a limited resource base and inadequate institutions for the management of natural resources". The following are some of the problems highlighted:

- Macroeconomic, cross sectoral problems stemming from social and cultural factors and weakening customary institutions for the protection of natural resources which official agencies have not been able to fill (pp 46-47);

- Numerous floods in recent years have caused considerable damage (p 60); moreover, other natural disasters such as earthquakes and droughts occur;

- Air pollution is a serious health hazard in all major cities of Pakistan due to mounting car emissions and a high lead content of petrol (p 52);

- Water pollution as a result of the discharge of human and organic wastes, industrial effluents, chemical fertilizers in addition to inadequate water treatment facilities such as untreated sewage which is discharged into Ravi River at Lahore, causing the loss of 5,000 tonnes of fish a year;

- Contamination of surface and ground waters due to leather tanneries discharges, for instance, at Kansur city. A falling ground water table in the arid regions of the Quetta Valley (p 50);

- Industries such as the Sindh Industrial Trading Estate and the Landhi Industrial Trading Estate at Karachi discharge 615 and 550 tonnes respectively of biological oxygen demand (BOD) a day of pollutants into Malir and Lyari rivers causing the extinction of 6 marine species. Waterways and estuaries are not spared either;

- Sedimentation can afflict Pakistan's 3 main reservoirs at Tarbela, Mangla and at Chashma, reaching 4.49 tonnes/ha in the Indus basin and between 20-40 tonnes/ha for the Tarbela dam region;

- A poor water distribution system due to the inefficient "warabundi" system (p 50) whereby farmers take all the water they are allowed regardless of their needs; thus wasting a precious resource;

- Waterlogging, salinity and soil degradation due to poor animal husbandry;

- The development and use of energy can have a negative impact on the environment (p 55);
- Deforestation and rangeland degradation as a result of overgrazing;
- Inadequate municipal and informal sector waste management;
- Loss of biodiversity (such as leopards, jackals and bustards) due to the demographic explosion (p 58). Furthermore, 31 mammals, 20 bird species, 5 reptile species are all listed as endangered. There are no reliable estimates as for flora.
- Riverine and mangrove ecosystems are threatened by the expansion in irrigated agriculture;
- The cultural heritage is being threatened; for example, Taxila (a mixture of both Greek and Buddhist civilizations) through the indiscriminate quarrying of limestone.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- A Forestry Master Plan is being prepared by the government to focus on ways of improving forest management as well as on ways of involving local communities in that task;
- Forest cooperatives have been created in the Hazara Division of the North West Frontier Province to involve local populations into decision-making on forest use; moreover, innovative afforestation programmes based on community participation had been initiated too, such as the Malakand Forestry Project;
- The Environment and Urban Affairs Division in providing information on environment issues through the organization of conferences, seminars, and workshops (p 65);
- Worker training programmes on environmental issues are being offered by the Pakistan Institute for Labour Education and Research;
- Several laws and ordinances had been passed covering different environmental aspects such as air, water, and noise pollution, toxic and hazardous wastes, forest and wildlife and National Parks conservation in addition to fisheries and the preservation of the cultural heritage (see annex 2: pp 106-108);
- A number of national parks, wildlife sanctuaries and protected areas have been specified in different regions (see annex 3: pp 111-116);
- The National Council for the Conservation of Wildlife (NCCW) was set up in 1974 within the Ministry of Food, Agriculture and Cooperatives; it was entrusted with the coordination of wildlife conservation policies at the federal and provincial levels;
- An investment plan for the water sector has been formulated by the government; the aim of which is an identification of priorities in the water sector and the different issues dealing with environmental management and public involvement;
- The government has deployed its efforts towards strengthening the four provincial Environmental Protection Agencies (EPAs) to disseminate information on the environment as it has been envisaged by the Environmental Protection Ordinance of 1983;
- Several NGOs are working on a number of afforestation-reforestation and rural development projects;
A number of initiatives have been taken by the government on restoring and conserving for example the mazar (shrine) of Shah Rukn-e-Alam in Multan and Badshahi Masjid, Lahore.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Need to select energy sources according to their impact on the environment;
- Planning for the sustainable use of living resources is to be included in environmental impact assessments so as to monitor the impact of development projects;
- Poverty alleviation is to be focused upon;
- Local communities are to be better organized so as to enable them to manage local resources;
- Increasing the use of debt-for-nature swaps with a view to reinforcing international cooperation in sustainable development;
- Need to simplify and reduce the complexity and multiplicity of agencies working on environment-related programmes;
- Measures are to be taken to ensure the transfer of environment-friendly technologies to the southern countries on preferential and more favourable concessional terms;
- Setting up emergency response centres in all southern countries is recommended to enable a speedy response to any emergency. Reinforcing institutional, financial and technical support is recommended too;
- More investment is needed to be allocated to the South's institutions for the benefit of management at the national and local levels.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- UNDP has funded workshops and seminars on environmental issues including a UN-ESCAP seminar on the environment and media in 1988;
- A National Conservation Strategy has been sponsored by the Ministry of the Environment and Urban Development and the World Conservation Union which is funded by the Canadian International Development Agency and the UNDP; this strategy is intended for submission to the Cabinet for final approval.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

Some examples:

- Norway is assisting Pakistan through the Norwegian Agency for Development (NORAD) with a small-scale hydro project;
- 18 solar stations have been installed to meet domestic water pumping and community requirements;
- 4,000 units of biogas have also been installed though the majority are not operational.
7. INTERNATIONAL COOPERATION

- An Environmental Education Programme has been initiated by the Environmental and Urban Affairs Division in 1986 with the help of the UNESCO and the South Asian Cooperative Environment Programme;

- UNDP and USAID together with the Canadian International Development Agency have been active in increasing awareness on sustainable development issues through organizing workshops;

- UNICEF is currently supporting a number of NGOs in publishing material on the environment such as the Teachers' Resource Centre which publishes an Urdu newsletter to schoolchildren;

- The Tanners Association is being helped by both the UNDP and the Norwegian Agency for Development (NORAD) in preparing a feasibility study on an effluent treatment plant;

- A number of countries are assisting Pakistan in various fields such as the Netherlands which is helping in Social Forestry and Pollution Control, Norway with afforestation and Canada with energy and policy development (See p 91 for details).

- Pakistan participates in UNESCO's Man and Biosphere Programme and the South Asia Cooperative Environment Programme.

8. EXPECTATIONS FROM UNCED

- "Pakistan's position on the six items of the agenda can be subject to possible reassessment and reformulation" (pp 97-100);

- The Earth Charter is to stress upon the priority of fulfilling the basic needs of human beings as well as highlight the principles of national sovereignty and equity as the basis for international cooperation;

- Agenda 21 is to become a means of implementing the conventions signed at the Earth Summit;

- Financial and technical resources are needed; moreover, debt-for-nature swaps are preferred to the Global Environment Facility;

- Transfer of technology: Northern countries can provide either financial or technical assistance so as to ensure that the South obtains environment-friendly technologies on concessional and non-commercial terms;

- Institutions: Pakistan expresses its support for a more direct involvement of the relevant UN agencies; the decision-making system needs to be improved with due consideration to equity, integrity and representativeness;

- Conventions: Pakistan supports the Conventions on Global Climate Change and Biodiversity; a convention on the use of forest resources could be prepared too. It further endorses the Stockholm Declaration of 1972, whereby the sovereignty of countries over their natural resources is protected. As for biotechnology, it must be accompanied by adequate control and safeguards.
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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was prepared by the Department of Environment & Natural Resources (DENR) of the Environmental Management Bureau, assisted by the National Coordinating Committee, which was established by an executive order signed by Mrs Corazon C. Aquino, President of the Philippines.

Other Ministries and Government Agencies:

The National Coordinating Committee included representatives from the following government departments and agencies:

- Foreign Affairs
- Environment and Natural Resources
- Science and Technology
- Senate Committee for Environment and Natural Resources
- Health
- Education, Culture and Sports
- National Economic and Development Authority
- Agriculture
- Finance
- Public Works and Highways
- Interior and Local Government
- National Defence
- Transportation and Communications
- Trade and Industry
- Labor and Employment
- Office of Energy Affairs
A Working Committee, known as the National Technical Committee was also set up comprising 24 other senior government officials; A nine-person DENR’s in-house Steering Committee was created to ensure the effective discharge of responsibilities; Thirty-three persons from the Environmental Management Bureau provided administrative and technical support; A thirteen member core group of experts wrote sectoral papers which were used as working papers during the multi-sectoral consultations; A ten member editorial board was set up to conduct an overall review of the report.

**NGOs, Grassroots Organizations and Public Involvement:**

NGO participation included representatives from:

- Green Forum-Philippines
- Earth Savers Movement
- Philippine NGO Council

To ensure broad-based participation in the National Report preparation, the draft sectoral reports were reviewed at several levels:

- By the multi-partite Technical Committees of the Philippine Strategy for Sustainable Development of the Environmental Management Bureau of the DENR comprising 46 individuals and organizations;

- In several Regional Multi-Sectoral Consultations attended by participants from government and NGOs, including representatives from the industry, labour, women, youth and international organizations, bringing together 190 persons.

Nine other individuals/agencies, including the Regional Advisor on Environment of the UN-Economic and Social Commission for Asia and the Pacific, gave invaluable assistance (Chapter 6 & Annexes D and E).

**2. PROBLEM AREAS**

- Rapid population growth and continued migration to urban areas (3.4);

- Widespread poverty leading to:
  - the destruction of forests and soil erosion;
  - loss of productivity due to disease and malnutrition;
  - the disruption of fragile ecosystems due to ignorance and hunger.

- High foreign debt with debt servicing using up over 40% of the country’s net export earnings (3.1);

- Continued sprawl of slum and squatter settlements (3.4);

- Inadequate waste management policies;

- Lack of urban infrastructures for basic services and pollution control (3.4);

- Rapid depletion of forests and other natural resources (3.3);

- Degradation of land, water and coastal resources by industrial and domestic wastes for lack of adequate facilities (3.4);
Contamination of groundwater resources by salt water intrusion, mine wastes, and heavy siltation of rivers from mine tailings (2.2);

Pollution and wastes resulting from industrial developmental activities are a major source of environmental concern (2.8C);

Natural disasters such as typhoons, floods, droughts, earthquakes and volcanic eruptions result in the massive destruction of the environment and the death and displacement of large numbers of people and cause very costly property damages. The country experiences an average of 19 typhoons annually and the eruption of Mt. Pinatubo in June 1991, after being dormant for 600 years, was the latest and probably the most environmentally destructive natural disaster to strike the country (3.5);

Concern for climate change effects (3.7);

Weak enforcement of legislation and inadequate protective measures for wildlife and biodiversity (2.4);

Baseline data on species are limited (2.4);

Management plans for procedures are either lacking, inappropriate, or poorly designed (2.4);

Inadequate government funds for protected areas cause serious impediment to their management and protection (2.4C);

Awareness on environmental technologies is lacking and information on energy-efficiency is not widely disseminated (2.7);

There is a lack of coordination among concerned entities on land-based sources of coastal area pollution (2.6D).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

The current Medium-Term Philippine Development Plan (1987-1992) has four objectives (1.0):

- alleviation of poverty
- generation of employment
- promotion of equity and social justice
- attainment of sustainable growth

The Philippine Strategy for Sustainable Development (PSSD) is the country’s basic response to environment and development, formally approved in November 1989. The PSSD aims to achieve and maintain economic growth without depleting natural resources and degrading environmental quality (4.0);

The PSSD sets forth basic strategies in the sectors of forests, freshwater, urban areas, protected areas and biodiversity, population and human resources, developmental planning and environmental administration, agriculture, energy, industry, coastal areas, and minerals (Annex A);
Some of the existing PSSD strategies include:

- The Integrated Social Forestry (ISF) covers activities in agro-forestry, provision of livelihood opportunities, and expansion of community-based reforestation (4.9);

- Since the 1960s, industrial pollution control has been vested in the National Pollution control Commission, the Laguna Lake Development Authority, the Philippine Coast Guard, and the National Environmental Protection Council (4.7);

- An Integrated Protected Areas System (IPAS), assisted by the World Bank, was set up to identify and manage protected areas (4.5);

- An enabling IPAS legislation has been submitted to Congress to provide the necessary legal framework (4.5);

- There is the Forest Land Management Agreement for organized residents who successfully implemented reforestation contracts, entitling them to harvest, process sell, or use the products grown (4.4, 4.6);

- A Natural Resource Accounting project was launched to incorporate environmental concerns within the existing income accounting systems (4.2);

- The Investment Priorities Plan contains programmes and projects in the industry sector with beneficial environmental effects (4.2);

- The People's Mining Act legalizes small-scale mining operations and allows for equitable sharing of mineral wealth (4.4);

- The DENR has included non-governmental organization components in its programmes and projects (4.11);

- The Industrial Waste Exchange Programme aims to reduce adverse environmental impacts from industrial wastes (4.7);

- A Sewerage and Sanitation Master Plan was implemented in 1979 to, among others, expand the collection system and improve the health situation in densely populated low-income areas (4.7);

- The Philippine Environment Code (1977) calls for environmental education in school curricula at all levels (4.10);

- The Pollution Adjudication Board, set up in 1987, has been relatively successful in compelling industries to put up anti-polluting devices (4.7);

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

 Philippine NGOs recommend that the Philippine Government support the following (4.11):

- The protection of the rights of indigenous peoples to their ancestral domain in any forest treaties;

- The conservation of all primary forests, including native or mature natural forests as the main objective of any international agreement on forests;
That conservation and social equity should be the guiding principles in any biodiversity treaty, for the benefit of poor countries and local communities;

That a climate convention aim to stabilize atmospheric levels of greenhouse gases and equalize per capita emission of $\text{CO}_2$ level sinks;

That a climate fund paid for by industrialized countries be set up to help poor countries develop sustainably and to compensate them for maintaining forests as $\text{CO}_2$ level sinks;

A ban on the export of toxic wastes to underdeveloped countries;

A ban on the export of factories, technologies and products that do not pass the environmental safety standards of exporting countries;

That a country's ecological security have primacy over any "free market" or "open trade" agreements in GATT;

That a ban on the trade of smuggled natural resources such as timber, corals and fingerlings be part of CITES agreements;

That a ban on ecological aggression be included in all trade, foreign investment and ODA agreements;

That an institutional mechanism for peacefully settling ecological disputes between countries is a prerequisite for effective enforcement.

Other recommendations include the following:

- Major recommendations, based on gaps in sustainable development efforts, were made for the 1992-2002 Philippine Action Plan on Sustainable Development (Table 4.5);

- Energy conservation technologies should be encouraged and made available at concessionary terms to developing countries (3.6);

- Industries are advised to opt for waste reduction;

- A rational energy pricing policy is required so as to promote energy conservation. Environmental costs need to be included in such a policy (4.3);

- Both population and environmental concerns are to be integrated into social and economic development planning processes so as to achieve sustainable development (4.8);

- There is a need to rehabilitate degraded ecosystems and resources, including forests, grazing lands, coastal zones, mining operations, and rivers (4.6);

- The Environmental Impact Assessment process should be strengthened (4.2).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Concessionary terms are necessary to acquire environmentally sound technologies (5.0);

- An endowment fund should be established for non-governmental organizations (Table 4.5);
Funds are needed from the international community with a view to implementing the provisions of international agreements such as the Convention of International Trade For Endangered Species (4.14).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Imported appropriate environmentally sound technologies should be made on concessionary terms (3.6);
- Non-conventional energy sources include biomass, solar and wind energy (2.7);
- Environmentally sound technologies related to small-scale mining operations have been promoted and future ones proposed, including mercury recovery from waste products (4.7).

7. INTERNATIONAL COOPERATION

- The Philippines is seeking global cooperation in addressing a number of key environmental issues particularly for industrial waste management, strengthening information systems, and hazardous waste management (4.14);
- The Philippines is signatory to a number international agreements;
- There is need for formal international agreements on access to appropriate environmentally sound technologies based on terms that would be acceptable to all parties concerned. Such agreements should include strengthening of research and development on health impacts of pollution, among others (4.14);
- There is a UNFPA-funded Integrated Population Development Project to integrate planning at central and regional levels (4.8);
- An environmental fund is proposed, paid for by industrialized countries, to help developing countries maintain their forests, promote research, and promote development of efficient energy sources (4.14);
- Large-scale projects that destroy Philippine forests, and which are further supported by multi and bilateral funding sources should be stopped and any foreign country continuing such projects should be charged for the damages (4.14);
- The Philippines calls for solidarity with other developing countries and with developed countries for relief from burdensome foreign debts;
- It also requests financial assistance from the international community for the implementation of the provisions of international agreements it is signatory to;
- The country recognizes that ecological security has primacy over GATT trade agreements (4.14).
8. EXPECTATIONS FROM UNCED (5.0)

Debt relief, poverty alleviation and environment:

- There is need for an international effort to provide debt relief to heavily indebted nations like the Philippines through, among other things:
  - "debt-for-nature swaps" programmes;
  - re-financing of existing debts under better and more concessionary terms;
  - the forgiving of selected debts, particularly those incurred for past projects which had adverse environmental impacts;

Natural disasters and environmental rehabilitation:

- International cooperation and global response are needed to help finance environmental rehabilitation, and the scientific and technical needs for monitoring and prediction. The proposed international environment fund should have a special window to provide grants for scientific and technical studies and monitoring, and concessionary loans for environmental rehabilitation arising out of major natural disasters;

Transfer of environmentally sound technology:

- Environmentally sound technologies, which prevent or minimize the production of residuals, and treat domestic and industrial wastes, should be made available on concessionary terms.

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E. List of individuals/organizations involved in the report preparation

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

In 1991, the Minister of Environmental Protection, Natural Resources and Forestry established the National Committee for Poland in preparation for the United Nations Conference on Environment and Development. The Chairman is the Minister of Environmental Protection whilst the Institute of Environmental Protection acted as the secretariat.

Other Ministries and Government Agencies:


NGOs, Grassroots Organizations and Public Involvement:

Non-governmental organizations from different regions of Poland have participated in the drafting of the report such as the Polish Ecological Club and the Centre for Environment and Development. The concept of sustainable development in Poland was first and primarily promoted by NGOs, helped by scientists.

