



AFRICA REGIONAL WORKSHOP ON ENVIRONMENTAL DISASTERS

Workshop Report



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Organized by:

*United Nations Environment Programme and United Nations Office for
Coordination of Humanitarian Affairs, Nairobi, Kenya, 28 – 30 July 2003*



UNEP

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FOREWORD

The Africa Regional Workshop On Environmental Disasters, held from 28 to 30 July 2003 at United Nations Environment Programme (UNEP) Headquarters in Nairobi, was convened by UNEP and the Joint UNEP/United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Environment Unit. The Workshop provided a forum for interactive dialogue between experts on the management of disasters and environmental emergencies. Participants were drawn from the subregional organizations in Africa, from the United Nations system and from international organizations dealing with disaster management. It was attended also by representatives from national institutions and subregional and regional organizations together with representatives from United Nations and other international organizations/agencies.

The present report summarizes the reasons for and the objectives, organization, programme and proceedings of the Workshop. The report comprises two parts:

(a) An executive summary giving the main conclusions of the Workshop and its recommendations for UNEP, and for the other international organizations;

(b) The body of the report, summarizing the reasons for and the objectives, organization, programme and proceedings of the Workshop. Annexes are attached for reference purposes.

The proceedings include the opening address, an overview of the goals and objectives, the presentations, a video presentation, working group desktop exercises and the final plenary meeting.

The summary of each presentation attempts to capture the core messages of disasters and the state of and trends in them; the evolution of the mechanisms for disaster reduction management; the gaps in those mechanisms and their needs at the national, subregional and regional levels; and any proposed recommendations to improve disaster reduction management capabilities at those levels. At the same time, the United Nations agencies and the other international organizations focused attention on their role, mandates and practical experiences in disaster reduction management. Taken together, the summaries describe the disaster situation in Africa, capabilities and gaps in disaster reduction management mechanisms in Africa and the needs of those mechanisms.

The Workshop generated vigorous and interactive dialogue in all the plenary meetings and during the working group desktop exercises. The conclusions therefrom are summarized in the background provided to the recommendations. The deliberations of the final plenary meeting which adopted the recommendations for UNEP and for international organizations are also reflected. Both the background and the recommendations are given in the executive summary.

Mr. Stefan Micallef
Chief
Disaster Management Branch
Division of Environmental Policy Implementation (DEPI)
United Nations Environment Programme (UNEP)

EXECUTIVE SUMMARY

1. This Workshop deliberated on the state of and trends in disasters in Africa, both natural and anthropogenic, and on the status and evolution of mechanisms for disaster risk reduction management at national, subregional and regional levels.
2. The rapid increase in disaster frequency and intensity since the early 1990s has had devastating impacts on lives, livelihoods, property and productive/development systems and on the environment. The member States of the African Union are at differing stages in evolving appropriate policies, legislative instruments and implementation mechanisms for disaster reduction management. The environmental dimension is generally not yet mainstreamed in disaster reduction management and development planning, so management of the environmental dimension is not specifically planned and catered for.
3. The conclusions of the Workshop and its recommendations to Governments, regional and subregional organizations and to UNEP and international organizations are summarized below.

I. Recommendations for Governments and African subregional organizations

A. Holistic approach

4. The Workshop emphasized that there is need for a holistic approach in which disaster reduction management is an integral part of sustainable development in the light of the following:

(a) Disaster reduction management includes reduction of vulnerability of persons, properties, infrastructure and environmental entities at risk;

(b) Disaster reduction management is better approached through pre-emptive measures - by prevention and preparedness - rather than by managing the emergency;

(c) For sustainable development, the disaster reduction management process should include sustainable resource management to maintain the natural defences of the environment;

(d) Natural defences should not be destroyed by irresponsible forms of land use, resource erosion and industrialization, or by improper management of refugee and displaced persons phenomena leading to environmental deterioration towards disaster.

B. Early warning systems and indicators

5. On early warning systems, the Workshop observed and concluded that:

(a) The effective management and application of early warning systems of indicators is essential for disaster risk reduction;

(b) National and subregional policies should be formulated to facilitate the establishment or strengthening of institutions for prediction and for application of early warning indicators;

(c) National hydrometeorological services should be upgraded to work effectively, in cooperation with a regional and subregional clientele, in monitoring and forecasting;

(d) Community and indigenous early warning knowledge should be integrated into national early warning systems to enhance understanding and utilization of those systems;

(e) Appropriate measures should be developed and implemented that would ensure the effective availability and utilization of early warning systems;

(f) Subregional organizations should have their mandates expanded to include the establishment and management of systems for monitoring climatic and other natural systems for reliable early warning indicators;

(g) Subregional organizations dealing with drought, flood and tropical cyclone monitoring should be strengthened and effective coordination of their work should be promoted to ensure better forecasting;

(h) Cooperation and collaboration with the World Meteorological Organization (WMO), the National Oceanic and Atmospheric Administration (NOAA) and so on should be strengthened through the Climatic Outlook Forum at Africa-wide and subregional levels to facilitate continuous and reliable weather forecasting relating to floods, droughts and tropical cyclones;

(i) A system of surveillance should be established using commercial shipping and aircraft, fishing fleets, coastal communities and so on to provide information for the effective strengthening of early warning systems for oil-spill hazards;

(j) Capacity should be strengthened at national and subregional organizations to improve their understanding of the environmental dimension of disaster management and sustainable development, and measures to improve their capacity to manage early warning systems should be undertaken by the relevant national Governments and by subregional and regional organizations, with the support of UNEP and other United Nations agencies and other international organizations;

(k) National Governments and subregional organizations should establish or strengthen applied research services to provide reliable capacity, and international collaboration, for early warning systems to promote prevention of, preparedness for and response to disaster events;

(l) Subregional organizations should make arrangements within which capacity-sharing between sister States is enhanced, for example, between South Africa and the other Southern African Development Community (SADC) countries;

(m) Subregional organizations should provide mechanisms through which information and experience can be shared – and for such arrangements, the capacity-building assistance of UNEP and other international organizations should be sought – to enhance capacity for information management.

C. Prevention and preparedness

6. On the issues of prevention and preparedness, the Workshop urged the subregions and/or member States to:

(a) Promote understanding of the causes of disasters that have profound impact on the environment, through capacity-building and training;

(b) Establish or strengthen appropriate institutions for disaster preparedness at the national and subregional levels, through contingency planning, which includes strengthening the organizational set-up, equipment and personnel;

(c) Develop environmental sensitivity maps for coastal areas/zones to enhance development of programmes for environmental disaster prevention, preparedness and response;

(d) Implement provisions relating to environmental disasters, with conventions and agreements ratified and domesticated;

(e) Promote coordination and synergies between national, subregional and regional institutions responsible for dealing with environmental emergencies;

(f) Organize subregional and regional environmental emergency workshops, placing emphasis on dissemination of information on environmental emergencies;

(g) Promote information on and understanding of the state of and trends in environmental degradation, vulnerability, climate change and other climate-related events;

(h) Develop common national and subregional strategies to integrate issues of environmental emergencies into education and training, at all levels; this may involve review and revision of school, college and university curricula;

(i) Prepare and review appropriate training course modules on environmental emergency prevention, preparedness and response;

(j) Promote the exchange and dissemination of good practices and lessons learned on environmental emergencies between Africa and other developing regions, and on the management of environmental emergencies, through newsletters, bulletins, databases and so on;

(k) Develop skills that will enhance media participation and understanding in the event of disasters with profound consequences for the environment;

(l) Influence national and subregional organizations to promote partnership with the media in the dissemination of information on disaster prevention, preparedness and response;

(m) Build awareness and promote sensitivity in respect of environmental disasters through formal and informal environmental education at national and subregional levels;

(n) National Governments should harmonize their disparate internal provisions for disaster management so as to develop an integrated disaster management framework with a clear mandate and internal structural coherence;

(o) National Governments and subregional organizations should develop comprehensive disaster management mechanisms.

D. Response to disasters

7. On disaster response, the Workshop urged the following:

(a) National Governments should establish or strengthen appropriate institutions for effective response to disasters, with a clear chain of command to put contingency plans into operation and ensure timely activation and coordination of disaster management operations;

(b) Governments and subregional organizations should ensure that response mechanisms and operations incorporate a deactivation process;

(c) National Governments should incorporate into their response mechanisms appropriate participation by local communities;

(d) National Governments and subregional organizations should establish and service clear communication systems to enlist cooperation and assistance in response to disasters which threaten to overwhelm national response capacities, or in the event of transboundary disasters;

(e) National Governments and subregional organizations should put in place mechanisms for the coordination of disaster response operations, and for a set of alternative communication systems which ensure that coordination continues throughout the phase of operation.

II. Recommendations for UNEP

8. Participants recommended that UNEP, subject to the availability of adequate resources, should perform the functions and activities listed below. In carrying out those functions, UNEP should endeavour to strengthen the ability of States, with their implementing partners, individually or through existing arrangements, to prevent, prepare for and respond to the environmental dimension of disasters, including the environmental impacts of refugees, drawing upon the experience and knowledge within States or existing subregional agreements and arrangements, and paying attention to those States in most need, which will be identified in cooperation with the African Union.

A. Information services

9. The recommendations made concerned the following issues/needs:

(a) To receive, collate and disseminate information on the resources and capacities available to deal with the environmental dimension of disaster management, such as remote sensing, geographic information systems (GIS) and other relevant subject areas;

(b) To identify existing focal points for various types of assistance on disaster management, strengthen the use of existing networks of experts/focal points/centres of excellence/expertise and facilitate the establishment of new networks where gaps exist;

(c) To facilitate communication, information exchange and networks of expertise between international partners and between subregions;

(d) To provide access to information resources for the development of systems to prepare for and manage the environmental consequences of disasters;

(e) To prepare an Africa Environmental Disaster Outlook within the context of the broader Africa Environment Outlook (AEO).

B. Education and training

10. The recommendations made in this area concerned the following issues/needs:

(a) To promote, facilitate and deliver training in the fields of environmental management and disaster preparedness and response, at administrative, decision-making and operational/ technical levels;

(b) To promote the holding of regional and subregional symposiums/workshops on relevant subjects, including technological advances in environmental disaster risk reduction/ management strategies;

(c) To provide tools and guidance for capacity-building, including the development of policies and strategies for disaster management, through such means as newsletters, bulletins, databases and so on;

(d) To develop skills that will enhance participation by and the understanding of the media in order to improve communications and media management in the event of disasters with consequences for the environment;

(e) To facilitate advocacy and awareness-raising campaigns on the environmental dimension of disasters at community level, through national Governments, regional and subregional organizations, and international organizations.

