

DESERTIFICATION CONTROL bulletin

vol. 1 no. 1
june 1978

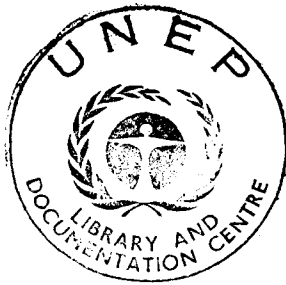


Half-yearly Bulletin on On-going And Planned Activities

united nations environment programme

DESERTIFICATION CONTROL BULLETIN

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CORRIGENDUM

Page 6, last line should read:

... likely to be affected ...

Page 21, 2nd paragraph, 3rd line should begin:

OECD is involved ...

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PREFACE

Desertification is threatening the future of 628 million people, or that 14 percent of the world's population which lives in the drylands; of this number, between 50 and 78 million people are affected directly by decreases in productivity associated with current desertification processes. Drought represents a recurrent menace in various parts of the world; the severity of the drought becomes still more intensive with each recurring cycle as desertification progresses. The Sahelian drought of 1968-1973 and its tragic effect on the peoples of that region drew world attention to the chronic problems of human survival and development on the desert margins. The severe drought in the Sahel reappeared again in 1977-1978.

The United Nations Conference on Desertification was held in Nairobi, Kenya, between 29 August and 9 September 1977. The Conference adopted a twenty-eight point Plan of Action to Combat Desertification, which was subsequently endorsed by the thirty-second session of the United Nations General Assembly as a world-wide effective, comprehensive and co-ordinated programme of concerted international action to combat desertification.

As the implementation of the Plan of Action to Combat Desertification is expected to be carried out by Governments through their national institutions, with the support of international or bilateral programmes, there must be close co-ordination of national, regional and international efforts in a campaign against desertification. The General Assembly decided to entrust the Governing Council and the Executive Director of the United Nations Environment Programme, as well as the Environment Co-ordination Board, with the responsibility of following up and co-ordinating the implementation of the Plan of Action to Combat Desertification. To this effect:

The Governing Council of UNEP will, inter alia

- (i) Promote and encourage international co-operation in the field of desertification and recommend, as appropriate, policies to this end;
- (ii) Provide general policy guidance for the direction and co-ordination of desertification programmes within the United Nations system;

The Executive Director of UNEP will, inter alia

- (i) Under the guidance of the Governing Council, co-ordinate desertification programmes within the United Nations system, keep under review their implementation and assess their effectiveness;
- (ii) Advise, as appropriate and under the guidance of the Governing Council, intergovernmental bodies of the United Nations system on the implementation of the Plan of Action to Combat Desertification;
- (iii) Secure the effective co-operation of, and contributions from, relevant scientific and other professional communities in all parts of the world;

The Environment Co-ordination Board will, inter alia

Ensure co-operation and co-ordination among all organs of the United Nations system concerned with the implementation of the Plan.

To help carry out these tasks, a Desertification Unit is being established within the UNEP Secretariat, consisting of a very small number of highly qualified staff drawn from the various United Nations agencies and bodies.

In order to keep the world community fully informed on the ongoing and planned activities in the field of combating desertification, UNEP will issue a half-yearly bulletin giving information relevant to the implementation of the Plan of Action to Combat Desertification. From the publication of this bulletin a clear picture should emerge of exactly which parts of the Plan are adequately covered and which are not.

I hope that this bulletin and its subsequent issues will fulfil its purpose of promoting international co-operation in combating desertification, and I wish it every success.

A handwritten signature in black ink, appearing to read 'M.K. Tolba', is written over a large, sweeping horizontal line that underlines the text below.

M.K. TOLBA
Executive Director
United Nations Environment Programme

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I. INTRODUCTION

This issue of the bulletin gives information relevant to the implementation of the Plan of Action to Combat Desertification as of 31 March 1978.

It includes a short review of the United Nations Conference on Desertification, a list of recommendations of the Plan of Action to Combat Desertification, abstracts from the relevant subsequent General Assembly resolutions, and a short account of the actions taken by UNEP towards the implementation of these General Assembly resolutions. It also provides a summary account of recent and current global activities related to combating desertification based on the data available by the end of 1977. This account is rather generalized at present, but it will be detailed in the following issues when the new data on the development of the activities concerned would be available.

It is planned also to include into the following issues the programmes of work related to combating desertification of major international and regional institutes and research centres, regional and national plans of action to combat desertification, as well as the results of the activities concerned. The information will be organized as far as possible in accordance with the Recommendations of the Plan of Action to Combat Desertification and also by the regions and countries of the world.

As this is the first issue of the bulletin, UNEP would welcome suggestions for improvement. Any such proposals should be addressed to:

The Executive Director
United Nations Environment Programme
P.O. Box 30552
Nairobi, Kenya.

II. ABBREVIATIONS

AGRIS	International Information System for Agricultural Science and Technology
ALECSO	Arab League Educational, Cultural and Scientific Organization
CARIS	Current Agricultural Research Information System, FAO
CGIAR	Consultative Group on International Agricultural Research
CILSS	Permanent Interstate Committee on Drought Control in the Sahel
DECARP	Desertification Control and Rehabilitation Programme, Sudan
ECB	Environment Co-ordination Board
EMASAR	Ecological Management of Arid and Semi-Arid Rangelands, FAO
FAO	Food and Agriculture Organization of the United Nations
IAEA	International Atomic Energy Agency
ICARDA	International Centre for Agricultural Research on Dry Areas
ICRISAT	International Crop Research Institute for the Semi-Arid Tropics
ICSU	International Council of Scientific Unions
IDRC	International Development Research Centre
IFIAS	International Federation of Institutes for Advanced Studies
IHD	International Hydrological Decade, UNESCO
IHP	International Hydrological Programme, UNESCO
ILCA	International Livestock Centre for Africa
ILO	International Labour Organisation
IRS	Information Referral System
IPAL	Integrated Project on Arid Lands, UNEP/UNESCO
IUCN	International Union for Conservation of Nature and Natural Resources
IUFRO	International Union of Forestry Research Organizations
MAB	Man and the Biosphere Programme, UNESCO
NGO	Non-governmental Organization
OECD	Organization for Economic Co-operation and Development
SOLAR	Transnational Project on Management of Livestock and Rangelands to Combat Desertification in the Sudano-Sahelian Regions United Nations
UN	United Nations
UNCOD	United Nations Conference on Desertification
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	United Nations Disaster Relief Office
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UNRISD	United Nations Research Institute for Social Development
UNSO	United Nations Sahelian Office
UNU	United Nations University
WFP	World Food Programme
WHO	World Health Organization
WMO	World Meteorological Organization

III. UNITED NATIONS CONFERENCE ON DESERTIFICATION

A. REVIEW OF THE CONFERENCE

The Conference, held at Nairobi, Kenya, from 29 August to 9 September 1977, was attended by representatives of 95 States, the United Nations Council for Namibia, the Palestine Liberation Organization, the South West African People's Organization, the Pan-Africanist Congress of Azania, 50 United Nations offices and bodies, eight intergovernmental organizations and 65 non-governmental organizations.

The Conference established a Committee on the whole and allocated to it for consideration two agenda items, namely, Processes and causes of desertification, and Plan of Action to Combat Desertification. A complete account of the deliberations of the Conference and the actions taken by it, together with the texts of the resolutions adopted, can be found in the report of the Conference (A/CONF.74/36), which has been circulated to Governments.

A number of general considerations were agreed by the Conference, the main ones being as follows:

(a) The main cause of desertification is the interaction between man and a fragile environment in dry lands ecosystems; man is the initiator and the victim of desertification; land-use practices which are inappropriate in degree or in kind are the immediate causes of desertification in the marginal areas;

(b) The problem of desertification is global and countries not directly affected suffer indirect effects;

(c) The problem is serious, especially so in an era when food production must be dramatically increased to provide adequate nourishment for growing populations;

(d) In view of the world's food requirements, and because desertification could be a self-accelerating process, certain aspects of the problem require urgent action;

(e) Man now possesses sufficient knowledge and technical means to begin actions against desertification without delay. This means that no country has to wait for further research before initiating action, though, at the same time, one should not under-estimate the value of carefully directed research, whose findings could facilitate the struggle against desertification and accelerate the attainment of the goals of the Plan of Action.

The paragraphs below give an account of the eight resolutions adopted by the Conference.

Resolution 1: Implementation of General Assembly resolution 3337 (XXIX)

In this resolution, the Conference approved the Plan of Action to Combat Desertification. The immediate goal of the Plan is to prevent and arrest the advance of desertification and, where possible, to reclaim desertified land for productive use. The ultimate objective is to sustain and promote, within ecological limits, the productivity of arid, semi-arid, sub-humid and other areas vulnerable to desertification in order to improve the quality of life of their inhabitants.

The Plan of Action presents a set of recommendations for initiating and sustaining a co-operative effort on the scale required to combat desertification. This co-operative effort should reinforce and integrate the national, regional and global actions against desertification that are currently being taken both inside and outside the United Nations family. The goal is to implement the Plan of Action

by the year 2000. The seven-year period 1978-1984 has been chosen for the implementation of the immediate actions required. This period also gives an indication of the time thought to be required before a first general assessment of progress can be made.

A central theme of the Plan of Action is the immediate adaptation and application of existing knowledge, particularly in the implementation of urgent corrective measures against desertification, in educating the people and the affected communities to an awareness of the problem, and instituting training programmes in collaboration with the international organizations which already have programmes in this area. Improved land use, based on assessment, planning and sound management through the application of known ecological principles to areas subject to desertification, is a key to success in combating desertification.

The Plan of Action is to be carried out as an effective, comprehensive and co-ordinated action programme against desertification. It envisages the building-up of local and national scientific, technological and administrative facilities in the areas concerned. All the measures it recommends are to be primarily directed towards the well-being and development of the peoples affected by, or vulnerable to, desertification. Everything done should be consistent with, and form part of, wider programmes for development and social progress.