2. PROBLEM AREAS

- Environmental degradation in many regions is catastrophic for it threatens any development efforts;
- Excessive pollution is a major threat;
- Key environmental problems are also those connected with bilateral and multilateral regulation with neighbouring countries in boundary zones as well as regional, transboundary air pollution and Baltic Sea protection against pollution;
In Katowice, concentrations of suspended dust, \( \text{SO}_2 \), \( \text{NO}_x \), fluorine, formaldehyde, phenol, ammonia, lead, cadmium, and benzo/a/pyrone often exceed norms;

Pollution in parts of the Baltic Sea is high and its concentration of pollutants is 10-times higher in comparison with clean ocean water. Eutrophication is also a problem;

Poisoning of fauna and flora due to air pollution, sulphur and nitrogen oxides;

Transboundary pollution as polluted water enter the Polish territory from Czechoslovakia, Germany and the Community of Independent States in addition to air pollution and acid rain;

Soil erosion due to increased levels of cadmium, lead and zinc in soils;

In 1989, about 11% of the country area, inhabited by 35% of the total population was recognized as endangered among which 5 areas were declared ecological disaster zones such as the "Black Triangle" zone covering Upper Silesia and East Cracow;

Deteriorating forests: Over 50% of the forest area has become endangered reaching 983 thousand ha in 1989;

The health of the population is threatened by food contamination as a result of air, water and soil pollution; infant mortality is rising;

Poor energy management with an excessive concentration of heavy industry and energy production in resource-mining regions;

Excessive use of water resources accompanied by irrational use of arable lands.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Key instruments have already been formulated such as the "Provisions for National Spatial development till 1995" (1986) and the "Plan of national spatial development till 2000";

The concepts of eco-policy and eco-development were accepted in the "Round Table Protocol" conference held in April 1989 in which the Government and opposition participated;

Several institutions to deal with the environment have been set up such as the Ministry of Environmental Protection, Natural Resources and Forestry (since 1990) and the State Environmental Protection Inspectorate (since 1980); with tasks ranging from ensuring sustainable development to creating a coherent legal and economic body;

Principles of national sustainable development have been integrated in the current transformation process leading to establishing a market economy system. Both economic and environmental criteria have also been accepted in the "Provisions for the socio-economic policy of 1990";

A National Fund for Environmental Protection and Water Management has been established. The Fund is financed through collection of fines for the abuse, and fees for the use, of the environment and mineral resources;
The Law for the State Inspectorate of Environmental Protection has been revised, transforming the Inspectorate into a powerful "environmental police". Draft laws on natural environment conservation, water, hunting, as well as marine water pollution by ships have been prepared.

Implementation of the National System for Environmental Monitoring has been initiated. The system will integrate existing monitoring with research centres;

In May 1991 the Polish Parliament enacted the law covering the national environmental policy, which took into account the situation of different resources as well as the duties of citizens and the participation of organizations. Environmental priorities have also been determined.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Implementation of the "provisions" by the Ministry of Environmental Protection, Natural Resources and Forestry resulted in the formulation of the "National Environmental Policy" which provides orientation on the activities to be pursued for both the administration and the society at large;


- Abandon or change the production profile for industrial plants emitting hazardous substances into the atmosphere, or dumping hazardous waste;
- Implement the coal quality improvement programme with the aim of reducing dust and gaseous emissions. Stabilize green-house gas emission at 1988 level by the year 2000;
- Improve the quality of drinking water mainly through reinforcing waste water treatment plants;
- Other priorities include the launching of an intensive afforestation programme, extending areas under protection and providing environmental education for the public.


Atmosphere protection:

- Reduce sulphur dioxide, nitrogen oxides, dust and volatile organic compounds emissions into the air by 30%, 10% and 50% respectively by the year 2000.

Efficient use of water:

- Reduce pollution loads disposed of by industry and municipalities into the rivers by 50% by the year 2000 in addition to overcoming water shortages in urban areas;
- Upgrade ground water and improve hazardous waste management;
- Reduce "massive industrial waste" quantities by 20% and adopt recycling systems for municipal solid waste.
Long-term priorities (2000-2010):

- Enforce and support clean production technologies and consolidate the concept of sustainable development;

- Scientific research is important for the transition to a market economy. Institutions connected with the Polish Academy of Sciences are the Institute of Environmental Protection, the State Geological Institute, and the Institute of Meteorology and Water Management;

- Environmental education is an essential part of environmental policy; it is to be included in basic education as well as be covered by the mass media and non-governmental organizations;

- Not only clean technologies are needed but also negotiation skills and access to "know-how";

- Transfer of environmentally sound technologies is necessary in the field of retrieval, production and utilization of energy for lower energy consumption and higher material saving.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Support from public funds is needed. Public financial involvement is indispensable. A preferred solution in Poland is to operate "environmental" funds which implement the Polluter Pays Principle;

- An essential factor is adequate financial resources. In 1991, US$1.6-1.7 billion was spent on environmental protection; it is expected to double in the next two years;

- There is a National Fund for Environmental Protection and Water-Management and 49 Regional (voivodship) Funds for Environmental Protection and Water Resource Management. In 1989 the National Fund was separated from the state budget reporting to a Board appointed by the Minister of Environment. Regional Funds are part of the state budget. Revenues come from emission charges and non-compliance fees;

- An exploitation charge for access to mineral deposits is collected by the state treasury;

In 1991, it is expected that the National Fund will collect US$250 million, and Regional Funds are expected to raise US$300 million. A 5% charge on liquid fuels, natural gas, and lignites can raise as much as US$250 million per year;

Poland’s expenditure on the environment has never reached the target level (0.8% in 1989). Funds expended in 1991 are as follows:

- US$440 million generated by firms to reduce their own pollution
- US$400 million from municipal budgets
- US$210 million from the State budget
- US$60 million from confirmed foreign aid sources
- US$550 million from authorized Funds for Environmental Protection and Water Resources Management
The Polish proposal of "debt-for-nature" swaps reduced Polish debts by 50%. If creditors decided to cut a further 10% Poland would be able to assign an additional US$3 billion for environmental protection.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Technology transfer is of particular importance. Scientific research and its practical applications are recognized as important for the transfer to a market economy. Budget constraints limit such research. No other specific mention beyond what is mentioned in sections 4 above and 8 below.

7. INTERNATIONAL COOPERATION

- Bilateral and multilateral regulations with neighbouring countries on transboundary pollution in addition to regional conventions on transboundary air pollution, on the protection against pollution of the Baltic;

- Protecting the ozone layer as well as controlling waste disposal;

- In collaboration with the World Bank and the US/EPA improvement of environmental management has been initiated and the State Environmental Monitoring System is almost completed;

- Poland also carries out other external cooperation with the World Bank, the EEC PHARE programme, USA and the Nordic countries;

- Poland participates and will further increase its participation in international organizations such as: UNEP, UNESCO, UNDP, WHO, WMO and other organizations of the UN system, the World Bank and the International Monetary Fund as well as the ECE.

8. EXPECTATIONS FROM UNCED

- A global system for technology transfer is needed for the protection against hazardous waste as well as transboundary pollution. Secure measures should be established to deal with hazardous and harmful solid waste. Transboundary transport of such waste requires international cooperation. A system to settle environmental disputes is called for;

- A series of new activities of a regional and global character should be launched. Poland, apart from the conventions on Climate Change and Biological Diversity to be agreed upon, is particularly interested in the issues of technology transfer, managing toxic waste, restoring degraded areas and protecting nature on a regional scale;

- Establishing "wide-space forms of nature conservation" and restoring degraded areas, in addition to establishing an effective international environmental law are seen as a possible positive outcome of the UNCED.
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D. EXPECTED OUTCOME OF UNCED FOR POLAND

E. PROCESS OF REPORT PREPARATION
PORTUGAL

Full Title: Report of Portugal to the UNCED
Date of Report: June 1991
Version: Final
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Total pages: 91 + Appendix

1. DRAFTING PROCESS

National Committee: Editors & Authors

The foreword is signed by Carlos Borrego, the Minister for the Environment and Natural Resources.

Other Ministries and Government Agencies:

No specific mention

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

- Pollution of groundwater (Ave basin and the Feira municipality) as well as deteriorating water quality especially in densely populated urban and industrial zones such as the Estarreja and Lisbon areas;

- Pollution of rivers such as the Ave and Leca in addition to estuaries like the Sado estuary which in turn endangers aquatic life. Lagoons, such as the Aveiro lagoon, are polluted by organic pollutants from the cellulose industry and effluents from oil;

- Wetlands are adversely affected by urban and industrial discharge pollutants;

- Soil erosion, desertification and declining fertility threaten woodland flora and fauna;

- Air pollution as a result of increasing industrial, NOx, SO2, Volatile Organic Compounds (VOC) and CO and CO2 emissions;

- A high incidence of forest fires especially in the Central Region as well as in Alentejo. In 1989, for example, 100,000 ha of tree plantations were destroyed;

- Coastal erosion from Minho to the Algarve due to a rise in sea level;

- Radioactivity was found in air and water as a result of nuclear weapons tests during the 60’s and 70’s. Chernobyl did not affect Portugal;
Lack of regulations on waste disposal in addition to the inadequate treatment of waste and uncontrolled dumping;

Natural catastrophes, for example, at the end of 1989, flooding occurred as a result of heavy rainfall;

Major oil spills in 1989 and 1990 in the Sines area and the Madeira archipelago;

Noise pollution especially in heavy industrial and urban concentrations, for example, where deafness ranks second on the list of work-related diseases.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Control of coastal waters involved the checking of 279 beaches in Portugal and in the autonomous regions in 1990;

In 1990, a national system on the treatment of hazardous waste was agreed upon, and an in-depth study on industrial waste was carried out;

The "National System for data on noise pollution" project has been initiated so as to monitor environmental noise through the installation of a listening post network and the setting up of a data processing analyzing centre;

Several campaigns have been launched so as to increase public awareness about "Traffic: Atmospheric Pollution and Noise";

Environmental policy has recently concentrated on integrating the environmental dimension into national, regional and sectoral policies;

The League for the Protection of Nature was founded 43 years ago with the aim to conserve nature together with the 300 associations working on protecting the environment;

In April 1987, the National Assembly approved the Basic Environmental Law which created the National Institute for the Environment;

A water quality network has been set up together with a programme on monitoring ground water and the quality of water in the Tagus basin;

A Pluriannual Research Programme has been formulated to deal with climatology, environmental protection and natural hazards;

Several laws have been promulgated to cover the protection of forests, water and soils in addition to the National Ecological Reserves;

A continuous radiation monitoring system of the air and water of the Tagus is being developed to evaluate and check the radio-ecological impact of nuclear and radioactive installations;

A National System for Meteorological and Climatic Observation has been set up to investigate the greenhouse effect, acid rain and the depletion of the ozone layer;

Environmental education is being provided by both the New University of Lisbon and the University of Aveiro (pp 28-29);

Protected areas at present 6% of Portuguese territory;
- A Science Programme dedicated to development and research is ongoing;
- A National Information System on the Quality of the Environment has been set up so as to store, process and analyze data useful for decision-makers.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- A survey is needed on noise pollution to define land use policy;
- The global movement for the protection of tropical forests is to be strengthened (p 80);
- A policy to stabilize or reduce CO₂ emissions and greenhouse gases is required; intensify research on response strategies and alternative products is needed;
- Preventive measures needed to reduce noise pollution;
- Technology transfer includes the drafting of codes of procedure, the creation of a specific fund, the reduction of patent and royalty costs in addition to the elimination of customs barriers;
- Projects and cooperation programmes are required to provide adequate training and to ensure the success of technology transfer;
- Evaluation of the environmental impact of such cooperation projects and programmes is needed;
- Greater funding for the creation and management of protected areas is needed;
- A reconsideration of the principles and guidelines of international cooperation is indispensable cooperation should be adapted to the real needs of each country based on technology and 'know-how' transfers;
- NGOs are to be granted means to encourage the process of increasing public awareness.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Funding is needed to reduce noise pollution;
- Reinforced solidarity among the countries of the world is of utmost importance. This can be achieved through an increased number of programmes to fight poverty. Reconsideration of the debt burden borne by developing countries is necessary;
- A Specific Programme for the Development of Portuguese Agriculture has been financed by the European Fund for Orientation and Agricultural Guarantee (FEOGA);
- Different programmes have been funded by the European Regional Development Fund (FEDER) such as the valorization of endogenous energy potential (VALOREN) and the advanced telecommunications services (STAR);
- Funding was provided by the European Investment Bank to cover the costs of infrastructure, industry and energy for the purpose of reducing the regional imbalances in development;
Credit lines of the Economic Community for Coal and Steel (CECA) were extended to reconverterror existing facilities to environment-friendly ones.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Re-using paper and recycling glass is important.

7. INTERNATIONAL COOPERATION

- Protected Border Areas are to be created in the near future together with Spain;
- Cooperation with Portuguese speaking countries especially in Africa is recommended;
- The "Lisbon Agreement" has been signed between Spain, France, Morocco and Portugal; the aim of which is to devise cooperation strategies on the prevention of marine pollution accidents;
- Portugal has signed several International Conventions and Protocols on limiting CFC's;
- A number of activities dealing with the environment have been implemented in Portugal; within the framework of the European Agency for the Environment and the Community's programme EUROSTAT.

8. EXPECTATIONS FROM UNCED

No specific mention

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V  APPENDIX
1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was prepared by the Qatar Environment Protection Committee.

Other Ministries and Government Agencies:

No specific mention

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

- Air pollution with the possibility of smog and acid rains. Burning oilfields in the most recent crisis between Iraq and Kuwait were another major source of pollution;

- Marine pollution due to oil leakage or waste dumping in the Gulf. Marine life found to contain high heavy metal concentrations, a threat to human health;

- Salinity of ground water;

- Hunting is practised without regulation though it threatens both fauna and flora;

- Soil degradation due to excessive use of pesticides and agricultural chemicals as well as the threat of desertification;

- Insufficient legislation on environmental protection as well as weak institutions dealing with the environment;

- Imported agricultural and industrial methods, unsuitable to Qatar’s environment;
262 Qatar

- Lack of qualified personnel specialized in environment and planning as well as insufficient studies on the environment.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

A governmental farm for agricultural and water research has been set up in the north. Its aim is to increase seed production and promote the use of greenhouses;

An agricultural statistics' survey is being implemented to take stock of available resources and specify the country's crop composition;

A topographical survey of agricultural lands is being undertaken;

A research programme on crops has been initiated aimed at choosing the most environmentally friendly strains;

UNDP and FAO are helping in preparing hydro-agriculture surveys. In addition, an integrated water and land use survey is being launched, the aim of which is to use available ground water in a sustainable manner;

A plan of action is being implemented with countries of the Gulf Cooperation Council for the protection of the environment and the formulation of environmental legislation;

Numerous laws exist including:

- A Law on Occupational Safety (1962);
- A Law on Pesticides and the Regulation of their Imports (1968);
- A Penal Code covering Treatment of Polluted Groundwaters (1971);
- A Law on the Protection of Oil Wealth (1977);
- A Law on Agricultural Quarantine and Protection against Pests (1981);
- A Law on Regulating the Drilling of Wells (1988).
- A Law establishing the Environment Protection Committee headed by the Minister of Health (1984);

A law was also prepared in 1988 covering protection against radioactivity.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Helping developing countries to overcome development and economic problems on the basis of a long-term strategy;

- Giving priority to environment and development programmes while reducing the colossal military expenditure (US$900 billion in 1985). Note that the UN Plan of Action to Combat Desertification costs US$4.5 billion a year. More funds can thus be released for sustainable development;

- Providing developing countries with technical and material support;

- Developing environmental concepts in educational curricula and through the mass media;

- Taking quick action in areas where the environment is particularly threatened.
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

No specific mention

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

- Qatar collaborates with both regional and international organizations;
- The Arab Organization for Agricultural Development assisted with a topographical survey of arable lands in Qatar;
- FAO, with UNDP’s technical assistance, implemented a project on hydro-agricultural surveys;
- IAEA is assisting Qatar in ground water monitoring;
- The Arab Gulf Cooperation Council approved a plan of action on the protection of the environment.

8. EXPECTATIONS FROM UNCED

- Help countries of the Gulf Cooperation Council to formulate efficient programmes for the conservation of the land and marine environment as well as water resources through training and planning;
- Increase efforts to combat oil and industrial pollution;
- Assist the Environment Protection Committee in Qatar by providing experts and technical advice in the drafting of environmental standards;
- Promote technical and scientific cooperation between Qatar, the Gulf countries and international organizations working on environment.

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Bibliography
1. DRAFTING PROCESS

Rwanda's national report was based on the National Environmental Strategy and the Environmental Action Plan (Stratégie Nationale de l'Environnement au Rwanda et le Plan d'Action Environnementale - SNER/PAE), two documents that were elaborated with the view to finding the best approach to resource use that is compatible with protection of the environment.

National Committee: Editors & Authors:

Ministry of Planning

Other Ministries and Government Agencies:

"Before being approved by the country's highest authorities, the contents of the two above mentioned documents were the subject of broad-based consultations of all socio-economic groups and at all levels (Central Administration, Districts, Communes, NGOs)" (p 4).

NGOs, Grassroots Organizations and Public Involvement:

See above

2. PROBLEM AREAS

- Poverty;

- High population density, leading to progressive disappearance of farmland and depletion of natural reserves. The rate of population growth stands at 3.7%;

- Since 1990 Rwanda has been confronted with a war which has destroyed infrastructure and damaged the natural environment. At the same time, there is a displacement of people fleeing combat zones (p 109);

- Deforestation for fuelwood and agricultural needs;
Degradation of soils due to over-exploitation has resulted in the collapse of the agricultural sector;

Disappearance of pastoral lands due to demographic pressure resulting in a big decrease in bovine livestock;

Food security: More than 500,000 people are presently in a state of declared famine (p 31);

Decline of GDP due to a series of events including the crisis in the world commodity markets. Rwanda exports coffee (80% of receipts), tea and pyrethrum by-products among other agricultural products;

With effect from 1983, plantations (for cinchona bark and quinine production) were abandoned due to the collapse of the world market, whereas Rwanda had just invested massively in the construction of a local processing plant for cinchona bark. The local people, encouraged by the government programme, had invested in the production of cinchona bark. Production dropped from 565 tons in 1980 to less than 300 tons in 1990 (p 15);

Negative balance of payments and heavy external debt;

The education system suffers from lack of qualified teachers and very high training costs (pp 31-33);

High unemployment especially in rural areas;

Inadequate health system;

Prevalence of water-borne diseases due to lack of safe drinking water despite the fact that Rwanda is rich in water resources;

Lack of proper and cheap urban housing results in proliferation of slums (p 35).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Establishment of the National Environmental Strategy and the Environmental Action Plan (SNER/PAE);

Adoption of a Structural Adjustment Programme (1991-1993) in 1990 to revive medium term economic growth (pp 24-29);

In order to ensure regular and efficient provision of essential medicines at reasonable prices, the government, with the cooperation of local organizations, is setting up community pharmacies in conformity with the BAMAKO Commitment. (Pan African Conference on Environment and Development, organized by OAU in January 1991) (p 33);

Use of terracing methods in crop farming as a very effective system for soil conservation on slopes (p 66).
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Population:

- Implementation of land reform;
- Rural reorganization through renovation of agrarian patterns;
- Improvement and strengthening of urban structures;
- Curb population growth. The target is to bring population growth to 3.1% by the year 2000, which corresponds to 6.5 children per mother instead of the present 8.6 children (pp 47-48).