C. Liability and compensation

11. The recommendation made in this area concerned raising awareness among national Governments and regional and subregional organizations on issues of liability and compensation, and providing assistance in developing liability and compensation regimes for disasters with an impact on the environment.

D. Technical services and assistance

12. The recommendations made in this area concerned the following issues/needs:

(a) To facilitate cooperation in research and development, in particular on early warning systems for environmental disasters, including access to and use of remote sensing data, and to facilitate the exchange of results of research and development programmes relating to proficiency enhancement of the state of the art in early warning systems;

(b) To promote incorporation of indigenous knowledge into early warning systems through involvement of relevant stakeholders with expertise in indigenous knowledge, in particular indigenous organizations;

(c) To provide advice and assistance to member States establishing/strengthening national capacities to deal with the environmental dimension of disasters, including policies, legislation and institutional arrangements, or to give support to the harmonization of such policies and arrangements;

(d) To promote integration of African knowledge and expertise into international preparedness and response mechanisms for disaster management;

(e) To facilitate the provision of technical assistance during the preparedness phase to countries and subregions in developing their capabilities to manage the environmental dimension of disasters when they occur, including the development of national and subregional operational contingency plans;

(f) To mobilize the provision of emergency technical assistance, expertise and resources, upon request of member States or subregions, during the crisis phases of environmental disasters;

(g) To assist Governments and other organizations to enhance their ability to access assistance and resources in the development of projects addressing environmental disasters at both the national and subnational levels;

(h) To assist Governments and subregional systems in the development and implementation of simulated exercises, to test and strengthen existing capacity at national and Subregional levels;

(i) To support regional consultative initiatives and processes on disaster management, including preparation of inputs to the New Partnership for African Development (NEPAD) continental initiative;

(j) To promote the establishment and/or strengthening of a centre of excellence with capabilities for environmental emergency prevention, preparedness and response in cooperation with a network of centres of excellence in disaster management.

III. Recommendations for international organizations

13. The recommendations made in this area concerned the following issues/needs:

(a) To improve linkages between disaster risk reduction and disaster management programmes between United Nations bodies and other international organizations;

(b) To expand the membership base of the United Nations Disaster Assessment and Coordination (UNDAC) system in Africa and to ensure that the system's training programme is sensitive to regional needs;

(c) To explore possibilities for developing projects and subject-specific partnerships with other United Nations agencies and with other organizations/institutions at national, subregional and international levels;

(d) To participate in the development of international disaster response law, a process currently being led by the International Federation of Red Cross and Red Crescent Societies, and, once such a law is adopted and ratified by member States, to promote its application.

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List of acronyms and abbreviations

- AEO** - Africa Environment Outlook
- AMESD** - African Monitoring of the Environment for Sustainable Development
- AMU** – Arab Maghreb Union
- CILLS** – *Comité permanent inter-Etats de lutte contre la sécheresse dans le sahel*
- COF** – Climate Outlook Forum
- DMS-Nairobi** – Drought Monitoring Centre for the Greater Horn of Africa
- ENSO** – El Niño-Southern Oscillation
- FAO** – Food and Agriculture Organization of the United Nations
- FEWS** - Famine Early Warning System
- GEF** – Global Environment Facility
- GIS** – geographic information systems
- ICRC** - International Committee of the Red Cross
- IFRC** – International Federation of Red Cross and Red Crescent Societies
- IGAD** – Intergovernmental Authority on Development
- IOC** – Indian Ocean Commission
- ISDR** – United Nations International Strategy for Disaster Reduction
- ISESCO** - Islamic Educational, Scientific and Cultural Organization
- NEPAD** – New Partnership for Africa’s Development
- NADMO** – National Disaster Management Organization (Ghana)
- NEMA** – National Emergency Management Agency (Nigeria)
- NOAA** – National Oceanographic and Atmospheric Administration
- OCHA** – United Nations Office for the Coordination of Humanitarian Affairs
- RANET** – Information Technology for Rural Communications using Radio and the Internet
- RCMRD** - Regional Centre for Mapping of Resources for Development
- REA** – Guidelines for rapid environmental impact in disasters
- RESCUE** – Rational Energy Supply, Conservation, Use and Education
- SADC** – Southern African Development Community
- SARCOF** – Southern Africa Regional Climate Outlook Forum
- UNCCD** – United Nations Convention to Combat Desertification
- UNDAC** – United Nations Disaster Assessment and Coordination Team
- UNDP** – United Nations Development Programme
- UNEP** – United Nations Environment Programme
- UNICEF** – United Nations Children’s Fund
- UN-HABITAT** – United Nations Human Settlements Programme

Introduction

1. Since the 1950s, natural and technological/anthropogenic disasters have grown in frequency and intensity, especially in the last decade. Among the most adversely impacted are the developing and least developed countries in Africa, because of heavy concentrations of population and economic activities in vulnerable zones with a high percentage of poor people, because of inadequate policies and mechanisms for whole-cycle disaster management, and because of climate change and the rapid technological penetration of life systems in Africa, and so on.

2. In Africa, disaster risk reduction is essential for attaining sustainable development. The Workshop, therefore, was in line with the many decisions of UNEP, including decision 22/8 of the twenty-second session of the UNEP Governing Council, calling for capacity-building to improve the capabilities of developing countries to prevent, prepare for and respond to environmental emergencies.

3. The Workshop was therefore organized to promote an improved approach to disaster management in Africa, especially mainstreaming the environmental dimension into disaster reduction management and facilitating interactive dialogue between experts from national institutions and organizations dealing with disaster management. The cadre of participants was persons already in the management brackets in their respective national institutions and organizations. It was hoped that, on returning to their stations, they could influence policy formulation and/or the reorganization of mechanisms for disaster reduction management. They could therefore influence essential reforms in the management of disaster risk reduction.

4. The focus of the Workshop was environmental disasters because the environmental dimension is rarely integrated into the comprehensive cycle of disaster reduction management at the national and subregional levels in Africa. The Workshop was therefore intended to widen the purview of policy formulation and of the whole approach to disaster management with the environmental dimension fully mainstreamed in disaster reduction management at all levels.

5. The detailed list of participants is given in annex II to the present document. The Workshop was attended by representatives of national institutions in Ghana, Kenya, Mozambique, Nigeria and South Africa; by representatives of subregional organizations the Southern African Development Community (SADC), the *Comité permanent inter-Etats de lutte contre la sécheresse dans le sahel* (CILSS), the Intergovernmental Authority on Development (IGAD), the Arab Maghreb Union (AMU), the Islamic Educational, Scientific and Cultural Organization (ISESCO), the Drought Monitoring Centre for the Greater Horn of Africa (DMC–Nairobi), the Regional Centre for Mapping of Resources for Development (RCMRD) and the Indian Ocean Commission (IOC); by representatives from the African Union and the New Partnership for Africa's Development (NEPAD); by representatives of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations Development Programme (UNDP), the United Nations Human Settlements Programme (UN-HABITAT), the Office of the United Nations High Commissioner for Refugees (UNHCR), the United Nations International Strategy for Disaster Reduction (ISDR) and the United Nations Environment Programme (UNEP); and by representatives of the International Federation of Red Cross and Red Crescent Societies (IFRC) and the United

States Agency for International Development/Office for Foreign Disaster Assistance (USAID/OFDA).

I. ORGANIZATION OF THE WORKSHOP

6. The Workshop was organized on the basis of two main conspectuses:

(a) Presentations and interactive dialogue in working groups dealing with the environmental dimension of disasters;

(b) Plenary session to map out the basis for a way forward.

7. The presentations and interactive dialogue in the working groups were designed to give the African conspectus on the following issues:

(a) State of and trends in disasters;

(b) Status and evolution of national and subregional mechanisms for disaster reduction management and management of environmental emergencies;

(c) Recommendations for mainstreaming the environmental dimension in disaster reduction management at national and subregional levels;

(d) Recommendations to UNEP and other international organizations on strategies and interventions to facilitate filling gaps and supplying needs.

8. The recommendations formed the basis for the way forward in disaster reduction management and management of environmental emergencies.

A. Role of the presentations

9. The presentations were the principal starting points for deliberations which, together with the working group exercises and the final plenary session, resulted in conclusions leading to the recommendations adopted.

10. Essentially, the presentations were not designed in terms of specific modules and packages but their structures and contents ensured that the end result would give a clear understanding of disasters in Africa and of the evolution of mechanisms for disaster reduction management, including early warning systems, prevention, preparedness and response.

11. By design, the presentations from national and sub-regional organizations gave the state of disasters and status of disaster reduction management from their nations and sub-regions, while UNEP, OCHA, UNHCR, UNDP, UN-HABITAT, USAID/OFDA, ISDR, UNDAC and IFRC were programmed to clarify their mandated roles and to describe practical operational experiences in disaster reduction management and the management of environmental emergencies. NEPAD and the African Union outlined the status and evolution of mechanisms for disaster reduction management and for the management of environmental emergencies at the Africa-wide level (see annex I for the work programme of the Workshop and annex III for the list of documents/presenters).

B. Role of working group exercises

The exercises provided an occasion for deeper reflections on the subject and for closer and more interactive discussions that drew conclusions and proposals for recommendations.

II. PROCEEDINGS OF THE WORKSHOP

A. Opening ceremony (agenda item 1)

12. The Workshop was opened by Mr. Svein Tveitdal, Director of the UNEP Division of Environmental Policy Implementation and Division of Environmental Conventions.

13. In his opening statement Mr. Tveitdal stressed the special interest which UNEP, OCHA and other organs of the United Nations system had in the Workshop. He elucidated on the devastations and drawbacks of disasters and environmental emergencies in Africa, which necessitated provision for and implementation of systematic mechanisms for management of disaster risk reduction.

14. He gave an analysis of the impacts of the disasters over the past decade on lives, livelihoods, property, infrastructure and productive systems and emphasized that Africa was the only continent where the share of disasters increased from 15 per cent of the world total in 1992 to 26 per cent in 2001. The most devastating disasters in Africa were droughts, floods and cyclones.

15. He underscored the significance of UNEP/OCHA partnership in mobilizing cooperation from the United Nations Agencies and international organizations in response to environmental disasters. Referring to decisions of the twenty-first and twenty-second sessions of the UNEP Governing Council, he stressed the need for mainstreaming management of environmental emergencies in disaster reduction management and therefore encouraged the Workshop to keep in mind the spirit, purpose and recommendations of the Millennium Development Goals and the World Summit on Sustainable Development.

16. He stressed that the weak capabilities in Africa needed capacity-building in order to integrate management of environmental emergencies into all phases of disaster reduction management. Similarly, long-term strategies were mandatory and the Workshop should identify gaps and needs in those capabilities in disaster reduction management which needed to be filled and should recommend what role UNEP could now play in capacity-building, with quick and inexpensive interventions as the way forward.