In resolution 1, the Conference recommended to the General Assembly that it request the Secretary-General to transmit the main and background documents prepared for the Conference on the causes and processes of desertification to the organizations and bodies concerned within the United Nations system. The documents were also to be sent to the relevant scientific institutions outside the system, both governmental and non-governmental, for further research and development and refinement of the data. Thus any existing gaps in scientific knowledge and technology could be closed and indigenous scientific capacity in the areas concerned could be built up.

In the resolution, the Conference also recommended to the General Assembly that it request the Secretary-General to transmit the world map of desertification to States Members of the United Nations and to competent organizations and bodies within the United Nations system, as well as to the scientific institutions concerned outside the system, both governmental and non-governmental, for further development of the map on the basis of the relevant recommendations of the Conference. Account should be taken of the technical comments made on the map at the Conference. The Conference strongly urged that the necessary financial and other resources for the implementation of the recommendations contained in the Plan of Action be made available, so that they could be effectively implemented by all concerned.

Resolution 2: Financial and technical assistance to the least developed countries

In this resolution, the Conference, recognizing that in view of their limited resources, a number of developing countries, in particular the least developed countries, were in need of immediate financial and technical assistance to combat desertification, urged the United Nations, the specialized agencies and international and regional financial institutions to extend, in addition to the current international and bilateral assistance, appropriate technical and financial assistance to the least developed countries for the purpose of enabling them to combat desertification effectively. The Conference recommended to the General Assembly that it should request the Secretary-General to report on the implementation of the resolution to the Assembly at its thirty-third session.

Resolution 3: Drought in the Sahelian countries

In this resolution, the Conference, considered that a lasting solution must be found to the drought problems of the Sahelian countries, drew the attention of

the international community to the critical situation currently prevailing throughout the Sahelian region and recommended that increased aid be given to all Sahelian countries which are once again stricken by drought. The Conference further recommended that, in view of the particular hardships to which these countries are subjected, everything possible be done to achieve the immediate implementation of the Plan of Action, in order to combat desertification in the subregion.

Resolution 4: Effects of weapons of mass destruction on ecosystems

In this resolution, the Conference, noting that the use of chemical and biological weapons during wars had been one of the factors contributing to desertification in certain parts of the world, condemned the use of any techniques that cause destruction of the environment. The Conference also demanded the prohibition of the use of poisons in water as a weapon of war, appealed to all States Members of the organizations of the United Nations system to refrain from using or supplying to those who support this policy of destruction, arms or chemical products for military use that have a widespread, long-lasting or severe effect on the environment, and requested the Secretary-General to report on the implementation of the resolution to the General Assembly.

Resolution 5: Colonial desertification practices

In this resolution, the Conference condemned the policy of bantustanization, which it considered a very serious factor in desertification and degradation of the environment, requested States Members of the organizations of the United Nations system to undertake international action in the immediate future with a view to prohibiting the continuation of this policy, and appealed to all the aforementioned States to refrain from recognizing the bantustans.

Resolution 6: Namibia: desertification

In this resolution, the Conference, recalling, inter alia, Security Council resolution 385 (1976) of 30 January 1976, condemned the continued illegal occupation of the Territory of Namibia by South Africa, and recognized that proper implementation in Namibia of the Plan of Action to Combat Desertification would not be possible until the illegal occupation by South Africa had been terminated and Namibia had achieved independence.

Resolution 7: Associated case study: "The Negev: a desert reclaimed"

In this resolution, the Conference, considering that the case study entitled "The Negev: a desert reclaimed" (A/CONF.74/20), presented by Israel, departed from scientific and technical issues related to the Conference, that the study was not in conformity with the aims and purposes of the Conference as outlined in General Assembly resolution 3337 (XXIX), and that the policies of settlement and displacement of populations in the Negev, in the West Bank of the Jordan, and in other places in the area constituted an aggravating factor leading to desertification, denounced the case study.

Resolution 8: Expression of thanks

By this resolution, the Conference expressed its profound appreciation to the President, the Government and the people of Kenya for making possible the holding of the Conference and for their generous hospitality and their great contribution to the successful outcome of its work.

B. ACTIVITIES RELATED TO OR SUPPORTING THE CONFERENCE

Nairobi seminar on desertification

The seminar was held from 21 to 25 August 1977 under the sponsorship of the American Association for the Advancement of Science, in co-operation with five other scientific organizations from both developed and developing countries. The seminar was attended by some 40 scientists from 20 countries, who reviewed the draft plan of action to combat desertification and a set of scientific papers on subjects relating to desertification.

Encounter for journalists

The encounter, held at Nairobi on 28 August 1977, was attended by 15 journalists from 11 countries. It was organized and managed by the Centre for Economic and Social Information, with assistance from the United Nations Development Programme (UNDP) and UNEP.

Audio-visual presentations

Exhibits of photographs, books, slides, maps, graphics and other materials, including a water pump and a table model of a rain-trapping system, were on display in the Kenyatta Conference Centre, the site of the Conference. They were presented by 15 countries, as well as UNEP, the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). Fifty films on problems of desertification and action to combat them, prepared by 25 countries, were made available for screening at the Conference site.

Orientation workshop

The workshop was held at Nairobi from 12 to 15 September 1977. It was organized by the secretariat of the Conference and was attended by 102 persons from 49 countries and by representatives of 9 United Nations bodies, as well as senior consultants and staff members of UNEP and the Conference secretariat. Most of the participants were government officials or specialists involved in their own countries in programmes to combat desertification. The workshop considered possible measures which would give effect to the recommendations of the Plan of Action, provided specialist advice on practical actions to be taken, encouraged co-operative planning among countries facing similar problems, and explored ways in which the United Nations system could continue to provide constructive support to the projects undertaken.

IV RECOMMENDATIONS OF THE PLAN OF ACTION TO COMBAT DESERTIFICATION

The following set of recommendations was adopted for co-operative national, regional and international action to combat the vast problem of desertification, against which no single recommendation would alone be successful. An integrated complex of measures is the only way to prevent and arrest desertification, and to restore the productivity of areas already desertified. Integration means that all the recommendations are seen to be as liked in a multidimensional inter-relationship.

Below is presented only a list of the recommendations which have been spelt out and detailed in the Plan of Action itself (A/CONF.74/36).

A. Recommendations for National and Regional Action

1. Evaluation of Desertification and Improvement of Land Management

Recommendation 1

It is recommended that, where it is not yet done, desertification and the degradation processes leading to it be assessed and evaluated as they affect people, the physical elements of the environment (earth, water and air), and the plant and animal products of the land and water in territories experiencing or likely to experience it, using in the first instance existing data and carrying out new surveys whenever required, with the aim of defining priorities for national and local programmes and projects in those areas where population or resources are directly threatened. It is also recommended that, in the assessment of desertification, comparable indices should, whenever practicable, be applied in all regions exposed to the threat of desertification.

Recommendation 2

It is recommended that in areas affected or likely to be affected by desertification, land-use planning and management based on ecologically sound methods should be introduced in conformity with social equity and geared to fostering economic and social development.

Recommendation 3

It is recommended that public participation be made an integral element of the prevention and combating of desertification and that account be thus taken of the needs, wisdom and aspirations of the people.

2. The Combination of Industrialization and Urbanization with the Development of Agriculture and their Effects on the Ecology in Arid Areas

Recommendation 4

It is recommended that steps be taken within the framework of the programme and budget of UNEP, and in conjunction with UNDP, UNIDO and other appropriate United Nations organizations, as well as interested countries, to:

- (a) Study and publicize the experience on the subject;
- (b) Organize appropriate regional and international meetings;
- (c) Provide the developing countries with a relevant advice;
- (d) Publish relevant review and monographs.

3. Corrective Anti-Desertification Measures

Recommendation 5

It is recommended that efficient, socially, economically and environmentally sound planning, development and management of water resources be introduced as part of measures to combat desertification.

Recommendation 6

It is recommended that measures should be taken to prevent desertification and to ameliorate the condition of degraded rangelands, to introduce suitable systems of rangeland, livestock and wildlife management, to develop diversified and integrated systems of production and to improve the living conditions of the inhabitants of these areas.

Recommendation 7

It is recommended that comprehensive measures should be adopted for the conservation of water, conservation and improvement of soil, and rational use of soil moisture in order to prevent and fight desertification in rainfed agricultural areas.

Recommendation 8

It is recommended that urgent measures be taken to combat desertification in irrigated lands by preventing and controlling waterlogging, salinization and alkalization; by reclaiming deteriorated lands; by improving irrigation and drainage systems; by modifying farming techniques to increase productivity in a regular and sustained way; by developing new irrigation and drainage schemes where appropriate, always using an integrated approach; and through improvement of the social and economic conditions of people dependent upon irrigation agriculture.

Recommendation 9

It is recommended that existing vegetation be maintained and protected, and that special measures be taken to revegetate denude areas and then maintain and protect them to promote soil conservation, and to stabilize moving sands. This may be necessary in areas where human activity may have an adverse environmental impact in hilly areas and on mountain slopes, particularly at points where deterioration may threaten settlement, roads, farm lands and reservoirs; and along vulnerable desert margins.

Recommendation 10

It is recommended that Governments should take all necessary steps to ensure the conservation of flora and fauna in areas subject or likely to be subject to desertification.

Recommendation 11

It is recommended that national or intra-regional systems for monitoring climatic, hydrological or pedological conditions and the ecological conditions of land, water, plants or animals be established or strengthened, as appropriate, in areas affected or likely to be affected by desertification.

4. Social-Economic Aspects

Recommendation 12

It is recommended that the social, economic and political factors which have an important bearing on desertification be analyzed and evaluated, particularly the matter of inequitable relationships and methods to equalize them, not only at the international level, but also at the level of each country or region.