Water and sanitation:

- Implementation of household and industrial waste management programmes;
- Promotion of individual and collective hygienic education;
- Development of technical and institutional means to control water quality;
- Strengthening of water management and protection legislation;
- Establishment of a national register of water resources;
- Establishment of appropriate sanitation systems;
- Provision of safe drinking water.

Health:

- Raise public awareness in hygienics and in good waste management;
- Strengthening of measures to fight contagious diseases such as malaria by cleaning up dirty areas and evacuating stagnant waters and other liquid wastes;
- Construction of a national public health laboratory and strengthening of health establishments;
- Detection of pollution sources and implementation of appropriate sanitation programmes.

Agriculture, animal husbandry, fisheries and forestry:

- Adapt the different methods of fighting soil erosion to local conditions, e.g. digging of ditches to absorb rainwater from rooftops;
- Rationalization of animal husbandry;
- Rational exploitation of forestry resources;
- Adequate enhancement of marshlands;
- Diversification of agricultural methods;
- Enforcement of the Soil Conservation Act voted by the National Development Council in March 1982.

Tourism:

- Training of tour operators;
- Strengthening of regional cooperation;
- Setting up of environment/tourism desks at the different ports of entry into Rwanda.
Climate and natural disasters:
- Training of technicians in meteorology;
- Strengthening of the existing meteorological network.

Energy:
- Sensitizing of the population to the protection of forest resources and to the utilization of alternative sources of energy such as biogas;
- Development and popularization of improved techniques and equipment, e.g. improved stoves;
- Grouping of settlements to facilitate access to public power distribution networks.

Mining:
- Development of non-polluting techniques of exploiting and processing mineral resources;
- Training of mining inspectors and strengthening of monitoring networks;
- Update mining legislation.

Transport:
- Improvement of road signs;
- Creation of automobile technical control centres and fuel control systems;
- Inclusion of environmental protection in specifications of road construction projects.

Education:
- Inclusion of the environment in school and higher studies curricula.

Women:
- Implementation of educational and literacy programmes;
- Promotion of activities that generate employment for women;
- Improvement of family planning services;
- Strengthening and promotion of women's organizations;
- Sensitizing women to rational management of freshwater and energy resources, hygienics and sanitation;

Strengthening of legislation and institutions
Strengthening of international cooperation, especially from the regional point of view

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Implementation of Rwanda's National Environmental Strategy and the Environmental Action Plan, at sectoral level, requires the mobilization of financial resources amounting to RWFR14,430,500,000 i.e. about US$115 million (p 5).

In July 1991, a donors' meeting was organized in Rwanda whereby the government informed the international community of the initiatives taken in the field of environmental protection. This was also an opportunity to seek financial pledges to support the implementation of the National Environmental Strategy (p 115).
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Within the context of the Structural Adjustment Programme, tea planting is to be extended to the high acidic soils of the Zaire Nile crest. This programme will have a positive effect on the environment as the tea crop protects land against soil erosion and is well adapted to the acidic soils which are not well suited to development of other crops (p 29);

New and renewable sources of energy (page 39):

- Biogas is an interesting alternative energy source because use of digestors would enable the production of organic manure from industrial and household waste;

- Development of methane from Lake Kivu has a double advantage of being a substitute to traditional energy sources and of providing nitrogen fertilizer. Research is being carried out on these two sources of energy;

- Utilization of solar energy is very limited and is practically at the experimental stage.

7. INTERNATIONAL COOPERATION

- Rwanda has ratified a number of international conventions, agreements, protocols and various legal instruments relating to global environmental issues. It hopes to improve its image through this cooperation especially by appointing national institutions to follow up ratified agreements and by adopting financial participation measures for environmental agreements (p 102);

- At the sub-regional level, Rwanda is a member of the Community of the Great Lakes, the Kagera Basin Organization and the Preferential Trade Area. At the regional level, it is a member of the Central African sub-regional group for the environment and collaborates with other African countries within UNEP’s regional office (p 101);

- A number of NGOs operate in Rwanda;

- As at end of 1989, twinning-cooperation activities with Rhineland-Palatinate (Germany) involved 189 twinned schools and social centres among other things;

- The Préfecture of Butare is twinned with the French Department of Loiret and the Préfecture of Ruhengeri with the Département of Aisne;

- This decentralized cooperation is mainly aimed at youth, farmers, women and children, especially in rural areas (p 102);

- Due to the war, several bilateral, international and NGO cooperation agreements with Rwanda have not been implemented. Other ongoing projects have been interrupted, for example the project for the protection of fauna and flora of the volcanoes park and the MUTARA development project (p 106);

- Rwanda would like to strengthen international environmental cooperation so as to ensure better protection for sensitive and universal utility areas such as national parks and forests;
In this context Rwanda should:
- conclude agreements with neighbouring countries on the protection of parks and natural reserves;
- make international opinion understand the importance of the zones that are threatened by the war and provoke its reaction (p 108);

8. EXPECTATIONS FROM UNCED

No mention

9. TABLE OF CONTENTS FOR REPORT

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SAUDI ARABIA

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1. DRAFTING PROCESS

National Committee: Editors & Authors

The foreword is signed by H.R.H. Second Deputy Premier and Minister of Defence and Aviation and Inspector General, Sultan Ibn Abdulaziz Aal Saud. The report has been prepared by the Ministry of Planning together with the Meteorology and Environmental Protection Administration. The National Commission for Wildlife Conservation and Development participated too with King Abdulaziz City for Science and Technology.

Other Ministries and Government Agencies:

As specified above

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

- Rising urbanization causing increasing pressures on water, land and services (especially in cities and coastal areas);

- Environmental degradation leading to dwindling numbers of wild species as a result of natural disasters, overgrazing and unregulated hunting;

- Air pollution from industries especially in big cities;

- Coastal destabilization and pollution especially in the east and west as a result of industrial development and rapid urbanization. This in turn, causes the deterioration of coral reefs and mangroves;

- Desertification due to salinity and soil erosion;
Pollution of the Open Seas as well as that of ground and surface waters due to fertilizer use;
- The population is exposed to health hazards due to incomplete sewage programmes;
- Mining activities have a negative impact on both soils and flora;
- Possible sea level rise together with the added problem of oil spills and pollution caused by industrial effluents and urban sewage;
- 5 to 6 million barrels of oil were spilled in the Arabian Gulf in the aftermath of the Gulf War (January 1991) in addition to the burning of 616 Kuwaiti oil wells by Iraqi troops, which threatened the northeast of Saudi Arabia in particular;
- Between 20,000 to 30,000 birds have perished as a result of the oil spill; mammals like dolphins were also lost.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES
- In 1986, the National Commission for Wildlife Conservation and Development was set up. Threatened species were protected through limitation of hunting seasons;
- Several Royal decrees have been promulgated to cover areas such as the rational use of pasturelands and forests and the distribution of fallow lands to different investors;
- Various regulations have also been passed on the rational use of water, for example, as well as on the protection of valleys against waste disposal;
- A greater role has been allocated to the private sector for the protection of the environment by the Fifth National Development Plan;
- The Meteorology and Environmental Protection Administration has a programme on chemical safety, which deals with possible environmental hazards as a result of the use of fertilizers and pesticides;
- Measures have been taken by the Ministry of Water and Agriculture to cover reforestation, the regulation of logging and the transport of coal and wood requires special licences;
- A National Park at Asir has been set up, including one of the biggest natural protected zones in an area of 450,000 ha. Other parks have also been created at El Taif and El Thumama;
- Within the framework of water management, 180 dams have been constructed, one of which is a Wadi Najran with a capacity of 85 cubic metres. Beesha dam is under construction (capacity 325 million cubic metres);
- There is a water treatment plant at Riyadh which treats sewage waters for reuse. Some projects have been launched to use treated sewage waters for the irrigation of farms at El-Muzahemeya, Darma and El-Jubaila. Jeddah, Mecca and El Taif are are currently using treated sewage waters;
- Some industrial complexes at El Jubail have already started to take the environmental dimension into consideration;
A National Contingency Plan has been formulated in addition to studies launched by the Meteorology and Environmental Protection Administration in collaboration with the International Union for the Conservation of Nature (IUCN) to collect information on marine resources in the Arabian Gulf and the Red Sea;

Environmental concepts have been introduced in curricula both at school and university levels in addition to a greater focus on environmental programmes for professional groups, to increase awareness among the population;

A programme to combat desertification has been launched by the Meteorology and Environmental Protection Administration;

The Ministry of Agriculture and Water has started to be involved in reforestation and sand dune stabilization;

In 1991, the Meteorology and Environmental Protection Administration set up an Oil Spill Response Centre in the East assisted by a branch centre at Jubail;

A rescue centre has been created by the National Commission for Wildlife Conservation and Development using local and foreign expertise to save birds trapped by oil pollution.

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Reinforce publicity campaigns to ensure increasing environmental awareness among the population;
- Ensure a better control of air pollution levels in crowded urban centres;
- Priority is to be given to resolving the problem of greenhouse and ozone-depleting gas emissions as well as to conducting research on possible global warming;
- Need to limit urban expansion in industrial cities;
- Recycling and appropriate waste disposal methods are to be encouraged;
- Rational use of agricultural chemicals to avoid harmful impact on the environment as well as human health;
- Increase environmental awareness programmes; A "Safe Environment Week" can be organized during the pilgrimage season;
- The environmental dimension is to be inserted in curricula at school and university levels;
- Coordination between industrial and urban planning must be pursued;
- Expanding the number of sewage water treatment stations is recommended; furthermore, increasing the use of such waters in agriculture is advised;
- Protected zones for rare and threatened animal species are to be increased. There is need to further regulate hunting under the supervision of the National Commission for Wildlife Conservation and Development;
- Coordination is to be reinforced between government departments, the various bodies working on development and the Meteorology and Environmental Protection Administration.
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- A Special Aid Programme has been launched by Saudi Arabia benefitting more than 60 developing countries, worth US$45 billion in grants between 1970-1988. The Saudi Development Fund provided about US$5.5 billion in soft loans to fund 279 projects in developing countries in the last 15 years.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- It has been recommended to reuse treated sewage water for the purposes of agricultural and industrial development as well as for reforestation;

- Three industrial water treatment stations at Riyadh, Jeddah and Dammam have already started reusing treated water for irrigation and industrial purposes;

- Within the framework of three projects launched by Petromine, the production of lead-free gasoline together with the reduction of sulphur in refined products has already been started;

- King Abdulaziz City for Science and Technology (KACST) is currently undertaking intensive research on the use of solar energy (p 6.7);

- The Ministry of Municipalities and Rural Affairs had launched a study on wastes covering different aspects such as handling, recycling and its appropriate disposal.

7. INTERNATIONAL COOPERATION

- Collaboration with different UN agencies and in particular with the UNCED, in its preparatory meetings;

- A pioneering role has been assumed by Saudi Arabia to combat environmental deterioration in the region in the aftermath of the Gulf War;

- Together with the World Meteorological Organization, a site has already been selected in the south for a Global Background Air Pollution Monitoring Networks station; the aim of which is to measure CO$_2$ concentrations and other constituents in the atmosphere that might lead to global warming;

- Saudi Arabia is a member of several regional and international organizations combatting oil pollution such as "Clean Bay";

- Research has been undertaken by the Meteorology and Environmental Protection Administration on the Red Sea as well as on the Gulf, in collaboration with the International Union for the Conservation of Nature and Natural Resources;

- King Abdulaziz City for Science and Technology (KACST) is currently undertaking a study to survey technology needs so as to determine means of cooperation regarding technology transfer;

- Saudi Arabia is a signatory to a number of regional treaties especially on the protection of the Arabian Gulf, the Red Sea and the Gulf of Aden. It is also a signatory to different international conventions such as the Prevention of Pollution of the Sea by Oil.
8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors

The foreword is signed by H.E. President France Albert Rene whilst the introduction is made by the Hon. Danielle de St. Jorre, Minister of Planning and External Relations.

Other Ministries and Government Agencies:

No specific mention

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

"Our country consists of 15 small and ecologically vulnerable islands spread out over 1.3 million km² in the middle of the Indian Ocean. With limited land and financial resources and far away from everywhere else, we have always tried to make the best use of what little we have. We simply cannot afford the environmental, economic and social costs of unsustainable development. Moreover, tourism and fisheries are our two largest sources of foreign income and local employment. Both are environment-based." (Foreword).

- The greatest environmental concern and development constraint is the population density and the economic activities on the coastal plain and reclaimed land of Mahé (p 3:6);
Accelerated beach erosion has resulted in the collapse of many coastal structures like seawalls and culverts as a consequence (p 3:5);

- High levels of marine pollution in the main Victoria harbour area (p 3:5);

- An increasing volume of domestic and industrial wastes (p 3:6);

- Oil spills, forest fires, and landslides are significant threats (p 3:7);

- Lack of available technical expertise and environmental data (p 3:5);

- Adequately trained field officers to undertake environmental monitoring, inspection and enforcement duties are scarce (p 3:7).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- An Environmental Management Plan of Seychelles 1990-2000 (EMPS) was formulated and consolidates priorities for action in a series of projects listed under 12 programme areas; environmental guidelines and impact assessment; pollution monitoring and control; waste management; land management; water management; energy policy and conservation; national parks and wildlife conservation; forestry management; coastal environment management; marine resources management; environmental law and enforcement; and environmental information, education, and training (pp 5:1-14);

- To implement the EMPS, the Department of the Environment’s work will be carried out by three main divisions and nine special units (p 6:3);

- National parks and reserves occupy over 40% of the Seychelles and include the Aldabra and Vallée de Mai World Natural Heritage Sites (foreword, p 3:2);

- The EMPS (as an extension of the Seychelles National Development Plan 1990-1994) and the Investment Programme (1990-2000) together constitute a single and integrated national strategy for achieving sustainable development by the year 2000 (p 6:1);

- Environmental legislation has been strengthened and extended in several key areas, including fisheries management, protection of reefs and coastal waters, sewage disposal, and petroleum storage (pp 3:1-2);

- A new Department of the Environment was set up in 1989 to take the lead in several key areas and help coordinate Inter-Ministerial efforts (p 3:3);

- A land reclamation project at Mahé was completed in 1985 to provide 135 ha of reclaimed land (p 3:4);

- An investigation on environmentally-sound options for cleaning and reusing waste oil was completed in 1986 (p 3:4);

- Among other studies of the late 1980s, one was on the extent of erosion on the beaches of Mahé, Praslin, La Digue, and Curieuse (p 3:4);
The Greater Victoria sewerage system was re-evaluated in the light of new requirements imposed by the land reclamation project in Mahé (pp 3:4-5).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- A list of priorities have been developed with different time schedules, covering health and environmental protection, the management of natural resources on a sustainable basis, the preservation of biodiversity, the strengthening of legislation and institutions, the expansion of environmental information, education, and training and on strengthening international cooperation and agreements (pp 3:8-16);

- An oil spill contingency plan and arrangements for international cooperation and assistance are urgently needed to combat and prevent serious damage to beaches and marine ecosystems (p 3:5);

- Expanded and environmentally-sound waste management schemes are needed (p 3:6);

- Forest resources need to be better managed and extended, especially to reduce soil erosion (p 3:6);

- The management of the extensive network of nature reserves and national parks needs to be strengthened and their scientific and other facilities significantly upgraded and extended (p 3:6);

- Intensive public information, education and training programmes on wildlife conservation and environmental protection need to be launched (p 3:6);

- Additional dams at Mahé are needed to retain and store water. The exploitation of groundwater resources must be monitored and managed so as to prevent salt water intrusion in aquifers during dry spells, particularly on La Digue and some of the outer islands (p 3:7);

- Laboratory equipment and facilities need to be upgraded and expanded to provide environmental quality monitoring and testing services (p 3:7);

- Enforce standards on chemical residues of food (p 3:6).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- For Seychelles to move to a sustainable development path, it will require improved and strengthened fiscal monitoring and planning (p 2:7);

- A total of SR 2 million for special training has been incorporated in the budgets of various EMPS projects (p 6:8);

- The total cost of the national component of the EMPS Investment programme is SR 262 million, three-quarters of which is for sewerage, water supply, and solid waste treatment works (p 6:7).
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The feasibility of solar, wind and hydropower energy should be assessed (p 3:11);

- The viability of non-chemical alternatives should be assessed in terms of maintaining and improving soil fertility and agricultural production (p 5:7);

- The cost and implications of introducing lead-free gasoline for new imported vehicles should be assessed (p 5:8).

7. INTERNATIONAL COOPERATION

- The Seychelles played an active role in establishing an Indian Ocean sanctuary for whales and the East African Regional Seas Convention (foreword);

- The Seychelles has offered to become the regional coordinating centre for the implementation of the action plan to protect marine resources and prevent marine pollution in the East African seas (foreword);

- Significant advice and assistance has been provided by UNEP, UNDP, and the World Bank among other UN bodies (p 2);

- The African Development Bank has helped in reafforestation and waste water treatment (p 2);

- The Canadian International Development Agency and the International Centre for Ocean Development in Halifax helped on the marine environment issues and an oil-spill contingency plan (p 2);

- Individual countries have helped, including France on solid waste and Norway on reafforestation. The Commission of the EC has assisted on South Indian Ocean regional projects (p 2);

- The International Union for the Conservation of Nature and Natural Resources and the World Wide Fund for Nature have provided assistance in plant and wildlife conservation and marine resources management (p 2);

- The Seychelles has signed several international agreements, including, among others, the Convention for the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region and the Convention Relating to Intervention on the High Seas in Case of Oil Pollution Casualties (p 3:2).
8. EXPECTATIONS FROM UNCED

- A clear and concise Earth Charter (p 7:2);

- Agenda 21 should (p 7:2):
  - Set priority goals and specific targets;
  - Launch new and extensive institution building and training programmes in developing countries for improving health, environmental protection, natural resources management, and technology assessment;
  - Commit developed countries and international financial institutions to promote measures for reducing high debt and debt service burdens;
  - Commit developed countries and international financial institutions to provide new and additional resources to implement Agenda 21 and associated conventions;
  - Spell out new measures to secure access of developing countries to environmentally sound technologies;
  - Strengthen existing international institutional arrangements and inter-agency cooperation.

- The signing conventions on climate change and biological diversity (p 7:4).

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Hon. Danielle de St. Jorre, Minister of Planning and External Relations

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SIERRA LEONE

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1. DRAFTING PROCESS

The Ministry of Lands, Housing and the Environment was specifically responsible for preparing the national report.

National Committee: Editors & Authors:

The National Organizing Committee comprised representatives from the following Ministries:

- Lands, Housing and the Environment
- Finance, Development and Economic Planning
- Agriculture, Forestry and Fisheries

The Director of Housing and the Environment acted as Chairman and the head of the Environmental Protection Section in the Ministry of Lands, Housing and the Environment acted as Secretary to the Committee.

National experts were selected to prepare each chapter of the report.