B. Overview of the goals and objectives (agenda item 2)

17. Mr. Stefan Micallef, Chief of the Disaster Management Branch, made a presentation in which he outlined the goals and objective of the Workshop. The goals were to provide information on the current status of existing subregional and regional capacities and cooperative programmes for disaster management; on the extent of integration of the environmental dimension in subregional and regional disaster management systems; on the gaps in and needs of those systems; and to highlight the role which UNEP could play in promoting environmental emergency management at the national, subregional and regional levels. The objective was to bring together experts dealing with disasters from a variety of national institutions, subregional and regional organizations and international non-Governmental organizations to take part in interactive dialogue and structured deliberations

in order to exchange information and lessons learned regarding policies, programmes and tools in the management of disasters, and to map out goal-related issues and ways to promote cooperation in the Africa region.

18. He outlined the factors which can increase the severity of a disaster event and defined an environmental disaster as an event with a profound impact on the environment as well as occasioning the loss of human lives and property. Disaster events included natural and technological/anthropogenic disasters, and also human conflicts which caused refugee problems and their consequent environmental impacts. Technological disasters were usually the result of human error.

19. He emphasized that national institutions and authorities must be strengthened because they were the pillars of support to subregional mechanisms for disaster risk management.

C. Presentations by national institutions and subregional organizations (agenda item 3)

1. Mozambique

Disaster management in Mozambique

20. Mr. Salomão Manhique summarized the grave disaster situation in Mozambique resulting from droughts, floods, cyclones and oil-spill events. The increasing frequency and severity of those disasters continued to adversely affect poverty alleviation and efforts to achieve sustainable development.

21. Mozambique had a comprehensive policy which outlined the major structural and non-structural measures to prevent and mitigate the effects of disasters on people and property. There were also coordinating mechanisms such as the Coordinating Council for Disaster Management, the National Institute for Disaster Management and the Technical Council for Disaster Management that coordinated implementation of disaster management activities, including prevention and post-disaster rehabilitation and reconstruction. National and sector-specific contingency plans operated both annually and seasonally.

22. However, capacity-building was needed at the national and community levels to improve cooperation within SADC. The environmental dimension of disasters was important and needed to be integrated into disaster reduction management in Mozambique.

2. South Africa

National disaster management: turning vulnerability into opportunities

23. Mrs. Toffee Mokgethi reviewed the drought/flood situation in particular. South Africa, in partnership within SADC and with international organizations, monitored climate for early warning systems, predictions and warnings.

24. Institutional evolution for disaster reduction management was good in South Africa, with a strong vertical and horizontal network, but there was need for comprehensive harmonization and integration of the large number of sectoral legislative instruments into a

disaster management act and for subsequent integration of that act into the national development planning process.

25. There was a need for improved coordination with SADC and for mainstreaming the environmental dimension in disaster reduction management.

3. Ghana

Settlement erosion and rural vulnerability to rainstorm disasters in Ghana

26. Mr. Samuel Anku of the Ghanaian Environmental Protection Agency focused on the annual disasters which continued to occur because of serious soil erosion, destroying rural settlements wholesale. Rural vulnerability had increased as a result of inappropriate land-use practices and general environmental degradation, particularly deforestation and bush fires, in addition to socio-cultural factors, such as sweeping around houses to the extent of removing vegetation and soil cover. Also, land productivity had dropped.

27. Policy and legislation existed which had produced the Environmental Protection Agency and the National Disaster Management Organization (NADMO), and through NADMO a community-based rehabilitation programme had been developed and implemented to solve the problem.

28. Needs included the creation of public awareness; education and popularization of new methods of disaster mitigation; land-use zoning to determine vulnerabilities and enhance planning for risk reduction and management; establishment of building codes and standards; enactment of appropriate national and local legislation; enforcement of regulations; and integration of disaster reduction management into the development plan.

4. Nigeria

Disaster management in Nigeria: some reflections

29. Dr. Olusegun E. Ojo gave a presentation on behalf of Mr. S. S. Makarfi, Director-General of the National Emergency Management Authority (NEMA) in Nigeria, in which he recounted the repeated disaster events that Nigeria continued to face – droughts, floods, oil spills, oil-pipeline explosions, the ammunition store blast and so on.

30. Policies and responses to emergencies had evolved from the National Emergency Relief Agency (NERA) services established in 1976 to comprehensive disaster management under the National Emergency Management Agency (NEMA). Increasing the pace of change in the 1990s had put appropriate mechanisms in place to provide not only GIS and vulnerability information but also to develop and implement an appropriate national disaster response plan undertaking search and rescue, relief and rehabilitation in the event of a disaster.

31. Institutional evolution needed strengthening. Capacity-building partnerships with UNEP, UN-HABITAT and the United Nations Children's Fund (UNICEF) might improve disaster reduction management down to the level of component federal States and local authorities.

32. Mechanisms for response included satellite-based monitoring systems. There was a need among the parties responding to an environmental disaster for close cooperation in disaster reduction management, to integrate the environment into disaster reduction management, to mainstream disaster reduction management in the development plan, and to evolve a disaster management act.

5. Kenya

Community-based drought monitoring and early warning in Kenya: a case for an Arid Land Resources Management Project (ALRMP)

33. Mr. Maalim Mahboub of the National Disaster Operations Centre in Kenya presented highlights of community-based drought monitoring and early warning in Kenya, the Arid Land Resources Management Project. The project started in 1996 and was expected to cover, in phases, 81 per cent of the arid and semi-arid parts of Kenya. The project was established as a result of the droughts of 1992-1993 and 1996-1997. In both disaster events a national disaster was declared. The main thrust of the project was to establish an effective, efficient and sustainable community-based drought monitoring system with full participation of the community and to link it to the national system. The system thus provided relevant and timely information on drought to various types of users.

34. The major challenges of the system were the time lapse between stress and response, the lack of adequately trained personnel to handle the various emergency situations and the lack of an appropriate policy framework to manage disasters. Consequently, a project was needed for capacity-building, for extension of monitoring and early warning systems to high-disaster-potential urban areas and for the improvement of linkages between early warning and response mechanisms.

6. The SADC region

Disaster management in the SADC region – the problem creates opportunities

35. Mr. Luis de Almeida outlined the coordinating role of SADC in disaster management in southern Africa, highlighting the creation of the SADC Disaster Management Committee and development of the Regional Multi-Sectoral Disaster Management Strategy approved in August 2001. The Strategy specifically facilitates cooperation between member States on disaster management issues, particularly those of transboundary nature.

36. He emphasized the need for review of policies by member States to evolve a disaster management acts and appropriate mechanisms for disaster reduction management. He also stressed the need for national pillars of disaster reduction to be further strengthened, especially climate monitoring, coordination and early warning systems. SADC had a Regional Early Warning Unit which worked closely with member States in providing early warning information.

37. While the food security early warning system was well established, the floods and droughts system was partially developed. However, regular pre- and post-rainy-season assessment forum served as a platform for intersectoral coordination on floods and drought management. Specifically, responses to climate and weather events were coordinated in close collaboration with the Regional Remote Sensing Unit, and meteorological services and with other agencies.

7. Indian Ocean island States and Indian Ocean Commission (IOC)

IOC Intervention in the area of environmental disasters

38. Mr. Mohammed Said Salim identified the main disasters in the south-west Indian Ocean as hydrometeorological and technological: cyclones, floods and oil spills.

39. Devastating cyclones and floods were the biggest single group of disaster events, impacting on people, the economy and fragile environments.

40. The island States had key policies to facilitate mechanisms for early warning systems and for disaster prevention, preparedness and response. Disaster risk management was an integral component of development planning. With the European Union's assistance since 1986, the Regional Meteorological Cooperation Project, using satellite and ground/sea surface data, the island States and IOC had developed an intricate early warning system with improved knowledge of cyclone forecasting.

41. In partnership with the European Union and global centres of excellence, they already used second-generation satellites. The project had improved human capacity and use of equipment for all national meteorological services and for coordination at IOC level. The IOC had wide international partnerships, including UNEP and African Monitoring of the Environment for Sustainable Development (AMESD).

42. Nevertheless, he emphasized the need for research and for further improvements of the early warning systems, particularly in collaboration with the Climate Outlook Forum (COF), the Southern Africa Regional Climate Outlook Forum (SARCOF), AMESD and so on, and also for preparedness and response. He also stressed that there was a need to improved internal integration/coordination, equipment and personnel for better preparedness, prevention and response management.

43. The threat from oil spills was a major issue because of the major oil-transporting sea lanes across the south-west and north-east Indian Ocean, in addition to the threat from in-port and local spills.

44. The greatest potential oil-spill threats were from shipwreck and collisions and during cyclones; also, the Exclusive Economic Zone was too large for IOC to mount effective airborne surveillance. Consequently, IOC and its member States used information from commercial shipping, aircraft, fishing fleets and archipelagic communities to give early warning of spills. On a regular basis, IOC also used satellites for surveillance.

45. With delicate and fragile ecosystems such as coral reefs, mangrove wetlands, spawning grounds and fisheries, tourist beaches and the like, an oil-spill disaster could have a major impact on the life support systems and the economies of the island States. Member States had therefore established institutional mechanisms for disaster reduction management, including contingency plans. With Global Environment Facility (GEF) funds, IOC has embarked on strengthening response capabilities and to assist ratification of the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC90), the International Convention on Civil Liability for Oil Spill Damage (CLC92) and the 1992 Protocol of the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (IOPC Fund).

8. Comité permanent inter-Etats de lutte contre la secheresse dans le sahel (CILLS)

Contribution of CILLS to the African Regional Workshop on Environmental Disasters

46. Mr. Issa Martin Bikienga summarized progress since 1976, when nine West African States and Chad created CILLS, after the 1972-74 droughts. Droughts had increased in frequency and severity, increasing food insecurity, poverty and conflicts.

47. CILLS monitored climate and environment, maintained an early warning system for prediction and warning from risk indicators. CILLS coordinated climate monitoring in the Sahel and research into dryland agronomy. CILLS worked on the environmental component with non-governmental organizations and international partners. It needed capacity-building, among other areas in information management and environmental rehabilitation within the framework of the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (United Nations Convention to Combat Desertification (UNCCD)). CILLS required strong support for coordination and improved community-based coping skills.

9. Islamic Educational, Scientific and Cultural Organization (ISESCO)

ISESCO efforts in the area of environmental disasters

48. Mr. Mohammad Said Dayer informed the Workshop that ISESCO covered a number of countries in Africa and the Middle East and that ISESCO efforts were largely in the area of environmental education/awareness for sustainable development, mobilizing member States for anti-pollution efforts, and producing books and pamphlets on environmental education and management of natural resources.