Recommendation 13

It is recommended that countries which so wish should adopt economic and demographic policies that will support programmes for improving land use and sustaining the productivity of agro-ecosystems in dry lands, including, as appropriate, maintenance of an adequate rural labour force, sedentarization of nomads and resettlement of migrants from rural to urban areas.

Recommendation 14

It is recommended that programmes should be undertaken to provide peoples affected by, or vulnerable to, desertification with an adequate level of primary health care services, including family planning where necessary.

Recommendation 15

It is further recommended that human settlements in areas affected, or likely to be affected, by desertification be situated within the framework of a national land-use plan that safeguards, as a matter of priority, land with pastoral or agricultural potential, by avoiding the construction on it of permanent buildings of elements of infrastructure.

Recommendation 16

It is recommended that national systems for monitoring the human condition be established or strengthened, as appropriate, in the countries affected or likely to be affected by desertification, always keeping in mind the risk of political abuse of the data collected.

5. Insurance Against the Risk and the Effects of Drought

Recommendation 17

It is recommended that the recommendation on drought loss management adopted by the United Nations Water Conference be noted and implemented. It is further recommended that preventive measures be taken and protective strategies adopted for effectively combating the risks and effects of drought, and that insurance schemes be adopted at the national level which are compatible with the socio-economic needs of the local people and the national interest in relation to the long-term protection of resources and the quality of the environment.

6. Strengthening Science and Technology at the National Level

Recommendation 18

It is recommended that appropriate action be taken to utilize and strengthen national capabilities in science and technology, with particular attention to planning and management for rational utilization of resources, as part of the campaign against desertification, as well as to establish conditions which will lead to a more adequate international flow of technology to the developing countries.

Recommendation 19

It is recommended that the conventional use of energy sources based on the use of vegetation be controlled and improved, that existing local or imported technologies for gas and electricity production, as well as for heating or cooling or mechanical purposes, be implemented as far as practicable, and that research be vigorously pursued into the use in the dry lands of alternative or unconventional energy sources that will yield simple, inexpensive, useful and socially acceptable devices to serve the needs of their people.

Recommendation 20

It is recommended that training, education and information related to desertification be accorded priority in national programmes, with due regard to the specific circumstances of the country concerned.

Recommendation 21

It is recommended that where non exists, co-ordinated national machinery to combat desertification and drought be established.

7. Integration of Anti-Desertification Programmes into Comprehensive Development Plans

Recommendation 22

Programmes to combat desertification should be formulated, whenever possible, in accordance with the guidelines of comprehensive development plans at the national level.

B. Recommendations for International Action and Co-operation

1. International Action

Recommendation 23

It is recommended that the General Assembly request the Secretary-General of the United Nations and the governing bodies of the United Nations Development Programme, the United Nations Environment Programme, the United Nations Industrial Development Organization, the United Nations Conference on Trade and Development and the United Nations regional commissions, and invite the governing bodies of the Food and Agriculture Organization of the United Nations, the World Meteorological Organization, the United Nations Educational, Scientific and Cultural Organization, the World Health Organization, the International Bank for Reconstruction and Development and other relevant United Nations bodies, to support, in their respective fields, international action to combat desertification in the context of the present Plan of Action, and to make appropriate provisions and allocations in their programmes.

Recommendation 24

It is recommended that the General Assembly of the United Nations endorse the activities of the World Meteorological Organization, the International Council of Scientific Unions, and interested United Nations agencies that are directed at understanding and resolving climate problems, and that it urge Governments, international agencies, and other interested bodies to support and participate in the planning and execution of the World Climate Programme, the World Climate Conference and the Global Atmospheric Research Programme.

Recommendation 25

It is recommended that the United Nations General Assembly should request the Secretary-General to invite intergovernmental and non-governmental organizations concerned with desertification problems and their impact on development to participate in the implementation of the Plan of Action to Combat Desertification with a view to co-ordinating their activities within a world-wide programme.

2 International Co-operation

Recommendation 26

In order to achieve judicious management and equitable sharing of resources on the basis of equality, sovereignty and territorial integrity, it is recommended that countries concerned should co-operate in the sound and judicious management of shared water resources as a means of combating desertification effectively.

C. Recommendations for Immediate Initial Action

1. At the national level

(a) Establishment of designation of a governmental authority to combat desertification;

(b) Assessment of desertification problems at country and provincial or sub-provincial levels;

(c) Establishment of national priorities for actions against desertification;

(d) Preparation of national plan of action against desertification within the scope of the United Nations Plan of Action to Combat Desertification;

(e) Selection among national priorities of those actions which could be taken nationally, with the support of regional and international organizations or other foreign sources, in the framework of regional or international co-operation, or only with foreign aid;

(f) Preparation and submission of requests for international support for specific activities within the above priorities, as required;

(g) Implementation of actions in accordance with national plans to combat desertification.

2. At the regional level

(a) The convening of regional post-Conference technical workshops or seminars;

(b) Organizing the inter-regional consultations and studies or selecting sites for the establishment of the regional centres;

(c) Organizing and co-ordinating the implementation of the trans-national regional projects.

3. At the international level

(a) Requesting the agencies and organizations of the United Nations family to actively associate themselves with the implementation of relevant parts of the Plan of Action to Combat Desertification;

- (b) Requesting the Governments concerned to put forward their needs for international support for their own national action against desertification;
- (c) Undertaking the necessary joint programming in order to formulate specific actions in implementation of the Plan of Action to Combat Desertification;
- (d) Undertaking the necessary steps to mobilize financial resources;
- (e) Arranging for, and where necessary co-ordinating the preparation of a programme of work, designs of specific projects and strategies for financing and implementing anti-desertification programmes.

D. Recommendations for Implementation of the Plan

Recommendation 27

It is recommended that the United Nations Environment Programme with its Governing Council and the Environment Co-ordination Board should be responsible for following-up and co-ordinating the implementation of the Plan of Action to Combat Desertification. It is further recommended that the regional commissions of the United Nations have responsibility for co-ordinating, catalysing and executing (within the scope of their competence) intra-regional programmes adopted by the member States concerned. It is recommended that with respect to co-ordination and implementation of programmes to combat desertification, the regional commissions should actively participate in the Environment Co-ordination Board.

Recommendation 28

The following forms of financing are recommended for consideration:

- (a) Sub-regional co-operation;
- (b) Bilateral, multilateral and multi-bilateral assistance;
- (c) Consultative group/club or group-type financing;
- (d) Special account;
- (e) Additional measures, such as funds in trust, fiscal measures entailing automaticity, and an international fund.

V. ACTION TAKEN BY THE GENERAL ASSEMBLY ON THE REPORT OF THE CONFERENCE

After considering the report of the United Nations Conference on Desertification, the General Assembly adopted on 19 December 1977, three related resolutions entitled:

- (a) Financial and technical assistance to the least developed among the developing countries (resolution 32/169);
- (b) Measures to be taken for the benefit of the Sudano-Sahelian region (resolution 32/170);
- (c) United Nations Conference on Desertification (resolution 32/172).

Resolution 32/169

This resolution was adopted by consensus. In paragraph 1, the General Assembly recommended the speedy implementation of the recommendation of the Conference with respect to financial and technical assistance to the least developed countries. In paragraph 2, the Assembly urged the United Nations, its Member States, the specialized agencies, and international and regional financial institutions to ensure the implementation of the recommendations of the Conference in favour of the least developed countries by extending additional international and bilateral assistance. In paragraph 3, the Assembly requested the Secretary-General to report directly to the Assembly at its thirty-third session of the implementation of the resolution.

Resolution 32/170

In paragraph 1, the General Assembly stressed the need for the immediate implementation in the Sudano-Sahelian region of the Plan of Action to Combat Desertification and of the relevant resolutions adopted by the Conference. In paragraph 2, the Assembly requested the Governing Council of UNEP to consider at its sixth session, on the basis of a report by the Executive Director which would take account of the role and activities of the competent existing organs in the region, measures to improve institutional arrangements in the Sudano-Sahelian region. These measures were to include the establishment of a subregional office of UNEP in the region for the purpose of supporting efforts undertaken at the national and regional levels by the countries concerned to combat desertification, and of encouraging and co-ordinating in co-operation with competent existing organs, assistance from developed countries, multilateral financial institutions, intergovernmental organizations and non-governmental donors. In paragraph 3, the General Assembly further requested the Governing Council to include in its agenda, on considering the implementation of the Plan of Action, an item concerning measures and modes of action for implementing projects and programmes to combat desertification in the Sudano-Sahelian region. The resolution was adopted by consensus.

Resolution 32/172

The text of 14 of the 16 operative paragraphs reads as follows:

"The General Assembly,

"...

"1. Approves the report of the United Nations Conference on Desertification;

"...