Other Ministries and Government Agencies:

A number of chairpersons who presided over the presentation of chapters and group discussions, Rapporteurs as well as some participants, were selected from various government organizations

NGOs, Grassroots Organizations and Public Involvement:

National experts presented their papers during a two-day seminar attended by participants drawn from Government, NGOs, Educational Institutions (secondary and university), Women's and Youth Organizations, the Press, Farmers' Organizations, Professional Organizations and individuals. Whereas 160 participants were actually invited, 180 and 176 participants attended respectively the first and second days of the seminar. Public dialogue was mainly in the form of a two-day seminar at which each national expert presented his/her chapter and the participants were given the opportunity to comment on the chapters and make suggestions for improvement.
Group discussions on the second day of the seminar provided further opportunity for the participants to contribute to the contents of each chapter. UNDP was closely associated to the preparation of the report.

2. PROBLEM AREAS

- Widespread poverty;

- Negative balance of trade and massive external debt. Debt servicing takes up about 67% of annual exports (p 120);

- Population growth stands at 2.76% per annum. The pattern of rural-urban population distribution is unbalanced and 41% of the total population are under 15 years of age;

- Decline in agricultural production;

- Deforestation, soil erosion and soil degradation;

- Over-exploitation of natural resources, especially minerals and fisheries;

- Degradation of the environment due to mining activities. On the other hand, gold and diamond mining has been suffering from illicit trade and smuggling;

- Waste management;

- Water pollution from mining activities and household wastes. River-borne diseases, such as river blindness, are prevalent;

- Sierra Leone is concerned about toxic and hazardous wastes that may be dumped within her territorial boundaries;

- Poor housing and unsanitary environmental conditions both in urban and in rural areas. In Freetown itself, almost all urban services have either totally failed or operate at a poor level;

- Inadequate health system. Only 38% of the population have access to health services. Peripheral health units are unevenly distributed and most often ill-equipped and poorly maintained (p 53);

- The overall literacy rate is 28% and for women the figure drops to only 22%. Illiteracy is therefore one of the obstacles to the implementation of policies and thus public awareness is very low;

- The educational system is characterized by inadequate infrastructure and learning materials as well as low morale for teachers due to irregularity of payment and a drop in real wages (p 54);

- High rate of inflation arising from a series of exchange rate adjustments;

- Rising urban unemployment and increasing employment in low productivity activities in the informal and traditional sectors (p 8);
A lot of programmes and projects are never carried through due to inadequate institutional arrangements, lack of funds and logistical support as well as lack of political will to implement decisions;

- Lack of effective implementation of policies and legislation.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Successive governments have instituted measures to revive economic growth and to improve environmental and natural resource management through:

- the formulation and implementation of macro and sectoral policies;
- the setting up of institutions;
- the enactment of laws on natural resources and the environment;
- the formulation and implementation of development programmes and projects;
- collaborating with international and national NGOs in dealing with economic and environmental issues (Executive Summary).

Sierra Leone has recently developed a policy for women in response to the Lagos Plan of Action which called for the mobilization of all resources including those of women to facilitate the acceleration of a self sustaining and self reliant form of development. The policy measures aim at promoting women's role in development (p 65);

The National Population Policy, formulated in 1988, is designed to reinforce and enrich national development, especially human resources development, improve the quality of life and enhance human welfare and dignity. Special emphasis is laid on regulating population size, enhancing population quality and improving the health and welfare of women and children (pp 63-64);

The National Population Commission, with the assistance of task forces, is undertaking sector action planning as a pre-implementation activity of the Population Policy. Draft Sectoral Plans of Action have been prepared for priority areas that include maternal and child health family planning, women in development, agriculture and the environment and education (p 64);

A National Environmental Policy (NEP) has recently been adopted by the government (May 1990). The policy stipulates the government's goals and strategies as regards environmental management in the various sectors (p 112);

As part of the institutional reforms carried out with effect from 1985, the Ministry of Lands, Housing and the Environment was created as a focal point to ensure inter-ministerial and inter-sectoral coordination at the national level (p 81);

Although not fully implemented, the Agricultural Sector Support Project (ASSP), supported by the World Bank, focused on the major constraints limiting agricultural development as a whole, and instituted measures for tackling them. Though its activities were suspended after only two years, it achieved a number of successes including reduction of excess labour, institutional reorganization and the establishment of Rural Banks (pp 85-86);

A number of forestry projects have been proposed for donor support (pp 86-87);

A faculty of Environmental Sciences is in the final stages of establishment at Njala University College (p 88).
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Promotion of food self sufficiency and food security through revitalizing successful traditional farming methods and involving local communities in the design and implementation of policies for using agricultural lands, forest and water resources;

- Alleviation of poverty by encouraging self-employment through the provision of middle level manpower training;

- Management of demographic change by guaranteeing access to maternal and child health and family planning services for all Sierra Leoneans;

- Reorientation of policy and planning approaches by applying environmental impact assessment to sectoral decision-making and by coordinating inter-sectoral policy;

- Enactment of a new national environmental legislation;

- Strengthening of institutional capacity;

- Improving housing;

- Creation of a population and environmental data bank;

- Encouragement of NGOs;

- Recognition of the role of women in improving the environment and population planning;

- Encouragement of people’s participation in decision making;

- Promotion of environmental education;

- Strengthening existing health facilities;

- Protection and conservation of the forest and its resources (pp 122-136);

- It is recommended that Members of Parliament play an effective role by encouraging the appropriate Ministries/Agencies to effectively implement the recommendations. Members of Parliament in collaboration with the media, religious bodies, traditional leaders and other groups should disseminate information on population, development and environmental issues at constituency, chiefdom and grassroots levels (p 125);

- At the international level, Sierra Leone recommends the following:

  - Opening the markets of the industrialized countries to Sierra Leone’s primary commodities and the payment of fair prices for her exports;

  - The World Bank’s and the International Monetary Fund’s lending policies should incorporate both economic and environmental criteria with respect to the conditionalities attached to loans;

  - Easing the debt burden to allow Sierra Leone to devote more of her foreign exchange earnings to development rather than to debt servicing (p 137);

- Sierra Leone would also like to encourage and promote sub-regional, regional and international cooperation to enhance sustainable development (Executive Summary).
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Sierra Leone suffers from a lack of financial resources to enable her to effectively implement her programmes and projects;

- Out of the numerous forestry projects proposed for donor support, one project, the "Community participatory forestry for fuelwood production in the Western area", has been implemented with support from UNDP and other donors (p 87);

- In the fisheries sector, two projects are being implemented with external donor support (p 87);

- Foreign-owned fishing companies that operate in Sierra Leone’s territorial waters mainly pay licensing and royalty fees and are required to sell part of their catch in the Sierra Leone market. But these arrangements have not been very beneficial to the government in terms of receipts and the fishery resources have been over-exploited (p 87);

- In essence, virtually all projects and programmes in the agricultural, forestry and fishery sectors are externally funded through international NGOs operating in Sierra Leone (pp 88-89).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

- Various programmes and projects have been formulated and implemented by the government with technical and financial assistance from UN agencies and multilateral and bilateral agencies (p 84). In this context, the posts and telecommunications systems, which were in a seriously dilapidated state, were improved upon with assistance from UNDP and the EEC (p 17);

- Sierra Leone expects increased international cooperation on the global economic and environmental crisis including the willingness of the developed countries to assist small developing countries like Sierra Leone, with enormous natural resource potential, to pursue the path of sustainable development (Preface);

- To contribute to reducing the global environmental crisis, Sierra Leone will adhere to and implement those international treaties and conventions to which she can meaningfully contribute (p 137).

8. EXPECTATIONS FROM UNCED

- Sierra Leone requests the inclusion of her areas of concern in UNCED’s Agenda 21 as the framework for priority activities. Sierra Leone is convinced that her positive and effective contribution in the local and international environment cannot take place without addressing the cross sectoral issues involved (Executive Summary).
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1. DRAFTING PROCESS

National Committee: Editors & Authors:

A National Committee was set up to oversee preparations for the Conference.

Other Ministries and Government Agencies:

The National Committee consisted of representatives from the following Ministries and their subsidiary bodies:

- President’s Office of the Government
- Ministry of Public Works and Transport
- Ministry of Agriculture, Food and Fisheries
- Ministry of Industry, Trade and Tourism
- Ministry of Science and Education
- Ministry of Health and Consumption
- Ministry of the Economy
- Ministry of Social Affairs

NGOs, Grassroots Organizations and Public Involvement:

No specific mention

2. PROBLEM AREAS

Atmosphere

- The principal sources of air pollution are combustion plants used to generate heat and electric energy, cars and industrial processes;

Freshwater Resources

- Future water supply is threatened in the coastal Mediterranean region and in Andalusia;
- Groundwater pollution occurs from solid and industrial wastes and as a result of intensive use of fertilizers in irrigated land;
- Dam eutrophication occurs from phosphate accumulation from livestock, urban centres and agriculture activities;
Spain

Coastal and seas

- The concentration of population and human activity in coastal regions causes problems related to land planning and protection. Also problematic is the compatibility between uses, planning objectives and social interest;

- Due to its geographical situation, Spain is highly exposed to marine oil pollution. The Strait of Gibraltar and the Galicia Coastal region are major routes for oil tankers;

Land resources

- According to recent estimates more than the 18% of Spain’s land surface suffers from sheet erosion (9.2 million hectares);

- Forest fires constitute the most important cause of natural areas destruction in the Mediterranean area. Every year nearly 50,000 fires destroy 700,000 to 1,000,000 hectares of Spanish countryside;

Wastes

- Solid waste management facilities are inadequate;

- Industrial activities producing hazardous wastes include the chemical industries (30% of total), paper and cellulose factories (25%) and metal ore extraction (23%);

Biological diversity loss

- Spain is the richest European nation in terms of number of plants species and endemicity. Many species are in danger of extinction;

- Birds of prey, large mammals and a considerable proportion of Iberian amphibians and fish are in danger of extinction.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Monitoring, Information and Systems:

Air pollution:

- An inventory of air polluting emissions has been made;

- The Programme for the Improvement of Vigilance Systems has been set up;

- Under the System of Atmospheric Corrosion, information is analyzed by the Swedish Institute of Corrosion through an International Cooperation Program (Geneva Convention);

- The Nature Conservation Institute (ICONA) has established 500 plots to monitor conditions of forests;

- The International Cooperation Programme (PIC) relates to the effects of air pollution on materials.
Coastal areas and seas:

- A programme to monitor pollution of the Mediterranean is in effect;

- The findings of the National Programme for Sanitation Monitoring of Spa Water in Spain have been compiled in a synthesis report;

Policy, Planning and strategy:

- Air pollution: Spain has adopted an energy policy for the period 1991-2000 to reduce emission of atmospheric pollutants;

- Coasts and seas: Measures protecting against hydrocarbon pollution are included in the framework of a National Pollution Control Plan (Plan National de Salvamento y Lucha contra la Contaminacion);

- Land Resources: To combat forest fires, one of the chief national problems, initiatives have been taken in environmental education, preventive forestry, research and surveillance;

- Waste Management: Waste management plans have been developed for every community; Spain’s policy on hazardous waste is integrated into the Industrial Wastes National Plan;

Science and Technology:

- Land resources: Spain has developed activities to combat erosion, including the restoration of hydrological/forestry systems, soil conservation, research on erosion processes, improved control technology and the formulation of action plans;

- Flora and Fauna: The Botanical Gardens play an important role in the protection of flora and the maintenance of biological diversity.

Legislation:

- Air pollution: A law on atmospheric protection of 22 December 1972 sets limits on emissions;

- Freshwater resources: A Water Law has been in effect since 2 August 1985; Royal Decree 1302/1986 relates to environmental impact assessment;

- Coastal areas and seas: Coastal Law 22 of 28 July 1988 protects the coastal region against urban and tourism pressures;

- Wastes: Law 20/1986 regulates management of hazardous wastes;

- Flora and Fauna: Law 4/89 protects natural areas and flora and fauna; A National Catalogue of threatened species has been compiled.

Public awareness and education:

- A non-formal education programme linking youth and nature, targets young people between 11 and 26 years of age, and involves various forms of environmental education, including practical conservation, in areas with high ecological and heritage value.
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Among the main objectives of the 1991-2000 energy policy are:
  - the reduction of SO$_2$ emissions
  - the reduction of NO$_x$ emissions
  - the reduction of CO$_2$ emissions (p 90).

- Hydrological Plans and the National Plan dealing with toxic waste will complete the prevention policies related to water pollution (p 94).

- The 1989-1995 plan of renewable energy considers mini hydro-electric generators, solid wastes, wind energy, solar energy and geothermic energy.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- The National Plan for Research & Development finances several research projects related to the environment;

- The Ministry of Energy has subsidized environmental projects related to research and technology. Public expenditure on the environment is between 0.6 - 0.7% of GDP and 1.6% of non-financial cost of Public Administration.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

The National Programme covers natural heritage conservation and research into the process of environmental degradation. The research areas cover:

- desertification
- pollution
- freshwater systems
- littoral systems

Various national programmes contain projects related to the environment. Most of them are devoted to afforestation, agriculture research and biotechnology. There is special emphasis on biodegradation and pollution;

The environmental industrial and technological programme (PITMA) encourages two directions over the period 1990-1994:

- development in the field of environmental technology as at present the sector is dependent on foreign technology;

- stimulation of demand for environmental technology, particularly in industrial sectors that need corrective measures.

7. INTERNATIONAL COOPERATION

- Spain at present forms part of the executive council of UNEP and WMO. The country has been active in hosting international meetings and conferences;
The State Secretariat for Iberoamerica and International Cooperation (SECIPI) is a department within the Ministry of Foreign Affairs. The Spanish Agency for International Cooperation forms part of SECIPI and coordinates the Institute of Iberoamerican Cooperation (ICI), Institute of Development Cooperation (ICD) and the Institute of Arabian Cooperation (ICMA):

- The SECIPI develops the Annual Plan of International Cooperation (PACI), which includes bilateral cooperation (in the form of credits, programmes and projects, technical assistance and food aid), as well as multilateral cooperation (in the form of contribution to EC and the financing of international organizations).

8. EXPECTATIONS FROM UNCED

No mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The report was edited by two professors.

Other Ministries and Government Agencies:

The Ministry of Finance and Economic Planning is listed as one of the contributors to the national report.

NGOs, Grassroots Organizations and Public Involvement:

Seven academics made contributions to the drafting of the report. There is no mention of direct NGOs grassroots organizations and public involvement in the preparation of the report.

2. PROBLEM AREAS

- A negative GDP growth, coupled with a high population growth sets the scene for a country of which a huge portion is desert;

- Desertification affects more than 60% of the country;

- Water deficiency;

- Agriculture is the mainstay of the economy representing over half of government revenues;

- Deforestation and desertification due to agricultural expansion, overgrazing and burning to create grazing pastures as well as to the inefficient methods in the production and use of fuel wood. Deforestation leads to soil erosion;

- Wildlife depletion due to hunting and killing for skins. A large number of skins is used internally for the manufacture of leather and the rest is exported. Foreign and local trade in ivory is also flourishing;
- Water-borne and water-related diseases such as malaria and schistosomiasis are prevalent due to the provision of water for irrigation. In the Gezira region, 20% of total deaths in hospitals are due to malaria;

- Marine and coastal pollution from industrial discharges, oil spills and waste disposal from tourist boats. The marine environment is also damaged by the construction of new ports.

- Drought and desertification lead to declines in land productivity and yields, shifting sand dunes, deterioration of rangelands, deterioration of environmental quality leading to frequent dust storms and adverse socio-economic effects (p 104);

- Floods and locust plagues;

- Population growth and more involvement in the market economy have led to the clearing of more areas for agriculture, while removal of vegetative cover leads to soil erosion;

- The policies implemented by the two development plans disturbed the natural resource base leading to serious ecological consequences. Up to the present time, forests are being removed at an alarming rate as a result of the extensive expansion of the mechanized farming and extension of traditional farming into marginal lands. Such loss has resulted in desertification and soil erosion and often leads to unsustainable agricultural practices which diminishes plants and animal species (pp 98-99);

- The combination of internal factors such as population growth, external factors such as market forces and unfavourable climatic conditions, coupled with political instability and civil strife produced a serious crisis which culminated in famine and is threatening the breakdown of the national economy (p 98);

- Dependence on chemical fertilizers, herbicides and insecticides which affect human health and pollute the soil and water;

- The amount of forage lost annually due to seasonal fires is estimated at 307,892,380 tons for the whole country (p 108);

- Migration to towns; uncontrolled urban growth;

- Poor economic and health conditions for women and children (p 156);

- Recent problems include environmental/political refugees;

- Although a number of protected areas exist, conservation status is rated unsatisfactory due to lack of any patrolling system and encroachment of agriculture to increase food production (pp 126-127);

- Inadequate legislation (p 230).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- UNICEF and NGO groups, with the government’s collaboration, have designed educational and health training programmes mainly for women and children (p 191);

- A number of resource management institutions are involved in data collection, research, training, extension services, planning and management activities (p 203). A description of their respective activities is given in table 3.13 (pp 205-206);
NGOs which include broad-based popular organizations and professional societies, such as the Sudan Environment Conservation Society, concentrate on raising public awareness and on exerting pressure on decision makers (p 207);

The Institute of Environmental studies was established in 1979 for research, teaching and training at national and regional levels (p 264);

The government has also introduced environmental education into the curricula of both general and formal education (p 281), including mass media programmes (p 293);

Measures to strengthen scientific research and technological capacities were initiated as far back as 1902 and 1903 (pp 258-260 onwards);

The Agricultural Bank of Sudan together with the Mechanized Farming Corporation (MFC) have provided or made access to farms, the form of improved seeds, fertilizers, animal traction and machinery;

Diversification by traditional farmers by using trees in a crude version of agro-forestry:

- Acacia senegal, the gum Arabic tree, became part of the bush-fallow cycle and is well integrated in the farming system in Western Sudan. This multi-purpose tree has many economic and conservational benefits;

- Acacia albida, a tree of the Sudan Savanna zone, does not shade crops, but fertilizes the soil by fixing nitrogen and provides animal feed (p 101).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Short-term strategy:

- Conservation of natural resources, rehabilitation of infrastructure, services and institutions and restoration of the ecological balance;

- Mitigation of drought and desertification impact including the resultant socio-economic and human ill effects;

- Focus the State's attention to new and old projects with particular practical and legal measures which conserve forests, rangelands and wildlife;

- Endorsement of the national anti-desertification plan drafted by distinguished Sudanese scientists under the auspices of the National Council for Research and reviewed by UNEP.

Wildlife:

- An effective management system is urgently required for the protected areas. A management plan should be prepared and manpower and equipment should be deployed to enforce the conservation policy and to prevent further losses of species (p 127).

Agriculture:

- There is need to adapt farming methods to each ecological zone for sustainable productivity. The elements of such methods should be based on efforts to improve traditional practices (p 131). Use of pesticides, fertilizers and herbicides should be rationalized (p 232).
Women and children:
- There is need to raise awareness of planners and decision makers as regards women's and children's conditions.