49. Guided by the Islamic Conference of Foreign Ministers and the Islamic Conference of Environment Ministers, ISESCO presented to the World Summit on Sustainable Development, held in Johannesburg, South Africa from 26 August to 4 September 2000 ("the Johannesburg Summit") the General framework of the Islamic agenda for sustainable development: Islamic Declaration on Sustainable Development, which was accepted by the Summit.

50. ISESCO stressed environmental education, disseminated environmental knowledge and promoted partnership of member States with United Nations agencies in climate monitoring, conservation of biodiversity, research and disaster reduction management. It also focused on reforms in member States to promote disaster risk reduction and mitigation.

10. Regional Centre for Mapping of Resources for Development (RCMRD)

Use of space technology in monitoring environmental disasters

51. Dr. W. K. Ottichilo, Director-General of RCMRD, presented a paper outlining the use of remote sensing and space technologies in the collection, analysis and management of data and the provision of various types of appropriate information that could be used for monitoring and management, including, especially, monitoring and management of environment, land, forests, water resources, the atmosphere and so on, and also for disaster management. He emphasized that the Centre focused on capacity-building in remote sensing, the promotion of development of national and regional data, on infrastructure, on advisory

services in the use and application of technology and the dissemination of information, in close cooperation with other agencies such as the National Oceanic and Atmospheric Administration (NOAA), the United States Geological Survey (USGS) and the Famine Early Warning System (FEWS).

52. He further outlined the various space and satellite-based tools and methods that can be effectively used in rapid and continuous collection of a variety of data on most of the disasters afflicting the environment in the Africa region: aerial photographs, earth observing satellite images such as METEOSAT low satellite pass data, satellite radar and satellite laser ranging.

53. He highlighted the great potential which space technology has, particularly for Africa, in the planning and execution of sustainable development and stressed the need for the formulation of appropriate policies, capacity-building and education, and the creation of national partnerships with relevant agencies and organizations on the use of space technology for sustainable development. A major concern in Africa was the availability, acceptability and application of data at the local level, a major shortcoming for the region; awareness-raising and capacity-building were therefore key to promoting the use of space technology.

11. Drought Monitoring Centre for the Greater Horn of Africa (DMC–Nairobi)

Climate monitoring, prediction, and early warning in support of disaster management in the greater Horn of Africa

54. Prof. L. A. Ogallo emphasized that within the greater Horn of Africa over 70 per cent of disasters were climate- or weather-related, and included droughts, dust storms, heat waves, floods, storms and the like. Such disasters cost lives, destroyed livelihoods and property, and caused conflicts and their resultant refugee flows.

55. The Drought Monitoring Centre for the Greater Horn of Africa, located in Nairobi, monitored climate in the greater Horn of Africa and gave early warning and posted watches for El Niño-Southern Oscillation (ENSO) phenomena, but also specialized in droughts, in partnership with the national hydrometeorological systems network and with the National Oceanic and Atmospheric Administration Global Climate Programme (NOAA/GCP). It provided products also for disaster reduction management.

56. The Centre needed capacity-building for climate scientists and technical services and required assistance in the use of NOAA/GCP products for disaster reduction management.

12. Intergovernmental Authority for Development (IGAD)

A brief presentation of the IGAD disaster risk management programme

57. Mr. Dabalkew Berhe summarized the comprehensive IGAD programme for disaster risk management in the IGAD member States in East Africa and the Horn of Africa, where the environment is fragile, sensitive and prone to disasters.

58. The disaster risk management programme was established in response to the drought, floods and conflict hazards, including pest infestations, which affected the IGAD area. The programme aimed to improve the capacity of member States for disaster reduction management through improved policies, legislation, strategies and plans.

59. Needs included resources to implement the programme; facilitation of coordination of climate monitoring in the IGAD region as early warning system input; improved prediction and warning; and partnership to strengthen vertical communications and horizontal networks.

D. The Africa region (agenda item 4)

1. The African Union

Activities of the African Union in the prevention of, preparedness for and response to disasters on the African continent

60. Mr. Foday Bojang outlined the disaster situation in Africa and the evolution of mechanisms within the framework of the Organization of Africa Unity (OAU) for disaster reduction management, and past and ongoing consultations to pursue the issue of disaster prevention, preparedness and response in the context of disaster risk management.

61. The 1970s and 1980s preoccupied Africa with droughts and their related food insecurity, especially in the Sahel; but since the early 1990s floods and cyclones had increased, together with the devastation they caused in terms of lives, development and production systems.

62. Through the Special Emergency Assistance Fund for Drought and Famine in Africa, between 1985 and 1998 OAU had spent \$31 million on relief and \$840,000 on related preventive measures against food insecurity. However, the various flood and cyclone disaster events had changed OAU policy towards disaster reduction management, with a concentration on prevention, preparedness and response mechanisms.

63. Although most of the African subregional organizations had programmes for disaster management, the financial and institutional aspects were still weak and therefore needed improvement. Consultations with partners pointed to the need for collaboration and coordination to achieve a unified approach to disasters and to disaster risk management in Africa. All partners therefore needed to liaise and to provide support to the NEPAD initiative.

2. New Partnership for Africa's Development (NEPAD)

The NEPAD approach to disaster management

64. Dr. Rukato Hespina summarized the recommendations on strategies and programmes on the way forward from the Johannesburg Workshop of 23-24 April 2003.

65. She emphasized that the crises brought about by disasters in Africa were environmental and had serious implications for sustainable development: they eroded progress and promoted food insecurity and poverty. As a result, development needed informed, coherent and well-articulated disaster-sensitive strategies.

66. Disaster risk reduction management required cooperation and collaboration between stakeholders who recognised their comparative advantages. Consequently, the Johannesburg Workshop had agreed on a broad-based approach with respect for financial, institutional and human resources considerations while strengthening or building mechanisms for disaster reduction management.

67. The Workshop had identified the need for a regional programme and strategy for disaster reduction management that was sensitive to the question of food security, and within which a role for the NEPAD Secretariat was established. It had recognized the need for improved policies and for interventions on weather prediction; on responses to climate change, natural disasters and food insecurity; and on long-term national, subregional and regional priorities and budgeting for disaster risk reduction, for disaster reduction management, for climate change and weather prediction and for their implications for food security.

68. The Workshop had recommended that NEPAD should engage in consultations with regional economic communities and United Nations agencies on way forward.

E. United Nations agencies (agenda item 5)

1. UNEP Division of Environmental Policy Implementation UNEP Division of Early Warning and Assessment

Early warning for environmental emergencies

69. In his presentation on behalf of the UNEP Division of Early Warning and Assessment, Mr. James Kamara summarized the role in environmental emergencies of the UNEP Division of Environmental Policy Implementation/Disaster Management Branch as making available intellectual resources for comprehending the environmental dimension in the disaster; serving as the think-tank for assessing the environmental aspects of natural and technological disasters, together with OCHA and other partners and, by using early warning systems and assessments, providing scientific information for decision-making in environmental management. Overall, management of environmental information was a key focus of the work of UNEP.

70. He highlighted the importance of early warning, particularly in enhancing appropriate and effective preparedness and response mechanisms. Information on the status of the environment, especially environmental vulnerabilities, potential threats and their environmental impacts, served as a basis for developing appropriate early warning systems, which were one of the major thrusts of the work of the Division of Early Warning and Assessment. In particular, he emphasized the use of early warning indicators to identify vulnerabilities and potential threat areas and provide forewarning of situations and events that could result in severe impacts on the environment.

71. He enumerated some of the early warning indicators for floods, droughts, cyclones and oil spills, such as abnormal intensity of rainfall and changes in river gauge levels, failure of springs, delayed or abnormal onset and end of rainy seasons, traces of oil slicks, high and sustained wind conditions, unusual behaviour of animals including birds, insects, turtles and snakes. In each connection, he stressed the role of local communities and of indigenous knowledge of physical phenomena and biophysical indicators.

72. In situations with political overtones, early warning indicators were often either ignored or sidelined, as in the case of the wetlands of Mesopotamia and the dying Aral Sea.

73. Satellite data sources were now accessible for monitoring disasters, for making predictions and for planning, mitigation and response management for events such as floods, cyclones and lava flows.

74. He highlighted the ongoing cooperation between the Division of Early Warning and Assessment with UNDP on the data exchange platform for the Horn of Africa, which promoted the free flow of data products and services and promoted common standards for data and accessibility to new datasets and to accurate and timely data. The beneficiaries of the data exchange platform initiative were the disaster-affected and vulnerable populations in the countries in the Horn of Africa, where disasters had become endemic.

2. UNEP/OCHA

Role of UNEP in disaster management

75. Ms. Patricia Charlebois summarized the partnership roles played by UNEP and OCHA in the disaster reduction management cycle and in the management of environmental emergencies.

76. On early warning systems, she emphasized that the UNEP Division of Environmental Policy Implementation used Division of Early Warning and Assessment data and other information to promote identification of indicators leading to predictions of risk. Through capacity-building, UNEP continued to promote policy formulation leading to risk assessment and risk reduction.

77. On response, she informed the Workshop that UNEP/OCHA adopted an integrated approach, with the environment integrated into disaster reduction management. OCHA received requests, gave alerts, sent assessment teams, coordinated information and monitoring and mobilized resources. The UNEP/OCHA partnership integrated the environmental component into disaster reduction management.

3. United Nations Disaster Assessment and Coordination (UNDAC) Team

The United Nations response to disasters, and the UNDAC mechanism

78. Mr. Pierre Gelas of the OCHA Office in East Africa delivered a paper in which he summarized the role of the UNDAC team in the management of environmental disasters, with particular focus on response.

79. The response process was activated when OCHA received an urgent request from the national Government or the Office of the Resident Representative in a country struck by a disaster event. OCHA notified and mobilized an UNDAC team consisting of three to five trained, dedicated and experienced managers with various skills from UNDAC member countries for an international, multidisciplinary rapid deployment. Once briefed by OCHA Geneva headquarters, the team, which would be ready within 12 to 24 hours, left for the country and site of the disaster event together with equipment and facilities to ensure that it did not overburden the Government of the host country. Deployment was usually for a period of up to three weeks.

80. The UNDAC team first did two things:

(a) In collaboration with local persons, the national authorities and the United Nations Resident Coordinator, it assisted in rapid assessment, the coordination of international responders on site and in information management and the preparation of reports;

(b) It called in the International Search and Rescue Advisory Group, with its specialized tools such as sniffer dogs, and its global language proficiency for on-site communication should the rapid assessment indicate a need for it.