"4. Calls upon all Governments to consider, on a priority basis, the recommendations for national action contained in section IV of the Plan of Action to Combat Desertification and, where necessary, the desirability of establishing a national authority to co-ordinate, consolidate and implement national anti-desertification action programmes;

"5. Recommends that subregional co-operation be initiated or intensified, as considered necessary, among countries affected by desertification, with the required assistance from the United Nations Environment Programme and other organizations concerned, with a view to formulating specific joint programmes and requests for development assistance for implementation of the Plan of Action;

"6. Requests the regional commissions to undertake intensified and sustained action in support of national efforts to combat desertification, to assist Governments, at their request, in the implementation of the Plan of Action to Combat Desertification and to convene, as appropriate, in co-operation with interested Governments and regional organizations, intergovernmental regional meetings, technical workshops and seminars to consider the immediate implementation of the recommendations contained in section V of the Plan of Action;

"7. Requests the organs, organizations and other bodies of the United Nations system to support international action to combat desertification within the context of the Plan of Action;

"8. Decides to entrust the Governing Council and the Executive Director of the United Nations Environment Programme, as well as the Environment Co-ordination Board, with the responsibility of following up and co-ordinating the implementation of the Plan of Action, in accordance with its recommendation 27, and requests the Governing Council to report, through the Economic and Social Council to the General Assembly at its thirty-third session and thereafter every two years;

"9. Calls upon all countries, in particular developed countries, as well as multilateral financial institutions and non-governmental donors, to provide and increase their assistance to countries suffering from desertification, especially for the financing of their subregional and regional programmes and projects within appropriate consortium arrangements, such as those pertaining to the Sahel green belt, and urges developing countries to give due priority to desertification problems in their development assistance requests;

"10. Authorizes the Executive Director to convene immediately a consultative group, which would meet as and when required, comprising representatives from organizations referred to in paragraph 7 above, such other organizations as might be required, donor countries, multilateral financial agencies, as well as developing countries having a substantial interest in combating desertification, to assist in mobilizing resources for the activities undertaken within the framework of implementing the Plan of Action;

"11. Endorses in principle the creation of a special account within the United Nations for implementing the Plan of Action;

"12. Requests the Secretary-General to prepare and submit a study on the establishment and operation of such an account to the General Assembly, at its thirty-third session, through the Governing Council and the Economic and Social Council;

"13. Invites the Governing Council to have prepared, by a small group of high-level specialists in the international financing of projects and programmes, a study of additional measures and means of financing for the implementation of the Plan of Action, and to submit a final report on the subject of additional measures of financing to the General Assembly, at its thirty-third session, through the Economic and Social Council;

"14. Requests the Secretary-General to approach Member States and competent organizations and bodies within the United Nations system, as well as scientific institutions concerned outside the system, for further research, development and refinement of the data pertaining to desertification, to close any existing gaps in scientific knowledge and technology, and for further development of the world map of desertification on the basis of the relevant recommendations of the Conference;

"15. Further requests the Secretary-General to invite intergovernmental and non-governmental organizations concerned with desertification problems and their impact on development to participate in the implementation of the Plan of Action with a view to co-ordinating their activities within world-wide and regional programmes;

"16. Further requests the Secretary-General to report to the General Assembly, at its thirty-third session, on the implementation of the resolutions adopted by the Conference, especially resolution 2 on financial and technical assistance to the least developed countries and resolution 4 on the effect of weapons of mass destruction on ecosystems."

This resolution was adopted by the General Assembly by 125 votes to none, with 14 abstentions. It had previously been adopted by the Second Committee by 104 votes to none, with 12 abstentions. In the Second Committee, separate votes were taken on paragraphs 11 and 12. Paragraph 11 was adopted by 82 votes to 16, with 18 abstentions, paragraph 12 was adopted by 80 votes to 11, with 20 abstentions. Explanations of vote were made by the delegations of Bulgaria, the Byelorussian Soviet Socialist Republic, Czechoslovakia, the German Democratic Republic, Hungary, Mongolia, Poland, the Ukrainian Soviet Socialist Republic, the Union of Soviet Republics, the Netherlands, Japan, Australia, Italy, Israel, France, the United Kingdom of Great Britain and Northern Ireland, Pakistan, the Federal Republic of Germany, the United States of America, Belgium, Sweden, Spain, Norway and Denmark. Some delegations indicated their preference for the establishment of consortium arrangements focusing on small-scale projects and involving a relatively small number of donor and recipient countries and multilateral agencies. Doubt was expressed as to whether the creation of a special account would help to increase resources for development or ensure a more efficient use of voluntary contributions. Some delegations expressed serious reservations about paragraphs 11 and 12. Others indicated they were flatly opposed to the creation of a special account. The socialist States were opposed to the inclusion of provisions relating to compulsory contributions or to the establishment of an automatic funding system.

VI. ACTION TAKEN BY THE UNITED NATIONS ENVIRONMENT PROGRAMME TOWARDS THE IMPLEMENTATION OF GENERAL ASSEMBLY RESOLUTIONS CONCERNING THE CONFERENCE

Financial and technical assistance to the least developed among the developing countries (resolution 32/169)

As mentioned above, the Secretary-General was requested to report directly to the General Assembly at its thirty-third session on the implementation of the resolution. The resolution is addressed to the United Nations, its Member States, the specialized agencies, and international and regional financial institutions. The Executive Director of UNEP expects to receive from them relevant information concerning their actions, plans and intentions in this respect, in reply to his special letter on the subject, in order to provide the Secretary-General with the data required.

Measures to be taken for the benefit of the Sudano-Sahelian region (resolution 32/170)

Immediately after the adoption of the resolution, the Executive Director began consultations with the Administrator of UNDP, under whose authority the United Nations Sahelian Office falls, representatives of UNDP, UNEP and UNESCO, together with a consultant, produced a draft of the report required to be prepared by the Executive Director. The final report of the Executive Director on this subject will be submitted to the sixth session of the Governing Council of UNEP for consideration. This report gives: a brief account of the roles and activities of the main competent existing organs in the Sudano-Sahelian region; proposed measures and modes of action for implementing projects and programmes to combat desertification in the Sudano-Sahelian region, proposed measures to improve institutional arrangements in the Sudano-Sahelian region, including the establishment of a sub-regional office of UNEP in the region for the purposes stipulated in paragraph 2 of resolution 32/170.

Pursuant to paragraph 3 of resolution 32/170, the Executive Director suggested that the agenda of the sixth session of the Governing Council of UNEP should include a sub-item on the measures and modes of action for implementing projects and programmes to combat desertification in the Sudano-Sahelian region. 1/ It should be recalled here that the group of the least developed among the developing countries include a number of countries of the Sudano-Sahelian region. Accordingly, the Secretary-General's report on the implementation of resolution 32/169 should be read in conjunction with the Executive Director's report called for in resolution 32/170.

United Nations Conference on Desertification (resolution 32/172)

The paragraphs below give an account of action taken with respect to the operative paragraphs quoted above.

Paragraphs 1, 4, 5, 8 and 14 of resolution 32/172 were brought to the attention of the Governments of States Members of the United Nations in a letter sent to them by the Secretary-General. A similar letter was sent to Governments by the Executive Director of UNEP expressing the readiness of UNEP to extend assistance in the implementation of the provisions contained in the aforementioned paragraphs.

Paragraph 7 was brought to the attention of the heads of organizations and other bodies of the United Nations system concerned in a letter by the Secretary-General and a complementary letter by the Executive Director of UNEP giving more details.

1/ UNEP/GC6/9/Add.2

Paragraph 15 was brought to the attention of the relevant inter-governmental and non-governmental organizations in a letter by the Secretary-General.

Paragraphs 5 and 6 were brought to the attention of the executive secretaries of the regional commissions in a letter by the Executive Director of UNEP soliciting their co-operation in the implementation of the provisions contained in the two paragraphs.

In view of the fact that the General Assembly did not approve any financial provisions in respect of paragraph 6, and in order to maintain the momentum created by the United Nations Conference on Desertification and General Assembly action concerning the Conference, the Executive Director of UNEP began consultations with the Under-Secretary-General for the Department of Administration and Management and the executive secretaries of the regional commissions, to determine the best ways of initiating the implementation, during 1978, of the provisions contained in paragraph 6 of resolution 32/172.

As to paragraph 8, the following section below briefly indicates the views of the Executive Director of UNEP on the action to be taken in fulfilment of UNEP's catalytic and co-ordinating role in the implementation of the Plan of Action. The Environment Co-ordination Board has discussed ways and means of carrying out the role entrusted to it by the General Assembly at a special session devoted to this subject on 4 April 1978. The Board's report on the session will be submitted to the Governing Council of UNEP at its sixth session. 1/

In paragraph 10 of resolution 32/172, the General Assembly authorized the Executive Director of UNEP to convene immediately a consultative group to assist in mobilizing resources for the activities undertaken within the framework of implementing the Plan of Action. The Executive Director intends to convene the consultative group from 2 to 5 May 1978. The group will consider:

- (a) Its objectives and functions;
- (b) Its composition, and necessary administrative and programme support;
- (c) Its methods of work;
- (d) The presentation of a number of transnational projects for consideration for financing.

The Executive Director also intends to put before the consultative group the transnational projects on combating desertification which were recommended for implementation by the United Nations Conference on Desertification. A report on the meeting of the consultative group will be submitted to the Governing Council of UNEP for consideration. 2/

As regards paragraph 12 of resolution 32/172, the Executive Director of UNEP is consulting with the Secretary-General on the preparation of the study on the establishment and operation of the special account endorsed in principle by the General Assembly. The study will have to be submitted by the Secretary-General to the General Assembly, at its thirty-third session, through the Governing Council of UNEP. 3/

1/ UNEP/GC.6/5/Add.1

2/ UNEP/GC.6/9/Add.3

3/ UNEP/GC.6/9/Add.4

In paragraph 13 of resolution 32/172, the General Assembly invited the Governing Council to have prepared a study of additional measures and means of financing for the implementation of the Plan of Action. The Executive Director of UNEP has already started the process of preparation, by a very small core group of experts, of a draft of the required study for consideration by the high-level specialists referred to in paragraph 13 of the resolution. The high-level specialists met around the middle of March 1978, and their report will be submitted to the Governing Council of UNEP. 1/

The Executive Director of UNEP is consulting with the Secretary-General in connexion with paragraph 16 of resolution 32/172, in which the General Assembly requested the Secretary-General to report to the Assembly, at its thirty-third session, on the implementation of the resolutions adopted by the United Nations Conference on Desertification, especially resolution 2 on financial and technical assistance to the least developed countries and resolution 4 on the effect of weapons of mass destruction on ecosystems.

Main lines of action taken by UNEP with respect to the implementation of the Plan of Action to Combat Desertification

In addition to the measures described above, the Executive Director intends to harmonize UNEP's activities which have a direct bearing on the question of desertification, so that they take into consideration the recommendations of the Conference and assist in the implementation of the Plan of Action, thus ensuring a direct UNEP input to the global anti-desertification campaign. Revisions have been made in this connexion in the section on the Global Environment Monitoring System and the sections on arid and semi-arid lands ecosystems, soils, water, and health of people and of the environment in the programme of UNEP. Similar harmonization has also been initiated within the United Nations family in the thematic joint programming on the subject of arid lands, including desertification. The results of this very preliminary exercise are to be found below, representing appropriate extracts from the Environ Programme, submitted for approval to the Governing Council of UNEP at its sixth session.