Forestry:
- The Forest Policy of 1986 raised the national goal of forest reserves from 15% to 20% of the total area of the country for environmental protection and meeting the population's needs for forest products and services. The same goal was subsequently echoed by the Forest Act of 1989 (p 231).

Land allocation policies:
- Modernization and rationalization of land acquisition laws and land use with the objective of motivating the producer to settle and conserve resources (p 232).

Institutions and finance:
- To develop rainfed agriculture, the Government and the Bank of Sudan will have to institute legislative and regulatory measures making it obligatory for the commercial banks to earmark a specific percentage of their resources for advances to farmers and their organizations as well as to fund their acquisition of agricultural machinery, spares, implements and input supplies (p 233).

Technologies:
- Promotion of improved appropriate and affordable technologies through education and training (pp 234-237).

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS
- Besides the Agricultural Bank (ABS), private sector institutions, farmers' unions and cooperative societies provide services to farmers in the form of farm inputs and credit facilities (p 200).
- Small farmers receive credit facilities from money-lenders under the "Sheil System" (p 200).
- The World Bank carried out a forestry sector review in 1985, followed by a project preparation team from ESMAP and FAO. Negotiations with IDA in September led to the establishment of the Forest Resource Conservation Project in 1990 (p 242).
- The Forest Research and Training Institute was funded jointly by the Government and UNDP and executed by FAO.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES
- Ways and means of combatting desertification have included the planting of Acacia senegal (p 189);
- The Sudanese Renewable Energy Project (SREP) of the National Council of Research is working on the promotion of solar energy and solar cookers (p 190);
Both the Forest Policy (1986) and the Forests Act (1989) stipulate resource efficiency measures such as setting and retaining of trees on land and prohibition of burning wood into ashes on cleared land (p 231).

7. INTERNATIONAL COOPERATION

- Collaboration with the World Bank, ESMAP, FAO and IDA in forestry related projects (p 242);

- The Commission for Refugees, the official organ responsible for implementing Government policy towards refugees on their arrival in Sudan as well as for their relief accommodation and resettlement, collaborates with UNHCR, WFP (food aid), ILO (development projects), UNDP (rehabilitation projects), EEC (afforestation) and USAID (water provision). The commission also maintains bilateral relations with countries willing to assist in refugee related projects such as Japan and Germany, and Finland which gives assistance in agricultural machinery (pp 250-251).

8. EXPECTATIONS FROM UNCED

Following are some of the proposals directed to the international community concerning environmental/development issues in Sudan:

Conventions:

Sudan proposes the consideration of subregional, regional and international conventions covering, inter alia, the following:

- Interventions to arrest and subsequently reverse the process of desertification;

- Measures to implement the Tropical Forestry Action Plan (TFAP);

- Joint action with neighbouring countries for:
  - watershed management;
  - wildlife conservation (preserve biodiversity);

- Measures to secure food and energy security and reduce the heavy reliance on biomass;

- Measures to curtail the influx of refugees and making their voluntary repatriation easier. Mitigation of the environmental degradation caused by refugees and eventually restoring the environment;

- Measures to protect subregional waters such as the Red Sea and the Nile Valley and intervene in incidents of pollution from oil and other harmful or hazardous materials;

- Measures to guard against the dumping of radioactive, harmful or hazardous materials in subregional deserts or neighbouring territory.
Policies and practices of major Economic Institutions:

- Major economic institutions should implement measures enabling Sudan and other developing nations to pursue sound, equitable, sustainable socio-economic development in keeping with environmental conservation. Sudan seeks such measures with regard to:
  - debt annulment;
  - trade reform, particularly with regard to primary products, e.g., gum Arabic.

Financial assistance:

- Technically feasible projects, not based on conditionality or on sole basis of rate of return and cost-benefit-analysis.

Technology transfer:

- Unimpeded, rapid and cheap transfer of appropriate technologies that are conducive to equitable, sustainable and environmentally friendly socio-economic development. (e.g. alternative products to chlorofluorocarbons (CFC), renewable energy and substitutes).

Institutions:

- Sudan calls for measures and actions that will consolidate the effectiveness of existing international, regional and subregional development organizations. In the case of the latter, for instance, Sudan calls for measures to:
  - support IGADD;
  - strengthen the coordination between the Regional Environmental Bureau for Africa within UNEP and the Economic Commission for Africa (ECA).

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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The foreword to the report was signed by the Prime Minister but it was prepared by the Technical Committee on the Global Environment (TCGE), at the initiation of the Minister of Science, Technology and Energy.

Other Ministries and Government Agencies:

The TCGE has received continuing support from the Secretary General of the Office of the National Environment Board. The final format of the report was prepared by the Thailand Development Research Institute whilst its publication was sponsored by the National Preparatory and Coordinating Committee for UNCED under the Chairmanship of the Permanent Secretary of the Ministry of Foreign Affairs. In addition, the United Nations Development Programme provided the services of a consulting editor.

NGOs, Grassroots Organizations and Public Involvement:

Over 20 NGOs involved in forestry, biodiversity and other issues made a direct contribution in preparing the national report. Various industries and private enterprises had been consulted together with academics. Furthermore, the report pointed out the input made by a National Symposium, held in November which dealt with both development and environment.

2. PROBLEM AREAS

- Air pollution due to increasing emission levels from the electricity generation, industry, and transportation sectors (p 28).
It has been estimated that Thai industries create two million tons of hazardous wastes and consume 10,000 tons annually, mostly in the form of heavy metal sludge and solids, of chlorofluorocarbons and other ozone-depleting substances (pp 40, 119).

Rivers and canals are contaminated from domestic, industrial, and agricultural waste waters (pp 35, 36, 122-123).

Groundwater extraction has led to the depletion of water levels in underground aquifers, with consequent salt water intrusion (p 15).

A high rate of deforestation is due to excessive logging for commercial purposes and agricultural expansion (p 65).

Loss of rainforests, conversion of mangrove forests to shrimp farms, water resource development and damage to coral reefs threaten indigenous biodiversity (p 139).

A number of Thailand's species are under threat of extinction due to over-harvesting, illegal trading in wild species, and disturbance and destruction of natural habitats (p 45).

Acid deposition could become a more significant problem for Thailand may be a recipient of acid deposition from other Asian industrialized countries as well as being a potential producer (pp 131-132).

Land resources are threatened by perennial flooding, soil acidity, soil erosion, and salinity (p 16).

Urban-environment problems include overcrowding, poor housing conditions, traffic congestion, water and air pollution, and hazardous wastes from industry (p 15).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

The Polluter Pays Principle has been included in the Seventh National Economic and Social Development Plan (1991-1996) (p 20).

The Seventh (NESD) encourages the revision of existing legislation and the formulation of new laws and regulations for natural resource conservation and environmental protection (p 20).

To apply the Polluter Pays Principle the government has launched the Environment Fund (p 22).

As of 1 January 1993 catalytic converters will be introduced for all new cars over 1600 cc (p 30). Compressed natural gas buses shall also be introduced to reduce emissions of black smoke (p 30).

A Demand Side Management Programme (DSM) has been launched to encourage an efficient use of electricity (pp 34, 59); The DSM could reduce the projected rise in carbon dioxide emissions by 18.4% by the year 2006 (p 59).
The Environmental Research and Training Centre was established in March 1992 to carry out research and provide technical support for the implementation of environmental policy and environmental management initiatives (p 44).

Several acts have been promulgated to protect biological diversity such as the Wild Animals Reservation and Protection Act of 1960 regulating and prohibiting hunting, trading, and ownership of specified endangered animals (p 46).

A National Forestry Policy has been launched in 1985, setting the target of 40% of Thailand being under forest cover. To attain this objective, two programmes have been formulated on commercial plantations of fast growing trees and on community/social forestry (p 65).

A nationwide logging ban was imposed in 1988 to prevent further encroachment into natural forests (p 45). Efforts have been deployed by the Royal Forestry Department to design forest reserves under the 1964 National Forest Reserve Act (p 64).

The Thailand Development Research Institute is actively engaged in research on energy and forestry responses to global climate change (p 50).

The Department of Industrial Works had set up the Bang Khuntien Hazardous Waste Treatment Facility in 1988 to deal with the treatment of toxic and hazardous wastes from 270 factories (p 41). The government has commissioned the construction of three additional waste treatment plants in response to expected increases in the volumes of hazardous wastes (p 42).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- Adaptive strategies need to be formulated so as to respond to the threat of global climate change (p 52).

- An ambitious target is to increase forest area from 28% to 40% under the Seventh NESD plan (p 65).

- More funds should be earmarked to research on environmentally sound indigenous technologies and to finding the best means to promote them (pp 102-103).

- Developing equitable allocation schemes and mechanisms is essential to reduce the production of greenhouse gases (p 51).

- The need to reinforce financial and institutional support for effective reforestation schemes (p 70).

- International organizations can help developing countries to implement their own policies to address climate change (p 70). NGOs have a role to play in helping communities with the management of forestry projects (p 70).

- Need to strengthen Thailand’s own capabilities and resources so as to achieve better monitoring and the enforcement of environmental regulations (p 89).
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Preliminary studies indicate that US$20 to 50 billion per year are needed to help developing countries finance limited and adaption strategies related to climate change (p 50).

- Funds should be made available by organizations such as the International Tropical Timber Organization and the Global Environmental Facility to help set up reforestation and forest protection projects in the Third World (p 70).

- Reduction strategies for ODS (i.e. ozone depleting substances) as well as a number of research studies have been initiated by the Ministry of Interior with the financial support of the Multilateral Fund of the Montreal Protocol (p 75).

- The Chulabhorn Research Institute (CRI) obtained institutional development grants from both Germany and Japan (p 91).

- The International Centre for Environmental and Industrial Toxicology was set up with the partial support of UNDP, UNEP and ADB to promote the use of science and technology, to protect the quality of environment and human health, and to encourage an awareness of the importance of environmental quality to all (p 91).

- The World Bank has provided technical advice and financial assistance of US$700,000 to the Department of Industrial Works for industrial wastewater treatment plants (p 39).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Recycling CFC's in autonomous air-conditioning units has been included in research studies undertaken by the Ministry of Interior (p 75).

- Little attention has been paid at policy level to the potential of using biomass energy sources in the future, which could include the burning of agricultural waste (p 55),

- Hydropower is not expected to increase due to public opposition to the environmental and social impacts of dam construction (p 55).

7. INTERNATIONAL COOPERATION

- Thailand is a signatory to a number of international conventions; furthermore, it supports international efforts towards conserving biological diversity.

- The Environmental Research and Training Centre has been set up with the support of Japan, in a bilateral arrangement which represents a working example of technology transfer between developed and developing countries (p 95).

8. EXPECTATIONS FROM UNCED

- The Earth Charter should be flexible enough to allow developing countries to identify their own initiatives to protect the environment (p 100).
- Agenda 21 should integrate environment and development. It should include action plans aimed at solving the major issues in environment and development within a timeframe of 5-10 years (p 100).

- A firm commitment by developed countries to facilitate or create favourable conditions for the successful transfer of technology is necessary to implement Agenda 21 (p 102).

- UNDP is in a good position to expand its environmental programmes to meet the specific needs of the developing countries (p 103).

- The benefits accruing from biotechnology should be equitably shared among the countries involved, and the distribution of benefits properly regulated by the Convention on Biodiversity (p 105).

- Binding commitments must be included for reduction of carbon dioxide emissions by developed countries within a specified period in the Convention on Climate Change (p 104).

- More emphasis is needed on the conservation of habitats in the Convention on Biodiversity (p 105).

- Industrialized countries should make a firm commitment towards providing new and adequate additional resources to developing countries for solving major global environmental problems (p 101).

- The private sector must be encouraged to work as an active partner with governments in solving global environmental problems (p 102).

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Major references
Contributors to the National Report
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1. DRAFTING PROCESS

National Committee: Editors & Authors:

Foreword by the Hon. Dr. S. Ma'afu Tupuo, Acting Minister, Ministry of Lands, Survey, and Natural Resources (MLSNR).

A team was established under the Inter-departmental Environment Committee (IDEC) for the preparation of this report, which was approved by Cabinet on 29 May 1991.

The report was prepared by MLSNR staff with external advisory support.

Other Ministries and Government Agencies:

The team was greatly assisted by the Central Planning Department.

NGOs, Grassroots Organizations and Public Involvement:

No mention

2. PROBLEM AREAS

- Tonga has a limited resource base, a small domestic market, large distances to markets and higher transportation costs, limited economies of scale, and a dependence on a few agricultural products (foreword, p 1); economic growth has declined over the 1975-1990 period (p 12); there is a decreasing trend in private investment (p 15); the economy is very vulnerable to remittances from abroad and foreign aid (p 16);

- There is an inadequate information base on population issues (pp 4, 43);

1 The Kingdom of Tonga is also covered by the regional report summarized earlier in this book
- More data is needed on invertebrates and biological condition of reef ecosystems (p 30);

- The Environment Planning Section recognizes that there is a low level of environmental awareness on significant issues of local concern (p 39) including perception of sea-level rise and limited official re-thinking of usages of low-lying land (p 5); there is no formal mechanism for public participation (pp 40, 45);

- There is limited institutional capacity for land use capacity and suitability (pp 4, 43); there is a lack of comprehensive national land use planning, together with inadequate planning for urban development (pp 4, 43);

- The land allocation system and population increase and migration to the urban centres forces the government to allocate environmentally sensitive lands or land with low productivity or hazardous potential. These include mangrove areas, swamps, and marshes; there is insufficient use of arable land currently available for agricultural production; there is a high cost of securing land leases or obtaining compensation for investments on leased land (pp 4, 25-26, 43, 46, 51);

- There is no pricing mechanism for encouraging resource and energy conservation (pp 4, 43-44);

- There is limited capacity for monitoring toxicity and persistency of agricultural chemical, hormones, and veterinary drugs (pp 5, 44);

- Tonga is subjected to severe environmental damage from naturally occurring events, including cyclones, earthquakes, and drought (p 51);

- Marine resource conservation is constrained by the traditionally unimpeded access to any marine resource (pp 5, 44); the coastal reef area is subjected to a great deal of fishing pressure (p 9); the introduction of more intensive fishing practices has resulted in the severe destruction of reef ecosystems (p 9);

- There is a lack of specific environmental legislation, and specified mechanisms which ensure the carrying out of environmental impact assessments (p 5, 45);

- Other than beaches, there is limited sand resource for construction purposes, particularly for Tongatapu (pp 5, 44-45, 48). Beach mining for sand has resulted in the loss of many beaches, including those which were formerly popular tourist areas (pp 11-12, 48);

- Tonga is experiencing a problem of high labour cost for agriculture (p 8); Intensive agricultural practices and increasing land pressure are threatening the potential of agricultural lands (pp 26-27, 47); the earlier planting on the island of 'Eau were made on poor soils or wind-exposed soils and therefore experience poor agricultural yields (p 28); seedlings produced by the Ministry of Agriculture and Forestry for urban reforestation activities have a low survival rate due to damage from domestic animals and lack of care (p 28);

- Very little "pure" forests remain because of population pressures and intensive agriculture. Limited areas of indigenous forests remain in very steep or inaccessible areas, coastal littoral areas and swamps, or in mangrove areas (p 8); the system of protected terrestrial areas is poorly developed (p 49);
Water is a critical resource for the widely scattered islands of Tonga. The principal cause for concern is the contamination of groundwater supplies from saltwater intrusion, agricultural chemical, noxious and hazardous wastes, and particularly to the groundwater supplies of low-lying atolls, by the improper disposal of human and animal wastes (pp 10, 29, 47);

Waste disposal is widely recognized as a serious problem, particularly in Nuku'alofa (p 51); in low-lying areas using groundwater supplies, health problems such as diarrhoea and hepatitis are common, with occasional outbursts of typhoid (p 29); sewerage is inadequate and severe health hazards can arise due to flooding of pit latrines and septic tanks (p 27);

Communities living in limestone areas suffer health problems due to lack of iodine, leading to goitre (p 29);

There are no known commercial deposits of any valuable mineral, other than sand and limestone (p 11);

Tonga is heavily dependent on imported liquid fuel and liquified petroleum gas to serve its energy needs (p 12);

Tongan unskilled labour is not prepared to perform menial jobs for low wages. There is a shortage of skilled, experienced Tongans for the more senior roles in the bureaucracy and private industry (p 14);

Better paid employment and work conditions overseas attract the highly skilled group of Tongans. Unemployment of youth is a major problem. Limited availability of employment commensurate with the high level of education contributes to emigration (pp 14, 25, 26, 47);

Localized problems occur as a result of improper disposal of excess biocides close to or directly in water (p 29);

Mangroves areas and swamp forests have been cleared and filled to make room for homes. The land fill is rarely enough to escape danger from storm flooding and unusually high tides (p 27).

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

There is an emerging manufacturing sector, a high educational level, and a relatively more developed economy than most small island economies (p 1);

The Tonga Development Bank, established in 1977, has the key development functions of identifying and promoting new ventures, providing technical, managerial, and financial consultant services, among others (p 18);

The Act of 1882 established the entitlement of each Tongan male over 16 years of age to a limited area of land for living and "gardening" purposes (p 6);

The Small Industries Centre has been successful in improving export manufacturing, particularly in knitwear manufacture (p 17);
There is an Environmental Awareness Week each year, coinciding with World Environment Day on 5 June. There are many activities, including the distribution of seedlings for planting by private citizens (pp 28, 39, 45);

There is a large body of legislation containing provisions of environmental importance, some going back more than 50 years (pp 32-34);

Tonga is developing a Water Master Plan for the next 20 years (pp 29, 50);

The Environment Planning Section has put in place a number of programmes to foster environmentally sound attitudes towards economic and social development (pp 39-40);

The Inter-Departmental Environment Committee was formed to guide the preparation of an environmental management plan and coordinate the compilation and review process (p 32);

The Fisheries Department is now engaged in the monitoring of inshore reef ecosystems in relation to their importance to near-shore fisheries (p 30);

Environmental impact assessments have been applied since 1985, carried out mainly by the Ministry of Lands, Survey, and Natural Resources (p 32);

The Ministries of Agriculture and Forestry and Lands, Surveys, and Natural Resources undertake extension activities to promote environmental education and training (pp 40, 45);

The National Office for Disaster Relief and Rehabilitation responds to natural disasters (p 52).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

Prime concerns of the government (pp 31, 40-43):

- Population and human settlement;
- Land-use planning and management, including coastal zone management to minimize pollution or siltation of reefs and lagoons;
- Marine resource management, particularly over-fishing in coastal areas, and over-exploitation of the black coral on which the jewel trade is based;
- Climatic change and sea-level rise, particularly with respect to low-lying areas of the main islands and also of the atolls;
- The maintenance of the remnant biodiversity, particularly the protection of rare bird species;
- Trade, industry, and development investment.