81. The team would also set up an on-site operational coordination centre to serve as the first platform for on-site coordination of international responses; with the Resident Representative, it coordinated between host country/Government and international agencies. The operational coordination centre, supplied with maps and other local information, continued to provide on-site assessment and reports through UNDAC and the Resident Representative, who would keep OCHA informed.

82. During the initial response period, the UNDAC team in practice carried out coordination on behalf of the Resident Representative. UNDAC also managed – i.e., coordinated, processed, assessed and communicated – information on disaster events and their unfolding impacts.

83. The UNDAC on-site operational coordination centre worked in close cooperation with the local emergency management authority to which its operations would be handed over when deployment ended.

84. The UNDAC team also worked in close collaboration with UNICEF, which had an extended mandate in disasters and reflected its special concern with children and women, in respect of their health, education and so on; with UNHCR, with its mandate for the welfare and security of asylum-seekers and the repatriation of refugees; and with the World Food Programme (WFP) with its mandate covering problems of food and potable water. Other United Nations agencies came in with their specialized mandates to play their roles as needed.

85. The Office of the Resident Representative played a special role in UNDAC: it was the focal point; it managed information; coordinated overall disaster management; provided the special country network for disaster risk reduction management; coordinated with United Nations emergency relief coordination (ERC/OCHA) and participated in all phases from the outset to the provision of relief and on through recovery, rehabilitation, reconstruction and so on.

86. The UNDAC team thus assessed the state and progress of the emergency, giving situation reports and preparing an integrated appeal plan. The final report, by the Resident Representative, would be shared with the national Government before it was released.

4. United Nations Development Programme (UNDP)

UNDP and environmental emergencies

87. Mr. Kenneth Westgate of the UNDP Bureau for Crisis Prevention and Recovery Programme describe the UNDP role in disaster management as an integral part of efforts to achieve sustainable development by promoting implementation of disaster risk reduction and strengthening the exchange of knowledge and experience through developing networks between disaster reduction agencies and programmes and those promoting sound environmental management at national and regional levels and also in application of risk assessment guidelines.

88. A major thrust of the UNDP Bureau's work was to increase national and regional capacities in order to harmonize disaster reduction strategies with those covering environmental issues, because environmental risks increased in tandem with disaster risks; it aimed also to develop policy frameworks that identified environmental indicators, both urban and rural, and the impacts of the ENSO phenomenon and of climate change.

89. It built capacity in order to improve disaster risk reduction; supported the recovery needs of countries with crises and promoted the exchange of knowledge and experience with partners.

90. UNDP promoted seamless programming between disaster risk reduction and environmental protection in a combined approach to vulnerability reduction through many mechanisms, including legislation, clean industry and rehabilitation of eroded natural defences.

5. United Nations International Strategy for Disaster Reduction (ISDR)

Role of the United Nations ISDR in disaster reduction in Africa

91. Ms. Noroaria Rakotondrandria summarized the role of the United Nations ISDR in disaster reduction management. Its global mandate was to promote strategies for concerted action to reduce risk and vulnerability to natural and related technological and environmental hazards. Also, it promoted involvement of all stakeholders and facilitated dialogue in disaster reduction actions.

92. One of the major thrusts of the work of the United Nations ISDR Secretariat was the disaster reduction programme in Africa, which focused on outreach, networking and collaboration with major national and international stakeholders in both disaster reduction and sustainable development at the national, subregional and regional levels.

93. ISDR interventions were need-oriented, consensus-driven, value-added and sustainable in line with Johannesburg Summit recommendations in the context of support for subregional processes of disaster reduction. It had strong and wide-ranging partnerships for advocacy, coordination and disaster information exchange; for disaster reduction management in sustainable development; for the application of space technologies and for early warning systems.

94. It had national platforms on emerging issues in disaster risk reduction and disaster reduction management, and, for those, it needed political commitment, awareness, knowledge-networking and information integration to promote food security, to reduce poverty, to mainstream the environment in disaster reduction management, and to mainstream disaster reduction management in development planning.

6. United Nations Human Settlement Programme (UN-HABITAT)

The UN-HABITAT role in disaster management

95. Mr. Estebán León presented insights into the complex series of interventions in disaster management centred on shelter and settlement security. In partnership with other United Nations agencies, international organizations, national Governments, local authorities, non-governmental organizations and affected people, the focus of interventions was security of shelter and settlements, usually from the time of relief through to reconstruction.

96. UN-HABITAT intervened when disasters and environmental emergencies struck and threatened or destroyed shelter and settlement security. It did so through vulnerability reduction strategies, by reconstruction, relocation and upgrading the standard of both construction and building materials; and might promote early intervention through mitigation and preparedness so that relief, rehabilitation and reconstruction dovetailed consecutively and cumulatively.

97. The focus was usually response and participatory capacity-building in partnerships – to provide tools and techniques, and design and training of local artisans, and to promote vulnerability reduction for the displaced and for insecure shelters and settlements, with gender, land and property, and related issues in view.

7. Office of the United Nations High Commissioner for Refugees (UNHCR)

The environmental impact of refugees: a case study of Kenya

98. Mr. George Okoth-Obbo, UNHCR Country Representative, provided a wide-ranging, anchored, deep-visioned presentation of the highlights of the refugee phenomenon and the attendant environmental emergencies, the causes of which were conflicts, floods and other disasters.

99. Refugees were often relocated into easily degradable, fragile and marginal drylands undergoing desertification, into the vicinity of rare-species or conservation habitats or into overcrowded periurban slums. In all those cases, carrying capacity was easily overwhelmed, resulting in environmental destabilization and/or resource depletion, reduced biodiversity, devegetation, land degradation, destabilization of traditional life-support systems, comprehensive pollution, desertification or deep urban poverty, and promotion of vulnerability to disaster risk.

100. The focus of UNHCR was priority policies – prevention of degradation, refugee welfare, secure asylum and the evolution of disaster reduction management policies – especially to upgrade quality of life for hosts and refugees. It focused also on prevention, response and reconstruction in relation to environmental degradation and resource depletion.

101. The policy and institutional framework of UNHCR for disaster reduction management always had the environment and resource base as a priority issue, as expressed through the Engineering and Environmental Services Section located at its headquarters in Geneva; also, UNHCR had recently made revolutionary participatory developments in disaster reduction management, with new guidelines and a new range of partnerships.

102. UNHCR in Nairobi had undertaken a number of response measures and activities to address the environmental degradation problems associated with refugee situations in Kenya. Its policy and guidelines on environmental management in refugee operations provided the basis on which the relevant prevention and mitigation measures were being implemented in the camps, such as rehabilitation of already degraded areas, afforestation, introduction of “energy-saving” devices such as improved stoves, forestry, participatory environmental management, environmental education and awareness, regular and periodic internal and external monitoring of the status of the environment in both refugee and hosting areas, and in provision of firewood rations, water and sanitary facilities and shelter materials. All were measures geared towards protecting and conserving the environment and had been taken in Dadaab and Kakuma camps since 1993 and 1999, respectively, within the Rational Energy Supply, Conservation, Use and Education (RESCUE) framework.

103. Also, an initiative was being elaborated under the concept referred to as development assistance for refugees, which involved obtaining additional development assistance to mitigate the burden on countries hosting large numbers of refugees and to promote better quality of life and self-reliance. Another initiative, referred to as the four Rs, addressed the repatriation situation and emphasized the nexus between repatriation, reintegration, rehabilitation and reconstruction.

104. A major environmental challenge in refugee situations was the politicization of environmental problems whereby refugees had been used as a political football over the predictable environmental impacts arising from their presence. Such politicization placed a burden on UNHCR and refugee-hosting Governments, and regional and subregional organizations, to reconfigure refugee problems, including their associated environmental impacts, within a more responsible and truer understanding.

105. The RESCUE framework was the principal environmental management and intervention programme in both refugee camps in Kenya, and was a life-size pilot scheme.

8. UNEP Division of Communication and Public Information

Environmental disasters and the media: working with news media and public perception

106. Mr. Nick Nuttal reviewed the role of news media in disaster reduction management, with suggestions on how to handle the media during and after a disaster event. He emphasized that environmental disasters were attractive for the media, often because they could be accompanied by dramatic and compelling images that spiced up a news broadcast or front page. He cited as an example shots of a crippled oil tanker spilling millions of gallons of crude oil onto a beach or a bird sanctuary, of the herculean efforts to rescue and clean up oil and tarred seabirds, with images of crusty-faced fishermen, their livelihoods devastated by the pollution, the courage of the tug boatmen battling to tow the titanic supertanker off the rocks – all ingredients of attractive media stories and news.

107. A key approach in handling the media was to have a crisis team ready to respond to an environmental disaster. Such a team must include media people who must be seen as key personnel and be involved in most senior meetings. Handling the media during disasters required skill; spokespeople must be not over-authoritarian, not over-reassuring, not over-alarming, but allowing the proper degree of access to the disaster area, holding regular news briefings during and immediately after the disaster event and promoting smart partnership with the media.

108. A high level of disaster education was needed in many developing countries to promote not only better media coverage but also to increase understanding of the media on the part of Government authorities and the general public. The media, who were useful allies, were critical in participatory disaster reduction management, early warning systems, prediction, warning and response phases, and in promoting the pre-emptive, professional management of public perception.

9. UNEP/Division of Environmental Policy Implementation

Liability and compensation for environmental damage and environmental emergencies

109. Ms. Amy Hindman gave a presentation in which she highlighted the polluter pays principle as key in addressing the issue of environmental liability and compensation, whereby laws, administrative provisions and institutions exist which ensure that the cost of remedying environmental harm is not borne by the innocent, and the means exist also for ensuring that environmental restrictions and laws are complied with.

110. The issue of environmental liability and compensation had gained importance because the regimes established by decisions such as those in the UNEP Malmö Declaration and national, regional and multilateral initiatives had created environmental liability schemes. Those developments therefore demanded a better understanding of how environmental liability functioned.

111. She enumerated various types of environmental liability, namely: absolute (no defences); strict (liability was attached even when the action causing damage was legal; few defences available) and fault-based (liability did not attach unless the action causing damage was illegal/wrongful). She cited the example of the national environmental liability regimes/funds in the United States of America and also the regional liability regimes/provisions, which served as important mechanisms for liability and compensation in the event of environmental damage.

112. She stressed that the UNEP initiative on environmental liability was designed to help countries and the international community make the most of environmental liability as a tool for protecting the environment.

F. Other international organizations and agencies (agenda item 6)

1. International Federation of Red Cross and Red Crescent Societies (IFRC)

The role of IFRC in disaster management in East Africa

113. Ms. Françoise Le Goff, head of the IFRC regional delegation in Nairobi, gave a presentation highlighting the thrust of the IFRC disaster preparedness programme in building up the capacities of national red cross and red crescent societies to predict and prevent disasters, mitigate their impacts and respond to and cope with their consequences effectively. The Federation's vision in Eastern Africa during the current decade was to build up well prepared, stronger and more efficient national red cross and red crescent societies capable of responding to the high level of humanitarian demands in the region posed by small and medium-sized disasters.