A small Desertification Unit is being established within the secretariat of UNEP in Nairobi, which will serve as a UN body for monitoring the implementation of the Plan of Action to Combat Desertification.

With the help of the senior consultants, the Guidelines for National Plan of Action to Combat Desertification have been prepared by UNEP and will be distributed to the interested Governments with a view to helping them to launch the national anti-desertification campaign.

At its fifth session, the Governing Council of UNEP approved as one of the goals of UNEP for 1982:

“Concrete achievements in the implementation of the Plan of Action to Combat Desertification arising from the United Nations Conference on this subject (and, closely connected to those, advanced implementation of a world-wide trees programme and the publication of guidelines to control soil degradation and world-wide systems of pilot and demonstration projects in rational management of water resources)”.

1/ UNEP/GC.6/9/Add.1

VII. SUMMARY ACCOUNT OF RECENT AND CURRENT GLOBAL ACTIVITIES RELATED TO COMBATING DESERTIFICATION

A. Within United Nations system 1/

1. Assessment of desertification (activities broadly corresponding to Recommendations 1, 2, 11, 12, 16, and 18 of the Plan of Action).

For many years, several United Nations organizations have been engaged in assessing problems of arid and semi-arid lands ecosystems, activities which received new impetus as the seriousness of desertification problems in certain parts of the world became more apparent. For example, an interagency task force convened under the auspices of UNESCO in 1975 reported on obstacles to development of arid and semi-arid zones, and on research and the application of science and technology for arid zone development. Similarly, the Committee on Science and Technology for Development, with the help of the Advisory Committee on the Application of Science and Technology to Development, includes in its arid areas programme proposals to close the gaps in scientific knowledge and technologies about desertification.

UNESCO's Arid Zone Programme (1951-1965) produced some thirty research publications on arid lands and related topics, and created or strengthened a number of permanent interdisciplinary research centres, such as those in India, Israel, Egypt and Iraq. UNESCO's long-standing activities on arid zone problems received further impetus with the launching in 1970 of the MAP Programme on scientific co-operation in the rational use of natural resources. Two MAB international projects are particularly relevant to arid lands: Project 3, on the impacts of human activities and land-use practices on grazing lands, and Project 4, on man's interrelations with irrigated systems in arid and semi-arid zones. In co-operation with UNEP and other international organizations, pilot research projects are being launched as part of MAB in, for example, Algeria, Egypt, Kenya, Mexico, Tunisia and Upper Volta. The applied research project on Kenya forms the first part of UNESCO's integrated Project on Arid Lands (IPAL), in which UNEP also participates; the purpose of IPAL is to identify the cause of ecological degradation and desert encroachment in arid zones. A joint UNESCO/FAO secretariat has been established to formulate and implement co-ordinated research projects involving MAB Project 3 and FAO management activities in grazing land. As part of MAB, a number of countries have designated arid areas as "biosphere reserves", and numerous MAB national projects involving arid lands are now in operation. 2/ The International Hydrological Decade (IHD) (1965-1974) and the International Hydrological Programme (IHP), which started in 1975, deal with scientific and educational aspects of surface and ground-water resources in arid and semi-arid regions; among IHD/IHP projects which are of particular interest are those on ground water, hydrological aspects of drought and the influence on man's activities on the hydrological cycle in arid and semi-arid zones. In co-operation with WMO and local meteorological services, FAO in the framework of its Global Information and Early Warning System on Food and Agriculture, monitors the rainy season in the Sahel and regularly assesses water availability in rangelands and crop areas.

The Commission for Agricultural Meteorology of WMO has been dealing for many years with meteorological aspects of land use and agricultural management systems under severe climatic conditions, with meteorological factors associated with certain aspects of soil degradation and erosion, with water requirements of crops under arid and semi-arid conditions, and with agrometeorological aspects of sand-dune reclamation. With UNEP funding, WMO prepared an evaluation report on the climate and resources for agricultural development in the Sudano-Sahelian zone. WMO has also undertaken an agroclimate survey of the Sudan, and is planning activities in relation to the meteorological aspects of rangeland management.

1/ Extracts from document UNEP/GC.6/7 of 20 February 1978

2/ Ten in Asia, 11 in Africa, Nine in Latin America and 14 elsewhere

Other research activities related to soil, water, energy and climate. The joint FAO/IAEA Division on Atomic Energy in Food and Agriculture is planning isotope-aided studies of water and fertilizer use in semi-arid regions. The IHP programme foresees the preparation of maps of saline surface and ground-water resources of arid and semi-arid areas. Research and experiments on the use of solar and wind energy in arid lands initiated under UNESCO's Arid Zone Programme are now receiving new impetus. Also relevant are UNEP's activities in the area of firewood and substitutes, which will form part of SOLAR, and of the two Transnational Green Belt projects.

The social and economic aspects of arid lands are assessed by several agencies. FAO prepared case studies on changes in agrarian structure, especially in arid and semi-arid areas of West Asia and Africa. ILO has prepared case studies of emergency employment needs in India and Brazil as part of its World Employment Programme. WHO has undertaken surveys, in collaboration with UNICEF and FAO, of health and nutrition in drought-stricken areas of Africa. Relief operations to deal with human and economic implications of desertification are a major concern of UNDRO. UNEP co-operates with UNRISD on a study of perceptions, attitudes and values of people in relation to environmental problems in conditions including those of desertification.

Several United Nations organizations, especially UNEP, UNDP and UNESCO, are examining with the Governments of the Sahel the prospects for co-operating with the recently established Institut du Sahel (Sahelian Institute) in research, information dissemination and other fields, including training; the Institute could serve as a prototype for similar regional centres in other areas affected by desertification.

Several members of the United Nations system are involved in the exchange of information on desertification and related topics. FAO is developing the International Information System for Agricultural Science and Technology (AGRIS), which is an abstracting service providing summaries of research results, and the Current Agricultural Research Information System (CARIS), which will handle data on research institutions, workers, programmes and activities in agriculture, animal production, forestry, inland fisheries and food. UNEP's IRS can provide information on the sources of expertise on desertification and arid and semi-arid ecosystems. It is intended that the Centre for Natural Resources, Energy and Transport, in collaboration with the United Nations Statistical Office, should serve as a focus for information on ground-water resources in arid and semi-arid lands.

The World Bank, UNDP and FAO, with UNEP participation, sponsored the network of centres of the Consultative Group on International Agricultural Research (CGIAR), which contains three institutes dealing with aspects of agriculture in dry areas, such as rangelands management, improvement of animal production systems and evaluation of ecologically suitable farming systems: the International Centre for Agricultural Research on Dry Areas (ICARDA, Beirut), the International Livestock Centre for Africa (ILCA, Addis Ababa) and the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT, Hyderabad, India).

Scientific reviews of four components of the desertification problem - climatic change, ecological change, population and society and technological aspects - were submitted to the Desertification Conference, along with a synthesized overview document. In addition, UNESCO received UNDP financing to prepare six case studies of desertification and efforts to combat it in selected areas of Chile, India, Iraq, Niger, Pakistan and Tunisia. These, and similar studies contributed by six Governments at their own expense, were synthesized for presentation to the Conference. FAO, UNESCO, WMO and UNEP helped to prepare a 1.25 million scale world map and a 1:5 million scale map of Africa North of the Equator, both showing the extent and advance of desertification.

2 Management of arid and semi-arid lands ecosystems (activities broadly corresponding to Recommendations 5, 6, 7, 8, 9, of the Plan of Action)

Many projects applying existing knowledge in the field are executed by members of the United Nations system (notably the United Nations Office of Technical Co-operation, FAO, ILO, UNICEF, WHO and WMO), often with funds from UNDP. Some three-quarters of the resources devoted to arid and semi-arid areas are spent this way on local projects, mainly in Africa. Only the broad directions and examples of programmes are discussed here.

- FAO's arid and semi-arid lands activities mainly involve livestock and range management, forestry and water resources development; in co-operation with UNEP, FAO has launched a programme on the Ecological Management of Arid and Semi-Arid Rangelands in Africa and West Asia (EMASAR) which involves some surveying and monitoring and advisory services, but mainly development programmes and supporting measures.

FAO is also helping to establish an institute in the West Asia region to develop programmes of dryland forestry, watershed management and applied research on dune fixation, shelter belts, food and fodder trees, water harvesting and erosion control.

The Centre for Natural Resources, Energy and Transport sponsors water development projects in arid and semi-arid areas. WHO and UNICEF have defined an action programme for health which, by emphasizing malnutrition, outbreaks of communicable diseases, environmental health problems, and the preparation of health manpower to provide the necessary health services, is especially relevant to the effects of drought and desertification. UNITAR, with UNEP support, prepared a report for the Desertification Conference on alternative economic strategies for the development of arid and semi-arid lands. A recently initiated sub-programme of the United Nations University, based at the University of Khartoum, aims to promote the application of knowledge on arid lands problems. In association with FAO, WMO provides experts to developing countries to help develop their agro-meteorological services; some ten countries within the arid and semi-arid zone are being supported in this way during 1976-1978. WMO also runs the AGRYMET project in the Sahelian countries, centred on the WMO Institute at Niamey. In liaison with the Permanent Inter-State Committee on Drought Control in the Sahel (CILSS), ILO is carrying out rural development, technical co-operation activities, quick employment-generating schemes, vocational training and rehabilitation, all of which contribute to the recovery and resettlement of people afflicted by the Sahelian drought.