The fifth National Development Plan has as an objective, the continued protection and management of natural resources for sustainable development (p 31);

Opportunities for sustainable development suggest a programming focus on institutional building, protection of biodiversity, pollution control, urban planning/coastal zone management, environmental information and education, and environmental legislation (pp 1-5);
- Increased emphasis must be given urgently to reducing the level of reliance on imported petroleum products (p 12);

- Energy sources from solar, wind, tidal movement and biomass are important considerations as alternatives for Tonga and the region. Priority opportunities for sustainable development of energy resources are listed (pp 30, 50);

- Waste incineration is proposed as an alternative energy source, but proposals must undergo rigorous scientific scrutiny (p 30);

- A close study of the economic viability of using senile coconut trees to increase supply of sawn timber should be undertaken (p 27);

- More attention should be paid to the use of plants valued in traditional medicine and other cultural purposes (p 29);

- The two major regional environmental conventions are the Convention on the Conservation of Nature in the South Pacific and the Convention for the Protection of the Natural Resources and Environment of the South Pacific, the latter with two protocols (p 34);

- Tonga has declared nine protected areas in response to marine and terrestrial protection (pp 34-35);

- The immediate focus of the Fisheries Division is to undertake surveys of the marine resource and establish a resource database (p 48);

- Environmental monitoring and assessment capabilities need to be strengthened (p 49);

- An organization is needed that will not only respond to natural disasters, but will prepare the country in advance of catastrophes in order to mitigate them (p 52);

- Public awareness and education is a top priority in order to ensure the success of environmental programmes (pp 52-53);

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Aid contributes about 27% of the GNP (p 19);

- Australia is the largest bilateral aid donor, followed by Japan, the European Community, and New Zealand. These are for projects which include infrastructure development, improvement of social services (e.g. water supply and sanitation), reforestation, education (pp 19, 36);

- Multilateral aid is usually in the form of technical assistance or concessional loans, and cover a wide variety of environmentally and development relevant projects (pp 36-39);

- The level of government funding for environmental activities is small. Therefore consideration should be given to overseas development assistance to increase activities (p 52);

- The Environment Planning Section of the Ministry of Lands, Survey, and Natural Resources should be the central environmental agency to attract funding (p 1);
The Tonga Development Bank, established in 1977, has the key development functions of providing short-, medium-, and long-term loans, providing financial guarantees to other lenders, and takes equity participation in venture, among others (p 18);

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Traditional fishing methods are fairly benign and still predominate (p 9);
- The continued high rates of productivity from the century old practice of agro-forestry testify to the environmentally sound strategies of traditional agricultural practices (p 26);
- A concerted effort is required to foster the exchange of information to discourage trade in environmentally unsound technologies (p 48);

7. INTERNATIONAL COOPERATION

- There are a number of bilateral technical cooperation agreements (p 19);
- The New Zealand government has a long-term commitment to assist in the reforestation of the island 'Eau (p 28);
- The United Kingdom has several technical assistance programmes for the construction of catchments and storage for rainwater catchment systems (p 29);
- Multilateral aid is usually in the form of technical assistance or concessional loans, and covers a wide variety of environmentally and development relevant projects (pp 36-39). Participants include the Asian Development Bank, the International Fund for Agricultural Development, the International Labour Office, the South Pacific Commission, the United Nations Development Programme, and the United Nations Environment Programme (pp 19, 49);
- Tonga participated in a regional Giant Clam cultivation project (ACIAR) (p 30);
- The Economic and Social Commission for Asia and the Pacific is assisting Tonga in the preparation of an environmental management plan (p 32);
- The South Pacific Regional Environment Programme provides technical assistance for the carrying out of environmental impact assessments, among other projects (p 32).

8. EXPECTATIONS FROM UNCED

No specific mention
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TRINIDAD & TOBAGO

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Port of Spain, Trinidad & Tobago

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1. DRAFTING PROCESS

National Committee: Editors & Authors:
No mention

Other Ministries and Government Agencies:
No mention

NGOs, Grassroots Organizations and Public Involvement:
No mention

2. PROBLEM AREAS

Economic issues:
While a measure of economic diversification has been achieved, the country has been grappling with basic structural problems, the major ones being:

- dependence on a single major commodity (petroleum 28% of GDP);
- absence of adequate economic linkages;
- technological dependence and technological dualism;
- a relatively high cost of production;
- persistently high levels of unemployment (p 3).
Environmental issues:

National (pages 15-19):
- Land degradation leading to soil erosion, flooding, desiccation and the loss of water recharge capabilities as well as loss of good agricultural land to other uses such as housing construction or commercial activities;
- Coastal and marine pollution from oil spills;
- Water pollution due to quarrying, poor land practices, sediments, use of pesticides and fertilizers in agriculture, organic and industrial waste, as well as sewage;
- Solid waste management.

Regional (page 20):
- Transboundary air pollution which is exacerbated by pollution from land-based activities from within the region and from maritime activities, impairing fisheries and tourism;
- Drift-netting by non-Caribbean fishing fleets affects marine fauna. The technique is particularly wasteful as it is non selective and commercially "useless" species are dumped;
- Although Trinidad and Tobago has banned the importation of hazardous and toxic waste from industrialized countries, the Caribbean region is vulnerable in this regard.

Global (page 21):

Sea level rise will lead to:
- degradation of fresh water supplies due to salt water intrusion into the ground water;
- destruction of fertile coastal land;
- economic and social costs due to loss of property, resettlement costs, possible losses in tourism and fisheries. Preliminary estimates by the Inter-Governmental Panel on Climate Change (IPCC) indicated that for protection alone Trinidad and Tobago could face a cost of US$1.7 billion or about US$1400 per capita.

Other possible effects of global warming include coral bleaching and increase in hurricane activity.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Wildlife sanctuaries have been established in Trinidad and Tobago since 1934;
- A national consultation was held in 1985 to focus on improving environmental management in Trinidad and Tobago;
- A Standing Committee on the environment was established in 1986 to formulate proposals for government policy on the environment;
- In 1989, a Ministry of the Environment and National Service was established to take care of environmental management and natural resources conservation in the country. The Ministry is pursuing the reviewing and rationalizing of environmental laws, with emphasis on the provision of monitoring and surveillance requirements;
Improvement of environmental education and awareness through seminars and symposiums. An annual school public speaking contest with an environmental theme was introduced. Global environment events such as Earth Day and World Environment Day are used to re-emphasize the importance of natural resource conservation and to highlight the role of the individual and the community in this process;

Encouragement of NGOs in the field of the environment;

An Environmental Monitoring Committee was established for South West Tobago to ensure that development does not impair environmental quality in Tobago;

A Tropical Forestry Action Plan was developed to catalyze action in forest resource development aimed at improving living conditions of the rural population, increasing food production, ensuring sustained use of forest and generating income and job opportunities;

Banning of drift-net fishing which is destructive to the marine environment;

Implementation of a Pesticides and Toxic Chemicals Control Act;

Two of the more significant projects to be undertaken:

- a hazard and risk assessment project in Tobago;
- impact assessment of the effects of Mean Sea Level Rise in Trinidad and Tobago;

The propellant industry has already changed to the use of CFC (chlorofluorocarbon) alternatives (p 23);

Some indicators of development achievements include:

- an adult literacy rate of 97.2%;
- primary school enrolment is estimated at 96%, while the corresponding level of secondary school enrolment is 76%;
- 97% of urban dwellings and 77% of rural dwellings have access to safe drinking water;
- 92% of the urban population and 76% of the rural population have access to electricity.

Since 1987, the process of economic reform and structural adjustment has been intensified through:

- exchange rate adjustments to reduce the pressures on foreign exchange reserves and to facilitate and improve international competitiveness;
- fiscal reform, including comprehensive tax reform, the curtailment of public sector expenditure, and a reduction in subsidies and the range of items under price control;
- improved monetary management;
- public sector reform;
- revision of the foreign investment regime to enhance the framework for foreign investment;
320 Trinidad & Tobago

- revision of the size, composition and approval procedures for public sector investment (p 4).

4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The development strategy focuses on economic expansion, particularly through an increase in non-oil exports. Emphasis is being placed on fostering a climate conducive to investment activity in key sectors such as agriculture, oil and gas, light manufacturing and tourism (p 5).

- As regards global warming, the highest priority for basic research is for an assessment to be made of the costs and mechanisms to address its consequences (p 21).

Major policies and strategies to be employed in the management of the environment in the medium term:

- Development of national environmental plans and policies integrating economic and social plans and policies;

- Raising public awareness;

- Development of a national environmental information system and promotion and strengthening of research;

- Establishment of training programmes for personnel responsible for environmental management;

- Enactment of appropriate legislation and establishment of land use policies;

- Development of appropriate standards for environmental management with specific reference to air and water pollution;

- Development of the energy sector in such a manner as to optimize the use of petroleum and natural gas and to avoid any adverse environmental effects locally and regionally. In particular, measures are being taken to deal with oil spills;

- Development of tourism to adhere to the objective of the preservation of the environment;

- Improvement of coordination among environmental agencies and institutions and strengthening their role;

- Implementation of population policies;

- Development of programmes for sustainable exploitation of flora and fauna;

- With regard to international cooperation, UN agencies should cooperate more and provide technical assistance to NGOs and the private sector. There is also need for improved collaboration between UN agencies and other bilateral and multilateral agencies including international NGOs;

- There is need for a clearer definition of UN system mandates and where possible, for improved coordination and reassessment of the mandates of the UN Secretariat and the independent agencies (pp 33-36).
5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

For the medium term Trinidad and Tobago has set itself a growth target of 4% per annum in real terms. This is estimated to require an investment rate of 25% of GDP. It also implies a need to raise the domestic savings rate to 25% of GDP.

Trinidad and Tobago will also continue to need access to supplementary external resources both in terms of concessionary finance from sources such as multilateral lending agencies and access to commercial financing.

In order to continually improve the quality of investment decisions in a practical manner, a major initiative has been mounted with the assistance of the Inter-American Development Bank (IDB) to improve project cycle management capability and systems in the medium term (p 30).

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

No specific mention

7. INTERNATIONAL COOPERATION

Regional arena:

- The country has been actively involved in concert with its regional neighbours in Latin America and the Caribbean, in the preparation of a regional position on issues of environment and development.

- In March 1991, the Government hosted the Caribbean Regional Economic Conference at which representatives of the public and private sectors as well as NGOs sought to chart the region's development course.

- Trinidad and Tobago submitted its list of recommendations for the natural species and areas which need protection to UNEP, for the Caribbean Environment Programme.

- It signed the final Act of the Protocol concerning Specially Protected Areas and Wild Life in the Wider Caribbean Area.

- It accepted the post on the monitoring committee to oversee the work of the Caribbean Action Plan (1990-1991).

- In 1989, Trinidad and Tobago concluded a Bilateral Oil Spill Contingency Plan with Venezuela. The agreement was negotiated within the framework of the Convention for the Protection and Development of the Marine Environment of the Greater Caribbean Region, signed in 1983.

Global arena:

Trinidad and Tobago has:

- been appointed member of the Implementing Committee of the Montreal Protocol. A Cabinet appointed working group is currently evaluating the nation's contribution to ozone depletion with a view to developing a national programme for the reduction of ozone depleting substances to assist in combatting this problem;

- been instrumental in establishing the Alliance of Small Island States (AOSIS);
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- participated in a meeting of the Intergovernmental Negotiating Committee (INC) for a Framework Convention on Climate Change;

- been involved in negotiations leading towards a Convention on Biodiversity;

- participated in meetings of the UNCED Preparatory Committee (PrepCom) and has been involved in the activities of the three Working Groups established by the Committee;

- cooperated as a party in several international treaties and agreements (pp 23-24).

8. EXPECTATIONS FROM UNCED

No specific mention

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1. DRAFTING PROCESS

National Committee: Editors & Authors

The report is based on an extensive National Environment Study prepared between 1990 and 1991. For the final version, a Preparatory Committee to the UNCED was constituted by the Executive in 1990; it was headed by the Minister of Foreign Affairs and the Minister of Housing, Land Use Planning and the Environment. Coordination was entrusted to political representatives of the Congress and the Senate.

Other Ministries and Government Agencies:

As indicated above

NGOs, Grassroots Organizations and Public Involvement:

Various environmental groups were consulted together with NGO representatives. The invaluable consciousness raising efforts realized over the course of many years in Uruguay on the part of non-governmental environmental organizations as well as within formal and non-formal education systems is duly recognized.

2. PROBLEM AREAS

- Erosion of fertile soils especially in Montevideo; a threat to Uruguay’s self-sufficiency in cereals;

- Occupational risks as a result of gold extraction which uses mercury in the separation process;

- Forest fires especially in the south of Rocha, Maldonado and Canelones;

- High population densities in Montevideo and Ciudad Vieja causing pollution;

- Eutrophication of rivers, streams and lakes;
- Loss of biodiversity;
- Air pollution due to urbanization, industrialization and the recent installation of the coal energy complex in Candiota/Brazil, 20 km away from Uruguay;
- Water pollution as a result of sedimentation;
- Natural disasters like droughts, floods, frosts, and heatwaves occur. The "El Nino" phenomenon in the Southern Pacific probably explains the occurrence of droughts;
- Biotic and chemical contamination of aquifers mainly in the area of Santa Lucia and Montevideo metropolitan area;
- Some species are under threat of extinction such as the Pampas deer in the Salto region.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

- Concrete actions had been initiated in 1990 by the Ministry of Livestock, Agriculture and Fisheries to combat erosion in addition to formulating basic soil and surface water conservation norms;

- The Uruguay Forestry Project began in 1990 aims at planting 200,000 ha in five years;

- A fauna breeding centre at Piriapolis has been set up to protect native fauna at the laguna de Castillos;

- Several laws had been promulgated to cover soils, water, forests and fauna; moreover, protection of indigenous flora is covered by Law No. 15939 since 1989;

- In 1990, the Ministry of Housing, Land Use Planning and the Environment was set up to formulate environmental protection plans as well as evaluate them. It has three national directorates on (1) housing, (2) land reform and (3) the environment. The latter (called DINAMA) is to ensure safeguarding environmental quality, conserving the different ecosystems and providing environmental education;

- Several decrees have been promulgated to cover the preservation of Cabo Polonio, Aguas Dulces and the Laguna de Castillos, the protection of India Muerta wetlands ecosystem as well as the coastal wetlands at Merin laguna;

- The National Fisheries Institute (INAPE) was created in 1990 to be responsible for the application of regulations on resource conservation;

- The Ministry of Livestock, Agriculture and Fisheries is responsible for environmental management. It includes the Directorate of Agronomic Services and the General Directorate of Renewable Natural Resources; the latter has established an Experimental Fauna station of 50 ha at Toledo;

- In 1989, the National Institute of Agricultural Investigations (INIA) was established to work on technology transfer.
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

- The environmental dimension should be included in Uruguay’s national development policy;
- Need to undertake a study of the Rio Negro through the monitoring of its waters;
- Watershed management is to be elaborated to avoid contamination of water bodies;
- Need to strengthen efforts deployed by government departments and the National Water and Sanitation Agency to cover sewage treatment activities;
- A study of water resources to identify sources of drinking water is necessary, as well as the monitoring of aquifers and irrigation in fruit producing areas;
- The role of the mass media is to be reinforced with a view to defending environmental issues;
- Revisions in land use planning schemes are to be made while taking into account existing investment constraints on housing and transportation;
- Formulating an environmental policy with an international perspective is a priority for Uruguay. One solution is to conclude regional agreements on legislation within MERCOSUR;
- Need to include NGOs in the decision making process;
- Intensifying efforts towards the conservation of coastal ecosystems (Rio de la Plata and the Atlantic Ocean);
- Promoting scientific research on biodiversity not only on a national but on an international basis. The current educational system can be enhanced by including the environmental dimension;
- A unit on environmental quality control within the National Directorate of the Environment is needed so as to ensure the safety of the population; some of the tasks of such a unit would be the supply of drinking water, the control of pesticide use and air pollution monitoring;
- Management of natural disasters is a must; hence, preparing maps on flood prone urban areas is needed. Better institutional coordination is also desirable.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

- Uruguay has already negotiated with the World Bank different ways to reinforce institutional capacity on forest management;
- Law No. 16170 of 1990 provides for a National Environmental Fund within the Ministry of Housing, Land Planning and Environment through the collection of fines charged against polluters;
- It has been recommended that international funding should be channelled towards increased investment on services, infrastructure and construction equipment.
6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- Increased recycling is recommended. No detailed reference is made to environmentally-sound technologies.

7. INTERNATIONAL COOPERATION

- Regional cooperation especially related to the monitoring and control of environmental quality such as the Administrative Commission of Rio Uruguay, the Maritime Front Commission and the Rio de la Plata Commission;

- Launching integrated development actions in line with the Environment Plan of Action for Latin America and the Caribbean is recommended.

8. EXPECTATIONS FROM UNCED

No specific mention

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ZIMBABWE

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UNDP Contact Address: UNDP Resident Representative
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1. DRAFTING PROCESS

National Committee: Editors & Authors:

The National Conference for the Preparation for UNCED was held from 25-27 March 1991, after which a five-person committee was set up to prepare the country report based on the recommendations of the conference. Members of the drafting committee included representatives from: The Ministry of Environment & Tourism, the Department of Natural Resources, the Department of Parks & Wildlife Management and an NGO, Environment and Development Activities.

Other Ministries and Government Agencies:

Ministry of Environment & Tourism;
Ministry of Energy, Water Resources and Development;
Ministry of Health;
Ministry of Education and Culture;
Ministry of Foreign Affairs;
Ministry of Political Affairs;
Ministry of Transport and National Supplies;
Ministry of Lands, Agriculture & Rural Resettlement;
Dept. of Natural Resources;
Dept. of National Parks & Wildlife Management;
Dept. of Women's Affairs;
Dept. of Meteorology.

NGOs, Grassroots Organizations and Public Involvement:

Representatives of associations, societies, unions and other non-governmental organizations such as the Farmers' Associations, Confederation of Zimbabwe Industries, Women's Affairs, etc. participated in the preparatory process and provided reports detailing their works and positions vis-a-vis environment and development.
2. PROBLEM AREAS

- Persistent droughts, which are aggravating other environmental problems;
- Land degradation due to human and livestock population pressures on land, and lack of alternative sources of livelihoods for communal farmers;
- Soil loss due to current poor land use practices;
- Siltation of the country’s surface water bodies;
- Deforestation, including excessive overgrazing, and clearing for agriculture use. Zimbabwe’s woodland cover is reduced by about 1.5% per year. Some 70-100,000 ha are cleared annually.
- Pollution of air and water courses with industrial and municipal effluents, including pollution arising mainly from power generators, cement factories, quarrying, fertilizer manufacturing and motor vehicle emissions;
- Lack of technology and ability to monitor and control the problems.