114. A strategy had been developed on the basis of the recommendations of an evaluation exercise undertaken in 1997 on the regional disaster preparedness programme. The strategy was geared towards reshaping the programme to build appropriate capacities to address food security, political disturbances and population movements, cyclones and seasonal floods, and disaster preparedness policy development. The approaches of the strategy included, among others:

(a) Prioritization of and focus on a few selected national societies based on their disaster/risk profile, commitment and interest and capacity, and building on existing national society programmes, competencies and expertise;

(b) Integration of relevant programmes, especially at regional level, in order to achieve disaster preparedness goals and build well-prepared national societies;

(c) Networking with key external players such as the International Committee of the Red Cross (ICRC), UNHCR and CARE on disaster contingency planning issues; the Food and Agriculture Organization of the United Nations (FAO), USAID/OFDA, United Nations/OCHA, Oxfam and Action Aid on food security; and UNDP country offices and the Emergency Response Division in Geneva on disaster preparedness policy;

(d) Establishment of a regional response team and intercountry and interregional working groups to develop flexible, trained teams which could be ready or deployment in 48 hours, and to train for field-oriented cooperation with other organizations.

115. She highlighted also the envisaged objectives and activities for implementation within the framework of the strategy, including:

(a) Building up food security capacities at regional and national levels with strong partnerships;

(b) Improving readiness for political disturbance and population movement scenarios through preparation of plans using the Federation's guidelines, and the establishment of a regional framework of national societies;

(c) Improving preparedness for seasonal cyclones and floods, especially in urban centres, through preparation of contingency plans, review of flood and cyclone operations and establishment of working group on seasonal disasters.

116. She stressed the need for regional contacts and a regional overview for proper coordination and cooperation, and a high level of knowledge and expertise that could be tapped by the national societies.

2. United States Agency for International Development/ Office for Foreign Disaster Assistance (USAID/OFDA)

The role of USAID/OFDA in disaster management in Africa

117. Ms. Kimberly Smith, Deputy Regional Advisor of the USAID/OFDA Africa Regional Office, emphasized that disasters and their consequential environmental emergencies were major causes of actual and potential retardation or reversal of efforts for sustainable development in Africa. In response, the Africa Regional Office had been established in 1999

as one of a total of three regional OFDA offices world wide. The Africa office covered 27 countries in the Horn of Africa and in central, western and southern Africa, and it coordinated delivery of United States international disaster assistance in those countries. Within the framework of OFDA it provided emergency relief commodities to the Sudan complex emergency, the Great Lakes complex emergencies, the Ethiopian food security crises, the southern African food crises, the East Africa flood and Madagascar cyclone emergencies, the Democratic Republic of the Congo volcano emergency, and so on.

118. OFDA environmental areas of concern were those where the environment affected people such as populations living in unsustainable areas, and those at greater risk of environmental disasters, as in flood-prone zones, and poor households, which were more vulnerable to environmental disasters such as drought).

119. Other concerns were where the people affected the environment through massive population displacements which caused environmental degradation such as deforestation, degradation of wetlands and overuse of natural assets, which all increased the risk of disasters, as did the exploitation of marginal farmland and pasture.

120. OFDA therefore supported activities to reduce the risk of environmental disasters through its work in climate and weather forecasting, early warning and information dissemination, agricultural research and humanitarian information coordination. Also, it addressed environmental concerns through its support to the rapid environmental impact assessment project, which identified, defined and prioritized potential environmental impacts in disaster situations.

121. OFDA also promoted the adoption of the guidelines for rapid environmental impact in disasters (REA) and environmental considerations in disaster response as best practices by international and non-governmental organizations. Also, OFDA had developed specific early warning tools for early warning response: the Famine Early Warning System (FEWS) network and the Information Technology for Rural Communications using Radio and the Internet (RANET) project, which provided new radio and internet technologies to communicate weather and climate information at the local level.

122. She stressed that the challenges ahead were the application of the REA guidelines, use of the early warning tools for early warning response and the provision of support for disaster preparedness, mitigation and response.

G. Video presentation (agenda item 7)

The Day the Sky Caught Fire

123. An anthropogenic/technological disaster event was revisited in the video presentation: the liquefied petroleum gas storage-tank explosions on the outskirts of Mexico City which occurred on 19 November 1984. The film and commentaries taught valuable lessons on disaster risk reduction, disaster risk reduction management and environmental emergencies.

124. The chain of events which led to the disaster was gas leakage; spread of gas to the nearby slum; ignition by gas stoves and/or open fires; a rapid spread back to the leaking tank; and explosion. Thereafter, more tanks and thousands of gas bottles exploded; and the shrapnel ignited the slum into conflagration.

125. Poverty and population pressure caused the slum to sprawl too close to the tanks, increasing vulnerability and risk on land which was marginal. The civil authorities and the management of the gas tanks did not take preventive precautionary measures against such sprawl. Technological standards, inspection, regulations and management were not strictly applied. Inherent vulnerability- and risk-promoting factors were not mitigated: the extreme closeness of housing units to each other helped the fire spread, the lack of water and access roads hampered response, poor materials and construction fed the fire further, and so on.

126. Location-specific early warning indicators exist in virtually all marginal lands; sensitization of potential victims, civil authorities and the private sector would reduce vulnerability and disaster risk in the ongoing urban efforts in Africa for disaster reduction management and reduction of environmental emergencies.

H. Working groups' desktop exercises (agenda item 8)

127. The objectives of the exercises were deeper reflections, intensive discussions, conclusions on the state of and trends in environmental disasters, on the status and evolution of mechanisms for disaster reduction management and management of the environment; and on partnership with and the role of UNEP in promoting integrated disaster reduction management.

128. Simulated scenarios were used of a natural flood disaster in East Africa and of a collision at sea with ensuing oil spill to stimulate and guide deliberations from a common platform.

129. The three working groups were provided with written guidelines and were monitored and facilitated by the consultant and UNEP officials. The work of the working groups was then presented to the Workshop in plenary session for debate and to develop provisional recommendations (see annexes IV-VII for scenarios, group exercises, questions and the composition of the working groups).

I. Final plenary: conclusions and recommendations (agenda item 9)

130. Provisional recommendations from the working groups and plenary meetings were collated and submitted to the final plenary from which the final conclusions and recommendations were derived aimed at Governments, African regional and subregional organizations, UNEP and other international organizations.

131. The final conclusions and recommendations focused on needs to establish or strengthen mechanisms for disaster reduction management; for integrated management of environmental emergencies through disaster risk reduction; and vulnerability reduction through the whole cycle of disaster prevention, preparedness, response and early warning systems. The conclusions and recommendations are presented as adopted in the executive summary.

J. Closure of the Workshop (agenda item 10)

132. In his closing address, the Chief of the Disaster Management Branch of the UNEP Division of Environmental Policy Implementation, Mr. Stefan Micallef, expressed gratitude to all the participants for the success of the Workshop and especially for their committed and fruitful deliberations on environmental disasters, which had so far been a major stumbling block to sustainable development. The overview of disasters in Africa and recommendations

to UNEP and other international organizations on capacity-building and other improvements on mechanisms for the integrated management of risk reduction would, he said, serve as a basis for discerning the way forward for environmental emergency management. He thanked OCHA for its productive partnership and the UNEP Secretariat for its efforts in organizing the Workshop.

133. He declared the Workshop closed at 5.15 p.m. on Wednesday, 30 July 2003.

**ANNEX I
WORK PROGRAMME**

DAY 1: MONDAY 28 JULY 2003

09.00 – 09.30	Registration	Chairperson: S. Micallef
09.30 – 10.00	Welcoming Address by UNEP (and also welcome on behalf of OCHA)	
10.00 – 10.15	Overview of goal and objectives of the Workshop	
10.15 – 10.45	Icebreaker	
10.45 – 11.00	COFFEE BREAK	
11.00 – 11.45	Intro to Environmental Emergencies and UNEP's Role	
11.45 – 12.15	Early warning on environmental emergencies	
12.15 – 13.00	A Natural Environmental Emergency: Presentation on Flooding in Kenya	
13.00 – 14.00	LUNCH	
14.00 – 14.30	The role of ISDR in Africa	
14.30 – 15.00	UNDP and environmental emergencies	
15.00 – 16.00	Subregional initiatives	
16.00 – 16.30	COFFEE	
16.30 – 17.30	Group Exercise	
17.30 – 18.00	Reports from Groups	
18.00	Cocktail	

DAY 2: TUESDAY 29 JULY 2003

09.00 – 09.15	Opening Day 2	Chairperson: P. Charlebois
09.15 – 10.00	The United Nations Response to Disasters and the UNDAC Mechanism	
10.00 – 10.30	United Nations Habitat's Role in Disaster Management	
10.30 – 10.45	COFFEE	
10.45 – 11.30	Example of a Technological Disaster: - When the Sky Caught Fire (Video show)	
11.30 – 12.15	Working with news, media and public perception	
12.15 – 13.00	Liability and compensation for environmental damage and environmental emergencies	
13.00 – 14.00	LUNCH	
14.00 – 14.30	Environmental Impacts of Refugees – A case study for Kenya	
14.30 – 15.00	The Role of IFRC in Disaster Management in East Africa	
15.00 – 15.30	The Role of USAID in Disaster Management in Africa	
15.30 – 16.00	COFFEE	
16.00 – 17.30	Subregional initiatives cont'd	

DAY 3: WEDNESDAY 30 JULY 2003

09.00 – 9.15	Recap of Day 1 and Overview of Day 2	Chairperson: J. Kamara
09.15 – 10.30	Working Groups	
10.30 – 11.00	COFFEE	
11.00 – 12.30	Working Groups	
12.30 – 13.30	LUNCH	
13.30 – 14.30	Presentations from Working Groups and discussion of next steps	
14.30 – 15.00	Discussion on path forward	
15.00 – 15.45	COFFEE	
15.45 – 17.00	Conclusions and Next Steps	
17.00	Close of Workshop	Chairperson: S. Micallef

**ANNEX II
LIST OF PARTICIPANTS**

African Union

Mr. Foday Bojang
P.O. Box 3243
Addis Ababa
Ethiopia
Tel: +251 (1) 517 484
Fax: +251 (1) 517 844
Email: fodaybojang@yahoo.com