There are an estimated 500 million head of livestock in the low-rainfall areas of the West Asia region and the Sudano-Sahelian zone. In 1970, FAO initiated a study of the development potential and environmental impact of the livestock industry in the arid and semi-arid lands ecosystems, from which have emerged policy proposals on livestock management in low-rainfall environments aimed at restoring the ecological balance and improving productivity. FAO programmes for meat and dairy development involve livestock resource surveys and meat and milk development planning services in the arid and semi-arid regions. Its programme for the control of African animal trypanosomiasis aims at the eventual elimination of the disease from an area of approximately 7 million km² just south of the Sudano-Sahelian zone; this could have a very important impact on Sudano-Sahelian ecosystems by making possible the introduction of specialized zones for livestock production, breeding, fattening and marketing.

CILSS was set up in 1973; with the support of the United Nations Sahelian Office, CILSS is the main intergovernmental co-ordinator for development projects in the region. Under the auspices of CILSS and OECD, the Club du Sahel (formerly the Club des Amis du Sahel) was formed at a meeting in

Dakar in March 1976. Its purpose is to support CILSS, encourage co-operation among donors, and provide a forum where the Sahelian States can review their development policies together and with donors. The second meeting of the Club du Sahel, in Canada in September 1977, approved a programme for the development of the Sahelian countries, agreed upon the responsibility of donors for the near future, and pledged contributions of over \$2 billion. FAO provides expertise to CILSS and to the Club du Sahel, and in 1976 assisted CILSS to organize a consultation on the role of forestry in the rehabilitation of the region, at which an action programme for forestry was elaborated and donors were informed of the problems and potentials of forestry and of assistance needs.

In the Sudan, UNEP, UNDP and FAO are helping to organize a meeting of donor countries and organizations to encourage and co-ordinate their financial support for a series of national projects. They also co-operate in the elaboration of the Desertification Control and Rehabilitation Programme (DECARP) in the Sudan which involves an integrated approach to combating desertification; among proposed management actions are improved land use, village settlement, sand dune fixation, establishment of grass cover, stock improvement, sand belt rehabilitation and creation of wildlife reserves; this programme will serve national purposes and yield field experience which can be applied elsewhere in the fight against desertification. Other relevant UNEP activities are the trees programme and a programme to restore dryland species in West Asia.

Financial support for national development programmes in arid and semi-arid areas comes chiefly from the World Bank, and WFP, as well as from developed countries through bilateral and multilateral projects. Regional banks and funds also finance relevant activities.

3. Supporting measures (activities broadly corresponding to Recommendations 18 and 20 of the Plan of Action)

UNESCO's Arid Zone Programme provided training for hundreds of scientists from developing countries through fellowships and regional courses. Since the start of IHD, more than a thousand engineers and scientists from developing countries have received post-graduate training in hydrology and water management, and special courses for professionals and technicians were and are being organized in arid and semi-arid regions. IPAL will involve post-graduate students in Kenya in ecological management research, carried out under the supervision of international scientists in order to develop national research expertise. EMASAR contains education, training and information on rangeland management in Africa, north and south of the Sahara, and West Asia. In co-operation with CILSS, FAO is organizing training on fuelwood production techniques in the Sahel; it is also concerned with legal control and institutional aspects of desertification, studies water, wildlife and national parks legislation in Africa, and pays special attention to legal aspects of shared ground water resources in arid and semi-arid areas.

Training of meteorological and hydrological experts in the Sahel is carried out through the UNDP/WHO Sahel project. Under the guidance of the Sahel Governments, the Institute du Sahel has included in its programme an important training component for research workers, in which UNEP will participate.

UNEP also promotes public awareness of desertification problems, and special attention was given to this in the arrangements for and conduct of the Desertification Conference.

Outside United Nations system ^{1/}

1. Assessment of desertification (activities broadly corresponding to Recommendations 1, 2, 11, 12, 16, and 18 of the Plan of Action)

Several Governments are deeply involved in assessment activities ranging from the preparation of inventories and the evaluation of national resources to studies in basic and applied ecology and in climatology, technology and demography. In the field of assessment of natural resources, for instance, many surveys have been undertaken of wild flora and fauna, and of saline and alkaline soils. Several geological and hydrological studies relating to arid lands conditions have also been carried out. Climatological assessment is undertaken through networks of meteorological stations, and many studies have been made of desert microclimate. The effect of rainfall on production of herbaceous and tree vegetation in arid zones has been examined in many countries. Socio-economic assessment includes demographic studies and sociological and economic reviews of the conditions of cattle-raisers, including nomadic peoples. Many national institutions are involved in assessment work; in Latin America, for example, almost 20 national institutions participate in assessment tasks, although here, as elsewhere, there is scope for greater international co-operation.

Among relevant intergovernmental activities, the Organization of African Unity has recently produced a map on the distribution of livestock in Africa. OECD is involved in the study of measures for the management of natural resources in arid areas surrounding the Mediterranean Sea. The Arab League Educational Cultural and Scientific Organization (ALECSO) co-operated with many programmes in arid lands, for instance several transnational projects of the United Nations Conference on Desertification affecting the Arab world.

Assessment activities of NGOs in the arid zones, many of them carried out in collaboration with United Nations organizations, are considerable. ICSU participated with UNESCO in the preparation of a review on arid lands irrigation in developing countries and its environmental effects. The International Union for the Conservation of Nature and Natural Resources (IUCN) has prepared surveys of East, Central and West Africa to identify the ecosystems which should be safeguarded, and has studied the indigenous desert fauna of the Sahel with a view to rehabilitating their habitat and populations; with UNEP, FAO and IUCN support, the Government of Mongolia has established the Great Gobi National Park which covers 5 million hectares and constitutes the last habitat of a number of gravely endangered species. The International Development Research Centre (IDRC), which for a number of years has supported arid and semi-arid lands activities designed to improve farming systems and secure reforestation of degraded lands has recently initiated, with the University of Alexandria, a breeding programme to improve tree species for shelter belt plantation and supported research in afforestation methods in Jordan; IDRC also supports the newly-established International Centre for Agricultural Research in Dry Areas. The International Federation of Institutes for Advanced Studies (IFIAS), in co-operation with UNEP, is undertaking a study on "Drought and man", which examines the social, economic, political and ethical consequences of drought. The International Union of Forestry Research Organization (IUFRO) has a research group dealing with afforestation of arid and semi-arid areas. Six non-governmental scientific associations supported the Nairobi Seminar on Desertification, which was held immediately before the Desertification Conference, and developed a draft set of critical indicators of desertification to serve as a basis for monitoring the process and to assist in planning for affected regions.

1/ Extracts from document UNEP/GC/INFORMATION/10 of 14 March 1978.

2. Management of arid and semi-arid lands ecosystems (activities broadly corresponding to Recommendations 5, 6, 7, 8, 9, 10 and 14 of the Plan of Action).

Many Governments have launched effective operations to combat desertification and adapt crop and animal productions to aridity. A few examples of the type of work are cited as representative. In the field of soil conservation, many Mediterranean countries afforest sloping ground by means of terraces parallel to the contour lines and planting forest trees. The current trend is to afforest slopes exceeding 25% usually in order to plant them with fruit trees where the annual rainfall exceeds 300 mm. Contour-line ploughing is widely practised on slight inclines (say less than 9%) which are used for rainfed agriculture. Special attention is often paid to watershed management through integrated conservation, reclamation and afforestation work on terraces, and by improving rangelands management. Tree planting is common to stabilize road verges and improve the local environment.

Several Asian countries protect natural rangelands and undertake tests to improve them by artificial seeding or planting forage shrubs. In some countries legislation prevents the ploughing of steppe lands with annual rainfall of less than 200 mm. Several Governments have implemented a policy of settling nomads on the steppes in order to raise socio-economic prospects and reduce the pressure on natural rangelands. Establishment of national parks and protected areas, installation of windbreaks, and dune fixation are other examples of management practice. To economize and conserve water, country-wide surveys of surface and ground-water resources have been undertaken. Drilling of wells, construction of dams, and various types of irrigation and runoff agriculture have also been carried out. Some Asian countries have been successful in the integrated control of desertification by adopting measures which utilize water and soil resources fully and control and spread of dunes and sandstorm hazards; grasslands are often protected by permitting only reasonable levels of stocking.

In the Sudano-Sahelian region, a number of sand-dune fixation pilot projects have been developed, by fencing, seeding and laying branches of *Leptademia pyrotechnica*, a climax shrub in the area. Nurseries have been established for seedlings, and measures taken to protect grazing lands against fire. The latter is important because studies indicate that more than 60 per cent of plants of the savannah are annuals while the desirable perennial grasses, which are susceptible to repeated burning, are being replaced by less desirable, fire-resistant annual species. Bush/fallow cultivation systems involving integrated crop and legume forage production in rotation are also being undertaken, thus eliminating the destructive practice of continuous cultivation. Where ecologically appropriate and physically feasible, overgrazing is being tackled by establishing sedentary and semi-sedentary grazing co-operatives and by setting up grazing districts. New criteria adopted by some Governments seek to integrate water provision with range conservation and management, so that the grazing region surrounding the water centre can be put under controlled management and water supply as a tool of grazing management. Other African countries are launching programmes to help reduce the pressure for the use of marginal cropland, gain a better balance between livestock numbers and available forage and develop more productive and enduring agricultural systems on the better cropland.

Some Latin American countries are successfully using indigenous technologies in contour cultivation, and introducing new forage species. They have also developed and constructed reverse osmosis equipment to deal with the problems of salinization. Some countries in the region have successfully engaged in systematic watersheds management and widely introduced the propagation of forage species and species of economic use in arid lands.

A number of developed countries also suffer from desertification. Many have found the solutions to their problems through the application of scientific principles. For example, range management is often undertaken on ranches where the density of cattle is maintained at levels which correspond to the carrying

capacity (on average, one grazing cow per one hundred acres), and is associated with modern methods of drilling and pumping water, with scientific cattle breeding, feeding and veterinary services, and with good transport systems and marketing outlets. Another area where developed countries have been successful is in irrigation, particularly in areas which produce high cost products, such as fruit, which justify the capital investment involved. But before such techniques are transferred to developing countries, their cost and other implications require careful evaluation.