3. PAST AND PRESENT CAPACITY BUILDING INITIATIVES

Policy, Planning and Strategy:

- Government policy is that all major development projects will be subjected to an environmental impact assessment in order to ensure that economic growth is within ecological limits of the country;
- Government embraced the World Conservation Strategy and subsequently published a National Conservation Strategy entitled "Zimbabwe’s Road to Survival". The strategy seeks to bring development into balance with the environment and attempts to restore harmony between man and his natural environment;
- Government is working closely with the UNDP towards the formulation of an action plan for its conservation strategy;
- Government has carried out a land rehabilitation programme through the Natural Resources Board (NRB) and the Department of Natural Resources (DNR);
- Government has embarked upon numerous conservation awareness campaigns, mounted by the DNR;
- Government has initiated rural electrification, afforestation and reforestation programmes in the country’s rural areas;
- A National Master Plan for Rural Primary Water Supplies and Sanitation was launched in 1988 with the objective of providing clean water within 500 metres of the home of every rural Zimbabwean and proper sanitation facilities for every village or community by the year 2000.
Institutions:

- Ministry of Environment and Tourism is the main environmental resource use control agency which coordinates other ministries and agencies on environmental issues. It runs its mandate through two departments, two boards and two parastatals. Whilst there is potential in this structure the report indicates that conflicts have occurred (see 4 below);

- The Natural Resources Board (NRB) was formed primarily as a vanguard for the conservation ethic;

- The Research Council of Zimbabwe was established through an Act of Parliament (Research Act, 1986) to promote and coordinate scientific and technological research. The Council carries out its functions through a number of Committees.

- "There is a very strong NGO presence in Zimbabwe". "Although NGOs in Zimbabwe are important, their contribution to broad development is not very significant". (pp 35-36)

Legislation:

- There are more than 20 Acts that are in force in the environment sector, but the ones that are frequently used include: Natural Resources Act (1941); Forest Act (1981 amended); Parks and Wildlife Act (1975); Mines and Minerals Act (1961); Hazardous Substances and Articles Act (1977); Trapping of Animals Control Act (1973); Noxious Weeds Act; Plant, Pests and Diseases Act; Water Act (1976); Regional Town and Country Planning Act (1976); Rural District Councils Act (1988); Communal Forest Produce Act (1982); and Communal Land Act (1982).

- The most central piece of legislation as far as the environment is concerned is the Natural Resource Act whose main objective is to control the use of resources.

Environmental Education and Public Awareness:

- The public awareness programmes launched over the years are followed up by fairly stringent law enforcement through the Lands Inspectorate in the Department of Natural Resources.

- The environmental education programmes are being carried out by two committees namely the Public Relations Committee and Resource Education Committee. These programmes include organizing environmental shows and exhibits, radio and Television programmes, and a bi-monthly publication of a natural resources bulletin which contains articles on environment and development.

- The Committee on Agriculture and Natural Resources of the Research Council holds several workshops on topical environmental problems and submits recommendations to government.

- Primary school education has a duration of seven years, and at this level environmental science is taught as from grade 4 to grade 7.

- It is believed that the African University in Mutare and the National University of Science and Technology will have departments that will cater for the establishment of both under-graduate and post-graduate studies in Natural Resources and Environmental Science.
4. RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT & DEVELOPMENT

The government is committed to carry out the following:

- Establish a coherent environmental policy;
- Increase budgetary allocation for environmental programmes;
- Step up the current environment awareness programme;
- Invest in the Communal Areas so that farmers can diversify their activities;
- Recognition of mutual dependence on a healthy environment;
- Streamline the institutional, legislative aspects of its work and put all monitoring units under one institution;
- Work together with NGOs to implement programmes that will tackle problems of poverty and the environment as shown by people at the grassroots, and in line with their needs and aspirations;
- Revamp and re-organize the environmental studies curricula for both primary and secondary schools education systems, and for teachers’ colleges and universities.

Recommendations to the international communities:

- International conventions should not constrain Third World development and there should be a clear strategy for research, technology transfer and monitoring to accompany each convention;
- Such conventions should not generally render national legislation useless and should not be used as a bargaining lever for the provision of donor funds;
- Need to support "home grown" solutions to environmental problems;
- Regional groupings should push for regional solutions to regional environmental problems, and in this regard the Organization of African Unity (OAU) and Member States of the Preferential Trade Area (PTA) should assume advocacy roles in environmental and developmental issues particularly where the issues relate to poverty, trade, debt, and environmental degradation.

5. FINANCIAL ARRANGEMENTS AND FUNDING REQUIREMENTS

Successful implementation of the overall and sectoral development strategy is dependent largely upon the country’s ability to mobilize the requisite financial resources. Zimbabwe’s foreign debt amounts to approximately 49% of GDP by 1985. The government intends to reduce future public borrowing significantly and increase the inflow of foreign capital into specified priority sectors of the economy.

6. ENVIRONMENTALLY SOUND TECHNOLOGIES

- The government is in the process of developing a policy on technology transfer which will involve a screening system for all incoming technologies.
The government supports the provisions under the London Guidelines, and the principle of the "Prior Informed Consent". It also welcomes the proposed support to developing countries to assist them in adapting to new technologies. The government is of the view that developed countries have to agree on a mechanism to support developing countries either through financial assistance or through allowing them to purchase the technology on concessional and most favourable terms.

Zimbabwe has started developing its own technology especially for rural areas, and these technologies are developed in conjunction with the end users to ensure their appropriateness and local applicability.

7. INTERNATIONAL COOPERATION

- Zimbabwe became a party to the Lome Convention (EEC-ACP) in 1981. Prior to joining she had benefitted from the EEC’s Non-Associated Programmes and the Food Aid Programme.

- The Preferential Trade Area (PTA) was formed in 1982 by a group of 18 Eastern and Southern African countries including Zimbabwe.

- Zimbabwe is a member of the South African Development Co-ordination Conference (SADCC) which was formed in 1980.

- Since becoming independent, Zimbabwe has entered into a number of bilateral agreements or Joint Commissions, incorporating economic, scientific and cultural co-operation, with other countries.

- World Bank and regional banks have assisted Zimbabwe in many areas through loans granted through international competitive bidding.

- Zimbabwe rejoined the General Agreement on Tariffs and Trade (GATT) in 1980, and a number of developed countries have made her a beneficiary of their respective Generalized System of Preferences (GSP).

- Zimbabwe has received a great deal of assistance from the United Nations system, particularly in the field of environment.

- Zimbabwe is a signatory to at least four international conventions in addition to its transboundary and regional obligation, and will ratify some more in the near future.

8. EXPECTATIONS FROM UNCED

The report is prepared with UNCED in mind concentrating on Zimbabwe’s commitment. In this way it also makes recommendations to UNCED as applicable to Zimbabwe (pp 56-71).

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APPENDIX 1: GUIDELINES FOR NATIONAL REPORTS

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GENERAL ASSEMBLY

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6-31 August 1990
Item 2 (d) of the provisional agenda*

PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: PREPARATIONS AT THE NATIONAL LEVEL: GUIDELINES FOR NATIONAL REPORTS

Suggested guidelines for the preparation of national reports

Report of the Secretary-General of the Conference

INTRODUCTION

1. The Preparatory Committee for the United Nations Conference on Environment and Development, in decision II of its organizational session, requested the Secretariat to prepare detailed guidelines on the preparation of national reports for submission to the Committee at its first session. Those guidelines are presented below.

2. The Conference, in co-operation with the United Nations Development Programme and other multilateral and bilateral donors, will endeavour to respond to requests from developing countries for technical assistance in preparing their national reports. Voluntary contributions and funds are being actively sought for this purpose, and bilateral support has already been indicated. Efforts will be made to co-ordinate, to the extent possible, the various support initiatives.

3. The main purpose of national reports is to present the national perspectives and experience of Member States, together with information on policies, activities and issues at the national level which will assist the Conference in meeting its objectives as established in General Assembly resolution 44/228.

4. In order for the national reports to be incorporated in a timely manner in the preparatory process, it is suggested that they be made available to the Secretariat as early as possible during the first quarter of 1991. The suggested deadline for submission is July 1991.
I. OVERALL APPROACH

5. National reports should provide basic information on the existing situation in the country in terms of the interactions between the development process and the environment. They should focus on the strategic actions that are being carried out and/or planned, and their policy implications. They should give particular attention to areas in which environmental considerations interact with development goals and the development process, analyzing the main factors that pose obstacles to development and the protection of the environment, the constraints and opportunities arising from such interactions and the manner in which they are managed, including measures that are currently in place or will be developed to change this situation at all levels of society - especially at the levels of economic and sectoral policies and their implementation. National reports should highlight:

(a) national economic and sectoral development plans;
(b) environment and natural resources problems, and;
(c) actions to solve them, including policies and programmes.

6. Key procedures for addressing resource and environmental problems through legislation, policies, strengthening of institutions, education, public awareness, policy analysis, resource accounting and related requirements for technologies and funding should be identified. Of special importance is the identification of areas in which environmental and developmental issues at the national level affect, and are affected by, international conditions at the regional and global levels - areas which might be addressed by the Conference when considering international measures in support of national action to address those issues.

7. In order to ensure that the preparations for the Conference take fully into account the progress made at the national level since 1972 and address the concerns and interests of Member States, it is important that national reports provide relevant background information concerning problems that have emerged since 1972 and the progress made in dealing with them. In this connection countries should focus, as a matter of priority, on the main issues before the Conference, described in General Assembly resolution 44/228.

II. SUGGESTED PROCEDURES

8. While each country will adopt its own procedures for preparing national reports, it should include provisions for the following:

(a) The establishment of a special committee or working group for preparing the national report. It could be comprised of representatives of governmental ministries and agencies at various levels, including the local and municipal levels; in States of a federal character, it could include regional and provincial governments. Representatives of the non-governmental community - industry, trade unions, science - and other important constituencies such as environmental and developmental groups, women, youth, consumers and indigenous peoples could also be included. Participants might include experts in key disciplines such as natural and social sciences, economics, policy analysis, planning and resource management, and in areas such as energy, agriculture and urban affairs.

(b) The utilization, as a source of reference, of information available from recent reports such as country environmental profiles, environmental action plans, tropical forest action plans, national conservation strategies, state of the environment reports, national development plans, sector strategies and assessments reports and strategies of international agencies and funding organizations and other research and policy reports.

III. DRAFT OUTLINE FOR NATIONAL REPORTS

9. In order to facilitate the utilization of the national reports in the preparatory process, it is proposed that they conform to the following format and include the kinds of information referred to below.
A. Executive summary

10. Summarize the principal findings and conclusions of the report, highlighting the interrelationships between environment and development.

B. Development trends and environmental impacts

11. Describe developmental trends in terms of economic growth, demographic development, resource use and conservation of natural resources, equitable distribution of income and wealth, the role of the international economy (trade, finance, debt) etc. Sectors might include mining, energy, transportation, housing and infrastructure, industry, health and social services, education, environment, agriculture, parks and tourism, forestry and fisheries, economic planning and foreign affairs.

12. Describe the basic environmental and natural resource endowment of the country including land use and land cover; and the extent and use of croplands, pasture, forests rangelands, fresh-water fisheries, coastal resources, biological diversity, minerals, energy resources and other natural resources. Include references to transboundary and shared resources and include pertinent information on the amount of resources and extent of change and rates of change. Analyze the importance of natural resources in the recent economic development of the country in question such as: How dependent is the country on natural resources (consumptive and nonconsumptive use) measured in terms of production, employment, trade, quality of life, and other factors? How has this dependency changed over the past two decades? How it is likely to change in the next decade? How adequate is the basic environmental and natural resource endowment in relation to present and anticipated levels of population, rates of population growth and distribution and the standards and conditions of life to which the people of the country aspire? Whenever possible, it would be useful to use environmental and social indicators, including natural resource accounting procedures and quality of life indicators.

13. Identify and analyze key environmental and natural resources issues that are of major concern to the country. Where possible, the issues should reflect those identified in paragraph 12 of General Assembly resolution 44/228 such as protection of the atmosphere, protection of the quality and supply of fresh-water resources, protection of the oceans, protection and management of land resources, conservation of biological diversity, environmentally sound management of biotechnology, environmentally sound management of hazardous wastes and toxic chemicals, improvement of the living and working environment of the poor, and the protection of human health. For each issue, identify present conditions and trends, major causes, the relative importance or the degree of urgency, the level of risk, the degree of irreversibility, the impact and economic significance, and, if possible distributional aspects - who is affected most by pollution and resource degradation. These should be described and analyzed at the national level, incorporating information, including the best available statistical indicators, from the sub-national and transnational levels, as appropriate. Reference should be made to any environmental emergencies or catastrophes that may have arisen in the country and the means that have been established to anticipate, prevent and deal with them.

14. Countries, and more specifically, developing countries, could indicate their perceptions of what activities will require new and additional funding, and where possible, also indicate the extent of the funding required. Developed countries for their part, could indicate the pattern and extent of their official development assistance (ODA).

15. The analysis of major causes, examine the part played by, inter alia, the demand side (levels of per capita consumption, population growth), inappropriate production technologies, policy distortion that encourages unsustainable use of resources and the excessive use of the natural environment for waste disposal, gaps in the institutional and legal framework and lack of knowledge and awareness. The impact of poverty, external debt and other economic factors on the protection of the global environment and the need to develop effective measures to solve these problems could also be examined.
C. Response to environment/development issues

16. Outline the major approaches that have been developed and implemented at the national level over the past two decades to address environmental and resource problems as they relate to development, and indicate the principles that guide policy, the key goals, targets and priorities of development, and the policies, legislation and institutions that enable their achievement, taking into account environmental and sustainability considerations. Describe programmes, projects and other actions, indicating what progress has been made and what remains to be done. Indicate which critical events (social, economic, ecological, etc.) have led to changes in awareness, institution-building, or action, and their results.

1. Principles and goals

(a) Principles guiding action: e.g., polluter pays principle, internalization of environmental costs; effect-oriented policy measures; emission-oriented policy measures; resource-efficiency measures; structural source-oriented measures;

(b) Goals and targets: sustained use of renewable resources: water, forests, living resources, arable land etc.; pollution prevention, pollution control, impact mitigation; reduction in greenhouse gas emissions; toxic chemicals and hazardous substances management etc.

2. Policies, legislation and institutions

(a) Financing sustainable development; analysis of costs and benefits of incorporating environmental dimension into development; financing needs and constraints and how they are or may be met;

(b) Institutional development policies such as the establishment of new departments or councils on the environment; establishment of rules and regulations and enforcement procedures; preparation of national environmental reports and strategies etc.;

(c) Policy measures to ensure correct valuation of environmental impact, discourage over-exploitation of natural resources and encourage resource conservation and rehabilitation;

(d) Policy and other measures to strengthen scientific, research and technological capacities and their application and adaptation to the country’s environmental and developmental needs;

(e) Private initiative policies and practices of business and parastatal organizations, trade unions, national industrial associations; and programmes of non-governmental organizations including environment and development groups and religious and cultural organizations; the role of women, youth, indigenous peoples and other important interest groups.

3. Programmes and projects

(a) Programmes and projects: the extent and type of activities undertaken to protect the environment and manage natural resources; effectiveness; measures of success;

(b) Programmes, projects and other activities of specific groups: economic and planning agencies; sectoral agencies and departments; the international development and environment community; donors; regional organizations; indigenous peoples, others;

(c) Promotion of public awareness and public education;

(d) Research, policy analysis and training: universities, institutes, businesses (on-the-job training), international institutes, non-governmental organizations, others;
(e) Evaluating and reorienting development; environmental monitoring, indicators, networks and others;

(f) Programmes on training, education and public awareness.

4. International cooperation

17. Indicate how best the international community can address environmental and development issues of direct concern to the country. Among the available means that could be considered are:

(a) Treaties and conventions and other legal measures;

(b) Policies and practices of major economic institutions: structural adjustment, debt restructuring, trade reform (GATT), others;

(c) Policies and practices of major international and multinational corporations: training, technology, transfer, codes of good practices, investments, regulations, others;

(d) Financial assistance: World Bank and regional banks, bilateral donors, businesses, private foundations, others;

(e) Technological innovations and technology transfer: access to information, technology, training, others;

(f) International training and research facilities;

(g) United Nations and specialized agency assistance and support.

D. Procedures to be followed in preparing national reports

18. Information should be provided on the procedures actually followed in preparing the national report, including:

(a) The organization specifically responsible for preparing the report;

(b) Government ministries, departments and agencies contributing to it;

(c) The approval process: At what level was it approved (ministerial?, Cabinet?, other);

(d) Contributions of non-governmental organizations - industry, trade unions, sciences, women, youth, grass-root citizen groups, indigenous peoples etc.;

(e) Public dialogue: Were public hearings held or other opportunities provided for public discussions of the report?

E. Anticipated results of the Conference

19. Indicate what results your country expects from the Conference.
APPENDIX 2: OVERVIEW OF NATIONAL REPORTS

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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS

Overview of national reports*

Report of the Secretary-General of the Conference

I. INTRODUCTION

1. The present report is a synthesis of 72 national and 2 subregional reports analysed by the Conference secretariat reflecting the main findings and trends. Unfortunately not all reports have been received; nor has the secretariat been able to analyse fully all the late reports, owing to time constraints. Further analysis and processing of data and follow-up action will have to be done over months and perhaps years to come.

2. Only 15 reports were received by the end of July 1991, the official deadline, and by mid-November, the extended deadline and cut-off date for the synthesis report, 72 reports had been received. The analysed reports total some 11,000 pages (without annexes), with approximately two thirds in English and one third in other languages (French 2,000 and Spanish 1,000 pages). Forty-two reports were presented to the secretariat in English, 9 in another language with an English translation, 11 in French and 5 in Spanish (see attachment 1). A handful of countries have withdrawn their reports for the purpose of updating and revising them.

3. Unfortunately a large number of important countries, in terms of their size, population and economy, had not completed their reports at the time this synthesis was prepared. Thus countries with an estimated population of some 2.25 billion people (or roughly half of the earth’s population) have not been covered.
Guidelines

4. At the first session of the Preparatory Committee, held at Nairobi, the Committee established suggested guidelines as reflected in document A/CONF.151/PC/8 and Add.1. The guidelines proposed that the national reports address, inter alia, development trends and environmental impacts, response to environment/development issues, procedures for preparing reports and the anticipated results of the Conference.

Secretariat analysis procedure

5. In its analysis of the reports the secretariat has tried to address those main elements suggested in the guidelines. The secretariat has to the extent possible analysed the reports in chronological order giving preference to final reports with diskette versions. Lack of diskette versions of reports has slowed the review process considerably. As part of the analysis process, brief five-to-seven-page "contents reviews" have been prepared for some 40 countries. The same reports have also been entered on the secretariat computerized database. The remaining reports have been analysed and indexed manually in preparation for this synthesis. The intention of the secretariat is to prepare contents reviews of as many reports as possible. The full unaltered reports will also be stored on a database, which will facilitate retrieval of information from the reports for future follow-up action, research, etc. Only reports submitted in a usable diskette format have been entered on the database. About half of reports have to date been treated in this way. The "contents reviews" are not to be taken as official secretariat documents but merely as short summaries of the main points in the reports concerned. No doubt there can be different interpretations but this is at the same time also a reflection on how a report can be understood by a reader, perhaps with less in-depth knowledge of the country concerned than their report writers. The "contents reviews" have been compiled together in a "quick-reference compendium" which could be made available to interested parties and the public at large. Samples will be available at the fourth session of the Preparatory Committee.