***Comité permanent inter-Etats de lutte contre
la secheresse dans le sahel (CILLS)***

Mr. Issa Martin Bikienga
Coordinator of the Major Policy Programs
03 BP 7049
Ouagadougou 03
Burkina Faso
Tel: (226) 374125/26
Fax: (226) 374132
Email: issa.bikienga@liptinfor.bf

**Environmental Protection Agency,
Ghana**

Mr. Samuel Anku
P.O. Box M. 326
Accra, Ghana
Tel: +233 (21) 664 697/8
Fax: +233 (21) 662 690
Email: sammyanku@hotmail.com or
sanku@epaghana.org

**Intergovernmental Authority on
Development (IGAD)**

Mr. Debalkew Berhe
Clements Ave.
P.O. Box 2653
Djibouti
Republic of Djibouti
Tel: +253 354050
Fax: +253 356994
Email: debalkew.berhe@igad.dj

Indian Ocean Commission (IOC)

Mr. Mohamed Said Salim
Q4, Avenue Sir Guy Forget
Quatre Bornes
Mauritius
Tel: (230) 4251652
Fax: (230) 4252709
Email: salim@coi.intet.mu

**Islamic Educational, Scientific and
Cultural Organization (ISESCO)**

Dr. Mohammad Saaid Dayer
Programme Specialist
Science Directorate
Hay Riad, P.B. 2275 10104
Rabat
Kingdom of Morocco
Tel: +212 (37) 713 267/266, 772433
Fax: +212 (37) 715 321, 777459, 772058
Email: sciense@isesco.org.ma

**Southern African Development
Community (SADC)**

Mr. Luis De Almeida
SADC Secretariat
P.O. Box 0095
Gaborone, Botswana
Tel: +267 71 55 62 33
Fax: +267 31 53 002
Email: sadcrsap@botsnet.bw

**National Emergency Management Agency
(NEMA), Nigeria**

Dr. Olusegun Edward Ojo
Plot 439
Adetokunbo Ademola Crescent
Maitama – Abuja
Nigeria
Tel: +234 (9) 413 1953/7640
Fax: +234 (9) 413 7640

National Institute for Disaster Management, Mozambique

Mr. Salomao Joao Manhique
Rua de Resistencia No. 1746
8th Floor

Maputo, Mozambique

Tel: 416007/8

Fax: 417576

Email: ingc@teledata.mz

New Partnership for African Development (NEPAD)

Dr. Hesphina Rukato

P.O. Box 1234

Halfway House 1685

Midrad – Johannesburg

South Africa

Tel: +27 (11) 313 3461

Fax: +27 (11) 313 3450

Email: hesphinar@nepad.org

Department of Environmental Affairs and Tourism, South Africa

Ms Aarti Brijlall

Fedsure Forum Building

C/o Van Der Walt and Pretorius Streets

Pretoria

South Africa

Tel: +27 (12) 310 3420

Fax: +27 (21) 3222602

Cell: +27 (73) 1416 127

Email: Abrijlall@ozone.pwv.gov.za or

aarti.b@ananzi.co.za

Regional Centre for Mapping of Resources for Development (RCMRD)

Wilber Khasilwa Ottichilo

Director General

P.O. Box 18118, 0500

Nairobi, Kenya

Tel: +254 (20) 860 654

Fax: +254 (20) 802767

Email: ottichilo@rcmrd.org

Email: edwardojo@rosecom.net

Ministry for Coordination of Environmental Affairs, Mozambique

Antonio Artur Mangue

Ministry for Coordination of Environmental Affairs

Ave. Acordos de Lusaka, 2115

Maputo, Mozambique

Tel: 01 466 157

Fax: 01 466 051

Email: dinapot@teledata.mz

South Africa High Commission

Mrs. Magdalene Williams

P.O. Box 42441

Nairobi, Kenya

Tel: 320 631 00

Fax: 320 632 36

Email: sahc@africaonline.co.ke

National Disaster Management Centre, South Africa

Ms Toffee Mokgethi

Director, Disaster Intervention and Support

Private Bag 804

Pretoria, South Africa

Tel: +27 (12) 334 0600/0679

Fax: +27 (12) 334 0810

Email: toffee.mokgethi@ndmc.pwv.gov.za

National Disaster Operations Centre (NDOC)

Mr. Stephen Muange

Office of the President

P.O. Box 30510

Nairobi, Kenya

Tel: +254 (20) 212386

Fax: +254 (20) 211660

Email: noc@nbinet.co.ke

**World Meteorological Organization
(WMO)**

Mr. Stephen Njoroge
Subregional Office
P.O. Box 76523
Nairobi, Kenya
Tel: +254 (20) 577371
Fax: +254 (20) 577372
Email: snjoroge@lion.meteo.go.ke

**International Federation of Red Cross
and Red Crescent Societies (IFRC)**

Ms Françoise Le Goff
Head of Regional Delegation
P.O. Box 41275
Nairobi, Kenya
Tel: +254 (20) 271 4255
Fax: +254 (20) 271 8415
Email: ifrc03@ifrc.org

**United Nations High Commission for
Refugees (UNHCR)**

Mr. George Okoth-Obbo
Country Representative
P.O. Box 43801
Nairobi, 00100, Kenya
Tel: +254 (20) 4443028
Fax: +254 (20) 4446725
Email: okothg@unhcr.ch

Mr. Venanzio Njuki
Environmental Planner
P.O. Box 43801
Nairobi, Kenya
Tel: +254 (20) 4443028
Fax: +254 (20) 4446725
Email: njuki@unhcr.ch

Mr. Mahboub Maalim
Office of the President
P.O. Box 53547
Nairobi, Kenya
Tel: +254 (20) 227 496
Fax: +254 (20) 227 982
Email: alrmphq@africaonline.co.ke

University of Nairobi (UoN)

Celestin Karabayinga
Department of Sociology
(Advanced Disaster Management)
C/o P.O. Box 46294-00100
Nairobi, Kenya
Tel: +254 (20) 575134
Mobile: +254 722 260321
Fax: +254 (20) 522340
Email: kcelestin.avu.org

UN-HABITAT

Mr. Esteban Leon
Disaster Management Specialist
United Nations/HABITAT
P.O. Box 30030
Nairobi, Kenya
Tel: +254 (20) 6241991
Email: estban.leon@unhabitat.org

**Office for the Coordination of
Humanitarian Affairs (OCHA)**

Pierre Gelas
Regional Disaster Response Adviser
P.O. Box 30218
Nairobi, Kenya
Tel: +254 (20) 621005
Fax: +254 (20) 622632
Email: pienne@ocha.unon.org

UNDP

Dr. Eric Patrick
Drylands Development Centre (DDC)
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 624639
Fax: +254 (20) 6246488
Email: eric.patrick@undp.org

**Drought Monitoring Centre for the
Greater Horn of Africa**

Mr. Sospeter Muiruri
P.O. Box 13304
Nairobi, Kenya
Tel: +254 (20) 578340
Fax: +254 (20) 578343
Email: muiruri@meteo.go.ke

**Drought Monitoring Centre for the
Greater Horn of Africa**

Mr. Salim Shaabani
Drought Management Officer
P.O. Box 53547
Nairobi, Kenya
Tel: +254 (20) 227496
Email: alrmp@aridland.go.ke

Mr. William Ndegwa
P.O. Box 13304-00100
Nairobi, Kenya
Tel: +254 (20) 578340
Fax: +254 (20) 578843
Email: william.ndegwa@meteo.go.ke

**UNEP – Division of Policy
Development and LAW (DPDL)**

Mr. Denis Ruyschaert
Programme Officer
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 623594
Email: denis.ruyschaert@unep.org

Mr. Kenneth Westgate
BCPR - Regional Adviser
P.O. Box 30218
Nairobi, Kenya
Tel: +254 (20) 624656
Email: Ken.Westgate@undp.org

USAID

Ms Kimberly Smith
Deputy Senior Regional Advisor
USAID/OFDA Africa Regional Office
P.O. Box 30261
Nairobi, Kenya
Tel: +254 (20) 862 400
Email: kimsmith@usaid.gov

United Nations/ISDR AFRICA

Ms Noroarisoa Rakotondrandria
P.O. Box 47074
Nairobi, Kenya
Tel: +254 (20) 624568
Fax: +25 (20) 624726
Email:
Noroarisoa.Rakotondrandria@unep.org,
nrakotondrandria@yahoo.com

**UNEP – Division of Regional Cooperation/
Regional Office for Africa (ROA)**

Mr. Henry Ndede
Programme Officer
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 624276
Fax: +254 (20) 623928
Email: Henry.Ndende@unep.org

**UNEP – Division of Communications
and Public Information (DCPI)**

Mr. Nick Nuttal
Head of Media
United Nations Environment Programme
(UNEP)
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 623054
Email: Nick.Nuttal@unep.org

Ms Grace Obuya
Intern
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 624285
Fax: +254 (20) 623928
Email: graceobuya@yahoo.com

UNEP – Division of Environmental Policy Implementation (DEPI)

Mr. Svein Tveitdal
Director, DEPI
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 62 3507
Fax: +254 (20) 62 4300
Email: Svein.Tveitdal@unep.org

Mr. Stefan Micallef
Chief, Disaster Management Branch, DEPI
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 624254
Fax: +254 (20) 623794
Email: Stefan.Micallef@unep.org

Ms. Patricia Charlebois
Environmental Affairs Officer
Joint UNEP/OCHA Environment Unit
Emergency Services Branch
Office for the Coordination of
Humanitarian Affairs
United Nations, Palais des Nations
CH-1211 Geneva 10, Switzerland
Tel: +41 (22) 9171815
Fax: +41 (22) 9170257
Email: charlebois@un.org

Mr. James Kamara
Programme Officer
Disaster Management Branch, DEPI
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 62 4288
Fax: +254 (20) 62 3794
Email: James.Kamara@unep.org

Ms. Amy Hindman
Legal Officer, DEPI
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (20) 62 4124
Fax: +254 (20) 62 4300
Email: Amy.Hindman@unep.org

Prof. Joseph Ouma Muga
Consultant to UNEP
P.O. Box 75260
Nairobi, Kenya
Tel: +254 722 594 573
Email: profoumamuga@yahoo.com

Ms Manga Mialaret
Joint UNEP/OCHA Environment Unit
Emergency Services Branch
Office for the Coordination of
Humanitarian Affairs
United Nations, Palais des Nations
CH-1211 Geneva 10
Switzerland
Tel: +41 (22) 9173004
Fax: +41 (22) 9170257
Email: mialaret@un.org

ANNEX III LIST OF DOCUMENTS/PRESENTERS

A List of papers presented

Opening Remarks by Mr. Svein Tveitdal, Director, DEPI and DEC

Overview of Objectives and Logistics of the Workshop by Mr. Stefan Micallef

UNEP's Role in Environmental Disasters by Ms Patricia Charlebois

Early Warning for Environmental Emergencies by Mr. James Kamara on behalf of DEWA