ALECSO is engaged in the transnational project of the North African Green Belt. OECD assists in the proper management of arid lands surrounding the Mediterranean Sea as a means of pollution control, and also lends organizational support to the Club du Sahel

A number of non-governmental organizations are involved in direct action to promote sound socio-economic development and management of arid and semi-arid areas. Church organizations, charities, the Red Cross, the International Association for Rural Development, the International Federation of Agricultural Producers and many others have embarked on integrated rural development programmes, many of which include measures to combat desertification such as erosion control afforestation, land-use reform, sand-dune stabilization, shelter-belt establishment and maintenance of soil cover.

3. Supporting measures (activities broadly corresponding to (Recommendations 18 and 20 of the Plan of Action)

In most developed countries, agricultural extension services provide advice and guidance to farmers, while universities and agricultural colleges supply education and training to those responsible for land management. Similar institutions exist in developing countries, but they usually lack the financial and other resources to have the required impact. However, several developing countries have undertaken impressive programmes of training, education and public information; a conspicuous example is the Sudan, which has included a large-scale training, extension and information component in the Desertification Control and Rehabilitation Programme (DECARP). In many countries, biology, geography, agriculture and other subjects are taught at various levels with an environmental bias; in some countries, university teaching in biological and earth sciences is directed to the problems of ecology in arid and semi-arid lands. Some countries put emphasis on public information; examples to techniques include radio programmes on desertification and village meetings to help bring about public awareness on the need for conservation of fragile arid and semi-arid ecosystems.

The Institut du Sahel is ready to launch an important training and extension programme. Regional economic and social development and planning institutes are training specialists in arid and semi-arid ecosystems.

Several international NGO's are very active in the field of public information on arid lands problems, for example the World Watch Institute, the International Institute for Environment and Development and the International Institute for Food Policy Research. Additional impetus has been provided by environmental media organizations, in particular by Earthscan, and by an IIED project supported by UNEP. Another NGO, TRANET (the transnational network of organizations involved in appropriate technologies) supplies references to researchers working in this area. ICRISAT provides short training courses, six-month training programmes for junior scientists and extension personnel, and graduate programmes.

**VIII. ACTIVITIES PROPOSED BY ORGANIZATIONS
WITHIN THE UNITED NATIONS SYSTEM
CONCERNING THE IMPLEMENTATION
OF THE PLAN OF ACTION TO
COMBAT DESERTIFICATION 1/**

A. Proposals of the United Nations system

The following activities are proposed by organizations within the United Nations system. In addition, many of the World Bank's, UNDP, WFP activities will contribute directly or indirectly to the implementation of the Plan of Action.

1. Assessment of desertification

(i) Department of Economic and Social Affairs

- Implementation of surface and ground-water survey development projects in arid areas of Afghanistan, Bangladesh, Chad, Ethiopia, Gambia, India, Iran, Mali, Mauritania, Niger, Upper Volta (continuing);

(ii) ILO

- Identification and promotion of appropriate technology for productive employment for pastoralists and marginal farmers (continuing);

(iii) FAO

- Research on development and management problems of the rangelands in Africa (Tunisia, Algeria and Upper Volta) (continuing);
- Sectoral studies on water, wildlife and national park legislation in Africa and on shared ground-water resources in arid and semi-arid areas (continuing);
- Further assistance to a West Asia institute in developing an applied research programme for dryland forestry (planned);
- Design and implementation of co-ordinated, interactive research projects between MAP Project No. 3 (grazing lands) and FAO's activities in grazing lands management (planned);
- Review and report on trees for food, feed and fibre in arid zones (planned);

(iv) UNESCO

- Review and synthesis of information on desertification phenomenon processes, and related problems (continuing);
- Preparation of regional state of knowledge reports on tropical grazing lands (planned);
- Activities within the framework of MAB Projects 3 and 4 to increase the scientific basis for rational management of grazing lands and arid and semi-arid ecosystems (continuing);

1/ Extracts from document UNEP/GC.6/7 of 20 February 1978

- Studies on effects of migration on the hydrological environment (continuing);
- Study of arid zone hydrology in the framework of IHP (including ground-water systems, arrest of salinization effects of irrigation and hydrological aspects of drought) (continuing);
- Review of methodology to determine and predict low flows in streams (continuing);
- Research on ways of assessing the interaction between ground water and river flow (continuing);
- IPAL (continuing) and extension to Tunisia and Sahel desert areas (planned);
- Assessment of saline and brackish water resources in desert areas (planned);
- Survey for the establishment of biosphere reserves in arid and semi-arid zones (continuing);
- Support to studies on the perception of the drought phenomenon by pastoralists and farmers (planned);

(v) WMO

- Review of meteorological and hydrological aspects and desertification phenomenon and processes and related problems (continuing);
- Monitoring and research on agrometeorology, hydrology and climatology (continuing);
- Planned meeting on WMO plan of action required as a follow-up to the Desertification Conference (planned);

(vi) UNU

- Evaluation of the application of knowledge to arid lands problems to bridge the gap between scientists and administrators (planned);
- Identification of factors which impede the application of knowledge that could be used to improve the environment and raise the living standards in arid areas (planned);

2. Management of arid and semi-arid lands ecosystems

(i) Department of Economic and Social Affairs

- Publication on efficiency in the use and re-use of water (continuing);
- Publication on principles of water pricing (continuing);
- Contingency planning for droughts (planned);
- Guidelines for a rational environmental management of water resources (planned);
- Management of Nubian sandstone aquifer (planned);

(ii) ILO

- Promotion of rural development through labour-intensive development works in arid lands (Upper Volta, etc.) (continuing)
- Assistance for labour-intensive works in arid lands (Cape Verde, Brazil, etc.) and pilot projects for development of labour-intensive works in agricultural settlement areas of arid lands (Somalia, etc.) (planned);

(iii) FAO

- Development and management activities in grazing lands management (continuing);
- Providing expertise to CILSS and the Club du Sahel on all matters relating to development, rehabilitation and management of Sahelian resources (continuing);

(iv) UNESCO

- Development, inter alia, through pilot projects of integrated methodology for water resources management in arid and semi-arid areas (continuing);
- Development of infrastructure to facilitate adaptation of foreign research results to local problems (continuing);

(v) WMO

- Application of existing knowledge to develop agrometeorological and hydrological infrastructure (continuing);
- Development of agrometeorological and hydrological service in Sahelian countries (continuing);

(vi) WFP

- Providing food assistance to support economic and social development activities, including land development, reforestation, grazing land rehabilitation and management, and soil conservation projects (continuing);

(vii) UNU

- Developing and implementing means to overcome the causes of the ineffective use of existing scientific knowledge in arid land areas (planned);

3. Supporting measures

(i) ILO

- Training of planners; training in employable skills; assistance in organizing rural co-operatives (continuing);

(ii) FAO

- Drafting of legal instruments to countries sharing water resources (e.g. Chad, countries of the Sene-Gambian basin) (continuing);

- In co-operation with CILSS, training course on fuelwood production techniques in the Sahel (planned);
- In co-operation with DANINA, a training course in sand dune stabilization, shelter belts and afforestation for technicians in the dry zones of the Near East, in co-operation with the University of Arizona (planned);

(iii) UNESCO

- Publication of world map of arid regions of the world (continuing);
- Development of regional "écothèque méditerranéenne" for dissemination of ecological information, etc. (planned);
- Preparation of a manual on the organization of technician training courses, with emphasis on conditions in semi-arid regions (planned);
- Symposium on the hydrology of drought in India (planned);
- Training courses in the hydrology of arid and semi-arid lands (planned);
- Training courses on the integrated approach to land use in the Sahel and on waterlogging and salinization in Arab States (planned in co-operation with FAO);
- Publication of case studies and technical notes on problems of arid and semi-arid zones and on desertification (planned in co-operation with UNEP);

(iv) WMO

- Training and information on agrometeorology and hydrology (continuing);

B. Proposed UNEP activities

The outcome of the Desertification Conference requires adjustments to the activities supported by the Fund of UNEP. Giving priority to implementing the Plan of Action to Combat Desertification and the six transnational projects, and in order to provide a more coherent framework for a number of current and planned international programmes, UNEP intends to:

(a) Support the continuation and extension of the UNESCO/UNEP IPAL/MAB project so to enable it to provide scientific backstopping, training and socio-economic information about desertification;

(b) Support the FAO/UNEP EMASAR programme so to enable it, among other things, to take a leading role in implementing three of the transnational projects (the Green Belt of North Africa, vegetation restoration in the Sahelian belt, and SOLAR);

(c) Support DECARP in the Sudan to test and demonstrate the integrated approach to desertification control;

(d) Support Governments regional groupings and institutions in their efforts to combat desertification;

(e) Ensure that other current or planned activities for which UNEP support will be provided (i.e. documentation centres in South-West Asia and Latin America, firewood and substitutes, and the trees programme) are capable of supporting implementation of transnational projects to combat desertification. The documentation activities will support transnational projects on monitoring, and other activities will support other transnational projects like the "Green Belt" of North Africa, vegetation restoration in the Sahelian belt and SOLAR;

(f) Support for training (especially through IPAL and the Institut du Sahel) and public information.

The likely states by which the major output of these activities should become available are as follows:

- (a) By 1979: to have given sufficient support to DECARP to make it possible to disseminate and extrapolate experience from the project;
- (b) By 1980: to bring transnational projects to an operational stage;
- (c) By the end of 1980: to have supported IPAL and EMASAR to enable them to provide results for widespread dissemination and application;
- (d) By 1980: to have taken new initiatives in public information on desertification and, in association with IPAL, to have supported additional training courses and facilities on arid land ecosystems, rangeland management, waterlogging and salinization.