6. The reports have been analysed principally by a team of professionals hired for this purpose, under funding provided by the Government of Finland to cover the reports from least developed countries, supplemented by secretariat funding. The same funds have also been used for securing the necessary equipment to carry out this analysis. Reports have also been analysed by other secretariat staff and experts.

UNCED Agenda 21 Information System

7. The retrieval system used by the secretariat is CDS/ISIS (Computerized Documentation System / Integrated Set of Information Systems). The national reports system is envisaged as a part of the larger Agenda 21 information support system (AGIS). The main descriptors used in coding the reports can be found in attachment 2. These descriptors are the result of in-house standardization of the reports to facilitate analysis and other use of the material therein. The contents of the reports have not been changed. The retrieval system, once fully operational will, however, permit searches of the database by whatever word or words needed, thus allowing for very specific research work.

II. MAIN FINDINGS

8. The main findings of the reports are summarized below and indicate not only global and regional priorities emerging from the reports but also sectoral and cross-cutting issues as they emerge. These may also be described separately in other documents presented to the Preparatory Committee. The findings and figures in this report are indicative of an issue of concern raised by the countries involved. It has not been possible at this stage, because of the unevenness of the data in the reports, to introduce meaningful qualitative global or even regional data. This area needs to be explored further.
III. ANTICIPATED RESULTS OF THE CONFERENCE

9. The guidelines suggested that reports specifically address the subject of expectations from the Conference; at least 37 reports out of 72 responded to this under a separate heading or as a specific item. But almost half of the reports made no special reference to expectations from the Conference. Often the expectations are included in the text in different parts of the reports, hence making the analysis time consuming. This chapter often also overlaps with another suggested chapter in the Guidelines labelled "Recommendations and priorities on environment and development" dealt with later in this document.

10. Of the countries that responded under this heading, two thirds stressed the need for commitment regarding additional funding, and more than half suggested access to environmentally sound technology under favourable conditions, or free access to it, to enhance capacity-building. Approximately one third specifically addressed the Earth Charter, the various conventions and agreements and stated specifically that Agenda 21 should be action-oriented. These figures are certainly higher when one includes the more detailed recommendations in other parts of the reports.

11. Developing countries generally expect genuine commitment or proof by the more developed countries that they are prepared to make changes in the world economy and to provide access to new and additional funding, appropriate technology and to assist with capacity-building. These same countries also see the Earth Summit as a forum for the international community to make concrete decisions regarding our common global concerns. More than a quarter of the developing country reports specifically expressed the wish for a stronger multilateral United Nations system to assist in this process. The necessity for improved regional cooperation was also often stressed, and a number of general statements were made about global commitments and the need to cooperate. Other topics mentioned under this heading include the need to address the debt problem, poverty, natural disaster prevention and fair trade.

12. The references to a strengthened United Nations system usually mention the need for closer cooperation between UNEP and UNDP. They also cover the need to integrate bilateral programmes with multilateral ones. Adequate follow-up to the Conference is also recommended.

13. The analysed reports of industrialized countries, which also happen to be major aid donors, support the general expectations of developing countries by stating that the Earth Summit should reach specific and concrete decisions regarding funding, technology issues and capacity-building leading to an action-oriented Agenda 21 programme. A number of developing country reports specifically refer to the Conference process as a way of learning from other developing countries and thus gaining experience. Likewise they are also willing to share their knowledge and experiences. The country-specific issues and problems are dealt with separately under other headings in this report.

14. Regarding regional cooperation, a number of countries with common environmental concerns (e.g. river-basin countries, desert countries, small island States and countries experiencing transboundary pollution) have expressed the need for stronger regional cooperation.

IV. THE NATIONAL REPORT DRAFTING PROCESS

15. This section is elaborated in somewhat greater detail than expected since a large number of Governments in presenting their reports to the secretariat have specifically commented on the preparatory and consultative processes used in preparing national reports. These processes, often described as unique or most interesting, have included many entities or representatives of the population not usually involved.

16. The guidelines, while recommending that each country adopt its own procedures, nevertheless suggested that a special committee or working group be established which could be comprised of representatives of governmental ministries and agencies at various levels, representatives of the non-governmental community - industry, trade unions, science - and other important constituencies such as environmental and development groups, women, youth, consumers and indigenous peoples, in addition to experts in key disciplines such as natural and social sciences, economics, energy, agriculture and urban affairs, etc.
17. Of the 72 countries included, 90 per cent indicated that specific committees on the Conference had been established to prepare for the Earth Summit in Rio de Janeiro and also to prepare the national report. In 50 countries, or 70 per cent, there appears to have been full and close participation from the non-governmental sectors, especially citizens' affinity groups. Women were specifically mentioned as being represented in at least 25 per cent of the countries and in some cases separate chapters or reports were written on the role of women. Countries seldom made any mention of the nature of the drafting process. At least 29 countries (40 per cent) arranged national seminars or workshops, which may well have included women representatives, to discuss or prepare the national level inputs to the Conference (see attachment 3).

Ministerial involvement in the drafting process

18. Least developed countries reported that a greater number of ministries were involved in the drafting of their national reports than did industrialized countries (more than 50 per cent of country reports from least developed countries drew on the contributions of between 5 and 9 ministries, compared to 40 per cent for industrialized countries; one third of least developed countries had over 10 ministries involved in the process, compared to only 15 per cent of industrialized) (see attachment 4).

19. On the other hand, industrialized countries had specific ministries, departments and commissions for the environment coordinating the drafting process more often than least developed countries did (70 per cent of the time compared to 55 per cent of the time for least developed countries). In the case of the least developed countries (and developing countries), coordinating ministries were often ministries of planning, tourism, natural resources or of forestry.

V. RELATIONSHIP BETWEEN DEVELOPMENT AND ENVIRONMENT

20. One general remark is that environmental issues appear to be better covered than developmental ones. It is telling perhaps that reports sometimes indicate names and seemingly very exact numbers for animal or plant species extinct or close to extinction but equally exact figures on population or cost estimates of needs are much more scarce or vague. The percentage figures are only indicative of how many reports mention certain issues (see attachment 5).

Agricultural pressures

21. Sixty reports, or approximately 85 per cent of the 72 reports received, refer to problems or issues directly linked with agriculture. These issues most frequently concern the dangers of excessive or incorrect use of agro-chemicals (40 per cent). Of reports describing agricultural issues about half refer to soil erosion and soil degradation. Other problems described are over-exploitation, or poor soils, poor or incorrect agricultural practices and salinization.

Demographic pressures

22. Roughly 70 per cent of the reports make reference to demographic pressure as causing concern of one type or another. Of reports describing demographic pressure, 40 per cent mention rapidly increasing population and urbanization problems. Other issues are inadequate housing, i.e. growing slums, etc. The demographic pressures are also often mentioned together with waste management problems, which in turn are reflected in concerns about health and sanitation. Many report health and sanitation-related problems, particularly in urban centres. A number of reports touch upon the negative effects of poorly planned or controlled tourism-related activities. Unemployment is an increasing problem, some expressing particular concerns about unemployed youth. A number of reports express the need for clear national policies on population to address the concerns of population pressure.
Poverty

23. The regional ministerial-level preparatory meetings listed poverty as one of the most important factors, if not the most important impediment to the achievement by developing countries of sustainable development. Poverty as a subject is dealt with separately in document A/CONF/PC.151/100/Add.2. National reports also, in varying detail, dwell on the issue of poverty. Generally the reports do cover important indicators of poverty such as low incomes, inadequate living conditions, low GNP and a heavy debt burden as well as many of the elements mentioned under demographic pressures.

Pressures on forests

24. Pressures on forests are closely interlinked with the demographic and agricultural pressures referred to above. Pressures on forests are mentioned in 70 per cent of the reports and they stem from the use of wood as fuel (30 per cent of reports mentioning forest pressures), logging and clearing, agricultural encroachment, urban encroachment and squatting and forest fires.

25. These pressures on forests are also directly linked to habitat loss. Forty per cent of all analysed national reports bring up habitat loss and also refer to loss of biological diversity and loss of fragile ecosystems.

26. In developing countries forests are under pressure from agricultural expansion and from population pressure in the ongoing quest for more land and fuel wood. Only a few of the developing country reports analysed so far give indications of serious effects from the forestry industry and logging. This figure is also a reflection of the fact that several major forest countries have not yet submitted reports. With depletion of forests there is, of course, the related destruction of biological diversity, sometimes linked with local climate change.

27. In the reports from industrialized nations, including the central and eastern European countries, the concerns regarding forests and forestry are linked to acidification and pollution problems primarily due to emissions from industry and transport, often transboundary in nature, which have a devastating effect on forests. At least two reports from major industrialized forest countries mention the harmful effect of poor logging practices and clear cutting.

Waste management and pollution

28. At least 42 reports or close to 60 per cent indicate that countries have waste management problems of a magnitude that concern them now or will concern them in the immediate future. These problems are linked with the use of agro-chemicals (in at least 27 countries, or almost 40 per cent), household waste (35 per cent) and industrial waste including toxic waste (30 per cent). Coastal and sea pollution is mentioned in 40 per cent of the reports and 50 per cent of the reports express concern about air pollution, sometimes localized to cities or regions; almost 30 per cent mention freshwater pollution including in some cases groundwater pollution; and soil pollution. Specific references to acidification of water, soil and air are frequently made in the industrialized countries. The reports from central and eastern Europe describe sometimes alarming waste management problems, and have identified several national level disaster areas sometimes with transboundary effects. A number of reports, in particular industrialized country reports, state that 50 to 90 per cent of air pollution is transboundary and external to the country concerned.

Water shortage, harsh climate and/or desertification

29. Limited access to freshwater is reported by 35 per cent of the countries, and 75 per cent of these same countries also report waste management problems. It appears that the access to water is often a question of water quality as well as overall availability. A number of countries make reference to a hostile climate with uneven precipitation and climate change; and one fourth of countries with water shortage refer to desertification. These countries are almost all in Africa. Desertification is linked both to the agricultural practices and forest destruction described above. All but one of the countries reporting desertification are developing countries. One large developing country describes desertification in certain provinces as "catastrophic".
Natural disasters

30. A significant number of national reports express concern about natural disaster and disaster response. Almost all island and many coastal States mention the danger of possible sea-level rise. Disasters like floods, earthquakes and volcanic eruption as well as man-made armed conflicts are mentioned in a number of reports.

VI. SUMMARY OF RECOMMENDATIONS AND PRIORITIES ON ENVIRONMENT AND DEVELOPMENT AS DESCRIBED IN THE REPORTS

Priority areas

31. As can be expected the priority areas to be addressed correspond with problem areas identified. Approximately 65 per cent of the reports list conservation of the natural resources as a top priority stressing preventive measures over corrective ones. Agriculture and waste management-related issues are mentioned in nearly half of the reports as the most urgent, closely followed by demographic pressure and forestry-related issues. Water and water resources management is singled out in 35 per cent of all reports although this figure most likely is also included in the broader topic of natural resource protection.

32. There are differences depending on the developmental level of a country. For instance, the industrialized countries see the waste management issues as more pressing, with particular concern for air and water pollution (mentioned in 85 to 95 per cent of industrialized country reports), whereas population, urbanization and quality of life (poverty) issues, as well as the above-mentioned agriculture and forest-related issues, are more important to developing countries, in particular the least developed. Other frequently mentioned priorities include energy, food security, debt and desertification.

Means of implementation

33. The above figures are probably lower than in paragraphs 20 to 30 listing main areas of concern because most reports have concentrated on the means for addressing the problems. To address these issues the reports appear to concentrate on the following issues. Strengthening of legislation and enforcement (70 per cent of reports); better planning and coordination (65 per cent); capacity-building including institutional strengthening and research (65 per cent). Some 50 to 60 per cent of reports stress the need for awareness building and environmental education as a priority, as well as a participatory process involving non-governmental organizations which is specifically mentioned in some 30 per cent of reports.

34. Other significant means for addressing the problems are strengthened regional and international cooperation (24 to 35 per cent) and funding mechanisms.

Funding

35. Developing countries invariably stress the need for additional funding over and above present technical assistance and a number of countries make references to the need for a "green fund". The analysed reports from the industrialized countries also support the need for additional funding and pledge their commitment for such funds. The funding needs are considerable and will be addressed separately in the document on financial resources and mechanisms, A/CONF.151/PC/101. Generally speaking, figures on funding needs or the cost of elimination of problems are not sufficiently covered in most reports. As can be expected, industrialized countries tend to have more exact figures although a number of developing country reports also provide good figures at least in some sectors.

Capacity-building

36. Developing countries report a need for capacity adjustments and strengthening to address environment and development-related issues. The capacity-building initiatives, either under way or contemplated, as outlined in the national reports, number in the thousands. Some reports are quite specific about programmes and actions needed,
while others are rather general. It is not feasible to summarize in a comprehensive yet succinct manner all the capacity-building proposals into this synthesis report. Most of the suggestions in the reports can best be dealt with at the national level, and these actions form one of the most important ingredients in the follow-up to the Conference.

37. Capacity-building as a general subject is dealt with separately in documents A/CONF.151/PC/100/Add.11 and A/CONF.151/PC/100/Add.26. UNDP and the Conference secretariat have commissioned a study on capacity-building requirements in developing countries which will be presented separately. Many of the elements in the national reports under this heading will be elaborated in further detail in this study.

VII. EVALUATION OF THE PROCESS

What worked?

38. In reviewing the preparatory process for the national-level preparation and, in particular the national report preparations, one notes a certain pattern or process that seems to have been used in producing a report.

39. A national committee was convened. Consultants were often engaged to prepare draft reports. Most frequently the Environment Ministry or government environment entity concerned was charged with coordinating the work at the national level; but, judging from reports and correspondence, the final versions of the reports were often discussed during national seminars or meetings and then approved by the committee, sometimes a committee of ministers, or even by parliaments. Financial support from a number of sources through the UNDP field offices and a United Nations presence has facilitated preparations in many developing countries.

Process

40. The national report preparations have, in many countries, created a unique "consultative process" mobilizing thousands of people around the world. There are reports that list several pages of participants. The magnitude and the number of problems identified as being part of the development process are so great that Governments alone cannot address and correct ongoing processes and take the necessary steps to change directions. The Conference process has therefore highlighted not only the usefulness but also the necessity of the involvement of the non-governmental sector of society, such as private industry and a number of affinity groups and associations.

Eco-regional and South-South pooling of resources

41. A number of eco-regional country groupings have also contributed actively to the Conference process, which is reflected in spontaneous regional meetings and reports. It may be advantageous to use these regional groups for regional monitoring within themselves to carry out the monitoring of progress. In this way especially small countries with limited resources could expand their capacities by pooling resources, thus becoming more aware of the problems of neighbouring countries. Examples of such regional groupings which have actively contributed to the process are the Sahelian countries, the Southern African Development Coordination Conference (SADCC) countries, the Amazonian countries, the Pacific island developing countries and the Arctic countries, to mention just a few. This is also touched upon in document A/CONF.151/PC/100/Add.26.

42. A number of developing countries have also expressed the view that they hope to learn from others and share their own experiences with others. The national reports contain a great deal of information that potentially is of great direct value for developing countries provided the means for South-South exchange of experiences exist.

43. From the above synthesis it is clear that a lot of momentum has been generated in most States preparing not only the national reports but also for the Conference itself. It is important that this momentum not be lost after the Conference and that some follow-up action be taken. Some of the processes and mechanisms used, such as Conference Committees, may well be worth preserving in one form or another. It is essential that the symbiotic process which has emerged or been strengthened in most countries between Governments and non-governmental sectors continue to address the issues raised at the national level.
There are many players at the international level that can assist developing country Governments in maintaining and strengthening the process. Within the United Nations system itself, the key players, because of their mandates, will be UNDP and UNEP supported by the specialized agencies. The role of the World Bank and regional development banks, the regional commissions of the United Nations, as well as other regional organizations and programmes, should be fully considered.
Attachment 1: National Reports -- Classification of Terms

Air:
A1: atmosphere
A2: climate
A3: ozone layer
A4: air pollution
A5: greenhouse effect
A6: acidification

Biological:
B1: biological diversity
B2: flora
B3: fauna

Waste:
C1: waste management
C2: hazardous wastes
C3: solid wastes
C4: toxic chemicals
C5: illegal traffic
C6: noise
C7: radioactive waste
C8: fertilizers
C9: pesticides

Social / Political:
D1: impact of war
D2: legislation
D3: state liability
D4: sovereignty

Environment:
E1: environment (history)
E2: environment (future)

Finance-related:
F1: financing
F2: development aid

Welfare:
H1: living conditions
H2: health
H3: quality of life
H4: working conditions
H5: social security
H6: sanitation

Information:
I1: monitoring
I2: communication
I3: information
I4: cultural heritage
I5: environmental assessment

Land:
L1: land resources
L2: forest resources
L3: deforestation
L4: desertification
L5: erosion
L6: soil
L7: soil degradation
L8: drought
L9: land tenure
L10: wetlands

Macroeconomic:
M1: debt
M2: trade
M3: economic growth
M4: income
M5: wealth distribution
M6: production patterns
M7: consumption patterns
M8: government expenditure
M9: tax
M10: subsidies
M11: employment
M12: informal sector
M13: investment
M14: inflation

Level:
N1: global level
N2: national level
N3: regional level
N4: international cooperation
N5: local level

Organizations:
O1: international organizations
O2: intergovernmental organizations
O3: non-governmental organizations
O4: UN system
O5: regional organizations
O6: transnational corporations
O7: grassroots

Population / Special Groups:
P1: population
P2: rural
P3: urban
P4: women
P5: youth
P6: vulnerable groups
P7: poverty
P8: children
P9: migration
P10: human resources
P11: ethnic groups
P12: indigenous population

Conservation:
R1: resource status
R2: nature conservation
R3: restoration
R4: recycling
R5: parks
R6: protection
R7: afforestation
R8: natural disasters
R9: fragile zones

Sectoral:
S1: mining
S2: energy
S3: industry
S4: infrastructure
S5: transport
S6: housing
S7: services
S8: health services
S9: social services
S10: education
S11: tourism
S12: agriculture
S13: animal husbandry
S14: fisheries
S15: forestry
S16: hunting
S17: gathering
S18: raw materials
S19: fishing

Technology-related:
T1: technology transfer
T2: human capital
T3: science
T4: research
T5: equipment
T6: information exchange
T7: biotechnology
T8: technology

Water:
W1: freshwater resources
W2: seas
W3: brackish water
W4: groundwater

W5: eutrophication
W6: water pollution
W7: rainfall

General:
Z1: background
Z2: recommendations
Z3: problem areas
Z4: existing programmes
Z5: environmental policy
Z6: sustainable development
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