Community-based Drought Monitoring and Early Warning System in Kenya – A Case for Arid Land Resources Management Project by Mr. Maalim Mahboub

Role of United Nations/ISDR in Disaster Risk Reduction in Africa by Ms. Noroarosia Rakotondrandria

UNDP and Environmental Emergencies by Mr. Kenneth Westgate

The United Nations Response to Disasters and the UNDAC Mechanism by Mr. Piere Gelas

UN-HABITAT's Role in Disaster Management by Mr. Esteban Leon

Environmental Disasters and the Media: Working with News, Media and Public Perception by Mr. Nick Nutall

Liability and Compensation for Environmental Damage and Environmental Emergencies by Ms Amy Hindman

The Environmental Impact of Refugees: A Case Study of Kenya by Mr. George Okoth-Obbo

The Role of IFRC In Disaster Management in East Africa by Ms Françoise Le Goff

The Role of USAID/OFDA in Disaster Management in Africa by Ms Kimberly Smith

Disaster Management in the SADC Region – the Problem Creates Opportunities by Mr. Luis De Almeida

Settlement Erosion and Rural Vulnerability to Rainstorm Disasters in Ghana by Mr. Samuel D.E.K. Anku

A Brief Presentation of IGAD's Disaster Risk Management Programme by Mr. Debalkew Berhe

Contribution du CILLs à l'atelier régional africain sur les catastrophes environnementales by Mr. Issa Martin Bikienga

Activities of the African Union (AU) in Prevention, Preparedness for and Response to Disasters on the African Continent by Mr. Foday Bojang

ISESCO's Efforts in the Field of Environmental Disasters by Dr. Mohammed Said Dayer

NEPAD Approach to Disaster Management by Dr. Hespina Rukato

Disaster Management in Mozambique by Mr. Salomao Manhique

National Disaster Management: Turning Vulnerability to Opportunities by Ms. Tofee Mokgethi

Climate Monitoring, Prediction and Early Warning in Support of Disaster Management in the Greater Horn of Africa by Prof. Laban Ogallo

Disaster Management in Nigeria: Some Reflections by Dr. Olesugun Edward Ojo on behalf of Mr. S.S. Makarfi

Use of Space Technology in the Monitoring of Environmental Disasters by Dr. Wilber Ottichilo

IOC Intervention in the Area of Environmental Disasters by Mohammed Said Salim

B Information documents distributed

AMCEN/UNEP, 2002. *Africa Environment Outlook*. Nairobi, UNEP, 422 pp.

UNEP/DEPI, 2002. *Strategic Framework on Emergency Prevention, Preparedness, Assessment, Mitigation and Response*, UNEP, 32 pp.

UNEP/DEPI, 2002. A brochure on *Environmental Emergencies*

UNEP/DEPI, 2003. *Environmental Emergencies News, Disaster Management Branch*, Issue 1, Jan. 2003

ISDR, 2003. A pamphlet, *Face à la risque: campagne mondiale pour la prévention des catastrophes*

ANNEX IV Simulated scenarios of disaster events

The Working-Group exercises dealt with 2 scenarios, namely: examples of natural and technological disasters.

Scenario 1: Natural Disasters Floods and Drought

Your Region experiences repeated and frequent drought and flood events. Each of these hydrometeorological hazards occasions great risks to lives, property, infrastructure and to the environment. After prolonged and repeated droughts, recently, torrential rains and heavy flooding have wrought havoc across 3 neighboring countries in the Subregion. Those heavy rains are the long seasonal rains which are expected to run for a further 2 months. The floods have already, so far, claimed 30 lives and affected over 30,000 people in one country alone. A further 10,000 are expected to be affected by the end of the week according to local authorities.

Most affected districts might soon experience increased problems as major dams, on some rivers, are close to their storage capacity. These floods have caused landslides that have damaged water treatment works in a number of cities in the 3 countries. Many river dykes have collapsed, while many roads are impassable. Floods have also caused destruction in refugee camps in two of the countries. Refugees have been left homeless after 650 houses have been destroyed. Also, a significant number of livestock belonging to the refugees have been killed. Fears have been expressed that there may soon be an outbreak of water-borne diseases in some parts of the affected districts.

Scenario 2: Technological Disaster A Maritime/Shipping Accident: An Oil Spill

On Monday, 28 July 2003, at 0800 hours local time, the ESSO HAWAII (a tanker carrying 283,300 metric tonnes of oil) collided with the bulk carrier MV IRON FIST off the coast in your Subregion.

There is no fire, but oil is leaking. Over 30,000 tons of Arabian heavy escaped with estimated 10,000 tonnes Arabian heavy lost within the first 2 hours. Over 20,000 tonnes of oil escaped during the next ten hours. The predictions are that the oil slick will move in a direction pushed by the wind and currents and impact on a country in your Subregion on about 34 hours after the oil was released. From the movements of currents, and from the weather patterns, it is predicted that the oil slick will break-up threatening a neighbouring country.

ANNEX V
Working Groups Exercises for the Three Sessions

- 1. The Hazards and Disasters**
 - (a) Floods and Droughts
 - (b) A Maritime Shipping/Tanker Accident, leading to hazard of oil spill

- 2. The subjects for the Exercises**
 - (a) Early Warning Indicator(s);
 - (b) Prevention and Preparedness;
 - (c) Response to the Disaster.

- 3. Assignments during the Three Sessions of the Working Groups**
 - (a) Day 1, Monday 28 July 2003
Session 1 16:30 – 18:00 (1½ hours)
Every Group to do the following:
 - i. Work on each of the two hazards (i.e. 1 (a) and (b) above);
 - ii. The subject is “Early Warning Indicator(s)” (i.e. 2(a) above);
 - iii. On each hazard (or group of hazards) draw results, conclusions and recommendations, to be reported to the Plenary Session (Wednesday, 13:30 – 14:30, 30 July 2003)

 - (b) Day 2 – No group exercise

 - (c) Day 3, Wednesday 30 July 2003
Session 2 09:15 – 10:30 (1 hr. 15 mins.)
Every Group to do the following:
 - i. Work on each of the two hazards (i.e. 1 (a) and (b) above);
 - ii. The subject is “Prevention and Preparedness to Respond”;
 - iii. On each hazard (or group of hazards), draw results, conclusions and recommendations, to be reported to the Plenary Session (Wednesday, 13:30 – 14:30, 30 July 2003)
Session 3 11:00 – 12:30 (1½ hours)
Every Group to do the following:
 - i. Work on each of the two hazards;
 - ii. The subject is “Response”;
 - iii. On each hazard (or group of hazards) draw results, conclusions and recommendations, to be reported to the Plenary Session (Wednesday, 13:30 – 14:30, 30 July 2003)

ANNEX VI Questions and Guidelines for Working Group Exercises

No.	Question	Answer
1.	What are the environmental impacts of the hazards in question?	
2.	What environmental factors contribute to increasing the vulnerability?	
3.	What early warning indicators exist for environmental emergencies at: <ul style="list-style-type: none"> • national? • Subregional? 	
4.	What is the warning lead-time at: <ul style="list-style-type: none"> • national? • Subregional? 	

No.	Question	Answer
5.	<p>Who or which institution monitors (collects, analyses, disseminates information) at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	
6.	<p>Who or which institution receives information at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	
7.	<p>How does the early warning system ensure the indicator are up-dated to reflect any shifts in the time and occurrence of the event at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	

No.	Question	Answer
8.	<p>How do you prepare to respond to the environmental component of the event at:</p> <ul style="list-style-type: none"> • national • Subregional 	
9.	<p>Are these actions that can be taken (as preventative measures) or mechanism put in place, to reduce and lessen the impact of the scenarios at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	
10.	<p>What improvements are needed to prevent and prepare for the environmental dimension of the event at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	

No.	Question	Answer
11.	<p>What role can UNEP play to address the needs identified in (9) at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	
12.	<p>What roles can other international organizations, including NGO's, play to address the needs identified in (11) at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	
13.	<p>How do you respond to the environmental component of the event at:</p> <ul style="list-style-type: none"> • national? • Subregional? 	

No.	Question	Answer
14.	<p>(a) What agreements do you have which facilitate Subregional and international cooperation in response?</p> <p>(b) Have these agreements (on cooperation in response) been applied in a real-life practical situation? If so, what were your experiences, lessons, and the challenges encountered?</p>	
15.	<p>What role can UNEP play to promote Subregional and international cooperation in response?</p>	

No.	Question	Answer
16.	<p>List some activities you would recommend to UNEP to carry out in the field of environmental disasters for the following functions:</p> <ul style="list-style-type: none"> • Information services • Education and training • Technical services • Technical assistance • Regional and subregional cooperation 	

ANNEX VII

Composition of the Working Groups

GROUP A

Comité permanent inter-Etats de lutte contre la secheresse dans le sahel (CILLS)
New Partnership for African Development (NEPAD)
Environmental Protection Agency (EPA), Ghana
National Emergency Management Agency (NEMA), Nigeria
Islamic Educational, Scientific and Cultural Organization (ISESCO)
University of Nairobi, Department of Sociology (Advanced Disaster Management), Kenya

Mr. Issa Martin Bikienga
Dr. Rukato Hespina
Mr. Samuel Anku
Mr. Olusegun Edward Ojo

Mr. Mohammad Saaid Dayer

Mr. Celestin Karabayinga

GROUP B

African Union (AU)
Intergovernmental Authority on Development (IGAD)
Regional Centre for Monitoring and Remote Sensing for Development, (RCMRSD)
Drought Monitoring Centre for the Greater Horn of Africa
National Disaster Operations Centre (NDOC), Kenya
Common Market for Eastern and Southern Africa (COMESA)

Mr. Foday Bojang
Mr. Debalkew Berhe

Dr. Wilber K. Ottichilo
Prof. Laban A. Ogallo
Mr. Maalim Mahboub
Mr. Patrice Kandolo

GROUP C

Common Market for Eastern and Southern Africa (COMESA)

Southern African Development Community (SADC)
National Institute for Disaster Management, Mozambique
Ministry for Coordination of Environmental Affairs, Mozambique
Department of Environmental Affairs and Tourism, South Africa
National Disaster Management Centre, Department of Provincial and Local Government, South Africa
Indian Ocean Commission (IOC)

Mr. Richard Randriamandrato
Mr. Luis Manuel de Almeida
Mr. Salomao Manhique

Mr. Antonio Artur Mangué

Ms Aarti Brijlall

Mrs. Toffee Mokgethi
Mr. Mohamed Said Salim

Note: Participants from the United Nations System and other international organizations may join the group of their choice