IX. INTERNATIONAL CONFERENCES, 1978, RELATED TO THE PROBLEMS OF DESERTIFICATION

February 14-18, 1978 - International Symposium on Arid Zone Research and Development, Jodhpur, India

The symposium was organized by the Arid Zone Research Association of India with support from the Indian Council of Agricultural Research, UNESCO, and the Indian Department of Science and Technology and marked the 25th Jubilee Year of the Central Arid Zone Research Institute of Jodhpur. It was attended by some 300 delegates, including more than 30 from overseas. More than 200 scientific papers were submitted to the sessional programmes. The programme included a personal message to the Symposium from the Executive Director of UNEP, Dr. M. K. Tolba, presented by Professor M. Kassas, and a talk on follow-up action under the United Nations Plan of Action to Combat Desertification by Professor B. Rozanov of the Secretariat of the United Nations Conference on Desertification. In the plenary session, 22 recommendations were approved, including measures to monitor and combat desertification and to improve the living conditions of people in arid lands.

Information: Dr. I. Prakash, CAZRI, Jodhpur, India.

May 24 - June 4, 1978 - Tenth International Congress on Irrigation and Drainage, Athens, Greece

The problems of integrated water management in irrigated agriculture, which are of particular interest to the arid and semi-arid zones in connection with combating desertification, as well as the problems of water resources development for irrigation will be discussed at the congress. The technological aspects of irrigation and drainage, including the aspects of the appropriate, environmentally sound technology will draw much attention. Latest technological innovations in irrigation and drainage will constitute a topic of particular interest for the participants.

Information: Mr. K. K. Framji, Secretary-General, International Commission on Irrigation and Drainage, 48 Nyaya Marg, Chanakyapuri, New Delhi - 110021, India.

June 19-27, 1978 - 11th Congress of the International Society of Soil Science, Edmonton, Alberta, Canada.

Five plenary sessions of the 11th ISSS Congress will be devoted to the major climatic regions of the world, including Dry Desert and Steppe, and speakers will document for each:

1. The soils, their significant limitations for food production, and overriding climatic restraints;
2. Present dominant farming systems in comparison to optimum utilization of the soils concerned.

In addition to the plenary sessions and the meetings of five commissions of the ISSS, six symposia are planned, including those on Resource Information Systems, Soil Deterioration and Reclamation and Long Term Outlook Regarding Soil-Climate Interrelationships.

Information: 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0.

August 14-18, 1978 - First International Rangeland Congress, Denver, Colorado, USA.

The problems of rangeland assessment, improvement and management will be discussed during the Congress, including the ecological aspects related to pasture degradation by overgrazing leading to desertification.

Information: Dr. Harold F. Heady, Chairman, Society for Range Management, 1st International Rangeland Congress, 2760 West Avenue, Denver, Colorado 80204

January 3-8, 1979 - A meeting of the Working Group on Desertification In and Around Arid Lands of the International Geographical Union, Tucson, Arizona, USA.

The meeting will take place in the first days of January, 1979, and will be appropriately co-ordinated with a reporting meeting of the Arid Lands programme of the United Nations Universities on the theme of Obstacles to the Application of Existing Knowledge of Arid Lands Problems, since this has emerged as a major factor to be considered in programmes to Combat Desertification. The meeting will be held in the University of Arizona.

Information: Professor J. A. Mabbutt, School of Geography, University of New South Wales, P.O. Box 1, Kensington, NSW, Australia 2033.

X. UNCOD FOLLOW-UP NEWS FROM THE COUNTRIES

(information by the Governments)

Bolivia (up to April 1978)

The Government of Bolivia has decided to establish a National Co-ordination for the Plan of Action to Combat Desertification within the Ministry of Planning and Co-ordination, whose address is:

Professor Carlos Aguirre
Director de Ciencia y Tecnologia
Ministerio de Planeamiento y Coordinacion
La Paz - Bolivia

United States of America (up to April 1978)

In December 1977, a high-level meeting was convened in the Department of State to consider United States Follow-up to the Desertification Conference. There was unanimous agreement that the nature of the desertification problem, and the success of the Desertification Conference in highlighting the global nature of the problem and setting a course of corrective action, warrants a strong response by all nations. It was also agreed that the national immediate focus should be on problems within the United States and particularly with respect to the extensive arid land region shared with Mexico.

The Government has been in contact with Mexican officials, and the joint meeting is planned in the Mexico City area later this year to discuss common problems and the possibility of new co-operative efforts. The discussions will be specifically related to, and guided by, the international Plan of Action.

A government-wide task force has been established to review and evaluate the extent and nature of United States desertification problems and to consider what new measures and programmes should be adopted.

Based on the analysis before and subsequent to the Desertification Conference, it was determined that the existing institutional capabilities, exemplified by the Bureau of Land Management Geological Survey, Soil Conservation Service, etc. are adequate to address the situation, and that a new "national authority" is not required.

The United States Agency for International Development (AID) has received a new mandate from the Congress in the area of natural resources and environmental planning. This would strengthen and expand the United States commitment and ability to address many of the recommendations of the Plan of Action to Combat Desertification.

The AID is initiating a new programme on small energy systems for rural areas which, in part, will help cope with the "firewood problem". A new Office of Energy has been established within AID to design and administer the effort, and will work closely with the United States Department of Energy.

The United States contribution to the Sahelian Development Programme continues to grow. An expert to fill an "environmentalist" slot within the CILSS Secretariat has been recently provided by United States; United States participated in a meeting co-ordinated by the Club du Sahel in Paris on reforestation where United States advocated an expanded effort in this area, drawing on the results of the Desertification Conference as additional justification; a financial support for the new Sahel Institute is being provided by United States.

New bilateral activities in Senegal, Mauritania, Gambia, Cape Verde, Upper Volta, Niger, and Mali on a variety of desertification-related programmes are also being pursued; a comparative study of a portion of the Senegal River Basin most severely hit by the current drought, based on LANDSAT imagery acquired in 1972, 1976 and 1977, is carried out through North Dakota State University.

Over-all, the United States bilateral programme has budgeted \$47.8 million in the fiscal year (October, 1978 - September 1979) for desertification-related activities. This figure is broken down by activity field as follows: \$32.7 million for land conservation and resources management; \$8.6 million for energy; \$1.9 million for arid land information and \$4.6 for remote sensing.

Malawi (up to April 1978)

The Environmental liaison Committee within the Ministry of Agriculture and Natural Resources is responsible for the control of the environment, including problems of desertification which are still far away in the country while the competent authorities realize that erosion is a matter of some concern in Malawi.

Australia (up to April 1978)

The Australian Commonwealth Government has recently taken two major initiatives that are relevant to desertification. These were participation in the United Nations Conference on Desertification, and the Collaborative Commonwealth-State study of soil conservation needs in Australia. The country's participation, preparation for, and active role in the Conference created an impetus which may now be used to develop effective anti-desertification measures. This impetus will be strengthened by the release of the recently completed National Collaborative Soil Conservation Study.

This Study was designed to provide the Commonwealth and State Governments with information for the formulation of policy on soil conservation and associated land and water management programmes. It was commenced as a joint exercise by the Commonwealth, Territories and States of Australia in 1975. Its terms of reference cited 5 major components, viz:

- (i) the development of a national approach to land resource survey and evaluation;
- (ii) the formulation of a co-ordinated research programme aimed at meeting the most urgent needs associated with soil conservation;
- (iii) study of legal, administrative, financial and land tenure systems associated with soil conservation and land management, including cost allocation and reimbursement in relation to works on private property;
- (iv) requirements for the recruitment and training of all categories of staff;
- (v) integration with other areas of government policy including rural reconstruction, water conservation and flood mitigation.

The Study comprises 14 reports (see attached list). The first report which is under construction by the Government is the major one, in that it would establish the basis for action by governments in soil conservation.

Australia's federalism requires involvement by State Governments in any matter not clearly assigned as a Commonwealth Government function in the Constitution. This situation is strengthened by the New Federalism policy of the present Commonwealth Government. Since land, and land management, is a functional responsibility of the States, the Commonwealth is therefore constrained to a co-ordinating and financing role in efforts against desertification.

The usual vehicle for co-ordinating Commonwealth and State efforts is a Ministerial Council consisting of the appropriate Minister from each Government. This council may have Standing Committees which are supporting groups of senior public servants. The Standing Committee on Soil Conservation (SCSC), which reports to the Australian Agricultural Council (AAC), deals with soil conservation and many desertification matters.

The Study accepted the Ministerial Council system as the appropriate co-ordinating mechanism between Governments. It recommended enlarging the SCSC's role, and its structure and staffing. Additional pressure for altering the existing arrangement also stems from an increasing emphasis on non-agricultural activities by State soil conservation authorities. It is expected that the enlarged SCSC would operate as the co-ordinating body for anti-desertification schemes in Australia.

**COMMONWEALTH AND STATE GOVERNMENT
COLLABORATIVE SOIL CONSERVATION
STUDY 1975-1977: REPORTS**

1. A Basis for Soil Conservation Policy in Australia
2. Towards a National Approach to Land Resource Appraisal
3. Purposes and Requirements of Land Resource Survey and Evaluation
4. Catalogue of Australian Land Resource Surveys
5. Benefits and Costs of Land Resource Survey and Evaluation
6. Overseas National Programmes of Land Resource Survey and Evaluation
7. A Bibliography on Land Resource Survey and Evaluation
8. Co-ordination of Land Resource Survey and Evaluation
9. Economic Evaluation of Eppalock Catchment Soil Conservation Project, Victoria
10. Economic Evaluation of Soil Conservation Project in Allora Shire, Queensland
11. Economic Evaluation in Soil Conservation
12. A Register of Current Australian Soil Conservation Research
13. Land Degradation in Agricultural and Pastoral Areas
14. Legislative, Administrative and Financial Arrangements affecting Soil Conservation

